

Regional Connector Transit Project

MONTHLY PROJECT STATUS REPORT

January 2019



REGIONAL CONNECTOR TRANSIT PROJECT

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

January 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 21, 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 across the regions has surfaced as a key component to rail activation. Associated detailed planning and scheduling efforts to optimize the extensive efforts required continue.

EXECUTIVE SUMMARY

In *January*, the Project achieved 54.8% completion based on earned value measurements for design and construction. The focus of the Project remains on facilitating critical path construction activities.

Construction momentum on the Project has slowed as RCC strives to optimize major station concreting activities. This is evidenced by the fact that *over several months*, the earned value amounts are running below target.

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

Design Status

Ninety-nine percent (99%) of the Final Design has been completed. The Civil B (DU5) design package is the only remaining design in progress.

The Tribune Entrance Redesign at Historic Broadway Station *was completed through ECI #62*. This work became necessary to accommodate revised loading parameters from the developer. The redesign *allows RCC to move forward with the Ancillary section of the station*.

Construction Status

1st Street Cut & Cover Tunnel & U-Channel: Continued the excavation and the installation of excavation support.

Wye Structure: *The vertical backfill walls were completed*. The excavation progress continued and is expected to be completed next period. The placement of the mud mat *is in progress*. HDPE installation at the invert will begin next period.

Crossover Cavern: The SEM (Sequential Excavation Method) excavation *center top drift was completed*. The excavation of the center bench/invert continued and will be completed in early March 2019. Work is proceeding within predicted settlement ranges throughout the cavern.

Bored Tunnels: Concrete placement of the emergency walkway in both the right and left tunnel segments from the future Little Tokyo/Arts District Station to Historic Broadway Station *will be completed next period*. The concrete placement of emergency walkway in both the right and left tunnel segments from Historic Broadway Station to Grand Av Arts/Bunker Hill Station will begin next period.

Flower Cut & Cover Tunnel: The placement of concrete invert was suspended by the RCC pending resolution of structural over pour requirements for walls between 4th/Flower and 5th/Flower. *This question has since been resolved*. Reconciliation of the RFI was followed by development of shop drawings to facilitate invert pours in the area. *Albeit slower than planned*, continued utility hanging, excavation and the installation of excavation support from 5th/Flower to 7th/Metro Center progresses north to south.

Little Tokyo/Arts District Station: Completed HDPE installation at the west station box invert. Continued rebar installation and concrete placement for the east station box invert. Started rebar installation for the west ancillary sump pit and the west station box cable room pit.

Historic Broadway Station: Continued the installation of HDPE for the platform level west station box exterior walls and the installation of rebar for the platform level west station box exterior walls. The installation of HDPE for the exterior walls in the entrance area continues. Started the concrete placement of platform level west exterior walls. Started the rebar installation for the entrance area exterior walls.

Grand Av Arts/Bunker Hill Station: Continued the formwork and rebar installation for the east platform level rooms and emergency exit. In the west station box area, started the exterior wall rebar installation. At the Entrance Concourse area, continued installation of the interior walls rebar and formwork.

Cost and Schedule Summary

As of the reporting date, RCC remains current with its schedule updates.

RCC Schedule Metrics

	Original Contract Date/Duration	Time Extension (CD)	Current Contract Schedule	Forecast (Metro PMS)	Variance CD (Trending)
NTP	7/7/14				
Substantial Completion	10/22/20	527	04/01/22	04/01/22	-0 days

On the Project Master Schedule, the primary critical path the critical path has transitioned from Flower St North Cut & Cover to the future Little Tokyo/Arts District Station. The change stems from RCC's revised construction sequence and increased quantity of concrete wall pours at the future Little Tokyo/Arts District Station. In addition, the critical removal of temporary shoring after the backfill and deck removal at the east end of the station (1st/Alameda area) has been introduced into the sequence. The removal of the interfering pin piles is a pre-requisite for the track work access. After track work access, the installation of the track will commence, and systems installations will follow. 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 16.

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 seeks to grasp 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 has surfaced as a pacing item for start-up; Management is reviewing planning and schedule options.

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. The first of two final AFC (DU4) submittals was approved by all parties involved. In finalizing the second AFC (DU5) submittal, Metro requested an informal comment resolution meeting with the City on any new comments prior to their formal response. The second AFC submittal is anticipated in March 2019. Review of costs impacted by City's review requirements is underway.

Item 4: Agreement and closure on the property acquisition and related mitigations at City of Los Angeles Department of Water and Power's (LADWP) Duco Yard have been delayed.

Status/Action: Agreement of the terms and conditions on the property acquisition and mitigations has been reached. *Implementing mitigation measures is dependent upon the Project team completing design and issuing work to the Contractor. Standing construction meetings with DWP are being scheduled.*

Item 5: 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 from the overbuild owners.

Item 6: *City of Los Angeles proposed costs for three-year extension of TCE at Mangrove Yard are beyond Project's estimated values.*

Status/Action: *Without reconciliation of the added costs, the LOP Budget would be compromised. The issue has been introduced to the Metro Board via the Annual Project Evaluation process.*

Project Construction Photos



Setting walkway form rails and guides in tunnels, Reach 2



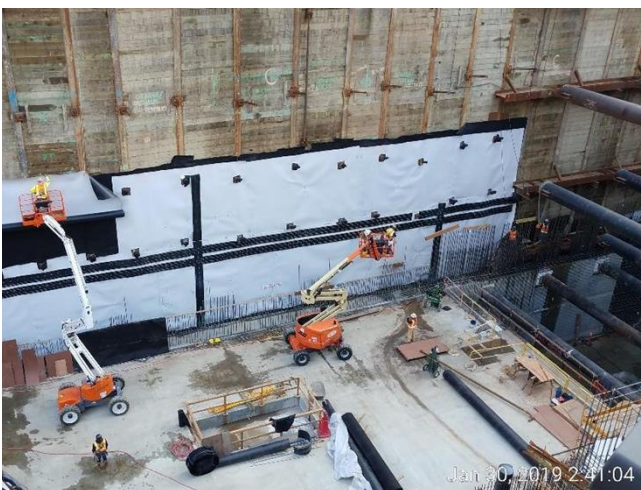
Sump/Ejector pit invert placement in future Little Tokyo/Arts District Station



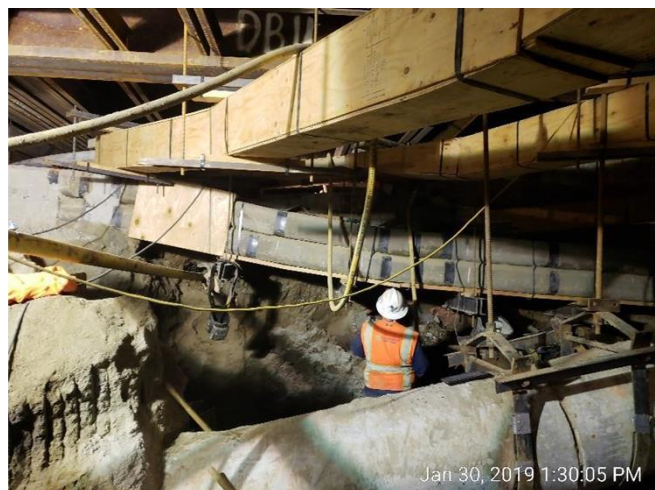
Wall D concrete curing in Historic Broadway Station



Right center wall demolition of SEM Cavern



HDPE and water bar installation at south exterior wall at
Grand Av Arts/Bunker Hill Station

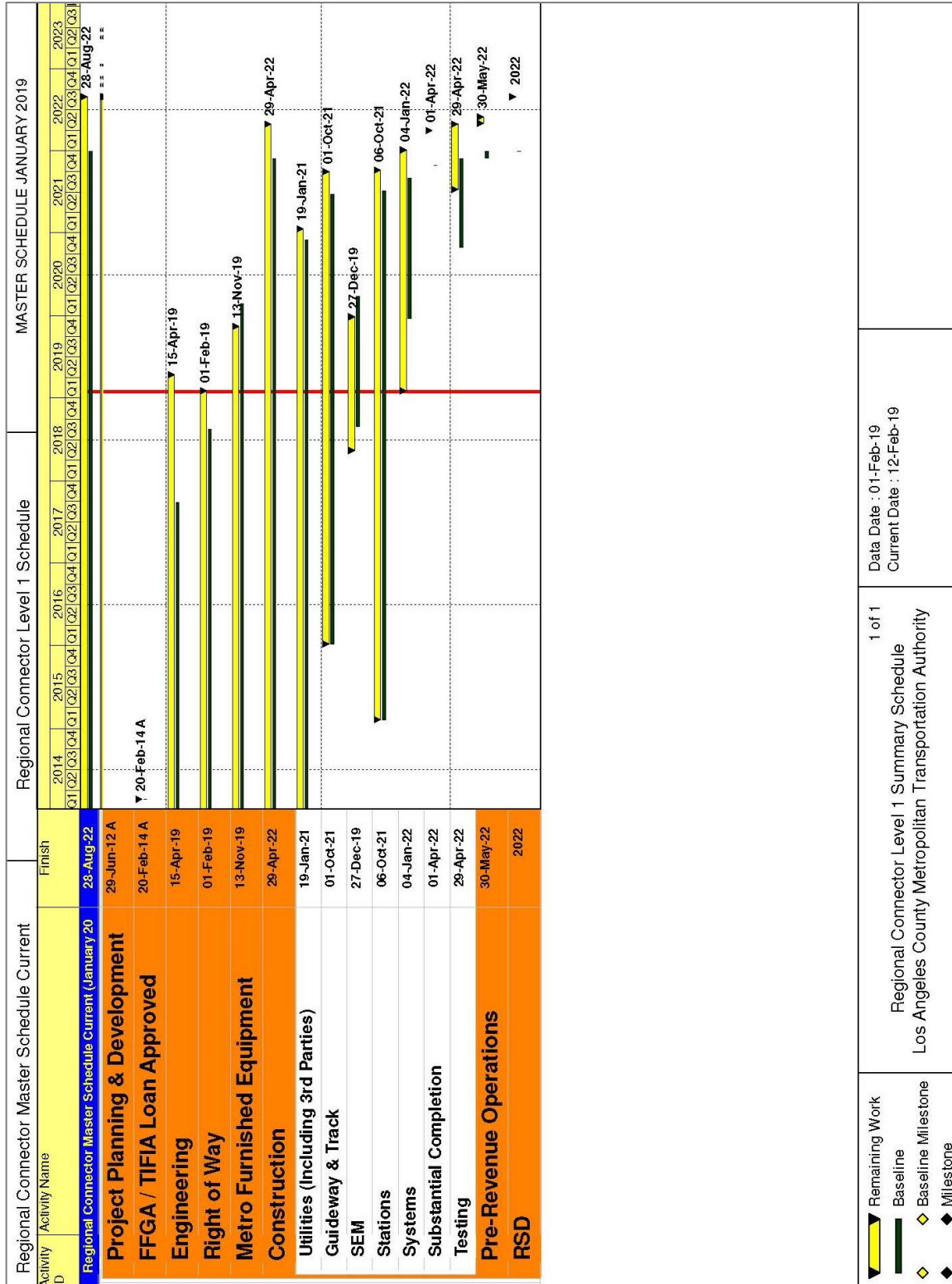


Support of communication duct banks near 6th/Flower

PROJECT UPDATE

PROJECT SCHEDULE

Project Summary Schedule

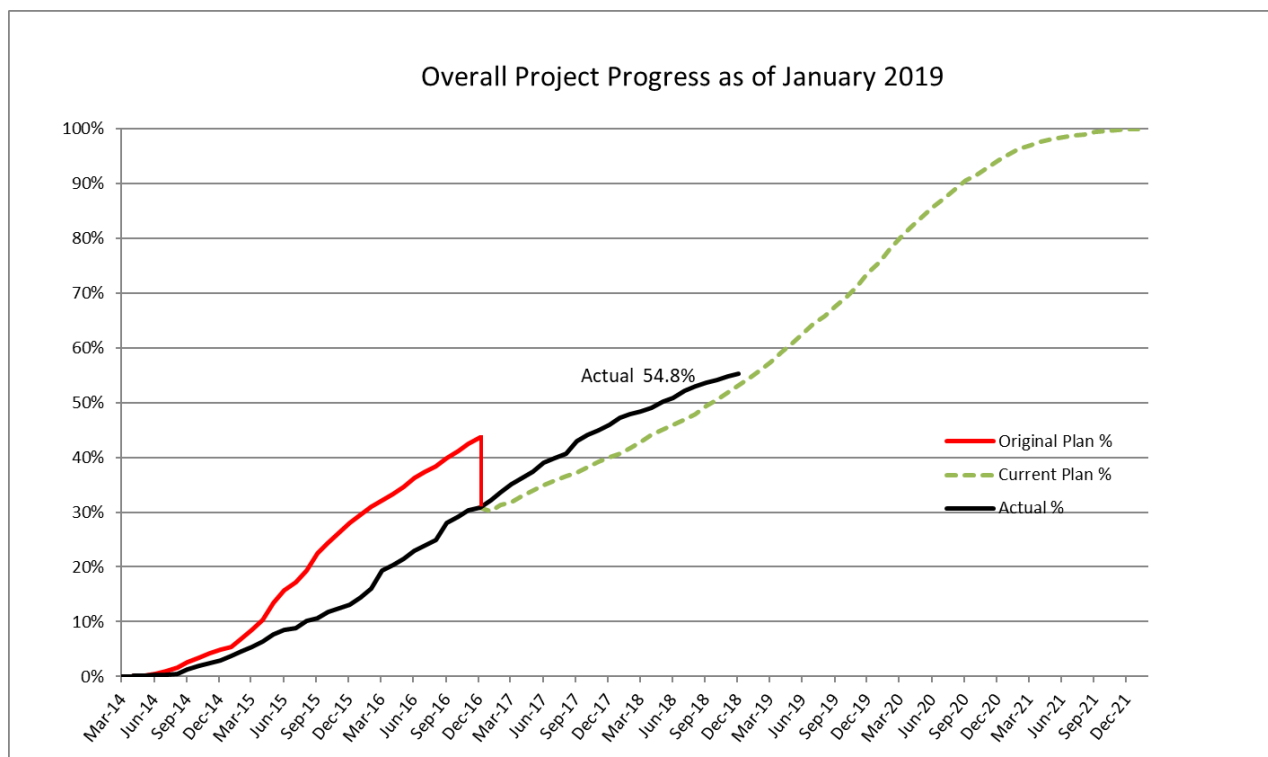


Progress Summary

	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	
Final Design Progress:			
Contract C0980	99.8%	0%	Remaining design is not impacting the critical path
Construction Contracts Progress:			
Contract C0981R & C0980	51.7%	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	Jan-19	Feb-19	Mar-19	Apr-19	May-19	Jun-19
Complete WYE Vertical Backfill Walls	01/25/19 A						
Complete SEM center top excavation	01/25/19 A						
Complete WYE Phase 2 excavation	02/01/19						
Complete Tunnel Walkways Concrete 1/C to 2/B	02/01/19						
Complete SEM center excavation	03/11/19						
Approve Civil Segment B AFC Design Submittal	03/15/19						
Complete 1st Street Tunnel / U-Channel Level 1 Shoring	03/31/19						
Complete Lower Ancillary invert concrete at Little Tokyo / Art District Station	04/12/19						
Complete entrance concourse walls at Historic Broadway Station	04/26/19						
Complete Platform Level invert concrete at Little Tokyo / Art District Station	05/01/19						
Complete Concourse Level Deck concrete at Grand Ave / Bunker Hill Station	05/07/19						
Complete North Flower Cut & Cover Tunnel Invert	06/06/19						



MTA Staff



MTA Board Action



FTA (Federal
Transit



Utility Company



Other Agencies



Contractors



Design
Consultant



C0980 D/B Contractor

*A" following date is actual and completed

★ New

Major Equipment Delivery

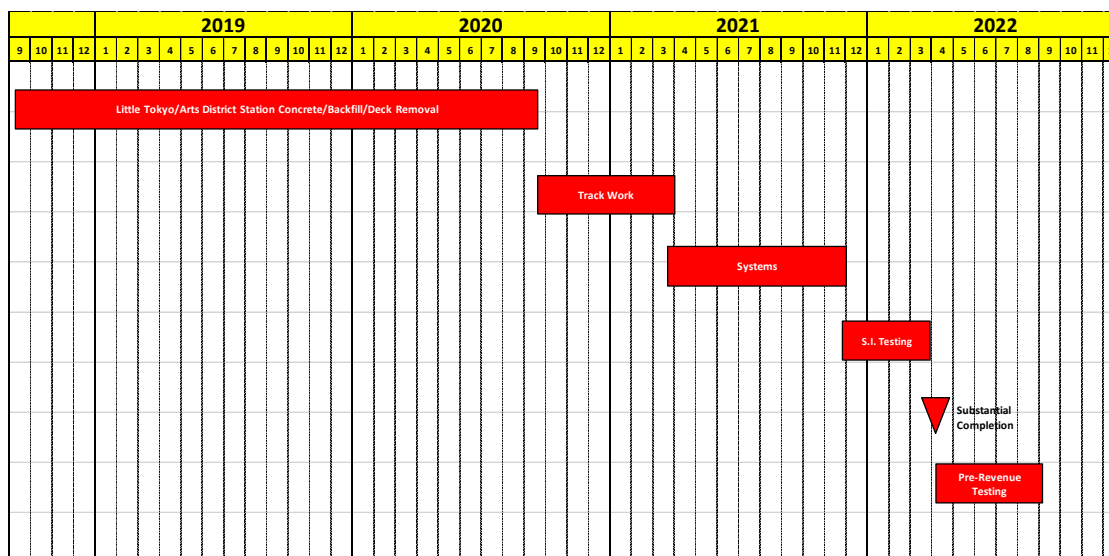
Metro Supplied Equipment

Equipment	Initial Procurement	Scheduled Delivery	Scheduled Installation
LRT Vehicles	(NTP) 08/20/2012	Option 2 02/12/2020	N/A
Ticket Vending Machines	~ 01/30/2018	11/01/2018 (warehoused)	09/14/2020 ~03/24/2021

Design/Builder Equipment Delivery Requirements

Activity Name	Finish	Need Date
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)



This period, the critical path shifted from the North Flower Cut & Cover Tunnel to the future Little Tokyo/Arts District Station. The shift is the result of RCC revised logic and increased durations at the future Little Tokyo/Arts District Station. In addition, changes to the critical path also address critical sequence details which will have an impact on track work access. As a result, the Substantial Completion Date has slipped five (5) months.

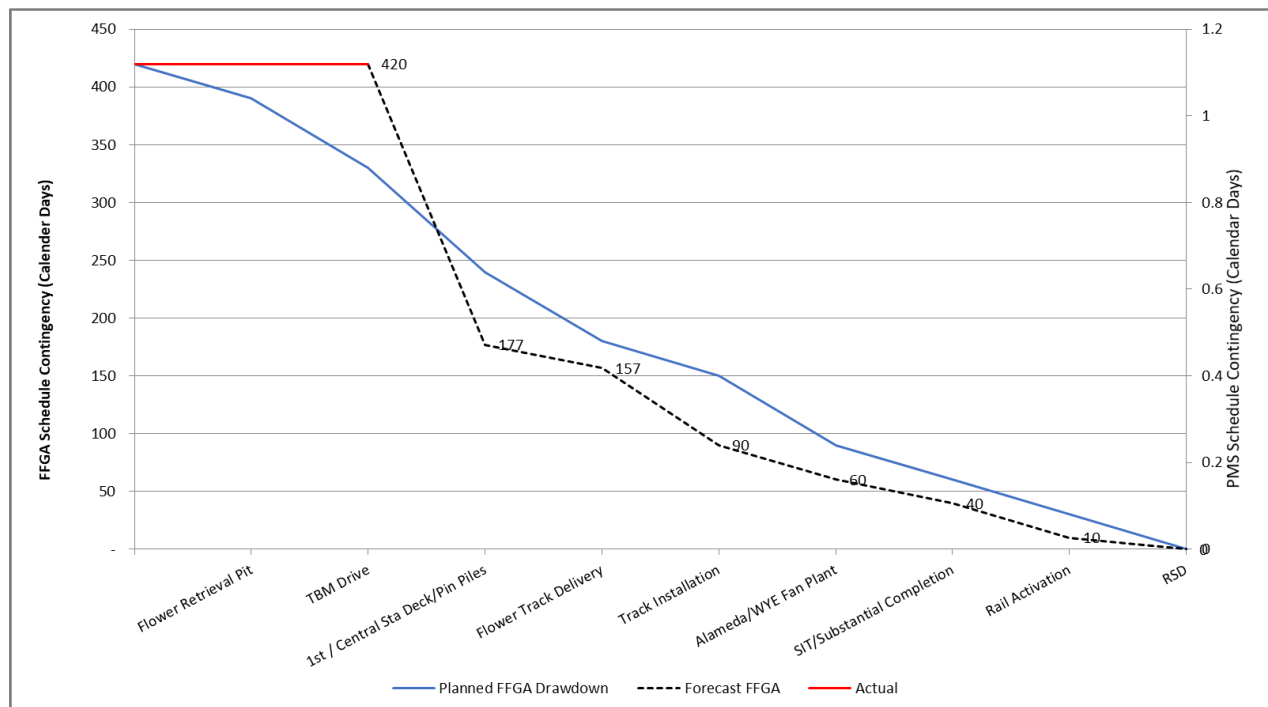
In addition to the changes identified for Substantial Completion, Testing, Rail Activation and Pre-Revenue operations have been extended to reflect identified regional requirements the Project brings forth through its readiness. The Revenue Service Date is now forecast for 2022.

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 received, the track installation will commence; starting from 4th/Flower to the 1st Street Portal. Following the track installation, the critical 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.

Project Schedule Contingency Drawdown Analysis

The project schedule contingency drawdown model provides a perspective based upon the proposed FFGA RSD of February 2023.

With regard to the FFGA RSD, schedule float of fourteen-months has been *reduced to six months*. The *reduction* was recorded as a result of the revised projected Revenue Service Date. The forecast schedule contingency drawdown is trending below the planned FFGA drawdown curve. Review of the forecast will be performed upon completion of the 50% Risk Refresh.



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	108	248,624	1,800	167,875	253	254,137	4,856
20	STATIONS, STOPS, TERMINALS, INTERMODAL	354,268	219,477	0	229,919	91	229,993	1,246	63,334	450	230,451	533
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	0	598,417	218	576,191	2,832	446,601	-95	623,918	25,502
50	SYSTEMS	69,667	73,848	0	73,424	47	67,953	60	16,631	-458	75,574	2,149
	CONSTRUCTION SUBTOTAL (10-50)	846,343	920,468	0	1,151,041	464	1,122,761	5,939	694,441	150	1,184,080	33,039
60	ROW, LAND, EXISTING IMPROVEMENTS	115,889	74,208	0	92,742	-7	52,461	17	52,322	0	76,410	-16,331
70	VEHICLES	16,275	16,275	0	16,275	0	16,275	-1,645	3,352	0	16,275	0
80	PROFESSIONAL SERVICES	261,455	257,973	0	379,338	-420	302,837	2,422	276,693	7,878	401,562	22,224
	SUBTOTAL (10-80)	1,239,963	1,268,925	0	1,639,395	38	1,494,333	6,732	1,026,808	8,028	1,678,328	38,933
90	UNALLOCATED CONTINGENCY	135,399	126,892	0	89,946	0	0	0	0	-8,028	51,013	-38,933
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	38	1,494,333	6,732	1,026,808	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 (EVN/PLAN'G)	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	38	1,520,833	6,732	1,051,871	0	1,770,142	0

NOTE: EXPENDITURES ARE CUMULATIVE THROUGH 01/31/2019. 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 increased by \$0.04 million this period to \$1.51 billion which represents 85.9% of the Current Budget. The overall increase is related to several transactions including *executed modifications from RCC, and work orders to DWP*. These increases were tempered by an unencumbered purchase order from *Community Relations*.

Expenditures:

Expenditures are cumulative through *January 2019*. Expenditures increased by \$6.7 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. \$1.05 billion in expenditures to date represents 59% 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	6	323	0	650	0
	SUBTOTAL (10-80)	38,878	0	38,878	0	38,878	6	22,793	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	6	22,793	0	39,991	0
	861228 TOTAL	39,991	0	39,991	0	38,878	6	22,793	0	39,991	0

NOTE: EXPENDITURES ARE CUMULATIVE THROUGH 01/31/2019.

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 *January 2019*.

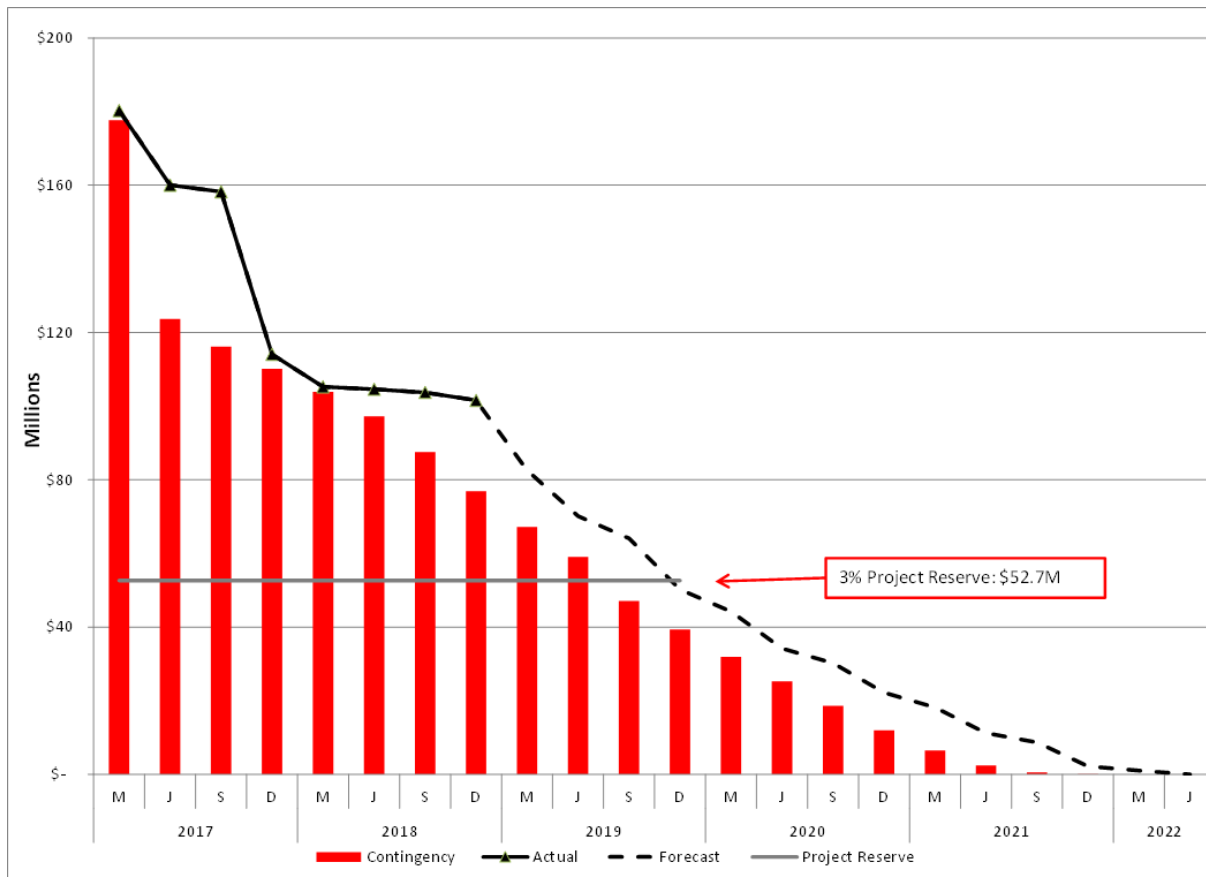
Expenditures:

Expenditures are cumulative through *January 2019*. Expenditures *increased* by a net \$6 thousand this period through adjustments for costs associated with Community Relations. The *cumulative* \$22.8 million in expenditures through *January 2019* represents 57.0% 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.

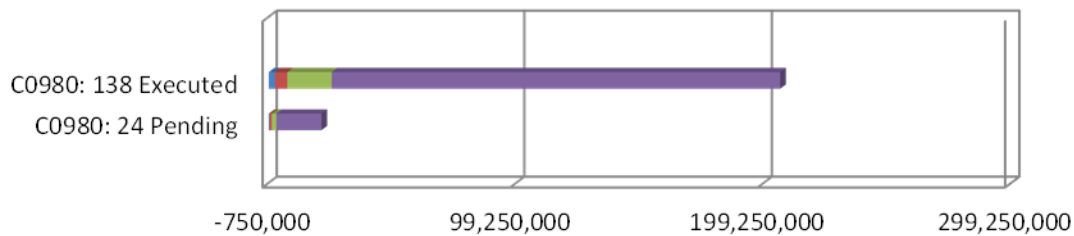
Highlighted in the drawdown is a 3% project reserve threshold measured against the LOP Budget. Metro's Board is to be notified when it becomes necessary to drawdown contingency below the threshold to cover Project costs.

In January, there was a drawdown of \$8 million from contingency. The remaining total project contingency (allocated and unallocated) stands at \$101.3 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	(30,905)	(8,028)	(38,933)	51,013
Allocated Contingency	86,345	92,809	(50,379)	7,829	(42,550)	50,258
Total Contingency	211,263	182,754	(81,284)	(199)	(81,483)	101,272

Summary of Contract Modifications

Contract Modifications (MODs) by Cost Level



	C0980		Total
	138 Executed	24 Pending	
■ Under \$100K	2,591,912	283,000	2,874,912
■ \$100K to \$250K	4,886,864	886,537	5,773,401
■ \$250K to \$1M	17,962,770	1,910,000	19,872,770
■ Over \$1M	181,209,237	18,216,304	199,425,541
Total Contract MODs	206,650,783	21,295,841	227,946,624
Contract Award Amount	927,226,995	927,226,995	
% of Contract MODs	22.3%	2.3%	

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 thirty-eight changes with a total value of \$206.7 million have been executed since NTP of Contract C0980. An additional 24 changes, with a total estimated value of \$21.2 million, are pending.

DISADVANTAGED BUSINESS ENTERPRISE (DBE)

As of *December* 2018:

DBE Goal – Design The percentage of funds apportioned to Design Contracts	20%
Current DBE Commitment Design Total DBE Committed Dollars divided by Total Contract Value for Design	\$14.0M (22.63%)
Current DBE Participation Total amount paid to date to DBEs divided by the amount paid to date to Prime:	26.90%

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

DBE Goal – Construction The percentage of funds apportioned to Construction Contracts	18%
Current DBE Commitment Construction Contract commitment divided by current contract value for Construction:	\$193M (18%)
Current DBE Participation Total amount paid to date to DBEs divided by the amount paid to date to Prime:	12.04%*

Eighty-five (85) Construction DBE sub-contractors have been identified to date.

PROJECT LABOR AGREEMENTS (PLA)

As of *December* 2018:

Targeted Worker Goal Construction work to be performed by residents from Economically Disadvantaged Area in the United States	40.00%
Targeted Worker Current Attainment	58.89%
Apprentice Worker Goal Construction work to be performed by Apprentices	20.00%
Apprentice Worker Current Attainment	16.09%
Disadvantaged Worker Goal Construction work to be performed by Disadvantaged Workers who are residents of the United States	10.00%
Disadvantaged Worker Current Attainment	9.00%

*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

January 2019

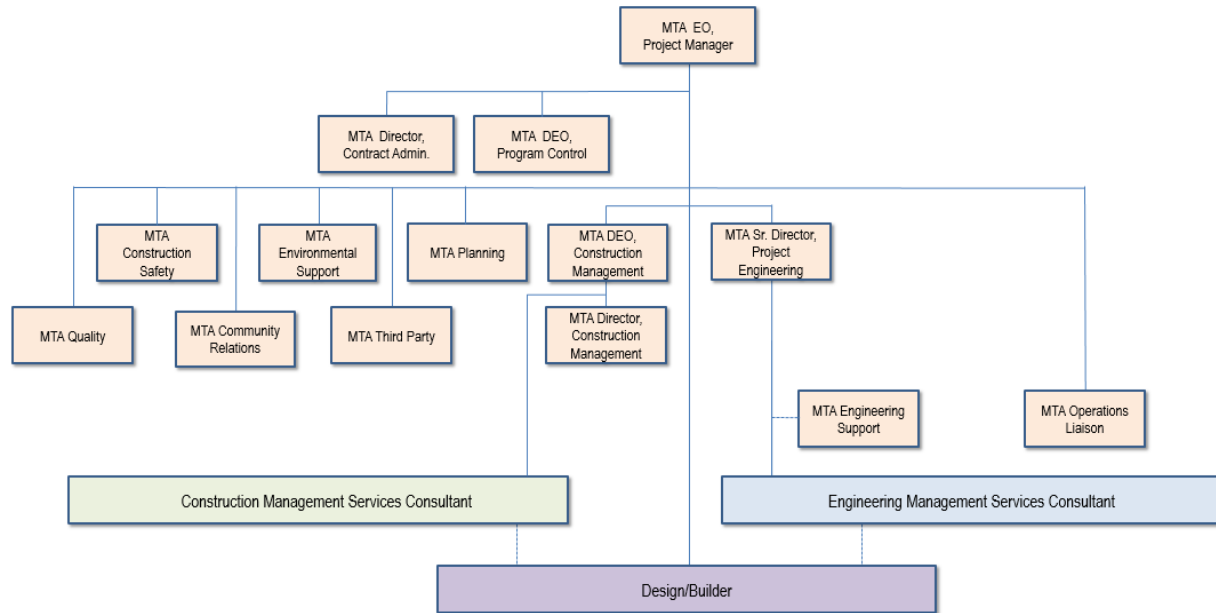
SOURCE	(A)	(B)	(C)	(D)		(D/B)		(E)		(E/B)		(F)	(F/B)
	ORIGINAL BUDGET	TOTAL FUNDS ANTICIPATED	TOTAL FUNDS AVAILABLE	\$	%	\$	%	\$	%	\$	%	BILLED TO FUNDING SOURCE	%
FEDERAL - CMAQ	\$64.00	\$218.11	\$64.00	\$128.91	59%	\$49.87	23%	\$45.60	21%				
FEDERAL - SECTION 5309 NEW STARTS	\$669.90	\$669.90	\$465.00	\$669.90	100%	\$379.86	57%	\$378.09	56%				
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	\$263.95	96%	\$214.39	78%	\$199.82	73%				
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	\$18.00	\$31.04	74%	\$18.00	43%	\$18.00	43%				
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%				
TOTAL	\$1,427.13	\$1,755.84	\$1,237.17	\$1,520.83	87%	\$1,051.87	58%	\$1,031.26	59%				

NOTES:

- EXPENDITURES ARE CUMULATIVE THROUGH DECEMBER 31, 2018
 - METRO AND TRIBUNE AGREED ON REIMBURSEMENT OF \$1.6 MILLION RELATED TO 2ND/BOARDWAY OVERBUILD.
 - ORIGINAL BUDGET BASED ON FUNDING PLAN INCLUDED IN THE APPROVED FULL FUNDING GRANT AGREEMENT
 - 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

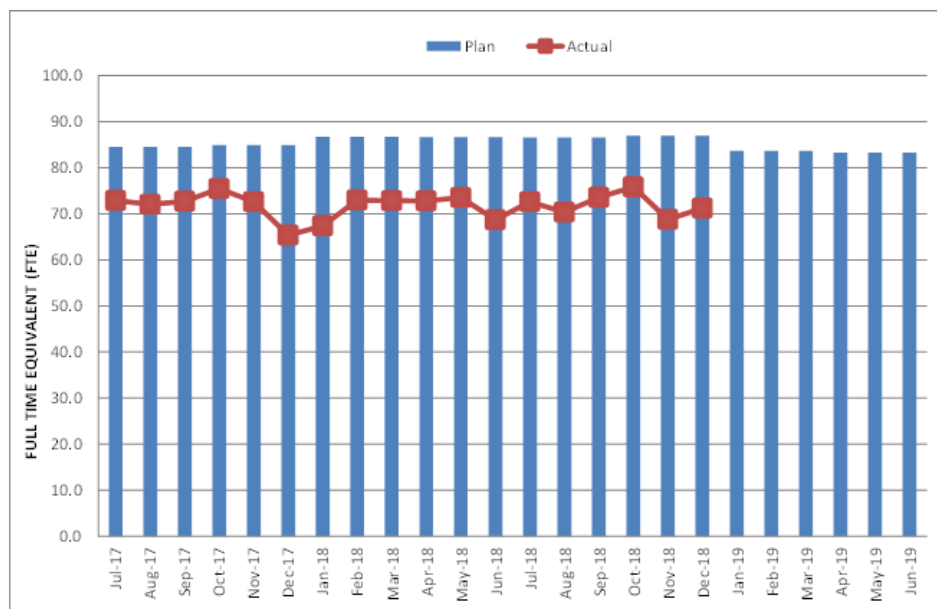
The D/B contract is being managed by a joint team of Metro and consultant personnel jointly located at the Integrated Project Management Office (IPMO).



Updated: 10/29/2018

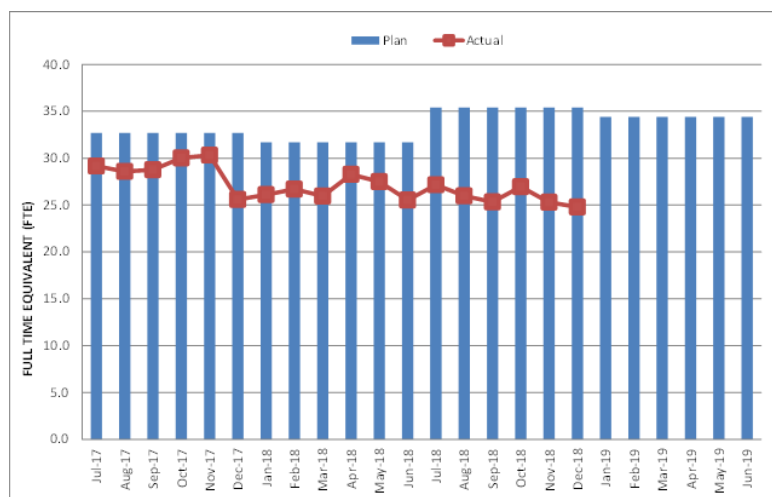
The overall FY19 Total Project Staffing plan averages 85.1 FTE's per month. The total actual project staffing for *December 2018* was 71.2; 24.8 actual FTEs for Metro's Project Administration staff and 46.4 FTEs for consulting staff. The downward-trending staffing has not impacted Metro's ability to effectively manage the Project. Review of staffing plans is on-going to ensure staffing needs are appropriately managed.

Total Project Staffing – Metro and Consultants

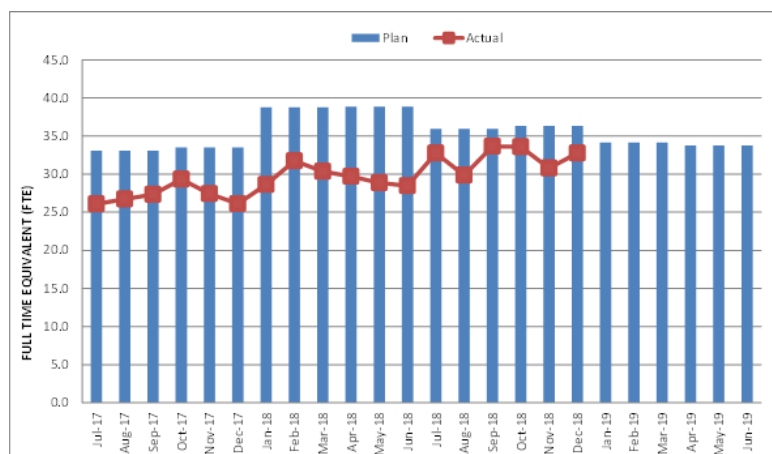


December actuals include 1.5 FTEs related to PMSS Services.

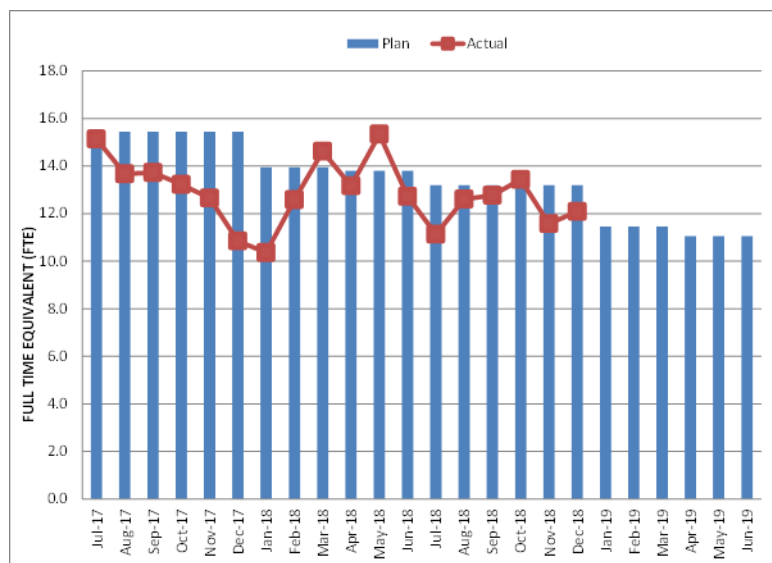
Metro Staff



CM Support Services Staff (Consultant)



Engineering Services Staff (Consultant)



All above data through December 2018

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.

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	
Sub Total	34	21	7	23	23	12	5	20	1
Pedestrian Bridge	420-1, 420-2, 420-3								1
Mangrove Fan Plant	TBD								1
Grand Total	36	21	7	23	23	12	5	20	3

Open Real Estate Matters

City of Los Angeles (Mangrove Parcels)

- The City of Los Angeles (City) obtained a new appraisal of the required property interests for the fan plant which include a subsurface easement and a permanent surface easement. The appraisal has been submitted to Metro for review. *COLA representatives agreed to segregate easement from Mangrove lease extension.*
- A formal request was sent to the City regarding extending the 5-year Easement for an additional three years. The City has agreed to extend the 5-year easement for an additional 3 years. The appraisal that the City obtained included a scope which valued the TCE. *The City's appraised value far exceeds estimates. The Project has referred issue to Executive Management.*

Department of Water and Power 'Duco Yard' – DWP (RC-473)

- LADWP and Metro staff have agreed to the terms and conditions. The formal agreement is to be approved by LADWP's Board and the City Council. Meanwhile, Right-of-Entry has been provided to support survey and initial field studies.

QUALITY ASSURANCE

Metro QA performed the following activities during the month of January:

- 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-2019-0001) for the placement of wall 2BTW-6-W at Historic Broadway Station. The placement was successful no anomalies were noted during this surveillance.*
- *Metro QA conducted a Quarterly Audit (C980-AUD-2018-002) of the RCC Quality Management System. The results have reported there were three (3) findings and three (3) observations noted during the audit.*

RCC NCR 0052 was issued for Damaged Rigid Conduit in the Tunnel from Grand Av Arts/Bunker Hill Station to Flower St. *The Engineer of Record sent back this NCR with two (2) repair options. Metro rejected Option A and approved Option B for the repair. This NCR remains open.*

RCC NCR 0054 was issued for a damaged 3" sanitary sewer conduit at Historic Broadway Station. *This NCR disposition has been approved by the Engineer of Record and by Metro. This NCR remains open pending repairs by RCC.*

RCC NCR 0056 was issued for a miss-located embedded item that was not identified prior the placement of concrete. *This NCR has been approved by the Engineer of Record and Metro. This NCR remains open pending repairs by RCC.*

RCC NCR 0057 was issued for damage to a drain pipe. *This NCR has been approved by the Engineer of Record and Metro. This NCR remains open pending repairs by RCC.*

RCC NCR 0059 was issued for cutting of permanent rebar. This NCR disposition has been approved by the Engineer of Record and Metro. The NCR remains open pending repairs by RCC.

RCC NCR 0060 was issued for a void in concrete for a walkway at tunnel ring 215 in the left tunnel. The disposition for this NCR is still being evaluated by RCC prior to submittal to the Engineer of Record. This NCR remains open.

RCC NCRs 0038, 0041, 0044, 0047, 0053, and 0058 remain open with no change. RCC NCR 0042 was closed.

RCC testing performed to date are as follows:

1. Portland cement concrete 28-day test results: 1339; number accepted: 1339
2. Asphalt concrete density tests results: 242; number accepted: 242
3. Soil compaction (in-situ density) tests performed to date: 174; number accepted: 174
4. Welding MT/UT testing to date is: 14,697; number accepted: 14,697

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 *January*, the weather was cooler and overcast with one recorded rain event. The rainy condition increased the amount of SWPPP inspections for the month and decreased the fugitive dust conditions. Daily street sweeping continued throughout the month.
- Metro is preparing the 24th Quarterly Mitigation Monitoring and Reporting Plan covering November 2018 to January 2019, and plans to submit the report to the FTA no later than February 14, 2019. Metro will meet with the PMOC in January 2019 to review the 23rd Quarterly Mitigation Monitoring and Reporting Plan.
- Metro *prepared* the eighth Semi-Annual Cultural Resources Report covering the period of July 2018 to December 2018 to the FTA and SHPO, and *submitted* the report *on* January 31, 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. 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 were placed in the basement of the Metropolitan News Building and the Higgins Building adjacent to 2nd Street and the path of the SEM Cavern. Limited “baseline” seismic data was collected; the Project is currently collecting seismic data 24 hours a day/7 days a week.

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: *Geotech device maintenance at 2nd/Spring, utility investigation on 1st St, vault installation at 7th/Flower* and concrete placement activities at the future *three new stations*.
- Distributed *twenty (20)* 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 *179* stakeholders 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

- *Featured five businesses and community events online: LA Prime at The Westin Bonaventure Hotel, Far Bar, Drago Centro, Café Pinot and The Standard Downtown LA reaching more than 4,200 followers*
- *Sponsored targeted online advertisement of five businesses: Café Pinot, LA Prime at The Westin Bonaventure Hotel, Public School 213, Fugetsu-do and Bunkado.*



Social Media Outreach and Marketing Efforts

- Published *14* newsletters, including *20* construction updates, totaling *23.7k* mailings.
- *Trending stories on social media included news of Gary Baker, Project Manager, receiving recognition by ENR Magazine, Eat Shop Play restaurants participating in DineLA, and a 2018 year-in-review of Metro.*



1,503 people reached; 304 engagements, 153 clicks



1,150 impressions, 35 engagements

Community Relations

- Continued work with the monthly Little Tokyo Marketing & Business Task Force and promoted special events in Little Tokyo, including Oshogatsu and LTSC's pop-up store front.
- Initiated coordination and planning of marketing opportunities with the Nisei Week Foundation of the 2019 Nisei Week Festival.



Construction Safety Awareness Program

- At the Little Tokyo Towers, a senior living complex, the team gave a presentation on safety awareness around work sites to four dozen Japanese and Japanese-American residents, relying on Japanese translators to help overcome any possible language barriers.



CREATIVE SERVICES

Art Program

- *Held pre-proposal meeting for glass mosaic RFPs*
- Coordinated with the Project and RCC on engineering details related to artwork installation
- Continued design development for corridor artworks
- Continued to support mitigation efforts in coordination with community stakeholders on the design development for the former Atomic Café Interpretive Graphic Display
- Assessment of RC 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 no Recordable Injuries and no major incidents during the month of *January 2019*.
- RCC reported 68,293 work hours for *December 2018*. RCC's total Contract to Date work hours through *December 2018* are 2,734,340 with a total of 13 Recordable Injuries and no Lost Workday (Days Away) case injuries. The C0980 Contract Recordable Injury Rate is 0.95. 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 *December 2018* is 2,845,399 hours with 14 recordable injuries. The Total Project Contractor Recordable Injury Rate is 0.98.
- Total Aggregate Project work hours for Contractors, Metro, and Support Services Consultants, through *December 2018* is 3,494,532 with 15 Recordable Injuries and no Lost Workday (Days Away) injury cases. The Total Project Aggregate Safety Rate is 0.86.*

*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 th /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 th 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	<i>RCC completed Grand Av Arts/Bunker Hill Station invert concrete</i>
January 2019	<i>RCC completed SEM center top drift excavation.</i>
January 2019	<i>RCC started Little Tokyo/Arts District Station west cable pit and sump pit</i>