

Los Angeles County  
Metropolitan Transportation Authority

# Regional Connector Transit Project

MONTHLY PROJECT STATUS REPORT

April 2019



**Metro**

# **REGIONAL CONNECTOR TRANSIT PROJECT**

## **MONTHLY 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).

**April 2019**

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## PROJECT OVERVIEW

### Project Background

The Regional Connector Transit Project (Project) will link the terminus of the Blue and Expo Lines at 7th/Metro Center to the Gold Line near the current Little Tokyo/Arts District Station through a new 1.9-mile underground alignment in downtown Los Angeles. The alignment includes three underground stations: Grand Av Arts/Bunker Hill; Historic Broadway; and Little Tokyo/Arts District.

From the existing 7th Street/Metro Center Station, the Project alignment will extend north under Flower Street to 2nd Street. It will then proceed east underneath 2nd Street to just west of Central Avenue where the alignment will veer northeast under privately-held property to the new Little Tokyo/Arts District Station at 1st and Central. The alignment continues briefly eastward through a Wye Junction (Wye) constructed beneath the 1st and Alameda intersection. To the north of the Wye at Temple and Alameda, and to the east of the Wye at 1st and Vignes, trains will connect with the Gold Line by rising to the surface through two new transition portals heading north to Pasadena, and east to East Los Angeles.



Upon completion, the Project will in effect facilitate regional light rail service along a 49-mile north-south route – Azusa to Long Beach, and a 23-mile east-west route – East LA to Santa Monica.

Passenger forecasts in 2035, as a result of the improved service, indicate 90,000 daily transit trips will occur through the 1.9-mile downtown trunk, including 17,000 new riders.

The above Project configuration is based on years of planning and environmental work that is reflected in the following milestones:

- Metro Board approval of Alternative Analysis – January 2009
- Initiation of Draft EIS/EIR – February 2009
- Initiation of Preliminary Engineering (PE) – January 2011
- Metro Board certification of Final EIS/EIR – April 2012
- FTA issuance of Record of Decision – June 2012
- PE and Advanced PE complete – March 2013
- FTA award of Full Funding Grant Agreement – February 2014.

### **Major Procurements**

Utility Relocation: Advanced Utility Relocation Contract, C0981R, was awarded to Pulice Construction, Inc. in January 2014 and the Notice to Proceed (NTP) issued on February 18, 2014. Contract C0981R was terminated for convenience on April 14, 2015 and remaining AUR work was transferred to the C0980 Design/Build (D/B) Contractor.

Guideway & Systems Contract: The Board authorized to solicit a major D/B contract, C0980, in August 2011. A contract was awarded on April 24, 2014 to Regional Connector Constructors (RCC), a joint venture of Skanska USA Civil West California District, Inc. and Traylor Brothers, Inc. in the amount of \$927,226,995. NTP was issued July 7, 2014. The final engineering and design for the joint venture is performed by Mott McDonald.

Vehicles: Metro is procuring four (4) Light Rail Vehicles (LRVs) for the Project. The vehicles will be built and delivered by Kinkisharyo International, LLC under Option 2 of Contract P3010. Delivery and acceptance of four LRVs is anticipated no later than February 2020.

Rail Operations Center (ROC): The existing functional operations at the ROC are being expanded to accommodate the central control functions associated with five new rail lines to include Regional Connector. The Project is contributing \$4.07M towards this expansion which is scheduled to be completed by June 2021.

Fare Collection: Procurement of Universal Fare System and Ticket Vending Machine equipment was completed in January 2018 with award to Cubic Corporation. Metro is coordinating with RCC for installation and testing schedules, which are currently expected to begin in late 2020. The scope addition of fare transfer equipment in the three Regional Connector stations is on hold pending decision to proceed. A decision will be made no later than January 2020.

## **Program Management**

The RCC contract is being managed by a team of Metro and consultant personnel jointly located at the Integrated Project Management Office (IPMO). The consultant component is comprised of The Connector Partnership, a joint venture between AECOM, Inc. and WSP (CPJV) which provides engineering and design support services while Arcadis, Inc., provides construction management support services. An overview of staffing is provided under the Staffing Section of this report. The on-site program management team is also supported by Metro Headquarters resources to include, but not limited to, engineering, risk management, environmental, quality management, operations and creative services departments.

Project Schedule and Budget: The Revenue Service Date (RSD) is planned for 2022.

In January 2017, the Metro Board revised the Life of Project (LOP) Budget for Regional Connector Transit Project 860228 to \$1.756 billion. The LOP budget for Concurrent Non-FFGA activities related to Project 861228 remains at \$39.9 million. Financing costs are estimated at \$14M. Cost forecasts remain consistent with budgets. A detailed FFGA budget forecast is included under the Project Cost Section of this report.

Funding has been secured from a variety of sources, detailed in the Financial/Grant Section on Page 20, to include:

- Federal New Starts Grant
- Federal Congestion Management Air Quality and RIP Programs
- USDOT TIFIA loan proceeds
- State Proposition 1A/1B and Capital Project Loan proceeds
- City of Los Angeles
- Lease revenues.

Construction and Community Relations: The Construction and Community Relations Team is tasked with promoting the Project and performing public outreach within the communities to keep stakeholders informed of construction activities occurring along the Project alignment. To facilitate the communication, community leadership councils have been formed which represent geographic-based constituent groups along the alignment.

The Project is also engaged in social media outreach and various marketing and advertising efforts designed to keep the public informed and supportive of the Project. These efforts are aimed at promoting businesses that are affected by construction. An overview of monthly activities is presented in the Construction and Community Relation Section of this report.

System Integration: The Project's integration of three separate lines, each possessing distinct system technologies, presents significant challenges for both the Project and Metro at-large. Extensive planning and design has been performed to define the systems' cut-overs that will be required. The Project will continue to coordinate the completed systems interface design, with on-going procurement in preparation for construction and testing as Metro maintains revenue service on the three operating lines.

Rail Activation: The Project and Metro Operations recognize the extensive planning required in preparation for rail activation of the new regional light rail service the Project will enable through downtown Los Angeles. The training of 400+ operators and supervisors across the regions has surfaced as a key component to rail activation. This training will require dedicated time during rail activation to ensure safety.

Planning efforts have outlined a sequence of dependent testing, training, simulation, and safety certification. From the sequence, a twenty-week schedule has been developed to guide the testing, rail activation and start-up. The twenty weeks are initiated by the Project's issuance of the Substantial Completion milestone to RCC.

## EXECUTIVE SUMMARY

In *April*, the Project achieved 56.7% completion based on earned value measurements for design and construction. The focus of the Project remains on facilitating critical path construction activities.

The following is an overview of current design and construction activities.

### Design Status

Ninety-nine percent (99.9%) of the Final Design has been completed. The Civil B (DU5) design package *comments were received from City Agencies*. It is expected to be *resubmitted and approved in June 2019*.

### Construction Status

1st Street Cut & Cover Tunnel & U-Channel: Continued the excavation and the installation of excavation support to the practical limits ahead of the Bus Bridge.

Wye Structure: The invert rebar installation is in-progress and *five* of six concrete pours were completed. The invert construction will continue through next month, *and exterior walls will begin*.

Little Tokyo/Arts District Station: The HDPE and rebar installation *continued in the lower ancillary and station box area*. *Five exterior wall pours were completed this period*. *The concrete placement of exterior walls at the lower ancillary and station box area is expected to continue through June 2019*.

Bored Tunnels: The concrete placement of floating slab curb in both the right and left tunnel segments from Historic Broadway Station to Grand Av Arts/Bunker Hill Station *continues*.

Historic Broadway Station: In the station box *area*, *continued* the concrete placement of platform level west exterior walls *and started* the installation of *vertical shoring and rebar placement* for the *concourse level deck*. *In the entrance/ancillary area*, *continued* the rebar installation for the *concourse level exterior walls, interior walls and columns*. *Started the concrete placement of the entrance area exterior walls*.

Crossover Cavern: This period, the installation of HDPE *continued*, *and* invert rebar installation *started in the first of five pour areas*.

Grand Av Arts/Bunker Hill Station: In the east station box area, the concrete placement for the east *concourse deck* was completed. Continued the rebar installation *and concrete placement* for the *concourse level exterior walls*. *In the west station box area*, *started the west platform rooms and emergency exit walls*. Next period, the west platform level rooms and emergency exit walls *will be completed; and the west concourse level deck* will commence. At the Entrance Concourse area, *continue the vertical shoring and rebar installation at the lower ancillary deck*.



Flower Cut & Cover Tunnel: The installation of the invert at the north section (4th Street to 5th Street) continued with *five of eight pour areas completed*. *The north section invert will be completed next period and exterior walls will begin*. In the south section, utility hanging, excavation and the installation of excavation support from 5th/Flower to 7th/Metro Center progresses. The excavation of the south section (5th Street to 7th/Metro Center Station) continues and is expected to be complete by *September 2019*.

**Cost and Schedule Summary**

As of the reporting date, RCC *is behind* with its schedule updates. *March and April updates are outstanding*.

**RCC Schedule Metrics**

	<b>Original Contract Date/Duration</b>	<b>Time Extension (CD)</b>	<b>Current Contract Schedule</b>	<b>Forecast (Metro PMS)</b>	<b>Variance CD (Trending)</b>
NTP	7/7/14				
Substantial Completion	10/22/20	527	04/01/22	01/26/22	65 days

On the Project Master Schedule, the primary critical path continues through the future Little Tokyo/Arts District Station concrete. After station concrete and backfill are completed, the critical path continues through the removal of the temporary decking and pin pile removal at 1st/Alameda. Track installation *follows, succeeded by* OCS and train control installations. After the majority of the systems installations are complete, systems integration will commence and continue through pre-revenue testing. A summary graphic of the critical path is found on Page 14.

Although there are some differences between the RCC and Metro schedules, the revised sequence places the two in a similar sequence to meeting the Substantial Completion Milestone.

Project costs continue to track within budget and projected contingency draw-downs. To date, the design and construction changes related to base scope represent approximately 5.5% of the contract value with a potential to increase to 8%. There is one notice of intent to claim by RCC. The notice relates to Historic Broadway Station SOE stability issues. Detailed cost and budget information is provided on Page 15.

### Key Management Concerns

Item 1: Given the impact the Project will have on light rail operations through downtown Los Angeles and the region, the Rail Activation effort is exceedingly complex. Schedule and cost impacts are likely to surface.

Status/Action: Multiple cut-over, testing and rail activation meetings have been conducted with various Metro Departments. Through this process, all known work items have been identified and those requiring further investigation are being evaluated. Notwithstanding considerable progress, planning meetings continue, as the team plans the complex rail activation and certification process; coordination with all stakeholders in both planning and executing tasks will continue. Start-up requirements are similarly being addressed between the Project and Operations' Liaison staff. Operator training will likely govern the pre-revenue operations period. *Detailed monitoring of progress will continue.*

Item 2: Managing and responding to stakeholder needs during cut-and-cover activities along Flower Street has the potential to impact both schedule and budget.

Status/Action: The Project is engaged in active stakeholder outreach and construction impact mitigation. The Project continues to work closely with RCC to ensure stakeholder concerns are addressed and that MMRP requirements are fully complied with. Although decking is complete, and operations are largely now underground, construction impacts are still an issue requiring close coordination and outreach to impacted stakeholders.

Item 3: Addressing City comments on final street restoration plans may result in additional design efforts and Project costs.

Status/Action: The Project is proceeding with addressing City requested comments in the final design. In finalizing the second Restoration AFC (DU5) submittal, Metro *held a series of* informal comment resolution meetings with the City on any new comments prior to their formal response. This process *continues*. The second AFC submittal was delivered *April* 2019. Finalization of the design is expected in June 2019. Review of costs impacted by City's review requirements *will follow*.

Item 4: Design comments from the over-build developer at the Historic Broadway Station has led to design revisions with potential cost impacts.

Status/Action: Metro/RCC have collaborated closely with the developer to finalize design elements necessary to meet development objectives and keep work in the station entrance area moving forward. As the final package is accepted, an assessment of total construction costs is now underway. Additionally, a new Change Notice has been forwarded to RCC to solicit a cost and schedule proposal for the added scope. The assessment will identify cost increases in construction activities, and guide negotiations for additional funding reimbursement from the overbuild owners.

*Item 5: Approval of Civil B Restoration Drawings Package is needed to finalize design effort, limit risks for cost growth and support ongoing construction effort.*

*Status/Action: City is presently reviewing the Civil B package. Once comments are received, Metro will work with Contractor to respond to comments in a timely manner to ensure that construction can proceed unimpeded.*

Project Construction Photos



Floating Slab Track curb rebar installation



Ancillary exterior concrete wall placement at future Little Tokyo/Arts District Station



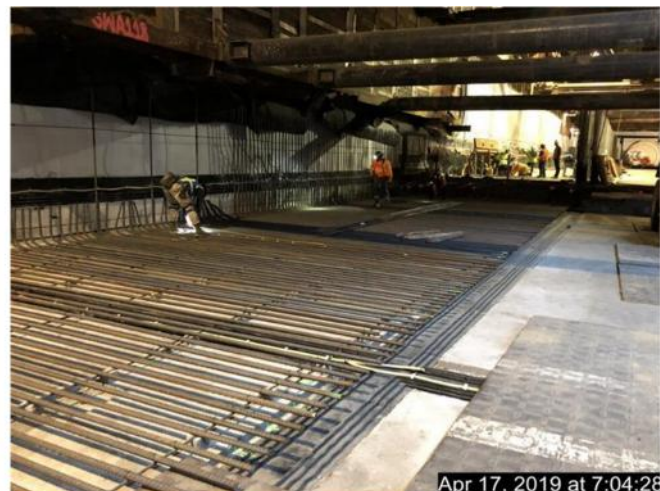
Westheadwall rebar installation at Historic Broadway Station



HDPE installation in SEM Cavern



Concrete placement at Concourse Level column at Grand Av Arts/Bunker Hill Station

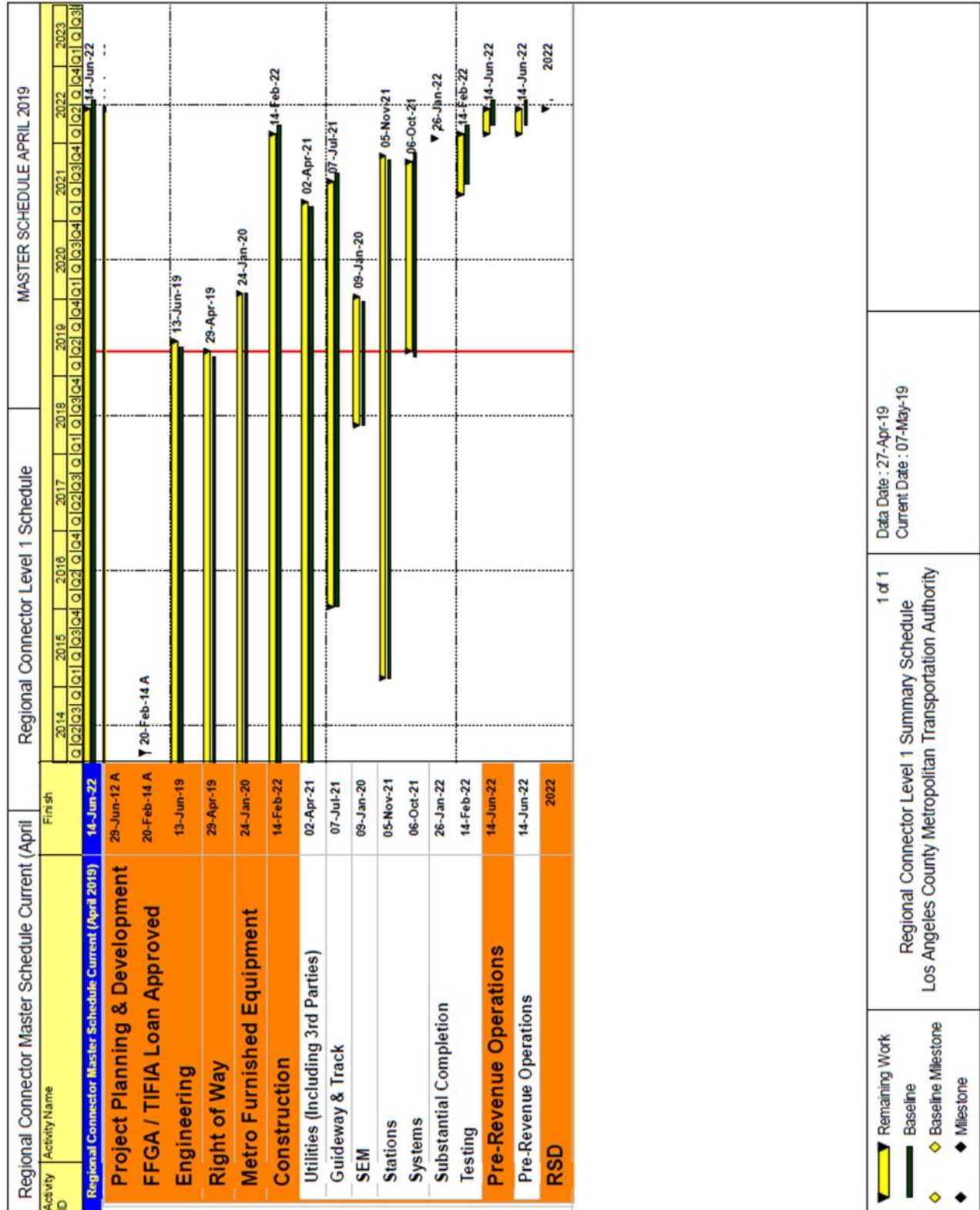


Bottom mat rebar installation; Areas 7 and 8 at north Flower St

# PROJECT UPDATE

## PROJECT SCHEDULE

### Project Summary Schedule

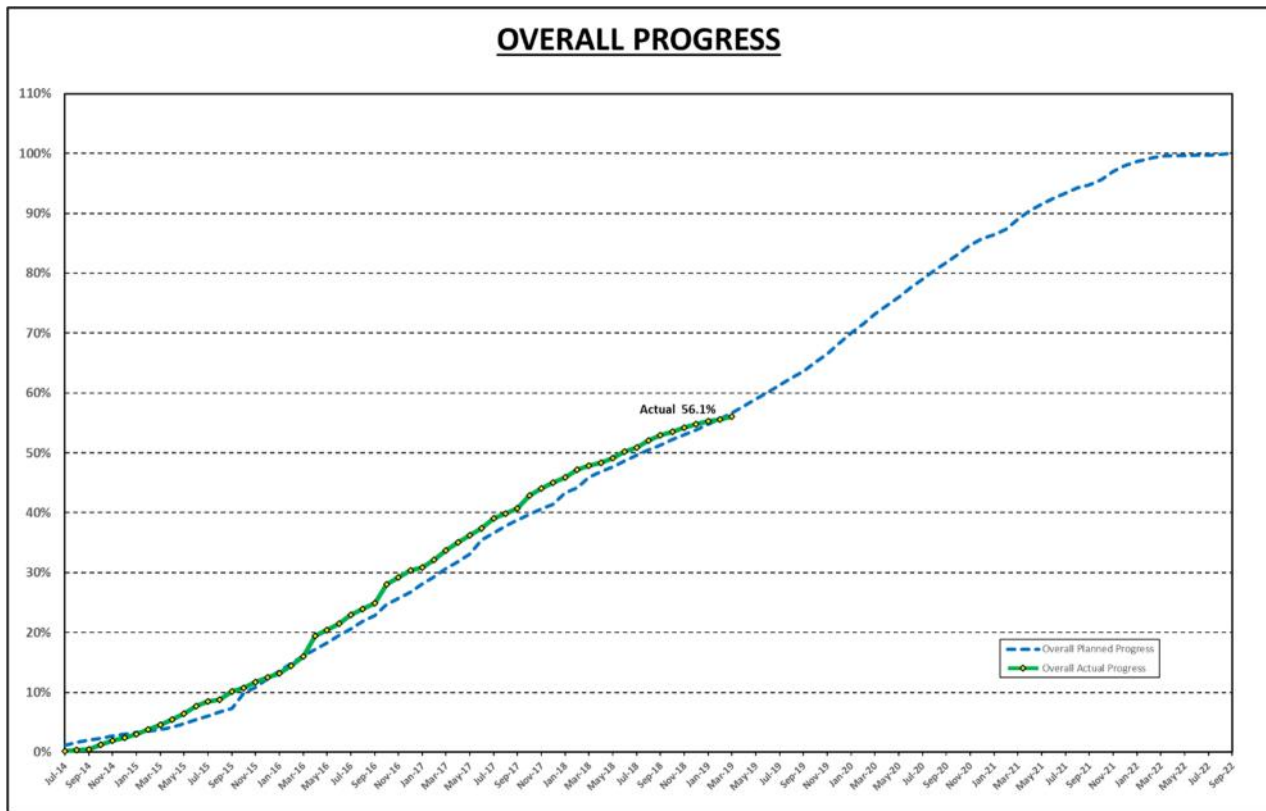


**Progress Summary**

	Status	Change from Last Period	Comment
Forecast Revenue Service	2022		
Proposed TIFIA Revenue Service	2/25/2023	None	
Proposed FFGA Revenue Service	2/25/2023	None	
<b>Final Design Progress:</b>			
Contract C0980	99.9%	0.0%	Remaining design is not impacting the critical path
<b>Construction Contracts Progress:</b>			
Contract C0981R & C0980	54.2%	0.7%	

**Note:** Construction Progress excludes General Requirements, Construction and Design Mobilization, Final Design and Provisional Sum costs (Schedule C). Progress values include executed modifications and change orders.

**Planned vs. Actual Progress**



Current plan reflects median of early and late finish dates.

**Key Milestone Six-Month Look Ahead**

	Milestone Date	Apr-19	May-19	Jun-19	Jul-19	Aug-19	Sep-19
Complete 1st Street Tunnel / U-Channel Level 1 Excavation	04/11/19 A						
Complete East Concourse Level Deck at Grand Ave / Bunker Hill Station	04/26/19 A						
Complete Wye Cut & Cover Tunnel Invert	05/03/19						
Complete North Flower Cut & Cover Tunnel Invert	05/03/19						
Complete Historic Broadway Station Box Platform Level Exterior Walls	05/03/19						
Complete West Platform Equipment Rooms at Grand Ave / Bunker Hill Station	05/20/19						
Complete 1st Street Tunnel / U-Channel Level 2 Excavation	05/24/19						
Complete West Ancillary Deck at Little Tokyo / Art District Station	06/11/19						
Complete Tunnel Floating Slab Curbs Concrete 2/B to 2/H	06/20/19						
Complete Concourse Level Walls at Grand Ave / Bunker Hill Station	07/18/19						
Complete Wye Cut & Cover Tunnel Walls	08/08/19						
Complete South Flower Cut & Cover Tunnel Excavation	09/03/19						

MTA Staff     
 MTA Board Action     
 FTA (Federal)     
 Utility Company  
 Other Agencies     
 Contractors     
 Design Consulta     
 C0980 D/B Contractor  
 \* New

'A' following date is actual and completed

**Major Equipment Delivery**

Metro Supplied Equipment

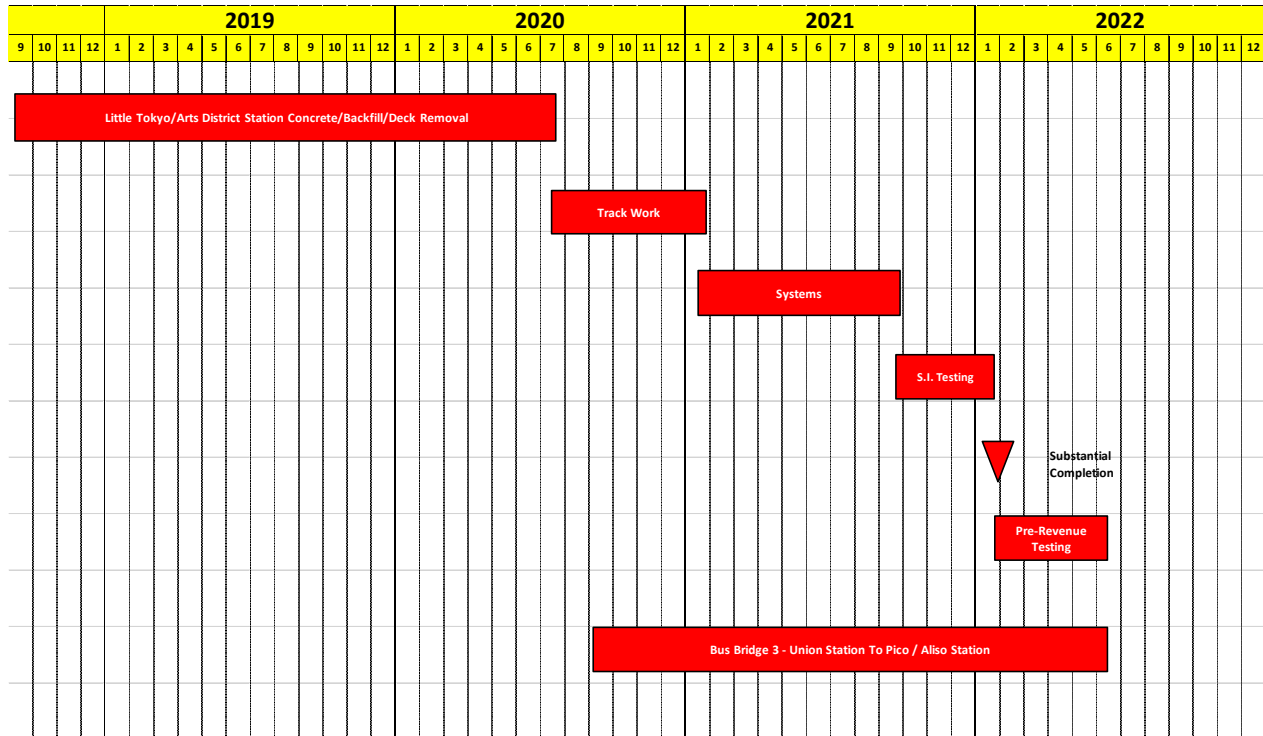
<b>Equipment</b>	<b>Initial Procurement</b>	<b>Scheduled Delivery</b>	<b>Scheduled Installation</b>
LRT Vehicles	(NTP) 08/20/2012	Option 2 02/26/2020	N/A
Ticket Vending Machines	~ 01/30/2018	03/29/19 (warehoused)	05/25/2021 ~08/26/2021

**Design/Builder Equipment Delivery Requirements**

<b>Activity Name</b>	<b>Finish</b>	<b>Need Date</b>
FAB/DELIV TRAIN CONTROL CABLE	05-Oct-18 A	7-Aug-20
FAB/DELIV OCR FOR TUNNEL	05-Oct-18 A	3-Mar-21
FAB/DELIV ATC FO CABLE	15-Jan-19	12-Apr-21
FAB/DELIV TRAIN CONTROL EQUIPMENT	15-Feb-19	21-Oct-20
FAB/DELIV EDGE LIGHTING - CENTRAL STA	20-Jun-19	30-Apr-21
FAB/DELIV EDGE LIGHTING - BROADWAY STA	20-Jun-19	15-Mar-22
FAB/DELIV EDGE LIGHTING - HOPE STA	20-Jun-19	15-Mar-22
FAB/DELIV 2ND/HOPE UNIT SUBSTATION AND TRANSFORMER	16-Jul-19	8-Nov-19
FAB/DELIV ELEVATORS - 1ST/CENTRAL	30-Jul-19	4-Mar-21
FAB/DELIV ELEVATORS - 2ND/HOPE	30-Jul-19	27-Jun-21
FAB/DELIV 2ND/BROADWAY UNIT SUBSTATION AND TRANSFORMER	16-Aug-19	9-Apr-20
FAB/DELIV EMERGENCY VENTILLATION FANS - HOPE (4)	5-Sep-19	3-Jan-20
FAB/DELIV 2ND/HOPE TPSS	6-Sep-19	9-Mar-20
FAB/DELIV 2ND/BROADWAY TPSS	6-Sep-19	29-Jul-20
FAB/DELIV EMERGENCY VENTILLATION FANS - BROADWAY (4)	16-Oct-19	1-Jul-20
FAB/DELIV EMERGENCY VENTILLATION FANS - CENTRAL (4)	16-Oct-19	22-Sep-20
FAB/DELIV ELEVATORS - 2ND/BROADWAY	20-Oct-19	20-Apr-21
FAB/DELIV OCS POLES / EQUIPMENT	15-Nov-19	28-Jan-21
FAB/DELIV TELEPHONE CABLE	25-Nov-19	17-Aug-20
FAB/DELIV TELEPHONE DEVICES	25-Nov-19	17-Aug-20
FAB/DELIV CCTV CABLE	25-Nov-19	17-Aug-20
FAB/DELIV CCTV DEVICES	25-Nov-19	17-Aug-20
FAB/DELIV RADIO CABLE	25-Nov-19	17-Aug-20
FAB/DELIV RADIO DEVICES	25-Nov-19	17-Aug-20
FAB/DELIV FIRE ALARM CABLE	25-Nov-19	17-Aug-20
FAB/DELIV FIRE ALARM DEVICES	25-Nov-19	17-Aug-20
FAB/DELIV GAS DETECTION CABLE	25-Nov-19	17-Aug-20
FAB/DELIV GAS DETECTION DEVICES	25-Nov-19	17-Aug-20
FAB/DELIV IDS CABLE	25-Nov-19	17-Aug-20
FAB/DELIV IDS DEVICES	25-Nov-19	17-Aug-20
FAB/DELIV 144 FO CABLE	25-Nov-19	17-Aug-20
FAB/DELIV SPLICE ENCLOSURES & PATCH PANELS	25-Nov-19	4-Jun-21
FAB/DELIV SEISMIC DETECTION DEVICES	25-Nov-19	7-Jun-21
FAB/DELIV TPIS CABLE	25-Nov-19	10-Jun-21
FAB/DELIV TPIS DEVICES	25-Nov-19	23-Jun-21
FAB/DELIV COMMUNICATIONS UPS	25-Nov-19	21-Jul-21
FAB/DELIV FEMS CABINETS	25-Nov-19	22-Jul-21
FAB/DELIV RADIO TOWER & ANTENNAE	25-Nov-19	23-Jul-21
FAB/DELIV FEMS CABLE	25-Nov-19	28-Jul-21
FAB/DELIV SCADA RTU	25-Nov-19	11-Jul-22
FAB/DELIV ESCALATORS - 2ND/BROADWAY	11-Feb-20	28-Mar-21
FAB/DELIV ESCALATORS - 2ND/HOPE	11-Feb-20	31-Mar-21
FAB/DELIV ESCALATORS - 1ST/CENTRAL	11-Feb-20	3-Apr-22



**Critical Path (C0980)**



The critical path originates at the future Little Tokyo/Arts District Station structure. Upon the completion of the structure backfill and the temporary deck/pin pile removal at the east end of the station, track access will be turned over to allow the start of track material distribution and installation. After the track material necessary for the entire Flower Cut & Cover Tunnel section has been *moved into storage on Flower Street*, the track installation will commence; starting from 4th/Flower to the 1st Street Portal. Following the track installation, the OCR and train control systems installations will follow. After the critical systems work is complete, the systems integration testing will commence and reach Substantial Completion through successful completion of all tests. Upon Substantial Completion, Metro Operations will begin its own integrated testing, followed by operator training and Pre-Revenue Operations.

Bus Bridge 3 – Union Station to Pico/Aliso Station will start as late as possible to minimize the disruption to the existing Gold Line service. The Bus Bridge will begin with demolition of the existing Gold Line facilities and systems within the limits of the Regional Connector Project. The Bus Bridge will end when the Regional Connector Revenue Service starts.

## PROJECT COST

### Project Cost Analysis – 860228

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	249,281	-36	250,583	2,800	174,295	12,516	266,529	17,248
20	STATIONS, STOPS, TERMINALS, INTERMODAL	354,268	219,477	0	229,919	0	229,993	1,802	68,534	0	230,564	646
30	SUPPORT FACILITIES: YARDS, SHOPS, ADMIN, BLDGS	0	0	0	0	0	0	0	0	0	0	0
40	SITENWORK & SPECIAL CONDITIONS	141,785	422,453	0	598,417	-116	578,037	4,026	457,349	-192	624,550	26,133
50	SYSTEMS	69,667	73,848	0	73,424	0	67,703	32	16,743	1,008	77,062	3,637
	CONSTRUCTION SUBTOTAL (10-50)	846,343	920,468	0	1,151,041	-152	1,126,315	8,660	716,921	13,332	1,198,705	47,664
60	ROW, LAND, EXISTING IMPROVEMENTS	115,889	74,208	0	92,742	10	52,468	24	52,391	-7,222	69,189	-23,553
70	VEHICLES	16,275	16,275	0	16,275	0	16,275	639	5,369	0	16,275	0
80	PROFESSIONAL SERVICES	261,455	257,973	0	379,338	-69	303,474	2,098	282,812	0	391,978	12,641
	SUBTOTAL (10-80)	1,239,963	1,268,925	0	1,639,395	-211	1,498,532	11,421	1,057,492	6,110	1,676,147	36,752
90	UNALLOCATED CONTINGENCY	135,399	126,892	0	89,946	0	0	0	0	-6,110	53,194	-36,752
100	FINANCE CHARGES	27,571	7,115	0	14,301	0	0	0	0	0	14,301	0
	TOTAL PROJECTS 460228 & 860228 (10-100)	1,402,932	1,402,932	0	1,743,642	-211	1,498,532	11,421	1,057,492	0	1,743,642	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	18,988	0	20,425	0
	TOTAL PROJECTS 400228 & 460228 (ENV/PLANNING)	0	24,200	0	26,500	0	26,500	0	25,063	0	26,500	0
	400228, 460228, 860228 TOTAL	1,402,932	1,427,132	0	1,770,142	-211	1,525,032	11,421	1,082,555	0	1,770,142	0

NOTE: EXPENDITURES ARE CUMULATIVE THROUGH 04/30/2019. METRO AND TRIBUNE AGREED ON REIMBURSEMENT OF ~\$1.6 MILLION RELATED TO 2ND/BROADWAY OVERBUILD.

#### Original Budget:

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

#### Current Budget:

In January 2017, the Metro Board revised the LOP Budget for the Regional Connector Project 860228 to \$1.756 billion. Finance costs, estimated at \$14.3 million, are also reflected leading to a total of \$1.770 billion. Budgets were adjusted throughout the SCC structure reflecting revised values as of December 2016.

#### Commitments:

Commitments *decreased* by \$0.21million this period to \$1.53 billion which represents 86.2% of the Current Budget. The overall *decrease* is related to several transactions including executed modifications from RCC, *release of encumbered funds from select CES, DWP–Power, and DWP–Water work orders.*

#### Expenditures:

Expenditures are cumulative through *April* 2019. Expenditures increased by \$11.4 million this period for costs associated with C0980 Design Build Contract, Engineering Management Support, Metro Project Administration, Construction Management Support Services, Third Party Master Cooperative Agreements with the City of LA, Community Relations, and Environmental Consultant Services. \$1.08 billion in expenditures to date represents 61% of the Current Budget.

#### Current Forecast:

The total current forecast remains equal to the total current budget.

## Project Cost Analysis – 861228

### CONCURRENT NON-FFGA ACTIVITIES (861228)

PROJECT COST STATUS BY FTASCC  
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	SITEWORK & 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	22,470	0	27,748	0
70	VEHICLES	0	0	0	0	0	0	0	0	0	0
80	PROFESSIONAL SERVICES	650	0	650	0	650	4	365	0	650	0
	SUBTOTAL (10-80)	38,878	0	38,878	0	38,878	4	22,835	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	4	22,835	0	39,991	0
	861228 TOTAL	39,991	0	39,991	0	38,878	4	22,835	0	39,991	0

NOTE: EXPENDITURES ARE CUMULATIVE THROUGH 04/30/2019.

### Original Budget:

The Original Budget, Current Budget, and Current Forecast reflect the Board approved LOP Budget established April 24, 2014.

### Current Budget:

There is no change this period.

### Commitments:

Commitments reflect actions through *April* 2019.

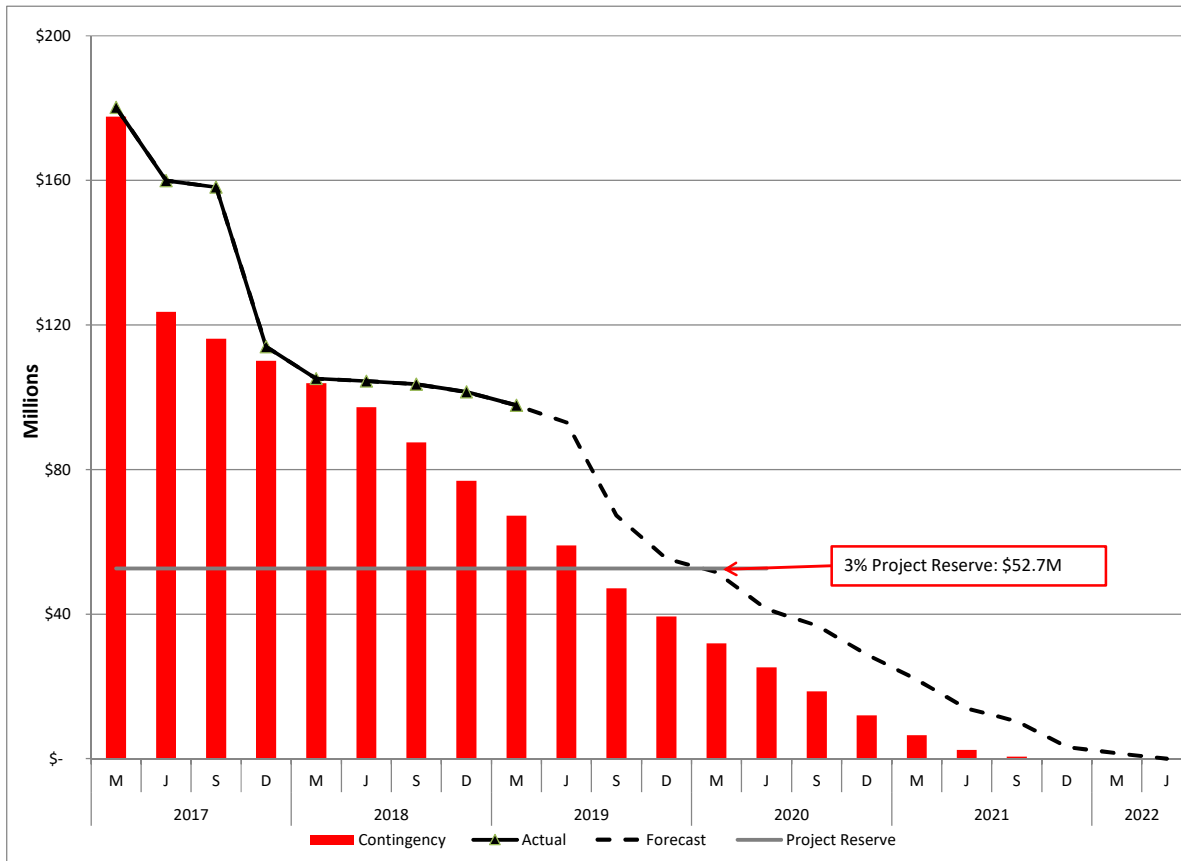
### Expenditures:

Expenditures are cumulative through *April* 2019. Expenditures increased by a net \$4 thousand this period through adjustments for costs associated with Community Relations. The cumulative \$22.8 million in expenditures through *April* 2019 represents 57.1% of the Current Budget.

### Current Forecast:

There was no change to the Forecast for this period.

### Cost Contingency Drawdown



### Cost Contingency Drawdown Analysis

In January 2017, the Metro Board revised the LOP Budget to \$1.756 billion, which included increasing the unallocated contingency to \$89 million and allocated contingency to \$92.8 million. From that action, a revised drawdown plan for unallocated contingency, correlated to anticipate risk trends, was developed to monitor and measure drawdowns moving forward.

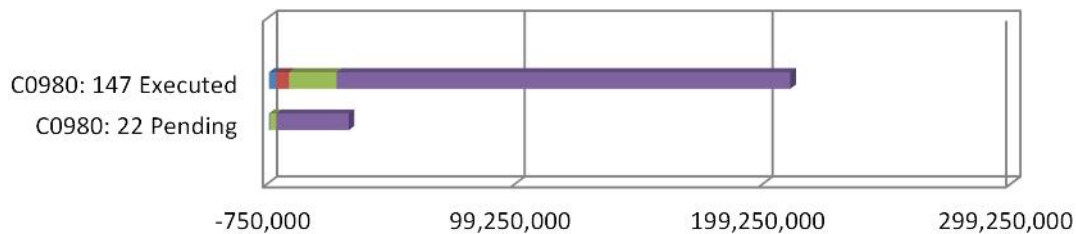
Highlighted in the drawdown is a 3% Project Reserve threshold measured against the LOP Budget. Metro’s Board is to be notified when it becomes necessary to drawdown contingency below the threshold to cover Project costs.

In *April*, there was a drawdown of \$0.25 million from contingency. The remaining total project contingency (allocated and unallocated) stands at \$97.51 million.

PROJECT COST CONTINGENCY						
DOLLARS IN THOUSANDS						
	Original Contingency	LOP Contingency	Previous Period	Current Period	To-Date	Remaining Contingency (Forecast)
Unallocated Contingency	124,919	89,946	(30,641)	(6,110)	(36,752)	53,194
Allocated Contingency	86,345	92,809	(54,351)	5,860	(48,491)	44,318
<b>Total Contingency</b>	<b>211,263</b>	<b>182,754</b>	<b>(84,993)</b>	<b>(250)</b>	<b>(85,243)</b>	<b>97,512</b>

**Summary of Contract Modifications**

**Contract Modifications (MODs) by Cost Level**



	C0980		Total
	147 Executed	22 Pending	
■ Under \$100K	2,859,750	313,000	3,172,750
■ \$100K to \$250K	5,246,864	150,000	5,396,864
■ \$250K to \$1M	19,194,580	2,475,650	21,670,230
■ Over \$1M	183,109,237	29,243,878	212,353,115
<b>Total Contract MODs</b>	<b>210,410,431</b>	<b>32,182,528</b>	<b>242,592,959</b>
<b>Contract Award Amount</b>	<b>927,226,995</b>	<b>927,226,995</b>	
<b>% of Contract MODs</b>	<b>22.7%</b>	<b>3.5%</b>	

Note:

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

One hundred and forty-seven (147) changes with a total value of \$210.4 million have been executed since NTP of Contract C0980. An additional 22 changes, with a total estimated value of \$32.18 million, are pending.

## DISADVANTAGED BUSINESS ENTERPRISE (DBE)

As of *March* 2019:

<b>DBE Goal – Design</b> The percentage of funds apportioned to Design Contracts	22.63%
<b>Current DBE Commitment Design</b> Total DBE Committed Dollars divided by Total Contract Value for Design	\$14.3M (22.63%)
<b>Current DBE Attainment</b> Total amount paid to date to DBEs divided by the amount paid to date to Prime	26.88%

Twelve (12) Design DBE sub-consultants have been identified to date.

<b>DBE Goal – Construction</b> The percentage of funds apportioned to Construction Contracts	18%
<b>Current DBE Commitment Construction</b> Contract commitment divided by current contract value for Construction	\$194M (18%)
<b>Current DBE Attainment</b> Total amount paid to date to DBEs divided by the amount paid to date to Prime	12.19%*

Ninety-three (93) Construction DBE sub-contractors have been identified to date.

## PROJECT LABOR AGREEMENTS (PLA)

As of *March* 2019:

<b>Targeted Worker Goal</b> Construction work to be performed by residents from Economically Disadvantaged Area in the United States	40.00%
<b>Targeted Worker Current Attainment</b>	59.23%
<b>Apprentice Worker Goal</b> Construction work to be performed by Apprentices	20.00%
<b>Apprentice Worker Current Attainment</b>	16.45%
<b>Disadvantaged Worker Goal</b> Construction work to be performed by Disadvantaged Workers who are residents of the United States	10.00%
<b>Disadvantaged Worker Current Attainment</b>	8.86%

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\*The contractor has expressed concern about the lack of interest from the DBE community to submit bids for various construction work packages. The inability to attract qualified firms in this extremely busy market place presents a significant risk to achieving the Project's DBE construction goal.

## FINANCIAL/GRANT

### Status of Funds by Source

**April 2019**

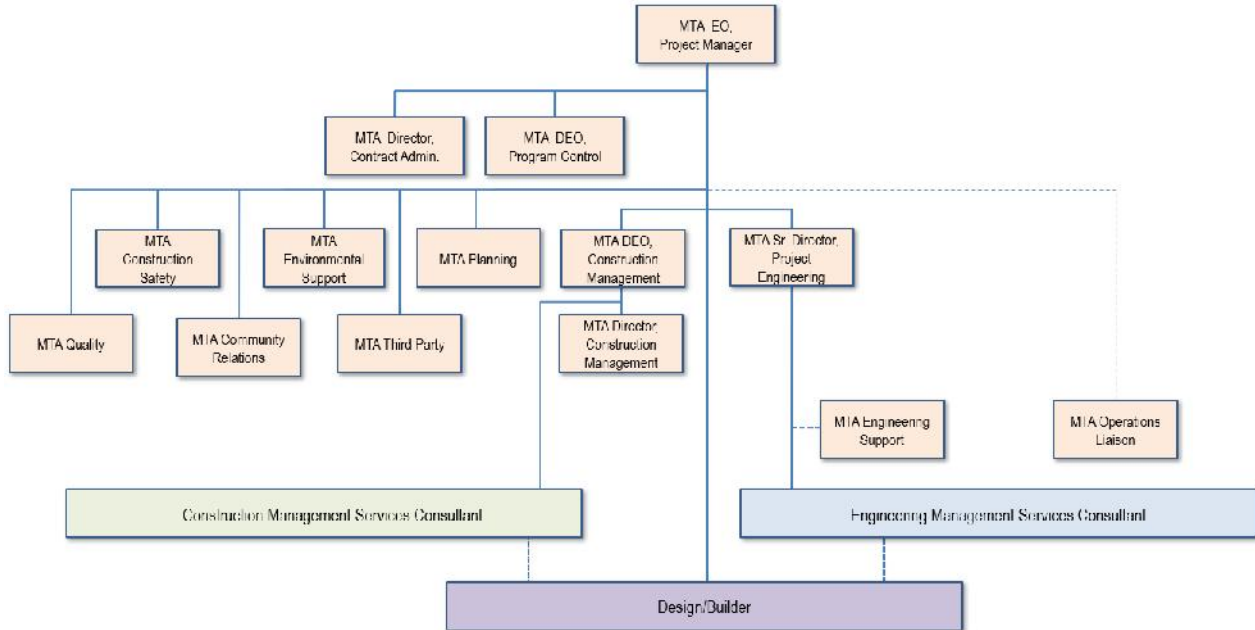
SOURCE	(A)	(B)	(C)	(D)		(E)		(F)		(F/B)
	ORIGINAL BUDGET	TOTAL FUNDS ANTICIPATED	TOTAL FUNDS AVAILABLE	COMMITMENTS \$	%	EXPENDITURES \$	%	BILLED TO FUNDING SOURCE \$	%	%
FEDERAL - CMAQ	\$64.00	\$218.11	\$64.00	\$128.91	59%	\$49.87	23%	\$46.02	21%	
FEDERAL - SECTION 5309 NEW STARTS	\$669.90	\$669.90	\$465.00	\$669.90	100%	\$392.01	59%	\$381.86	57%	
FEDERAL - RIP	\$0.00	\$1.41	\$1.41	\$1.41	100%	\$1.41	100%	\$1.41	100%	
MEASURE R - TIFIA LOAN	\$160.00	\$160.00	\$117.80	\$160.00	100%	\$135.71	85%	\$135.71	85%	
STATE PROPOSITION 1A HSRB *	\$114.87	\$114.87	\$114.87	\$114.87	100%	\$114.87	100%	\$114.87	100%	
STATE PROPOSITION 1B PTMISEA **	\$149.50	\$135.16	\$135.16	\$135.16	100%	\$135.16	100%	\$135.16	100%	
STATE STIP RIP	\$2.59	\$17.00	\$2.59	\$15.58	92%	\$2.59	15%	\$2.59	15%	
STATE CAPITAL PROJECT LOANS - OTHERS ***	\$132.47	\$274.83	\$274.83	\$268.15	98%	\$227.44	83%	\$214.50	78%	
MEASURE R	\$27.57	\$0.00	\$0.00	\$0.00	0%	\$0.00	0%	\$0.00	0%	
CITY OF LOS ANGELES	\$41.98	\$41.98	\$28.00	\$31.04	74%	\$23.49	56%	\$23.22	55%	
LEASE REVENUE	\$64.25	\$79.07	\$0.00	\$0.00	0%	\$0.00	0%	\$0.00	0%	
GENERAL FUND - METRO	\$0.00	\$43.50	\$43.50	\$0.00	0%	\$0.00	0%	\$0.00	0%	
<b>TOTAL</b>	<b>\$1,427.13</b>	<b>\$1,755.84</b>	<b>\$1,247.17</b>	<b>\$1,525.03</b>	<b>87%</b>	<b>\$1,082.56</b>	<b>58%</b>	<b>\$1,055.35</b>	<b>60%</b>	

NOTES:

1. EXPENDITURES ARE CUMULATIVE THROUGH APRIL 30, 2019
  2. METRO AND TRIBUNE AGREED ON REIMBURSEMENT OF \$1.6 MILLION RELATED TO 2ND/BOARDWAY OVERBUILD.
  3. ORIGINAL BUDGET BASED ON FUNDING PLAN INCLUDED IN THE APPROVED FULL FUNDING GRANT AGREEMENT
  4. LACMTA RESERVES THE ABILITY TO UPDATE COSTS AND CHANGE FUND SOURCES AS REQUIRED.
- \* STATE PROPOSITION 1A HIGH SPEED RAIL BONDS  
 \*\* STATE PROPOSITION 1B PUBLIC TRANSPORTATION MODERNIZATION, IMPROVEMENT AND SERVICE ENHANCEMENT ACCOUNT  
 \*\*\* OTHERS INCLUDE TDA ADMINISTRATION, AND NB PROPOSITION A ADMINISTRATION (FOR A TOTAL OF \$.255M)  
 \*\*\* OTHERS INCLUDE TDA ADMINISTRATION, AND NB PROPOSITION A ADMINISTRATION (FOR A TOTAL OF \$.255M)

## PROJECT ORGANIZATION AND STAFFING

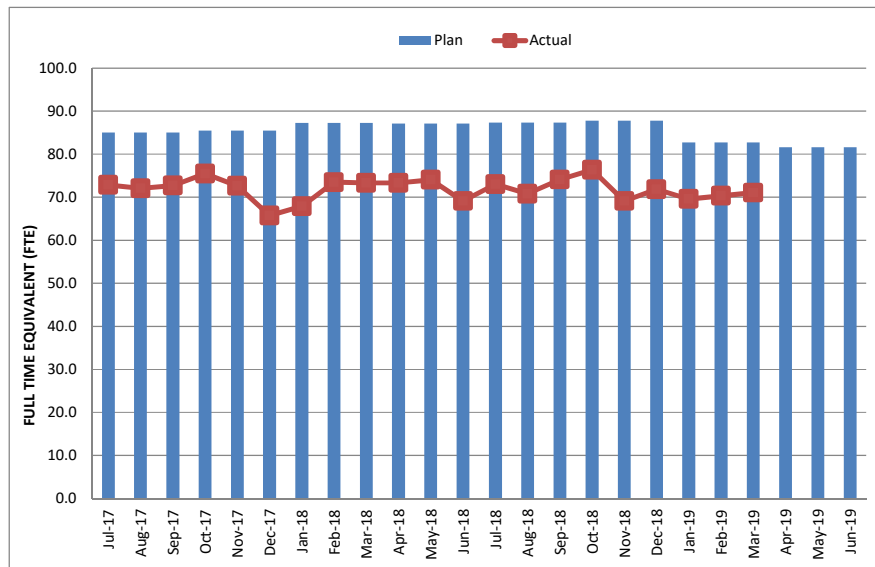
The D/B contract is being managed by a joint team of Metro and consultant personnel jointly located at the Integrated Project Management Office (IPMO).



Updated: 03/2019

The overall FY19 Total Project Staffing plan averages 84.8 FTE's per month. The total actual project staffing for *March 2019* was 71.0; 24.1 actual FTEs for Metro's Project Administration staff and 47.0 FTEs for consulting staff. Review of staffing plans is on-going to ensure staffing needs are appropriately managed.

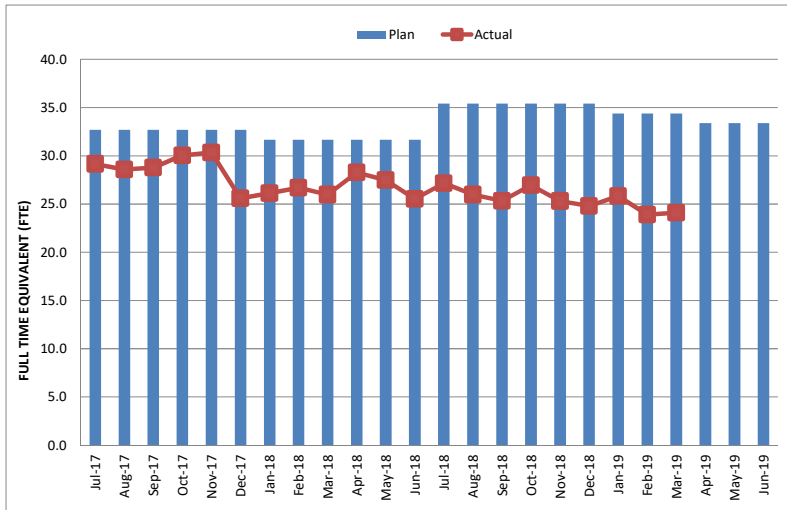
### Total Project Staffing – Metro and Consultants<sup>1</sup>



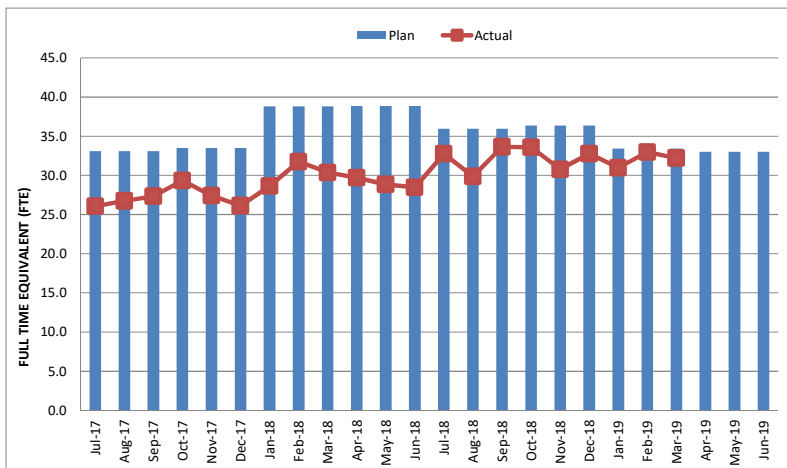
<sup>1</sup> March actuals include 3.7 FTEs related to PMSS Services.



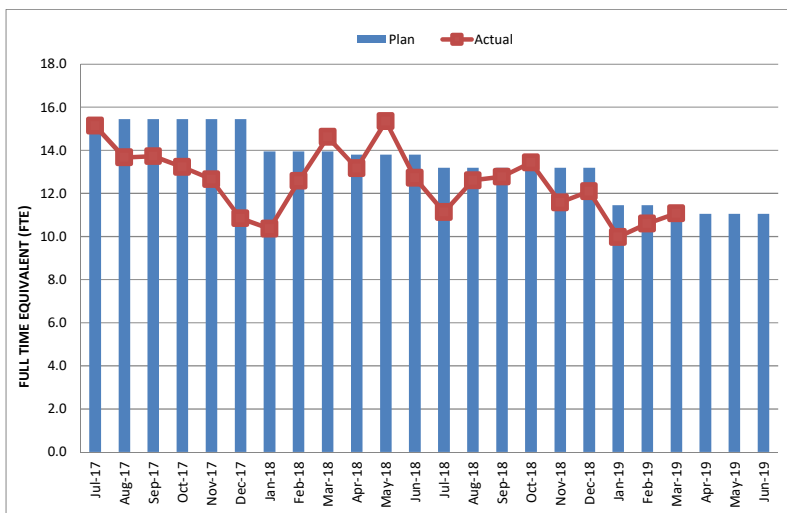
### Metro Staff<sup>1</sup>



### CM Support Services Staff (Consultant)



### Engineering Services Staff (Consultant)



### Staffing by Group

The opposing graphs represent planned vs. actual staffing levels by group.

Metro staffing includes full-time staff located in the IPMO as well as part-time support located at Gateway Headquarters.

Staffing plans are developed for each fiscal year based on Project needs.

All above data through March 2019

## REAL ESTATE

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	
TCE/ROE	14	5	3	6	6	4	1	5	
PE	3	3		3	3	2		3	
<b>Sub Total</b>	<b>34</b>	<b>21</b>	<b>7</b>	<b>23</b>	<b>23</b>	<b>12</b>	<b>5</b>	<b>20</b>	<b>1</b>
Pedestrian Bridge	420-1, 420-2, 420-3								1
Mangrove Fan Plant	TBD								1
<b>Grand Total</b>	<b>36</b>	<b>21</b>	<b>7</b>	<b>23</b>	<b>23</b>	<b>12</b>	<b>5</b>	<b>20</b>	<b>3</b>

### Open Real Estate Matters

#### City of Los Angeles (Mangrove Parcels)

- *Reconciliation of the TCE, along with all other Mangrove issues to include the Fan Plant and Metro-owned parcels, was reached in late April 2019. Timely access to the Fan Plant will be available for construction needs, and the yard TCE is extended into mid-2022 pending City Council and MTA Board approval for the purchase of the Fan Plant easements.*

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

- LADWP and Metro staff have agreed to terms and conditions. The formal agreement is to be approved by LADWP’s Board and the City Council.

## QUALITY ASSURANCE

Metro QA performed the following activities during the month of *April*:

- Reviewed and provided comments on RCC's quality-related submittals
- Performed oversight verification of RCC's design and construction activities
- Reviewed test results for Portland Cement Concrete, Soils Testing, Asphalt Testing and Non-Destructive Testing of Welding
- Attended "Readiness Review" meetings with RCC
- *Metro QA conducted a surveillance (C980-Surv-2019-007) for the installation of concrete wall at the future Little Tokyo/Arts District Station. No anomalies were noted during this surveillance.*
- *Metro QA conducted a surveillance (C980-Surv-2019-008) for the Door Hardware Specification. This a follow-up to (C980-Surv-2019-006). It was noted during the original Surveillance the AFC review two (2) comments were called out by Metro Fire and Life Safety. Comments have been resolved and the specification has been accepted and Issued for Construction.*
- *Metro QA conducted a Quarterly Audit (C980-AUD-2019-001) of the RCC Quality Management System resulted in three (3) observations and one (1) finding. Findings have been issued to RCC.*

*Repairs were made per the approved NCR disposition to close RCC NCR 0060 for a void in concrete for a walkway at tunnel ring 215 in the Left Tunnel.*

*RCC NCR 0063 was issued due to damage of Lenton Forms Savers at the North Wall at future Little Tokyo/Arts District Station (this is a different location that the damaged Lento Form Savers identified in RCC NCR 0062). The NCR is being reviewed by RCC Management and will be sent to the Engineer of Record for Disposition.*

*RCC NCR 0064 was issued due to a damaged rigid conduit at the track level invert at future Little Tokyo/Arts District Station. The NCR is being reviewed by RCC Management and will be sent to the Engineer of Record for Disposition.*

*RCC NCR 0065 was issued due to improper curing practices on a wall that was placed at Historic Broadway Station. The NCR is being reviewed by RCC Management and will be sent to the Engineer of Record for Disposition.*

RCC NCRs 0038, 0041, 0044, 0047, 0052, 0053, 0054, 0056, 0057, 0058, 0059, 0061 and 0062 remain open with no change.

## ENVIRONMENTAL

- Stormwater Pollution Prevention Plan (SWPPP) inspections of all Project areas are conducted weekly by RCC and Metro staff to observe site conditions and report on performance of stormwater protection per Best Management Practices. Throughout *April*, the weather transitioned to warmer and sunny days with *no* recorded rain event. The sunny conditions decreased the amount of SWPPP inspections for the month and increased the fugitive dust conditions. Daily street sweeping continued throughout the month.
- In *April*, PMOC met with Metro staff to review supporting documentation for the 23rd Quarterly Mitigation Monitoring and Reporting Plan. Additionally, Metro has begun preparing the 25<sup>th</sup> Quarterly Mitigation Monitoring and Reporting Plan covering February 2019 to April 2019 and will submit the report no later than May 14, 2019.
- Noise and vibration spot checks continue to be conducted weekly at multiple sensitive locations, and at the location of new activities along the alignment. *There has been an increase in inquiries from stakeholders adjacent to the future Grand Ave Arts/Bunker Hill Station construction site however Metro/RCC's Community Relations team have been very responsive and continue to actively address community concerns.* Ventilation fans for Flower Street underground work were shrouded with sound blankets as a noise mitigation action. The fan noise levels are in compliance with the EIR; currently no further mitigation is being requested by stakeholders.
- SEM Cavern construction has the potential to produce ground-borne vibration and noise. Therefore, dedicated seismic monitors *are located* in the basement of the Metropolitan News Building and the Higgins Building adjacent to 2nd Street and the path of the SEM Cavern.

Noise and vibration complaints have been received from stakeholders. The Project is attending to all input with a focus on sharing expectations from the unique, short-term construction sequence necessary and now underway.

Project outreach includes electronic replies to all such communication, and on-site technical resources to address specific concerns.

## CONSTRUCTION AND COMMUNITY RELATIONS

### Construction Relations

- Responded and addressed Project related inquiries from the public received via the hotline, email and during office hours at the Little Tokyo Community Office.
- Performed public outreach and construction coordination to impacted area stakeholders regarding the following construction activities: *concrete placement throughout the alignment, yard maintenance at 1st/Central, utility work on Alameda at Temple, excavation at 6th and survey work at 7th along Flower, and deck installation on 1st.*
- *Participated at Bank of Americas' Earth Day event with an informational booth to provide updates on the progress of construction and informed attendees on the regional connectivity the Project will create throughout LA County. Community Relations staff interactive with over 60 people who visited the booth.*
- Distributed *seventeen (17)* construction notices to the public on the above activities through email and made it available on the Project website and social media outlets.
- Provided information and coordinated with *46 property owners* throughout the alignment on Project activities and special events.
- Continued standing meetings with: LA City Council District 14, the Mayor's Office, The Westin Bonaventure Hotel, 444 S. Flower St (formerly Citigroup Center) and Charles Dunn.

### Eat, Shop, Play – Construction Impact Business Mitigation Program Highlights

- *Collaborated with Cafecito Pura Vida and Donatsu on an Earth Day cross-promotion by offering 50 ESP promotional TAP cards as a giveaway.*
- *Hosted Sustainable Little Tokyo at Metro Headquarters' Earth Day Pop-Up event, whoa also received 100 ESP promotional TAP cards to promote their Bokashi Club events.*



### Social Media Outreach

- *Published 11 newsletters, including 17 construction updates, totaling 15.4k mailings*
- *Trending stories on social media included release of the tunneling video produced by Metro Marketing, achieving 2.6k views; an update on the mixed-use development to be built on top of the 2nd/Broadway station; and news of Gold Line improvements along the 210 Freeway, further enhancing the connectivity Regional Connector will bring.*



### **Community Relations**

- *Continued work with the monthly Little Tokyo Marketing & Business Task Force and promoted special events in Little Tokyo. Discussed special programming for workshops during Delicious Little Tokyo Event in July.*

### **Construction Safety Awareness Program**

- *Reached over 30 children on how to be safe around construction during Metro's Earth Day celebration. The children were engaged in the conversation and were excited to take a construction safety activity book with them.*

## **CREATIVE SERVICES**

### **Art Program**

- Continued final design development for corridor artworks
- Coordinated with RCC on porcelain enamel steel art fabricator procurement evaluation
- Coordinated community stakeholders for an oral history interview to facilitate the former Atomic Café Interpretive Graphic Display narrative text
- Glass mosaic fabricators RFPs received by Procurement and evaluation process underway
- Assessment of Project operating impacts to signage systemwide

## SAFETY & SECURITY

### 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, visitors, and IPMO project staff. Training sessions included Safety Orientation, 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 daily to ensure compliance with contract specifications. Participated with RCC staff in field safety inspection walks of multiple project worksites, laydown areas, 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.

### Project Safety Record

- RCC reported *one* (1) Recordable Injury during the month of *April* 2019. *A carpenter at the Flower St worksite dropped a piece of angle iron that pinched the end of a finger, resulting in several stitches.*
- RCC reported *68,360* work hours for *March* 2019. RCC's total Contract to Date work hours through *March* 2019 are *2,908,216* with a total of *13* Recordable Injuries and no Lost Workday (Days Away) case injuries. The C0980 Contract Recordable Injury Rate is *0.89*. The Bureau of Labor Statistics reports that the National Average Recordable Injury Rate is *2.8* for heavy civil construction projects.
- Total Contractors' Project to Date Work Hours, including both the C0980 and the completed C0981 AUR contract, through *March* 2019 is *3,019,275* hours with *14* recordable injuries. The Total Project Contractor Recordable Injury Rate is *0.93*.
- Total Aggregate Project work hours for Contractors, Metro, and Support Services Consultants, through *March* 2019 is *3,701,150* with *15* Recordable Injuries and no Lost Workday (Days Away) injury cases. The Total Project Aggregate Safety Rate is *0.81*.\*

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\*Using RIR method of calculating.

## APPENDIX 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 first draft FFGA application to FTA for review



September 2013	Received proposals for D/B Contract C0980
September 2013	Submitted second 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 Historic 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 Historic Broadway Station Site Move-In
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 Historic Broadway Station (West Hammer Head)
July 2016	RCC Initiated CIP invert at 1st/Central Station Box
August 2016	RCC completed 36" waterline replacement at 1st/Alameda

September 2016	RCC completed temporary decking at 1st/Alameda intersection (Wye)
October 2016	Metro performed TBM lowering ceremony
October 2016	RCC completed CIP invert at 1st/Central Station Box
November 2016	RCC completed CIP invert at Mangrove Launch Pit and Wye
December 2016	RCC completed Phase 1, 2nd Street Decking in front of LA Times Bldg.
January 2017	Metro Board approved a LOP Budget increase
February 2017	RCC initiated TBM mining (1st – Left)
March 2017	RCC completed TBM mining under JVP (first 500 ft.)
March 2017	RCC completed temporary decking on Flower St. (between 4th and 5th)
April 2017	RCC completed sub-invert at TBM retrieval pit
April 2017	RCC completed CIP invert at Grand Av Arts/Bunker Hill Station Box
May 2017	RCC completed temporary decking at Historic Broadway Station
May 2017	RCC completed water relocation work along Flower Street
June 2017	RCC completed mining and broke through at Grand Av Arts/Bunker Hill Station
June 2017	Five-month full closure of 6th Street approved by LADOT, Caltrans and LADWP
July 2017	RCC completed TBM mining of the first tunnel
August 2017	RCC extracted TBM shields from the Retrieval Shaft
September 2017	RCC began TBM mining of the second tunnel (right)
October 2017	RCC completed TBM mining under JVP (first 500 ft.)
October 2017	RCC completed temporary decking on Flower St. (between 5th and 6th, deck beam 16 to deck beam 58)
November 2017	Completed five-month full closure of 6th Street

November 2017	Initiated underpinning related to the Historic Broadway Station
December 2017	RCC completed mining and broke through at Grand Av Arts/Bunker Hill Station (Right Tunnel)
January 2018	RCC completed TBM mining of the second tunnel (right)
February 2018	RCC began excavation of cross passages
February 2018	RCC began SEM canopy pipe installation
March 2018	RCC began tunnel invert concrete
March 2018	RCC completed infrastructure for power relocation work at 6th/Flower
April 2018	RCC completed entrance structure excavation of Historic Broadway Station
May 2018	RCC began SEM excavation
June 2018	LADWP Power completed cable pulling at 6 <sup>th</sup> /Flower
June 2018	Completed underpinning related to the Historic Broadway Station
July 2018	RCC completed station box excavation of Historic Broadway Station
August 2018	Completed entrance structure invert of Historic Broadway Station
September 2018	Completed temporary decking of Flower Street
October 2018	RCC started the CN 106.2 Final Design of the Revised Cable Transmission System for the Gold Line
October 2018	Metro completed approval of floating slab test results
October 2018	RCC completed SEM left drift excavation
October 2018	RCC completed Trainway Feeder duct bank at Flower St & 7 <sup>th</sup> St
November 2018	RCC completed Little Tokyo / Arts District Station Box Excavation
November 2018	RCC completed Grand Av Arts/Bunker Hill Station East Platform Level Exterior Walls
December 2018	RCC completed SEM right drift excavation
December 2018	RCC completed the Historic Broadway Station west invert

December 2018	RCC started tunnel walkways between the future Little Tokyo/Arts District Station to Historic Broadway Station
December 2018	RCC started the future Little Tokyo/Arts District Station east invert
December 2018	RCC completed Grand Av Arts/Bunker Hill Station mezzanine concrete
January 2019	RCC completed Grand Av Arts/Bunker Hill Station invert concrete
January 2019	RCC completed SEM center top drift excavation.
January 2019	RCC started Little Tokyo/Arts District Station west cable pit and sump pit
February 2019	RCC completed SEM excavation
February 2019	RCC completed platform level exterior walls at Grand Av Arts/Bunker Hill Station
February 2019	RCC started fire protection in tunnels
March 2019	RCC completed Little Tokyo/Arts District Station invert concrete
March 2019	RCC completed Bored Tunnels walkway concrete
<i>April 2019</i>	<i>RCC completed Grand Av Arts/Bunker Hill Station east concourse deck concrete</i>
<i>April 2019</i>	<i>RCC completed 1<sup>st</sup> Street Cut &amp; Cover / U-Channel Level 1 excavation</i>