Los Angeles County
Metropolitan Transportation Authority

Regional Connector Transit Project

MONTHLY PROJECT STATUS REPORT

FEBRUARY 2019



Metro®

REGIONAL CONNECTOR TRANSIT PROJECT

MONTHLY PROJECT STATUS REPORT

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February 2019

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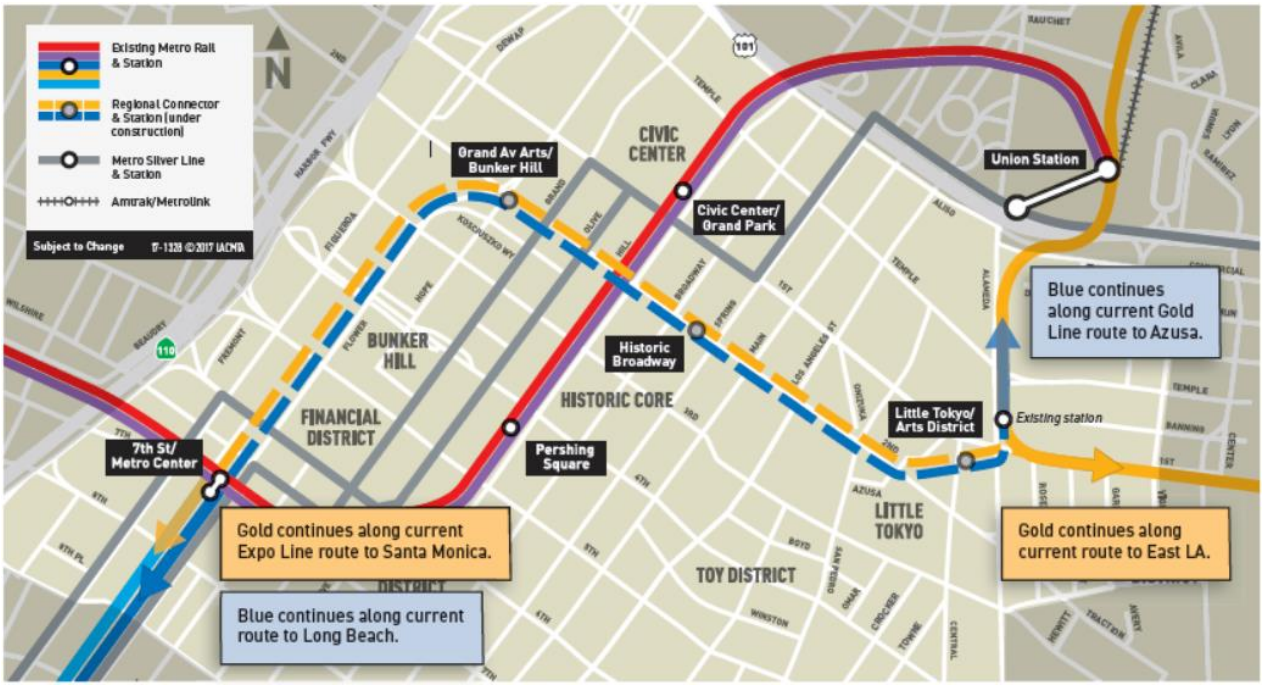
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PROJECT OVERVIEW

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 *February*, the Project achieved *55.7*% 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 *gained a step best evidenced by notable productivity gains at the future Little Tokyo/Arts District and Historic Broadway Stations. The increase follows three months of lower than planned productivity and earned value.*

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 is the only remaining design in progress. *It is now expected to be completed in June 2019.*

Construction Status

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

Wye Structure: *The placement of the mud mat was completed*. *HDPE installation at the invert is in-progress. The invert rebar installation will begin next month*.

Crossover Cavern: *The SEM (Sequential Excavation Method) excavation center bottom drift was completed*. *The demolition of the temporary walls and removal of the temporary backfill is in-progress and will be completed next month.* Work is proceeding within predicted settlement ranges throughout the cavern. *This milestone, achieved safely, ahead of schedule, and within settlement allowances, is an important step forward success*.

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 was completed*. *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 has commenced*.

Flower Cut & Cover Tunnel: *The installation of the invert at the north section (4th Street to 5th Street) resumed. The rebar installation for the north invert area is in-progress and HDPE installation continues in advance of the rebar*. 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 rebar installation for the west ancillary sump pit and the west station box cable room pit. Started rebar installation and concrete placement for the west station box invert*.

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. *Continued the concrete placement of platform level west exterior walls. Continued the installation of HDPE for the exterior walls in the lower ancillary entrance area. Continued the rebar installation for the entrance area exterior walls and columns*.

Grand Av Arts/Bunker Hill Station: *In the east station box area*, the formwork and rebar installation for the east platform level rooms and emergency exit *continued. Started the HDPE and rebar installation for the concourse level exterior walls.* In the west station box *completed placement* of the *platform level* exterior *walls*. *At the Entrance Concourse area, completed concrete placement of the interior walls*.

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	*02/28/22*	*32 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 *will begin after the pin piles are removed and will be followed by the critical 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 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. In finalizing the second *Restoration* AFC (DU5) submittal, Metro requested an informal comment resolution meeting with the City on any new comments prior to their formal response. *This process is on-going*. The second AFC submittal is anticipated in March 2019. *Finalization of the design is expected in June 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. *Right-of-Entry from DWP is being pursued to facilitate design development and early field efforts.*

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.

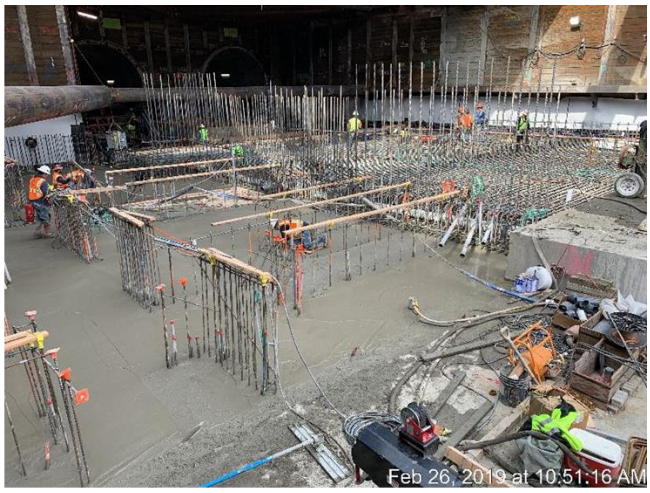
Item 6: City of Los Angeles proposed costs for three-year extension of TCE at Mangrove Yard are beyond Project's estimated values.

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.

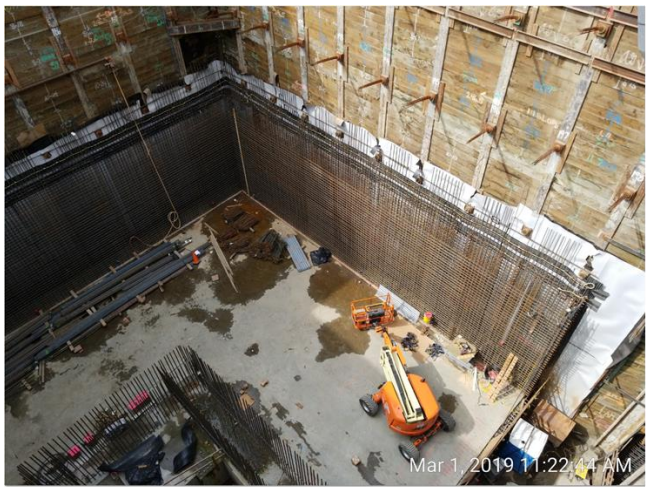
Project Construction Photos



Protection slab placement at 1st/Alameda Wye



Invert concrete placement at 1st/Central Lower Ancillary



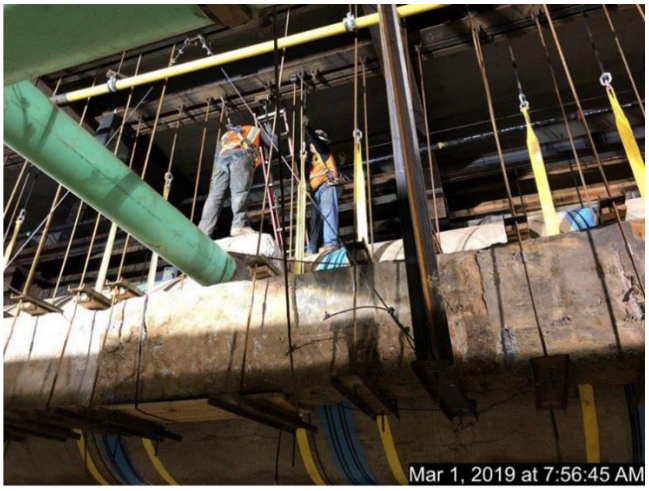
Rebar installation at Wall F in Historic Broadway Station



Right center wall demolition at SEM Cavern



Shear Ties installation at West Hammerhead of Grand Av Arts/Bunker Hill Station

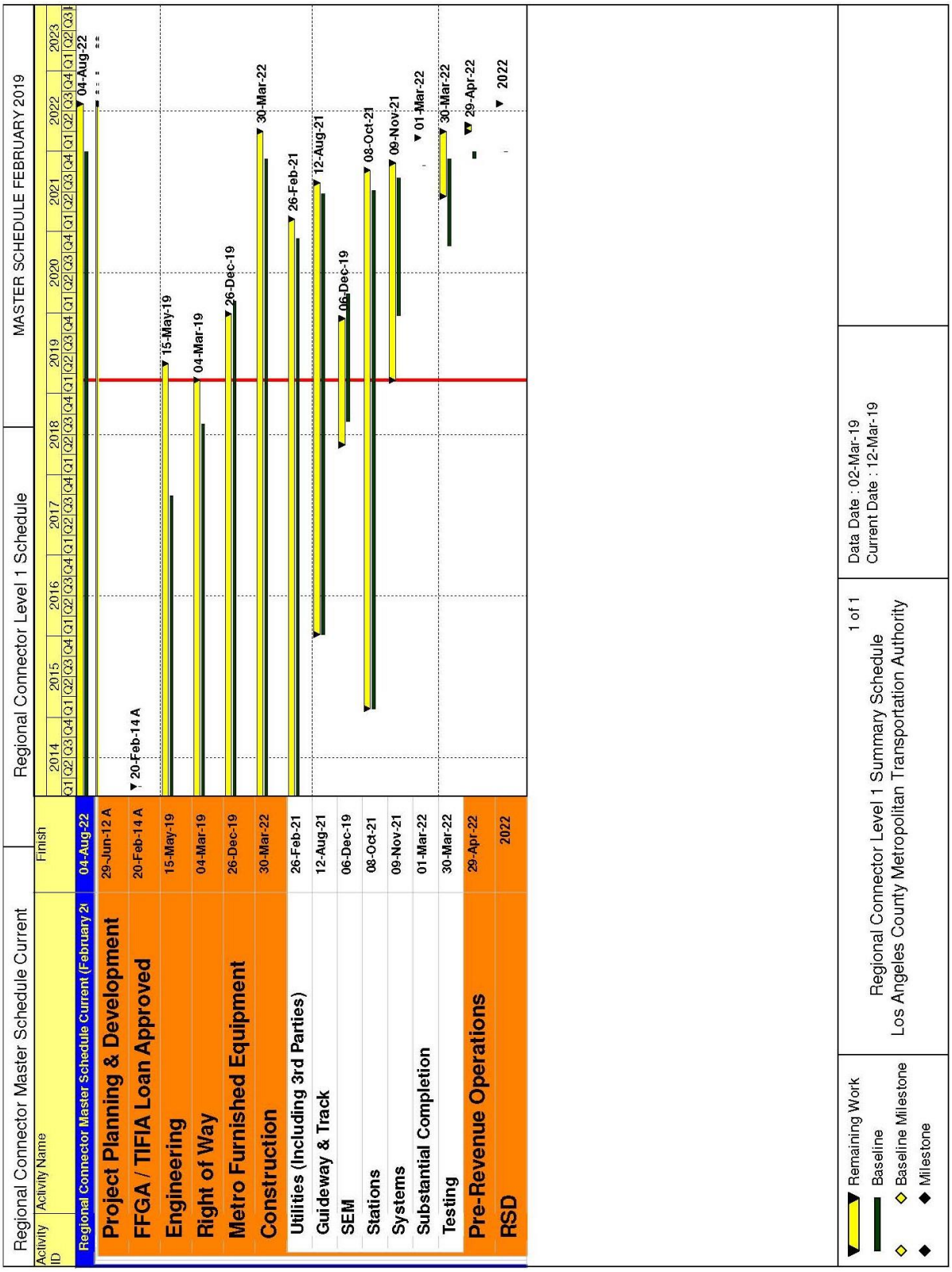


Support of electrical duct bank and storm drain near 6th/Flower

PROJECT UPDATE

PROJECT SCHEDULE

Project Summary Schedule

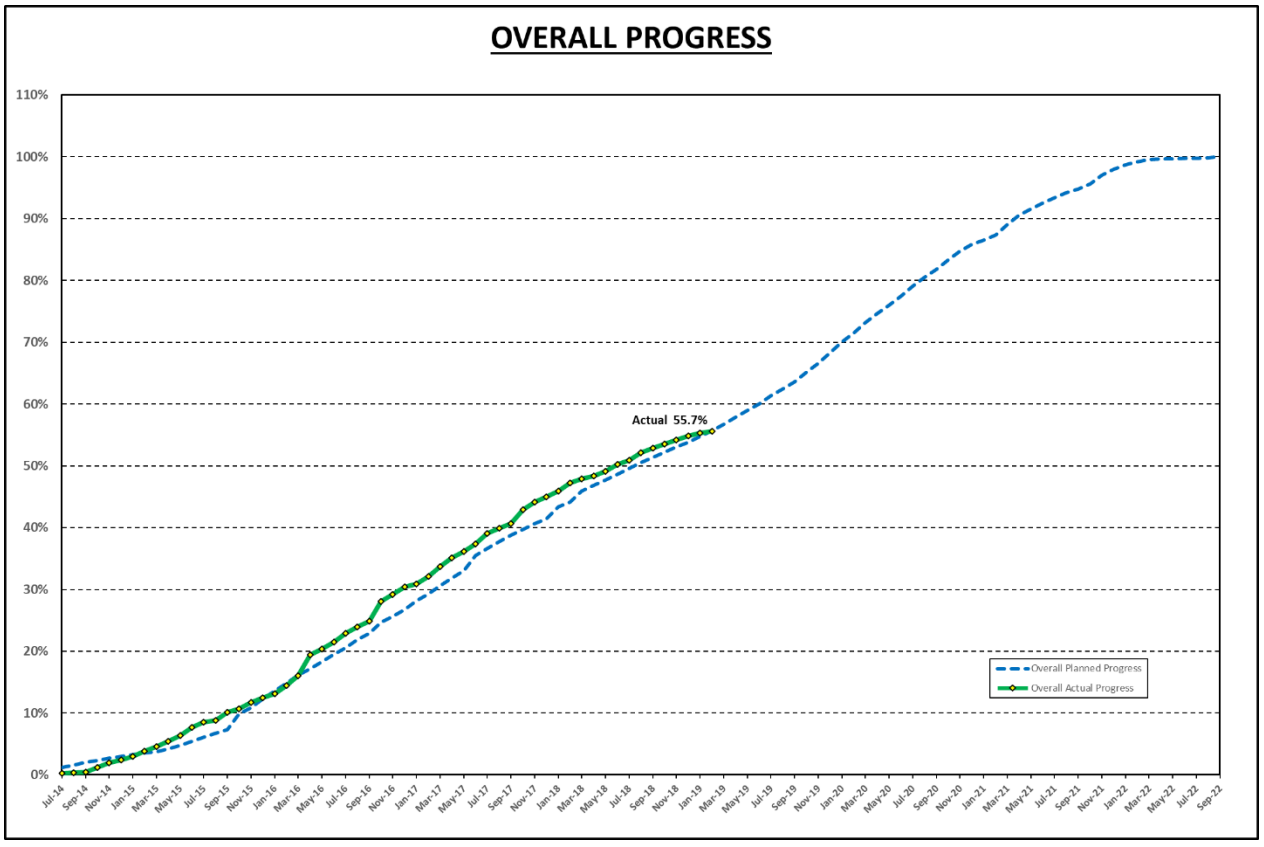


Progress Summary

	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	*99.9%*	*0.1%*	Remaining design is not impacting the critical path
Construction Contracts Progress:			
Contract C0981R & C0980	*53.1%*	*0.9%*	

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	Feb-19	Mar-19	Apr-19	May-19	Jun-19	Jul-19
Complete WYE Phase 2 excavation	02/01/19 A	⬡					
Complete Tunnel Walkways Concrete 1/C to 2/B	02/01/19 A	⬡					
Complete SEM center excavation	02/28/19 A	⬡					
Complete SEM temporary wall demolition	03/15/19		⬡				
Complete Lower Ancillary invert concrete at Little Tokyo / Art District Station	03/19/19		⬡				
Complete 1st Street Tunnel / U-Channel Level 1 Shoring	03/29/19		⬡				
Complete Tunnel Walkways Concrete 2/B to 2/H	04/05/19			⬡			
Complete 1st Street Tunnel / U-Channel Level 1 Excavation	04/19/19			⬡			
Complete entrance concourse walls at Historic Broadway Station	05/17/19				⬡		
Complete Tunnel Floating Slab Curbs Concrete 2/B to 2/H	05/17/19				⬡		
Complete North Flower Cut & Cover Tunnel Invert	06/27/19					⬡	
Complete Platform Level exterior walls at Little Tokyo / Art District Station	07/18/19						⬡

◆ MTA Staff Ⓜ MTA Board Action ⧗ **FTA** (Federal ▯ Utility Company

△ Other Agencies ▭ Contractors ◯ Design Consulta ⬯ C0980 D/B Contractor

"A" following date is actual and completed ✱ New

Major Equipment Delivery

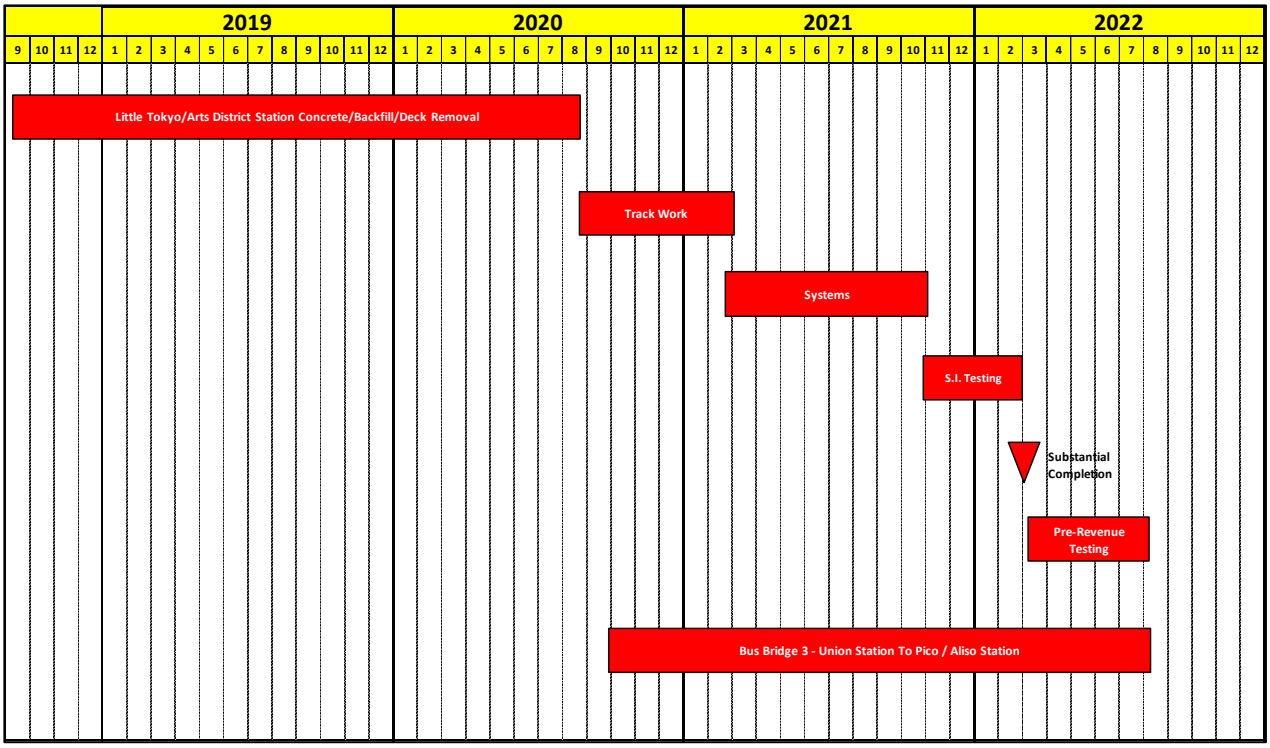
Metro Supplied Equipment

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

Design/Builder Equipment Delivery Requirements

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)



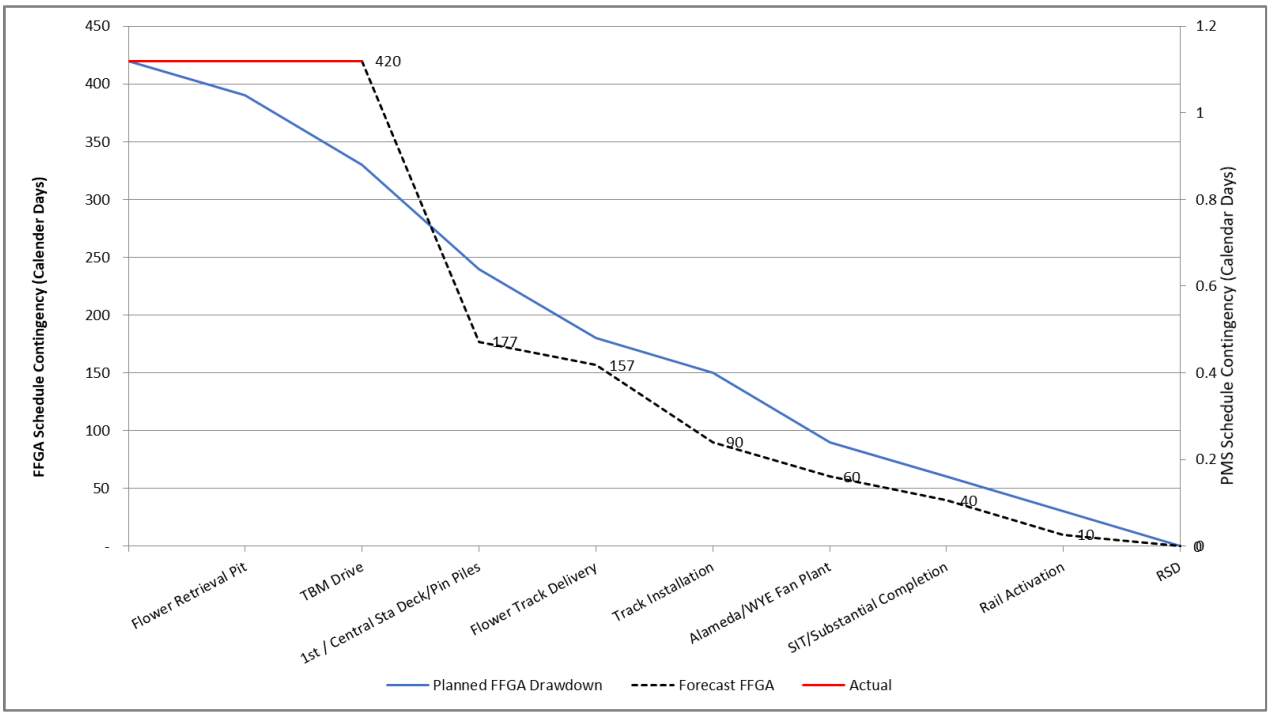
The critical path originates at the future Little Tokyo/Arts District Station structure. Upon the completion of the structure backfill and the temporary deck/pin pile removal at the east end of the station, track access will be turned over to allow the start of track material distribution and installation. 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.

The 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 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	174	248,798	1,299	169,174	-1,032	253,105	3,824
20	STATIONS, STOPS, TERMINALS, INTERMODAL	354,268	219,477	0	229,919	0	229,993	1,216	64,550	113	230,564	646
30	SUPPORT FACILITIES: YARDS, SHOPS, ADMIN, BLDGS	0	0	0	0	0	0	0	0	0	0	0
40	SITEWORK & SPECIAL CONDITIONS	141,785	422,453	0	598,417	48	576,239	2,968	449,569	4,735	628,654	30,237
50	SYSTEMS	69,667	73,848	0	73,424	0	67,703	62	16,693	-420	75,154	1,729
	CONSTRUCTION SUBTOTAL (10-50)	846,343	920,468	0	1,151,041	222	1,122,733	5,545	699,986	3,396	1,187,476	36,435
60	ROW, LAND, EXISTING IMPROVEMENTS	115,889	74,208	0	92,742	0	52,461	24	52,346	0	76,410	-16,331
70	VEHICLES	16,275	16,275	0	16,275	0	16,275	197	3,550	0	16,275	0
80	PROFESSIONAL SERVICES	261,455	257,973	0	379,338	501	303,338	1,802	278,494	-10,132	391,430	12,093
	SUBTOTAL (10-80)	1,239,963	1,268,925	0	1,639,395	723	1,494,807	7,568	1,034,376	-6,736	1,671,592	32,197
90	UNALLOCATED CONTINGENCY	135,399	126,892	0	89,946	0	0	0	0	6,736	57,749	-32,197
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**	**723**	**1,494,807**	**7,568**	**1,034,376**	**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**	**723**	**1,521,306**	**7,568**	**1,059,439**	**0**	**1,770,142**	**0**

NOTE: EXPENDITURES ARE CUMULATIVE THROUGH 02/28/2019. 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.*72* million this period to $1.*52* billion which represents 85.9% of the Current Budget. The overall increase is related to several transactions including executed modifications from RCC, *work order to BSL and* purchase order from Community Relations.

Expenditures:
Expenditures are cumulative through *February* 2019. Expenditures increased by $7.*6* 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.*06* billion in expenditures to date represents *60*% 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 FTA SCC
DOLLARS IN THOUSANDS

SCC CODE	Description	ORIGINAL BUDGET	CURRENT BUDGET		COMMITMENTS		EXPENDITURES		CURRENT FORECAST		BUDGET / FORECAST VARIANCE
			PERIOD	TO DATE	PERIOD	TO DATE	PERIOD	TO DATE	PERIOD	TO DATE	
10	GUIDEWAYS & TRACK ELEMENTS	-	0	0	0	0	0	0	0	0	0
20	STATIONS, STOPS, TERMINALS, INTERMODAL	-	0	0	0	0	0	0	0	0	0
30	SUPPORT FACILITIES: YARDS, SHOPS, ADMIN, BLDGS	10,480	0	10,480	0	10,480	0	0	0	10,480	0
40	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	24	347	0	650	0
	SUBTOTAL (10-80)	38,878	0	38,878	0	38,878	24	22,817	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**	**24**	**22,817**	**0**	**39,991**	**0**
	861228 TOTAL	**39,991**	**0**	**39,991**	**0**	**38,878**	**24**	**22,817**	**0**	**39,991**	**0**

NOTE: EXPENDITURES ARE CUMULATIVE THROUGH 02/28/2019.

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

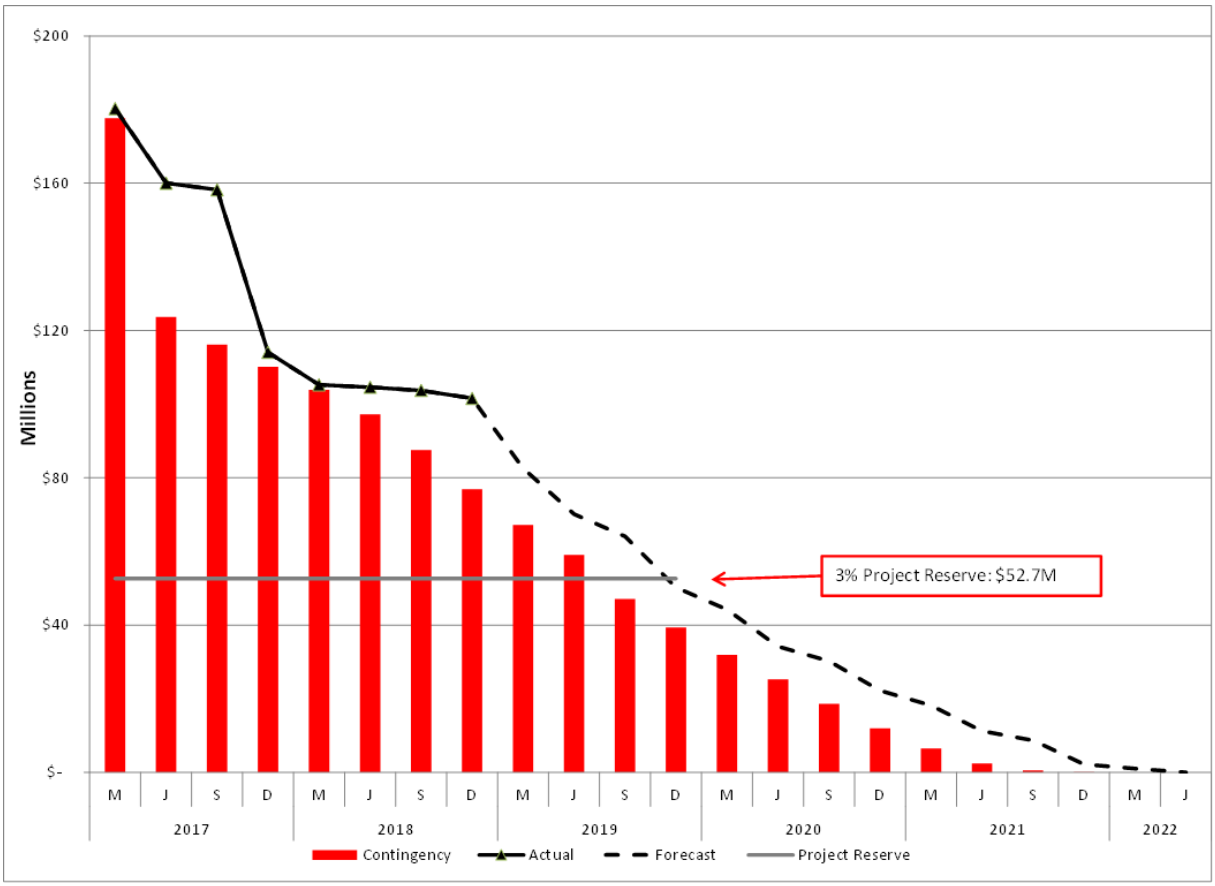
Current Budget:
There is no change this period.

Commitments:
Commitments reflect actions through *February* 2019.

Expenditures:
Expenditures are cumulative through *February* 2019. Expenditures increased by a net $*24* thousand this period through adjustments for costs associated with Community Relations. The cumulative $22.8 million in expenditures through *February* 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

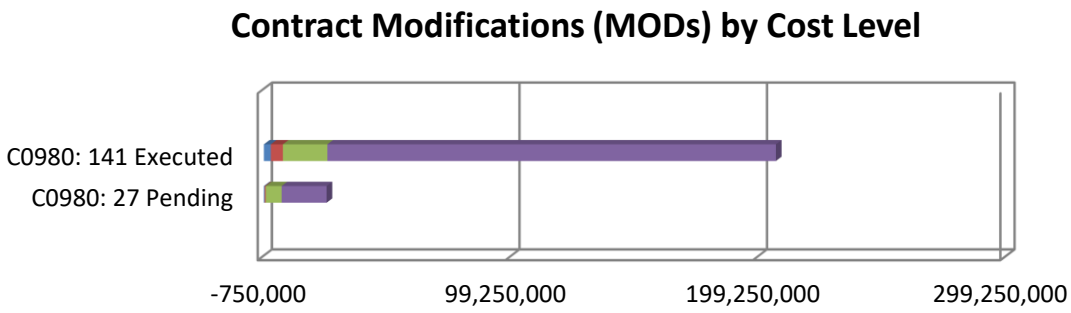
In January 2017, the Metro Board revised the LOP Budget to $1.756 billion, which included increasing the unallocated contingency to $89 million and allocated contingency to $92.8 million. From that action, a revised drawdown plan for unallocated contingency, correlated to anticipate risk trends, was 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 *February*, there was a drawdown of $*0.19 million* from contingency. The remaining total project contingency (allocated and unallocated) stands at $101.*1million*.

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	(38,933)	6,736	(32,197)	57,749
Allocated Contingency	86,345	92,809	(42,550)	(6,929)	(49,479)	43,330
Total Contingency	**211,263**	**182,754**	**(81,483)**	**(193)**	**(81,676)**	**101,079**

Summary of Contract Modifications



	C0980		
	141 Executed	27 Pending	Total
Under $100K	2,784,750	323,000	3,107,750
$100K to $250K	4,886,864	410,000	5,296,864
$250K to $1M	17,962,770	6,425,650	24,388,420
Over $1M	181,209,237	18,177,878	199,387,115
Total Contract MODs	**206,843,621**	**25,336,528**	**232,180,149**
Contract Award Amount	**927,226,995**	**927,226,995**	
% of Contract MODs	**22.3%**	**2.7%**	

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-one* changes with a total value of $206.*8* million have been executed since NTP of Contract C0980. An additional *27* changes, with a total estimated value of $*25.3* million, are pending.

DISADVANTAGED BUSINESS ENTERPRISE (DBE)

As of *January 2019*:

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:	*26.95*%

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:	*12.03*%*

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

PROJECT LABOR AGREEMENTS (PLA)

As of *January 2019*:

Targeted Worker Goal Construction work to be performed by residents from Economically Disadvantaged Area in the United States	40.00%
Targeted Worker Current Attainment	*59.01*%
Apprentice Worker Goal Construction work to be performed by Apprentices	20.00%
Apprentice Worker Current Attainment	*16.18*%
Disadvantaged Worker Goal Construction work to be performed by Disadvantaged Workers who are residents of the United States	10.00%
Disadvantaged Worker Current Attainment	*9.12*%

*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 *February 2019*

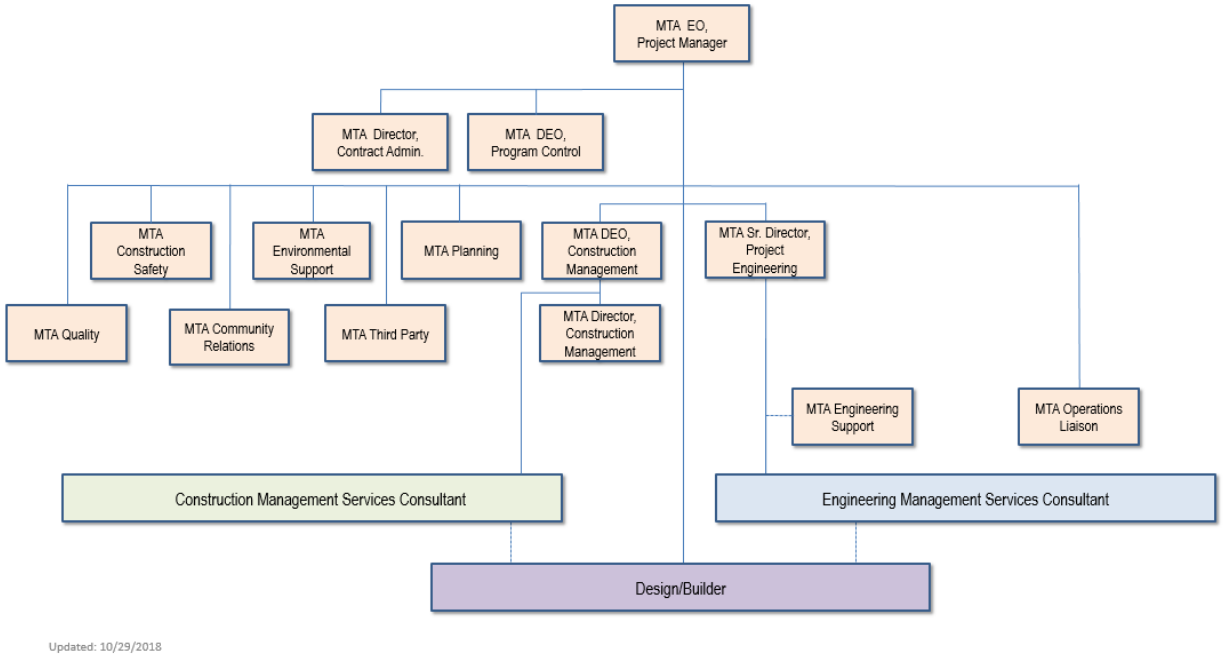
SOURCE	(A) ORIGINAL BUDGET	(B) TOTAL FUNDS ANTICIPATED	(C) TOTAL FUNDS AVAILABLE	(D) COMMITMENTS $	(D/B) %	(E) EXPENDITURES $	(E/B) %	(F) BILLED TO FUNDING SOURCE $	(F/B) %
FEDERAL - CMAQ	$64.00	$218.11	$64.00	$128.91	59%	$49.87	23%	$45.60	21%
FEDERAL - SECTION 5309 NEW STARTS	$669.90	$669.90	$465.00	$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:
1. EXPENDITURES ARE CUMULATIVE THROUGH DECEMBER 31, 2018
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)
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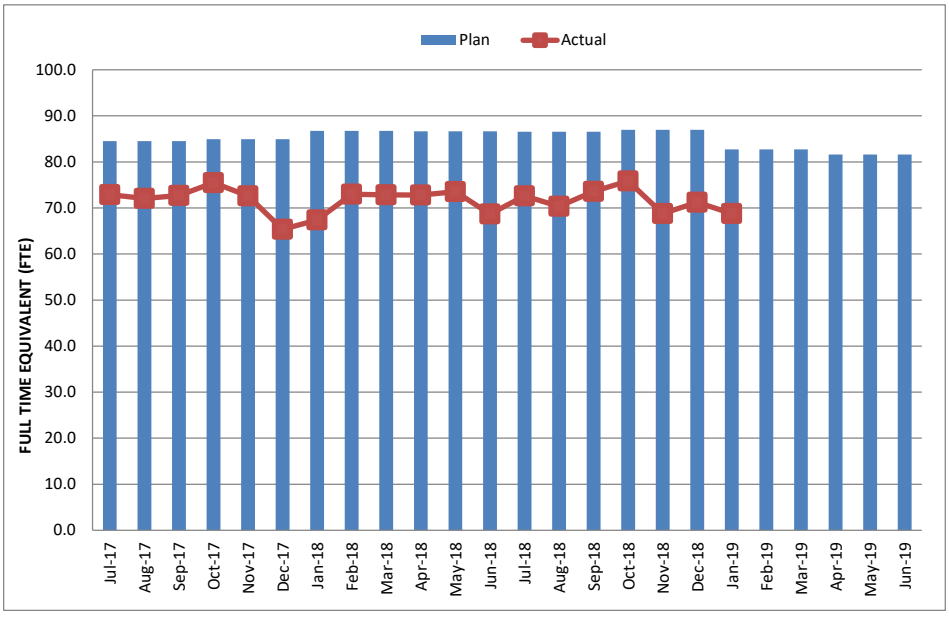
PROJECT ORGANIZATION AND STAFFING

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).



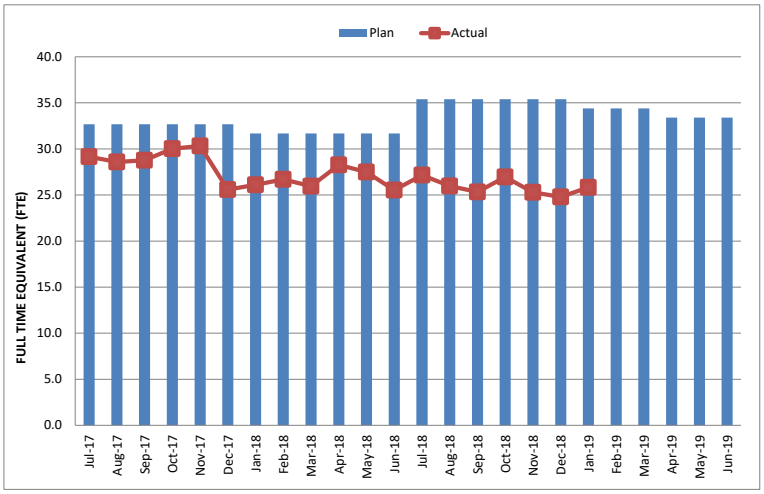
The overall FY19 Total Project Staffing plan averages *84.4* FTE's per month. The total actual project staffing for *January 2019* was *68.8; 25*.8 actual FTEs for Metro's Project Administration staff and *42.9* FTEs for consulting staff. The downward-trending staffing has not impacted Metro's ability 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

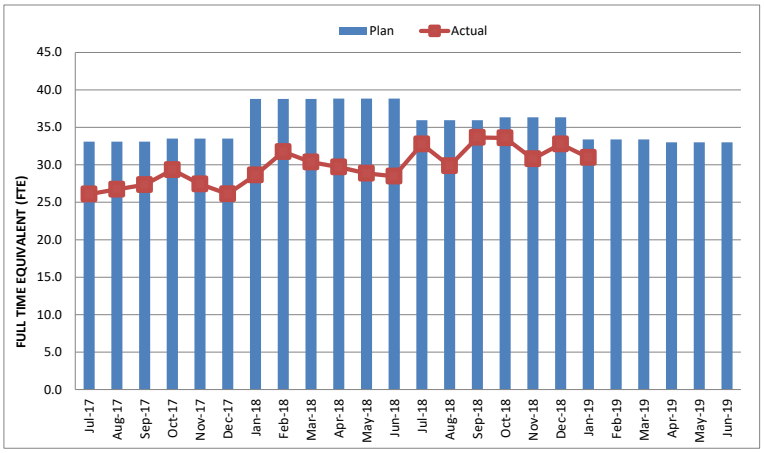


January actuals include *2.0* FTEs related to PMSS Services.

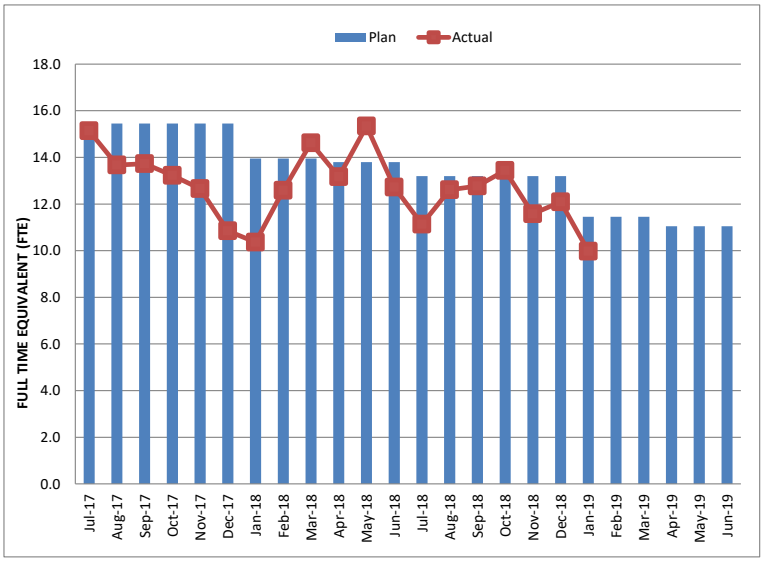
Metro Staff



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 *January 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	
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)

- A new appraisal of the required property interests for the fan plant which include a subsurface easement and a permanent surface easement *was secured*. The *appraised value* has been *agreed to by both parties*. COLA representatives agreed to segregate easement from Mangrove TCE 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 *continues to be pursued* to support survey and initial field studies.

QUALITY ASSURANCE

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

- 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-2019-002) for the placement of wall 2BTW-4-W at Historic Broadway Station. The placement was successful no anomalies were noted during this surveillance.*
- *Metro QA conducted a surveillance (C980-Surv-2019-004) for the installation of the HDPE Elevator Casings at the future Little Tokyo/Arts District Station. The installation was found to be satisfactory. It should be noted that the casings will not be tested until approximately one year from the installation per RCC Quality Group.*
- 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. *Three (3) Quality Action Requests were issued to RCC as a result of the findings. The Quality Action Requests are now closed. This will close the Audit as well.*

RCC NCR 0061 was issued due to a spall exceeding limits allowed by the repair procedure that was created by the installation of the tunnel liner during tunneling activities. The NCR has been sent to the Engineer of Record for approval of the recommended repair disposition.

RCC NCRs 0038, 0041, 0044, 0047, *0052*, 0053, *0054*, *0056*, *0057*, 0058, *0059* and *0060* remain open with no change.

RCC testing performed to date are as follows:

1. Portland cement concrete 28-day test results: *1395*; number accepted: *1395*
2. Asphalt concrete density tests results: *245*; number accepted: *245*
3. Soil compaction (in-situ density) tests performed to date: 174; number accepted: 174
4. Welding MT/UT testing to date is: *14,933*; number accepted: *14,933*

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 *February*, the weather was cooler and overcast with *two* recorded rain events. 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 *prepared* the 24th Quarterly Mitigation Monitoring and Reporting Plan covering November 2018 to January 2019 and *submitted* the report to the FTA no later than February 13, 2019. *In January*, Metro *provided* the PMOC *with supporting documentation for their review of* the 23rd Quarterly Mitigation Monitoring and Reporting Plan.
- 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 *on* 2nd *St/Los Angeles and* utility investigation *at 2nd St and* Flower St, and concrete placement activities at the future three new stations.
- Distributed *eleven (11*) 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 *180* 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.

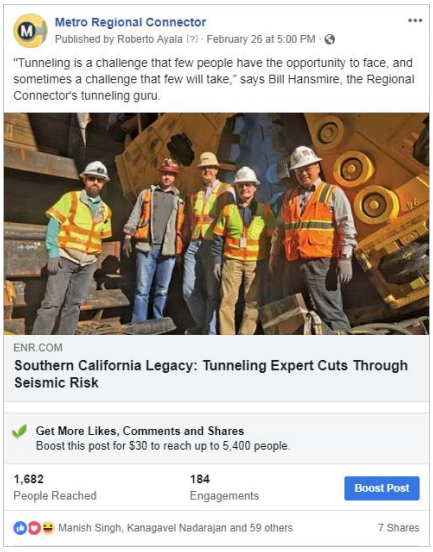
Eat, Shop, Play – Construction Impact Business Mitigation Program Highlights

- *Published Eat Shop Play Local Focus video, highlighting Cherry Pick Café and their work with Metro. Video viewed 46,000 times in the first seven days on Facebook.*
- Featured *three options for Valentine's Day* online: *Café Pinot, Big Sugar Bakeshop,* and Downtown *Flowers* reaching more than 4,200 followers
- Sponsored targeted online advertisement of Fugetsu-do*.*
- *Initiated a new phase of marketing* and *conducted professional photo shoot at Library Store and Downtown Flowers for future promotions*.



Social Media Outreach and Marketing Efforts

- Published *13* newsletters, including *11* construction updates, totaling *18*.7k mailings.
- *Trending stories on social media included news of Bill Hansmire's Lifetime Achievement award from ENR Magazine, community outreach at the Bank of America Plaza, and announcement of the upcoming March 14 public meeting.*



1,682 people reached; 184 engagements, 99 clicks



1,005 impressions, 86 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.



CREATIVE SERVICES

Art Program

- Continued design development for corridor artworks
- *Responded to RFIs from design builder related to the porcelain enamel steel art fabricator procurement*
- *Facilitated meeting with community stakeholders on the design development for the former Atomic Café Interpretive Graphic Display*
- *Held Meet the Artist "Crochet Jam" workshop with the downtown community in partnership with Sustainable Little Tokyo*
- 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 *February* 2019.
- RCC reported *50,422* work hours for *January 2019*. RCC's total Contract to Date work hours through *January 2019* are *2,784,762* with a total of 13 Recordable Injuries and no Lost Workday (Days Away) case injuries. The C0980 Contract Recordable Injury Rate is *0.93*. 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 *January 2019* is *2,895,821* hours with 14 recordable injuries. The Total Project Contractor Recordable Injury Rate is *0.97*.
- Total Aggregate Project work hours for Contractors, Metro, and Support Services Consultants, through *January 2019* is *3,555,515* with 15 Recordable Injuries and no Lost Workday (Days Away) injury cases. The Total Project Aggregate Safety Rate is *0.84*.*

*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 form 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 6th/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 Revise 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 & 7th 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*