



**Metro**

December 16, 2021

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EXECUTIVE OFFICER/PROJECT MANAGER

**SUBJECT:** WESTSIDE PURPLE LINE EXTENSION SECTION 2 PROJECT  
DECEMBER 2021 MONTHLY PROJECT STATUS REPORT

Enclosed herewith is the Monthly Project Status Report for the Westside Purple Line Extension Section 2 Project. This report contains the Los Angeles County Metropolitan Transportation Authority's (LACMTA) representation of the Westside Purple Line Extension Section 2 Project status for the period ending November 26, 2021.

If you have any questions regarding this report or its supporting information, please contact Mike Martin, Deputy Executive Officer, Program Control at (424) 551-4471.

MM: PB  
Enclosure

**PURPLE (D LINE) EXTENSION PROJECT** Section 2



**Metro**

# **Purple (D Line) Extension Project Section 2**

## **MONTHLY PROJECT STATUS REPORT**

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

**November 2021**

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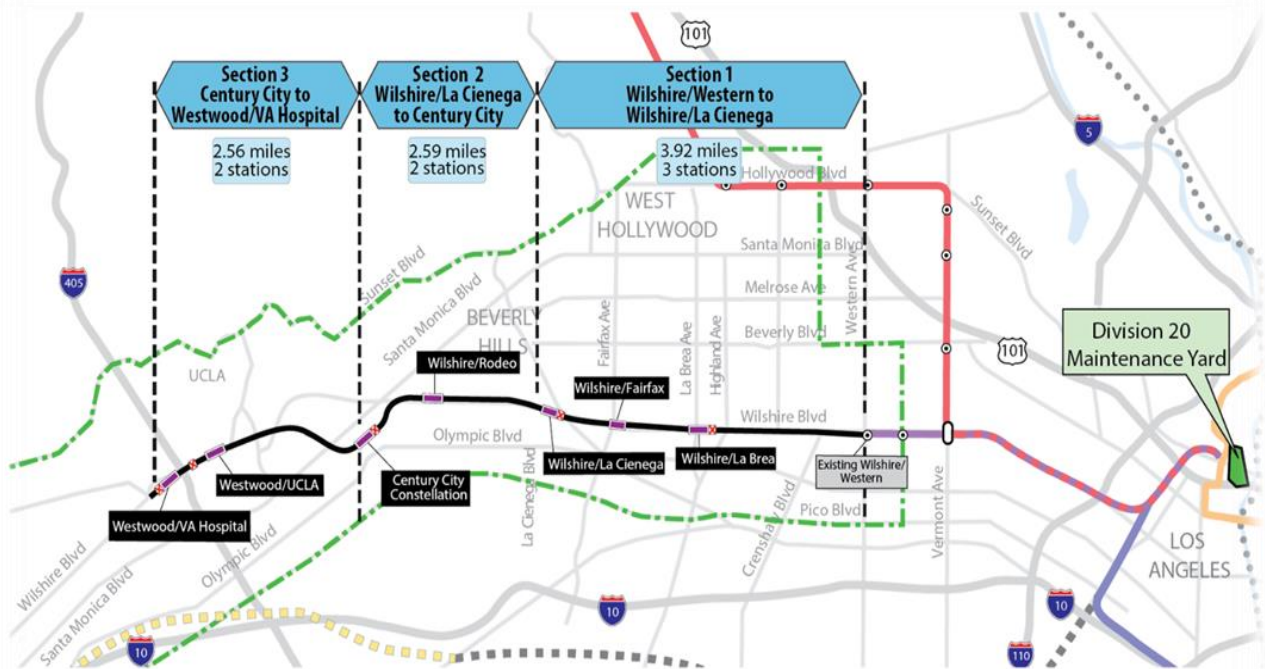
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## PROJECT OVERVIEW

### Project Background

The Purple (D Line) Extension Section 2 Project (Project) is the second of three sections to be designed and constructed as part of the Los Angeles County Metropolitan Transportation Authority's (LACMTA) Measure R Program. The program was approved by Los Angeles County voters in November 2008 and provides a half-cent sales tax to finance new transportation projects. In April 2012, the three sections of the Project were environmentally cleared and adopted by LACMTA Board of Directors.

Section 2 will extend the future Wilshire/La Cienega Station that is part of the Purple (D Line) Extension Section 1 Project currently under construction to Century City. The Project is located entirely underground, primarily following Wilshire Boulevard, and includes the design and construction of approximately 2.59 miles of double-track heavy rail, two new stations as well as the purchase of 20 heavy rail vehicles. The Wilshire/Rodeo Station is within the jurisdiction of City of Beverly Hills, and the Century City Constellation Station is within the jurisdiction of City of Los Angeles. The Project also includes train controls, signals, traffic controls, communications, traction power supply and distribution, fare collection systems and equipment, acquisition of right-of-way, and utility relocations.



The Wilshire/Rodeo Station box will be under the center of Wilshire Boulevard beginning just east of South Canon Drive and extending to El Camino Drive. The entrance will be on the southwest corner of Wilshire Boulevard and Reeves Drive.

The Century City Constellation Station box will be under the center of Constellation Boulevard between Century Park East and Solar Way. A double crossover will be located east of this station. The entrance will be on the northeast corner of Constellation Boulevard and Avenue of the Stars. In lieu of tail tracks, safe breaking distance will be provided at the interim terminus station.

### **Major Procurements**

Contract C1120 – Tunnels, Stations, Trackwork, Systems and Systems Integration Testing: The procurement of this contract utilized a two-step approach with the submittal of qualification statements through a Request for Qualification (RFQ) process, prequalification of qualified proposers followed by the release of a Request for Proposals (RFP) soliciting technical and price proposals with an option at Metro’s discretion for Best and Final Offers (BAFO).

The Design/Build contract provides for final design and construction of the infrastructure along the 2.59-mile alignment. Contract scope includes demolition and removal of structures and clearing sites to facilitate construction operations. The structures to be constructed include twin bored tunnels complete with cross-passages and walkways including all mechanical, electrical and finished work. A tunnel boring machine (TBM) launch shaft will be constructed at the Century City Constellation Station. Two underground stations are to be constructed with one double crossover location set east of the Century City Constellation (terminus) Station. Each station has a single entrance plaza with stairs, escalators and elevators which meet ADA requirements. The scope of work also includes all architectural finishes, mechanical and electrical systems and equipment including train control, traction power, communications, trackwork, system tie-in to the Wilshire/La Cienega Station (currently under construction), testing and commissioning.

### Metro Furnished Equipment

Metro has procured a contract to provide 20 Heavy Rail Vehicles (HRV) necessary to operate the extension of the Purple (D Line). An additional contract will be procured for the Universal Fare System (UFS). The scope of the HRV contract includes design, manufacturing, testing and delivery of the vehicles. The scope of the UFS contract will include design, fabrication and installation of equipment at the two new stations and system testing.

### **Program Management**

The Purple (D Line) Extension Section 2 Project is being managed under the direction of an Integrated Project Management Office (IPMO). WSP Global (WSP) provides engineering and design support services, while Purple (D Line) 2 CM Partners, a Joint

Venture provides construction management support services. An overview of staffing is provided under the Staffing section of this report. The program management team is also supported by Metro headquarters' resources and includes engineering, risk management, environmental, quality management, operations and creative services departments.

Project Schedule and Budget: The Revenue Service Date (RSD) is planned for 2025.

On January 26, 2017, the Metro Board approved the Life of Project (LOP) Budget for the Purple (D Line) Extension Section 2 Project 865522 for \$2.4 billion excluding Finance Charges of \$88.7 million. A detailed Life of Project Budget forecast is included under the Project Cost Forecast section of this report.

Funding has been secured from a variety of sources to include:

- Federal – Section 5309 New Starts
- Federal CMAQ (Congestion Mitigation & Air Quality)
- Measure R – TIFIA Loan (Transportation Infrastructure Finance & Innovation Act)
- Measure R 35%
- State Capital Projects Loans

Construction and Community Relations: The Construction and Community Relations team is tasked with promoting the Project and performing public outreach within the community to keep stakeholders informed of construction activities occurring along the Project alignment.

The Project is also engaged in social media outreach and various marketing and advertising efforts designed to keep the public informed and excited about 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 Relations section of this report.

Start Up: The commencement of pre-revenue operations will be determined by Metro. Generally, all systems integration testing will have been completed and passed. All testing will be required to include and pass a “stress test” of maximum operational service levels to be acceptable. Pre-Revenue Operations include train runs, especially those involving multiple trains on the integrated and fully operational extension; rehearsal of expected revenue operations scenarios; abnormal and emergency scenarios in which random combinations of system interactions are tested and equipment “burned-in”; and training of emergency services as well as Metro personnel who will operate and maintain the extension. Activities occurring during Pre-Revenue Operations are carried out by a designated Metro Project Rail Activation Group.

## EXECUTIVE SUMMARY

*In November 2021, the Project reached 48% completion based on earned value measurements for design and construction.* The focus of the Project continues to be completing final design and construction activities in Century City and Beverly Hills. Final design is anticipated to be complete by year end 2021 for base scope. The C1120 Design Build Contract is on schedule to substantially complete by May 2025 and demobilize by October 2025. The forecast Revenue Service Date (RSD) for the Project remains planned for 2025. The following is an overview of current design and construction activities.

### Design Status

The Engineering Management Services team (WSP) continues to provide engineering services during construction as well as real estate support services. The team is also supporting Metro in reviewing final design submittals, responding to RFI's, and assisting in the preparation of change notices.

The design work has originally been identified into three distinct design unit packages. They are the following:

1. Design Package 1 – Utility/Civil Design at Launch Box in Century City
2. Design Package 2 – Remaining Utility Conflicts (Outside of Launch Box)
3. Design Package 3
  - (Volume 1) – Tunnel Reaches
  - (Volume 2) – Stations
  - (Volume 3) – Track & Systems

The design packages noted above have been broken out into discrete advanced design units/packages in order to facilitate and prioritize design deliverables.

Metro, Tutor Perini/O&G (TPOG) and STV have been working together to identify advanced partial design units for the abovementioned design packages and proposed submittal dates to facilitate timely design review to support the Project schedule.

Each design unit package will be submitted and evaluated at each of the following phases: 60%, 85%, 100%, Approved for Construction (AFC) and Issued for Construction (IFC). Critical design units have been advanced as Advanced Partial Design Units (APDU's) to support ongoing construction activities.

Design progress meetings are occurring weekly related to the design unit packages. Weekly design task force meetings (by individual discipline) began at the end of March 2018 and are scheduled to continue through design completion. TPOG is continuing with the required contractual submittals. *Design related submittals of note that TPOG has submitted this month are: AFC - CCS Station Architecture and MEP Package 3 Volume 2C DU 2.2; 100% - Tunnels and Cross Passages Package 3 Vol 1E Revised Sheets DU 4.2.*



## Construction Status

### Century City Constellation Station:

TPOG has been working with City of Los Angeles, DOT and BOE to obtain permits for the re-alignment of the sanitary sewer and storm drain. The storm drain realignment will be located south of Santa Monica Blvd, along southbound lanes of Avenue of the Stars; the sanitary sewer realignment will be located along Constellation, west of Avenue of the Stars and through the intersection of Avenue of the Stars and Constellation.

*Permits from the City of Los Angeles DOT were obtained in August 2021, while permits from BOE were obtained on November 19, 2021 by TPOG. Construction work for the sanitary sewer and storm drain started with sewer-by-pass at the end of November 2021. TPOG obtained a renewal on the project's nighttime noise variance permit for nighttime work. The permit was issued by the Los Angeles Police Commission through November 27, 2021. A renewal was obtained to extend the permit through May 28, 2022. TPOG obtained a Holiday Moratorium permit from City of Los Angeles BOE to work through the holiday months of November and December 2021. The Holiday Moratorium permit was issued by BOE on November 18, 2021.*

Decking operations were substantially completed. Constellation Blvd. between Avenue of the Stars and Solar Way was opened in May 2021. Deck panels are 98% complete, remaining deck panels have not been installed in order to provide additional ventilation through the openings.

Excavation of the TBM launch box was completed on November 1, 2019. Excavation of the remainder of the station box west of the TBM launch box is underway and is 25% complete.

*Excavation of the station entrance continues and is 10% complete. The installation of all deck beams and precast concrete deck panels has been completed except for 12 deck panels that remain open to provide additional ventilation for the station box.*

### Tunnels:

Tunneling operations began on April 30, 2020 with the launch of the BL TBM, "Ruth". *"Ruth" has excavated 5,037 feet (87% complete for Reach 5 and 44% complete overall) and erected 1,001 tunnel rings to date.* Launch of the BR TBM "Harriet" began on July 20, 2020. *"Harriet" has excavated 4,867 feet (84% complete for Reach 5 and 42% complete overall) and erected 967 tunnel rings to date.*

The BL TBM "Ruth" was re-launched on February 22, 2021 after the completion of the installation of the conveyor belt system. "Ruth" had an unplanned stop underneath the Beverly Hills Unified School District's administration building for cutterhead inspection and maintenance. Maintenance work was completed on May 1, 2021, and the BL TBM resumed tunneling operations on May 11, 2021. Both the BL and BR TBMs have exited the second of two seismic lining sections in the previous period and are continuing under the public right-of-way.

Due to issues with the vertical conveyor belt system, the Contractor opted to replace the vertical conveyor belts in the shaft with crane and muck boxes to address operational problems. The conversion of the muck conveyance systems for both tunnels was completed on July 27, 2021 and both TBMs have resumed excavation.

*All 4,056 of 4,056 precast tunnel rings, along with 437 of 437 special seismic rings have been produced.*

Wilshire/Rodeo Station:

Excavation of the station box and entrance have been completed. Installation of waterproofing membrane is ongoing.

A total of 65 out of 77 canopy pipes have been installed on the west end of the BR and BL tunnels. *The Engineer of Record recently confirmed that the as-installed canopy pipes will provide sufficient support for TBM break-in and relaunch activities.*

The Project has submitted an application to the City requesting a waiver of the Holiday Moratorium, which would allow work to continue after the Thanksgiving Holiday through New Year's Day. The city approved the Project's request for the Holiday Moratorium waiver allowing work to continue with adjusted hours and work restrictions.

TPOG continues preparing the west bulkhead for the arrival of the TBMs, and the east bulkhead for relaunch of the TBMs. Work continues on the permanent concrete invert slab. The first concrete placement for the invert slab occurred on May 20, 2021. Placement of concrete for the invert slab is approximately 72% complete, including a portion requiring remedial repair. The remaining invert slab will be completed after the TBMs are walked through the station box. Installation of waterproofing membrane, rebar, and formwork for first level walls is ongoing. *The concrete placement for the first level station walls is approximately 72% complete. The remaining first level station walls will be completed after the TBMs are walked through the station box. It is anticipated that the first TBM will be arriving at Wilshire/Rodeo station in December 2021. Waterproofing and invert slab mud mat concrete preparation work continued this month at the Wilshire/Rodeo station entrance.*

**Cost and Schedule Summary**

*For the C1120 Design/Build contract, Metro has received the Contractor’s November 2021 schedule update, which reports the substantial completion date finishing 190 calendar days behind the May 23, 2025 contractual date. Slower than anticipated progress and ongoing issues with tunneling operations are causing the impact. Tunneling progress is being monitored closely. The Project Team is concerned about the continued monthly schedule slippages and is closely monitoring these impacts. The Contractor reported a slippage of 108 calendar days to the overall Project this reporting period. The cause for the slippage this reporting period is a forecasted delay to the Century City Constellation Station excavation which is concurrent with tunneling delays that have not been forecasted in the Contractor’s schedule. Future revisions to the contractor’s means and methods and revised schedule logic, may have an impact on future updates. It is anticipated that the contractual completion date will be achieved*

*The Critical Path (CP) of the Project begins with tunneling operations, including TBM walkthrough at Wilshire/Rodeo Station, runs through completion of the tunnel inverts, through Century City Constellation construction and then through systems installation and testing work, including installation of interior finishes and electrical equipment at both stations. A summary graphic of the critical path is found on Page 15.*

**C1120 Design-Build Contract Schedule Metrics**

	Original Contract Dates	Time Extension	Current Contract	Forecast	Variance CDs
Notice to Proceed	04/26/17A	0	04/26/17A		0
Substantial Completion	05/23/25	0	05/23/25	05/23/25	0

Project costs continue to track within budget and projected contingency limits. To date, the Current Budget and Current Forecast remain the same this period at \$2.5 billion.

*There are currently eighteen (18) claims that are being evaluated.*

- Construction Vibration Control (Claim 10)
- Mitigation Plan for Subsurface Settlement above BL Tunnel (Claim 19)
- WRS Groundwater Inflows (Claim 21)
- COVID Impacts (Claim 22)
- Wilshire/Rodeo Structural Changes (Claim 23)
- Elevator Balustrade Lighting Design Changes (Claim 24)
- Addition of Century City Constellation Elevator Machine Room (Claim 26)
- Seismic Analysis Redesign (Claim 27)
- Cutterhead Damage (Claim 28)
- Resubmittal of 100% Submittal DU 6.1 Pkg 3, Volume 3B (Claim 29)
- CCS Appendage Grating 14 (Claim 30)
- CCS Appendage Grating 15 (Claim 31)
- CCS Appendage Grating 16 (Claim 32)
- CCS Emergency Stair 1 (Claim 33)
- CCS Appendage Grating 5 (Claim 34)
- CCS Additional Elevator Machine Room (Claim 35)

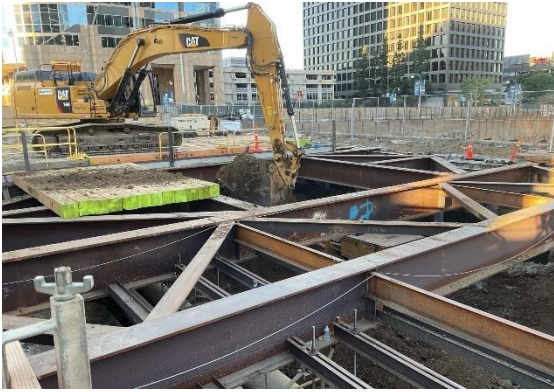
- *Move Public Platform Exterior Wall (Claim 36)*
- *WRS Storm Drain Utility Changes (Claim 37)*

Detailed cost and budget information is provided on Page 18.

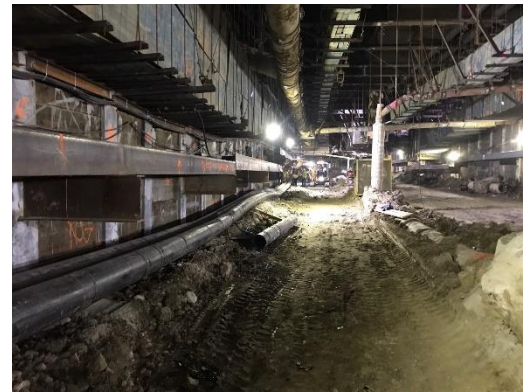
### **Key Management Concerns**

- *The Project Recordable Injury Rate for this period is 3.17 which is higher than the national average of 2.4, but slightly less than the previous period. Communication between Metro's CEO and TPOG's CEO have been exchanged addressing concerns. Metro expects TPOG to rigorously implement the following improvements to correct this negative trend:*
  - Leadership safety training for general foreman, superintendents, engineers, and managers.
  - Core safety training for all lead personnel for rigging, aerial lifts, forklifts, cranes, first aid, CPR, and crisis management.
  - Additional safety personnel
  - Additional supervision
  - Restructured "Take 5" safety meetings
  - Executive leadership safety inspections
  - Quarterly project audits of job hazard analyses (JHAs) and safety deliverables
- Daily tunnel excavation rates have been considerably slower than what was assumed in TPOG's baseline schedule. TPOG has indicated to Metro staff that production rates will increase with the modified muck handling system at the Tunnel Access Shaft. *Tunnel excavation rates have improved however they still remain a concern.*

Project Construction Photos



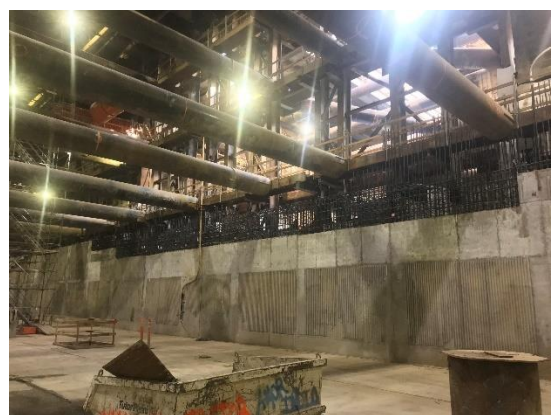
Station Box Excavation Activities in Century City



Excavation Activities West of the Launch Box in Century City



Wilshire/Rodeo Station Waterproofing Membrane, Rebar and Formwork for Station Entrance

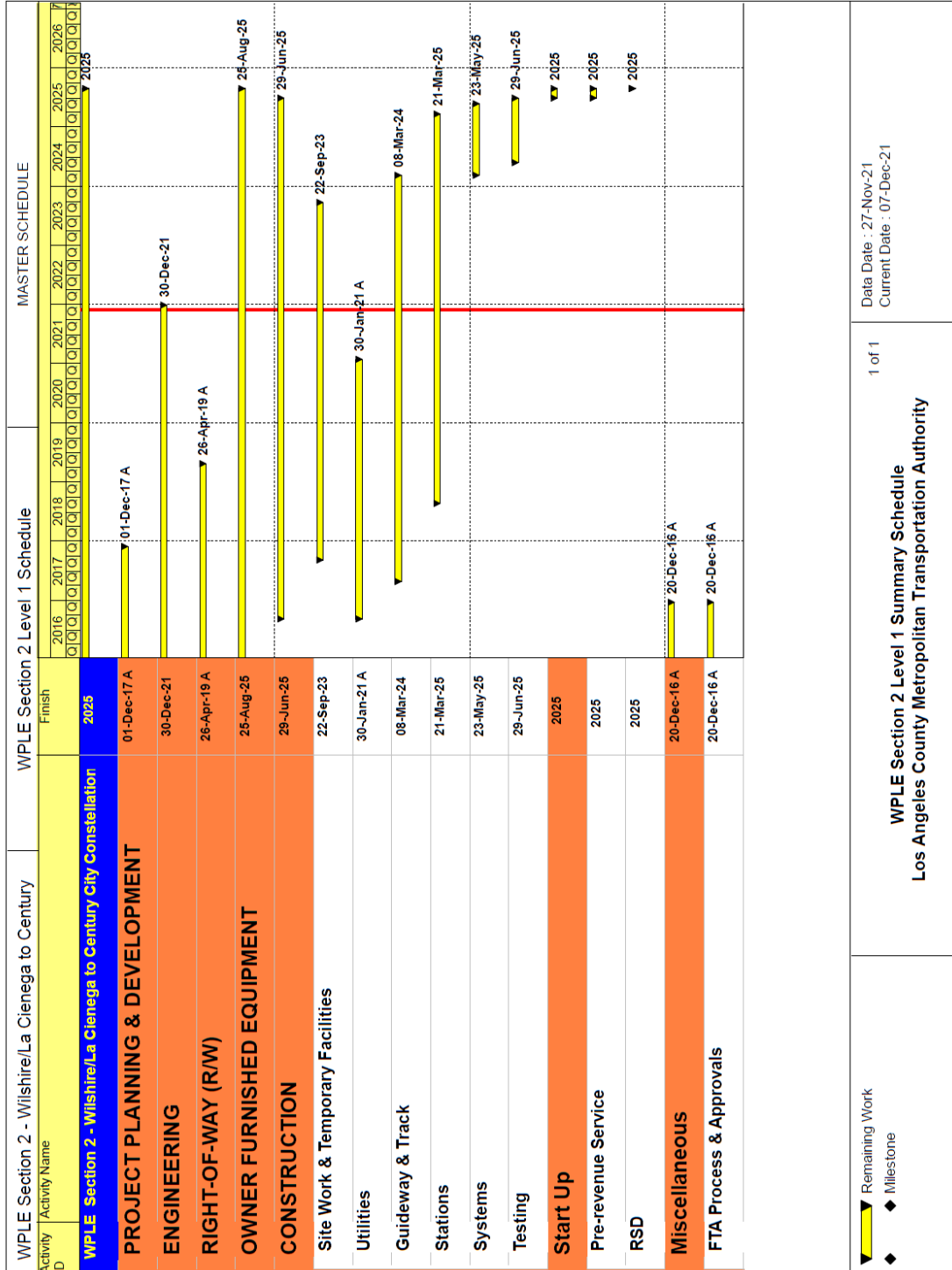


Concrete Placement for First Level Station Walls

# PROJECT UPDATE

## PROJECT SCHEDULE

### Project Summary Schedule



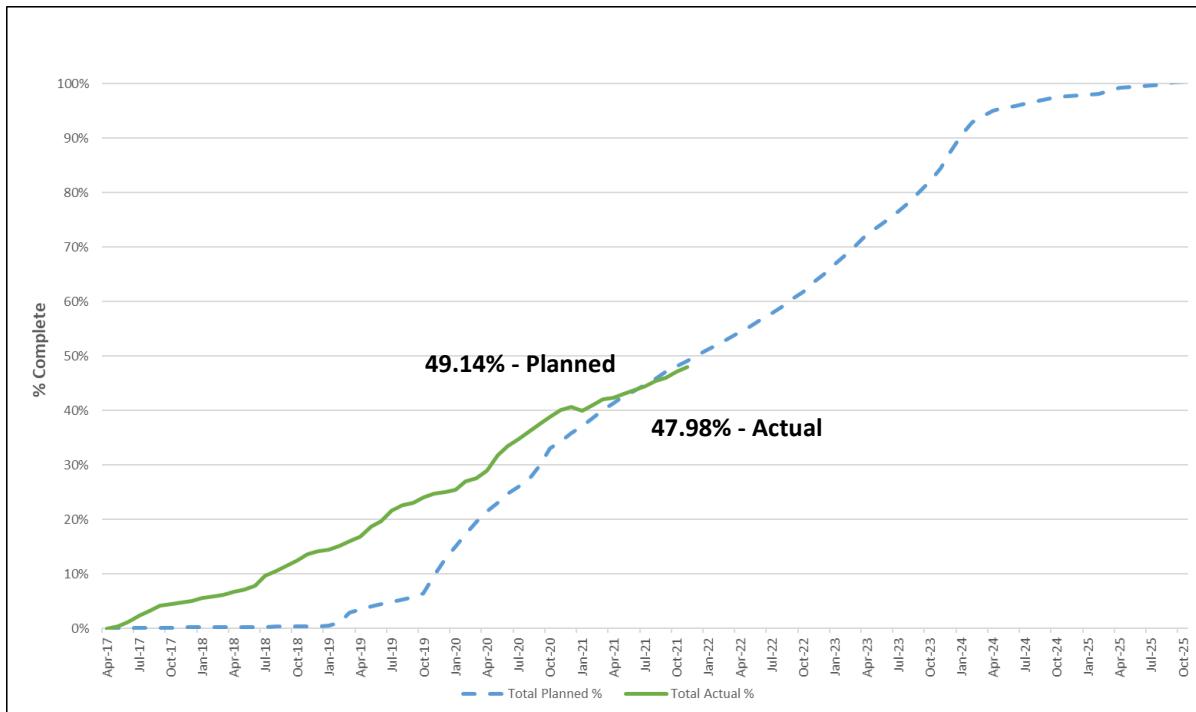
1 of 1  
 WPLE Section 2 Level 1 Summary Schedule  
 Los Angeles County Metropolitan Transportation Authority

**Progress Summary**

	Status	Change from Last Period	Comment
Forecast Revenue Service Date	2025		
TIFIA Revenue Service Date	12/31/2026	None	
FFGA Revenue Service Date	12/31/2026	None	
<b>Final Design Progress:</b>			
Contract C1120	99.74%	0.01%	Final design is anticipated to be complete by Year End 2021 for base scope.
<b>Construction Contracts Progress:</b>			
Contract C1120	47.98%	0.70%	

**Note: Physical completion assessment reflects work completed and work in progress.**

**Planned vs. Actual Progress**








*The actual overall construction progress is 47.98% versus a planned of 49.14% through November 2021. The progress curves represent the physical progress of work performed to complete Contract C1120. The "Total Planned %" curve is based on the Contractor's late schedule dates from the approved baseline schedule.*

The physical progress percentage excludes non-construction items such as contractor's design and construction mobilization costs and all general requirement costs not tied specifically to a construction work effort.

**Key Milestone Six-Month Look Ahead**

	Milestone Date	Nov-21	Dec-21	Jan-22	Feb-22	Mar-22	Apr-22
Completed concrete pouring at Wilshire/ Rodeo Station Exterior Walls Invert to Concourse -Grid Line 7 to 12	11/01/21	⬡					
BL TBM "Ruth" breaks into Wilshire/ Rodeo Station	12/17/21		⬡				
Complete installation of 1st level of struts & w ales at Century City Constellation Station	12/20/21		⬡				
Complete concrete pour at Wilshire/ Rodeo Station Exterior Walls Concourse Level - Entrance	01/10/22			⬡			
BR TBM "Harriet" breaks into Wilshire/ Rodeo Station	01/14/22			⬡			
Complete excavation, shoring, installation, backfill and test of sewer line	02/23/22				⬡		
Complete installation of membrane w aterproofing on Walls (CON to ROOF)-Grid Line 18 to 23.5 at Wilshire/ Rodeo Station	03/08/22					⬡	
Complete concrete pouring at Wilshire/ Rodeo Station Concourse Deck -Grid Line 18 to 23.5	03/17/22					⬡	
Complete excavation of lift 2 at Century City Constellation Station	04/22/22						⬡

 MTA Staff     
  MTA Board Action     
  FTA (Federal Transit)     
  Utility Company

 Other Agencies     
  Contractors     
  Design Consultant     
  C1120 D/B

"A" following date is actual and completed      \* New



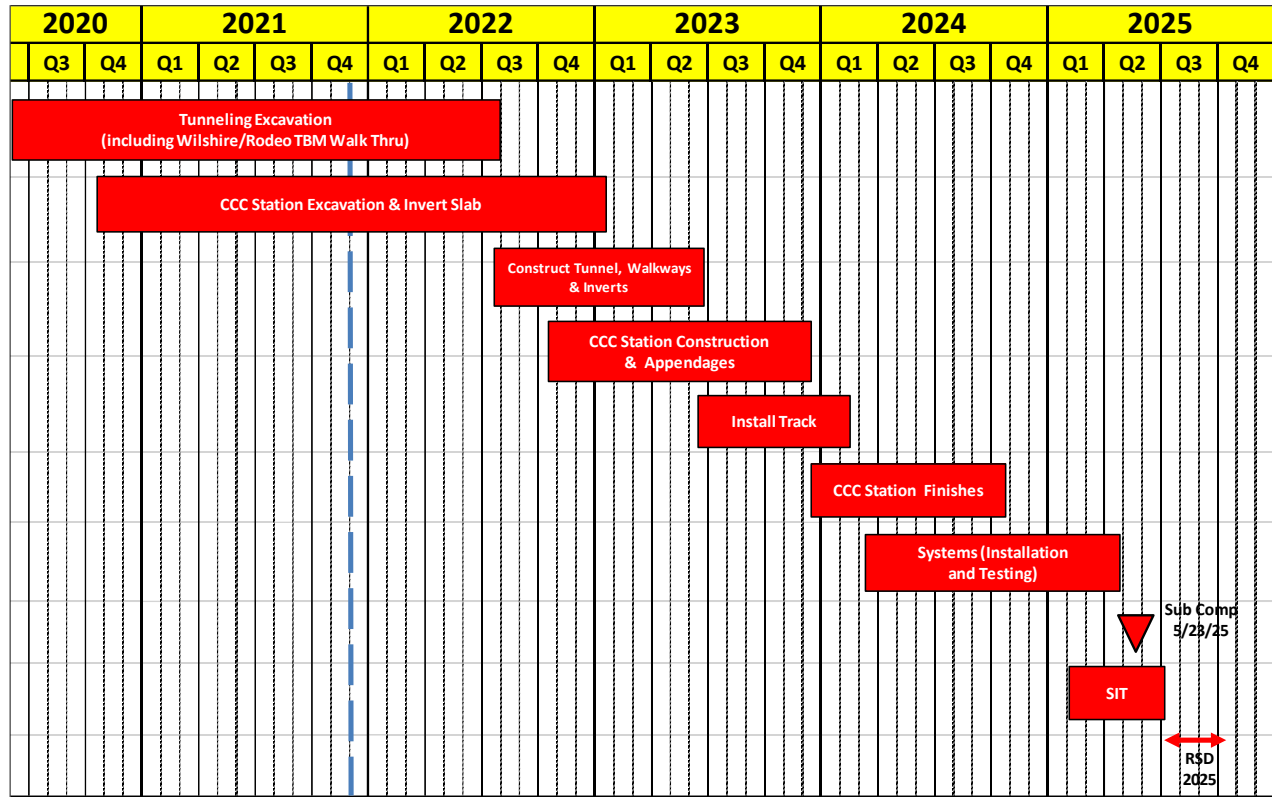
**Major Equipment Delivery**

	<b>Submittal</b>	<b>Procurement</b>	<b>Delivery</b>	<b>Installation</b>
<b>C1120 DESIGN/BUILD*</b>				
Tunnel Boring Machines	27-Jul-17(A)	14-Aug-17(A)	13-Sep-18(A)	26-Dec-19(A)
Emergency Ventilation Fans	14-Feb-22	15-Feb-22	3-Aug-22	5-Jun-23
Station Elevators/Escalators	28-Mar-22	26-Apr-22	15-Mar-24	10-Sep-24
Track - Running Rail	28-Mar-22	29-Mar-22	21-Jun-22	11-Dec-23
Traction Power Equipment	1-Mar-22	2-Mar-22	4-Nov-22	26-Aug-24
Automatic Train Control	2-Dec-21	3-Dec-21	6-Jul-22	7-May-24
Radio System	3-Dec-21	3-Dec-21	7-Jul-22	30-May-23
SCADA RTU System	1-Dec-21	2-Dec-21	5-Jul-22	30-May-23
<b>Heavy Rail Vehicles</b>	Reevaluation underway of date to exercise option			
<b>Universal Fare System***</b>	TBD	TBD	TBD	Oct 2024**

\* Dates derived from TPOG's November 2021 Schedule.

\*\* Forecast release date by TPOG to UFS contractor access at stations.

**Critical Path Project**



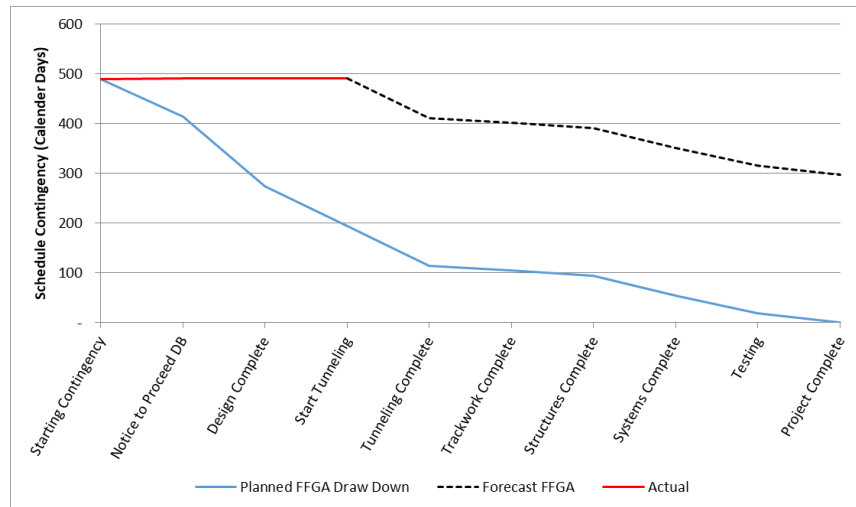
For the month of November 2021, the critical path continues to go through the Tunneling operations, including TBM walkthrough at Wilshire Rodeo Station. In this period the Century City station Excavation and Invert Slab activities are also on the critical path. The critical path proceeds into Tunneling and walkway construction along with Century City Station construction to the Track installation and Century City Station Finishes. Next, systems installation and testing work including installation of interior finishes and electrical equipment at both stations.

**Project Schedule Contingency Drawdown Analysis**

The project schedule contingency drawdown model provides a dual-axis perspective based upon the FFGA RSD of December 2026 and Metro’s Project Master Schedule (PMS) forecast of 2025.

The introduction of the PMS model axis reflects a proportional distribution of available float relative to the FFGA model. Based on the April 2020 actual start of TBM mining, schedule contingency appears to maintain a noticeable buffer from the FFGA model. This model will be updated when the TBM mining is complete.

With regard to the FFGA RSD, schedule float of sixteen (16) months has been maintained.



## PROJECT COST

### Project Cost Analysis – 865522

DOLLARS IN THOUSANDS

SCC CODE	DESCRIPTION	ORIGINAL BUDGET	CURRENT BUDGET		COMMITMENTS		EXPENDITURES		CURRENT FORECAST		FORECAST /BUDGET VARIANCE
			PERIOD	TO DATE	PERIOD	TO DATE	PERIOD	TO DATE	PERIOD	TO DATE	
10	GUIDEWAY & TRACK ELEMENTS	346,440	-	330,952	-	313,914	6,895	160,881	-	325,952	(5,000)
20	STATIONS, STOPS, TERMINALS, INTERMODAL	434,990	-	492,470	764	447,874	4,509	166,573	-	492,470	-
30	SUPPORT FACILITIES: YARDS, SHOPS, ADMIN. BLDGS	-	-	-	-	-	-	-	-	-	-
40	SITWORK & SPECIAL CONDITIONS	553,282	-	588,052	1,046	572,957	2,095	419,134	-	589,802	1,750
50	SYSTEMS	81,457	-	87,345	-	69,734	-	9,486	-	87,345	-
<b>CONSTRUCTION SUBTOTAL (10-50)</b>		<b>1,416,169</b>	<b>-</b>	<b>1,498,819</b>	<b>1,810</b>	<b>1,404,479</b>	<b>13,500</b>	<b>756,074</b>	<b>-</b>	<b>1,495,569</b>	<b>(3,250)</b>
60	ROW, LAND, EXISTING IMPROVEMENTS	426,396	-	430,075	-	318,091	8	297,982	-	430,075	-
70	VEHICLES	42,000	-	42,000	-	-	-	-	-	42,000	-
80	PROFESSIONAL SERVICES	374,878	-	421,608	60	348,899	3,565	283,040	-	421,608	-
<b>SUBTOTAL (10-80)</b>		<b>2,259,444</b>	<b>-</b>	<b>2,392,502</b>	<b>1,870</b>	<b>2,071,470</b>	<b>17,072</b>	<b>1,337,096</b>	<b>-</b>	<b>2,389,252</b>	<b>(3,250)</b>
90	UNALLOCATED CONTINGENCY	177,176	-	44,118	-	-	-	-	-	47,368	3,250
100	FINANCE CHARGES	88,695	-	88,695	-	-	-	-	-	88,695	-
<b>TOTAL PROJECT 865522 (FFGA &amp; NON-FFGA CONCURRENT ACTIVITIES)</b>		<b>2,525,314</b>	<b>-</b>	<b>2,525,314</b>	<b>1,870</b>	<b>2,071,470</b>	<b>17,072</b>	<b>1,337,096</b>	<b>-</b>	<b>2,525,314</b>	<b>-</b>
ENVIRONMENTAL/PLANNING 465522		4,349	-	4,349	-	3,957	-	3,377	-	4,349	-
<b>TOTAL PROJECT 465522 (ENV / PLAN'G)</b>		<b>4,349</b>	<b>-</b>	<b>4,349</b>	<b>-</b>	<b>3,957</b>	<b>-</b>	<b>3,377</b>	<b>-</b>	<b>4,349</b>	<b>-</b>
<b>TOTAL PROJECTS 465522 &amp; 865522</b>		<b>2,529,664</b>	<b>-</b>	<b>2,529,664</b>	<b>1,870</b>	<b>2,075,427</b>	<b>17,072</b>	<b>1,340,473</b>	<b>-</b>	<b>2,529,664</b>	<b>-</b>

### Original Budget

Original Budget of \$2.5 billion reflects the Life of Project (LOP) budget approved by the Board on January 26, 2017, plus Finance Charges of \$88.7 million.

### Current Budget and Current Forecast

*The Current Budget and Current Forecast remain the same this period at \$2.5 billion.*

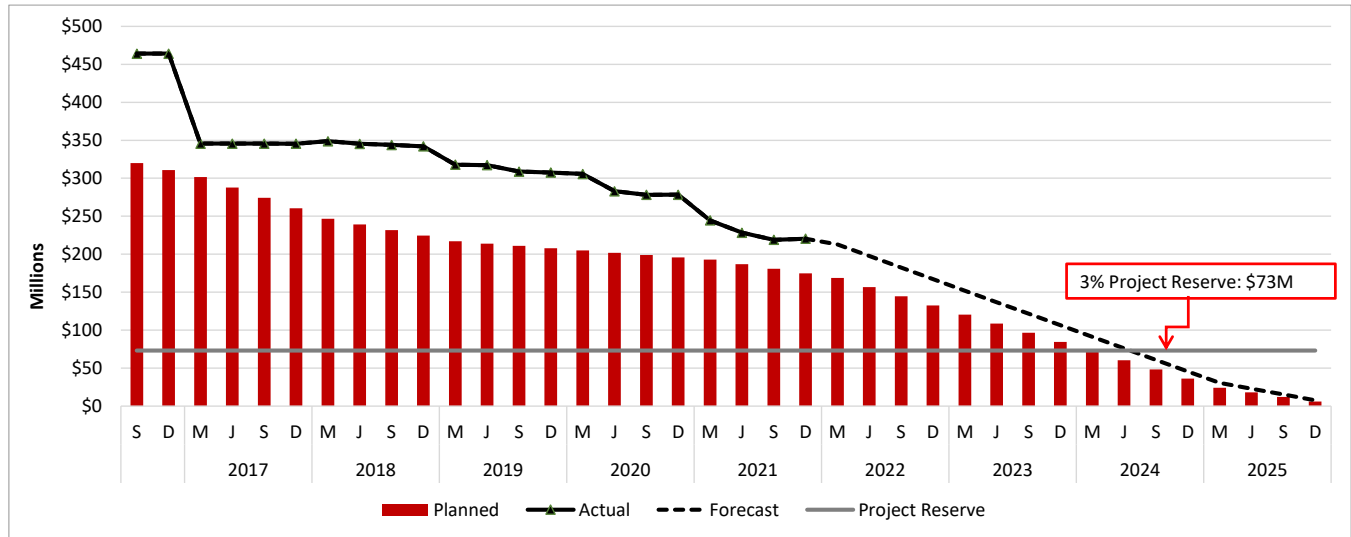
### Commitments

*The Commitments increased this period by \$1.9 million mainly due to executed Modifications and Change Orders for the Design/Build Contract C1120, and Agreements for Artwork Design Services. The \$2.1 billion in Commitments to date represent 82.0% of the Current Budget.*

### Expenditures

*The Expenditures increased this period by \$17.1 million primarily for costs associated with Design/Build Contract C1120, Environmental Services, Real Estate Acquisitions, Metro Project Administration, Engineering Management Support Services, Construction Management Support Services, Quality Management Services, City of Beverly Hills Memorandum of Agreement and City of Los Angeles Master Cooperative Agreement. The \$1.3 billion in Expenditures to date represent 53.0 % of the Current Budget.*

### Cost Contingency Drawdown



### Cost Contingency Drawdown Analysis

The Original Budget of \$2.5 billion includes finance charges of \$88.7 million. It also includes a project cost contingency of \$345.7 million or 13.7% of the total project, which is based on the Life of Project (LOP) Budget approved by the Board in January 2017. An allocated contingency amount of \$168.5 million is included in the total cost contingency. The allocated contingency is an amount to cover anticipated but unknown contract modifications issued by Metro [when applicable to specific contracts within each Standard Cost Category (SCC)].

A 3% project reserve threshold is included in the project cost contingency drawdown. Metro’s Board is to be notified when it becomes necessary to drawdown contingency below the project reserve threshold to cover project costs. This process was adopted by the Metro Board of Directors in September 2012.

The project cost contingency drawdown curve is based on a 2025 Forecast Revenue Service Date (RSD).

*The Allocated FFGA Contingency decreased this period by \$1.1 million due to executed Modifications and Change Orders for the Design/Build Contract C1120.*

PROJECT COST CONTINGENCY					
DOLLARS IN THOUSANDS					
	Original Contingency (LOP Budget)	Previous Period	Current Period	To-Date	Remaining Contingency (Forecast)
Unallocated Contingency	177,176	(129,808)	-	(129,808)	47,368
Allocated Contingency	168,534	5,544	(1,074)	4,470	173,004
<b>Total Contingency</b>	<b>345,710</b>	<b>(124,264)</b>	<b>(1,074)</b>	<b>(125,338)</b>	<b>220,372</b>

Note: the above table includes FFGA and Non-FFGA contingency.

## Risk Management

### Summary of Risks

During the quarterly risk register meeting that occurred on September 23, 2021, two (2) new risks were identified, and one (1) risk was closed. There are a total of sixty-nine (69) risks to be managed in the next quarter. *The next quarterly update is scheduled for December 30, 2021.*

#### New Risks Identified:

The two (2) new risks identified this period. The risks are the following:

Risk ID	Risk Description
PLE2-44	Modified vertical muck conveyor impacting the tunnel production schedule
PLE2-36	Cal OSHA tunnel declassification (from gassy to potentially gassy) after excavation is complete.

#### Closed Risks:

One (1) risk closed this period. The risk was the following:

Risk ID	Risk Description
PLE2-1	Additional noise/vibration mitigation measures required for operations.

Of the sixty-nine (69) risks, two (2) are scored as high, thirty-one (31) scored as medium and thirty-six (36) are scored as low.

### Top Five Risks

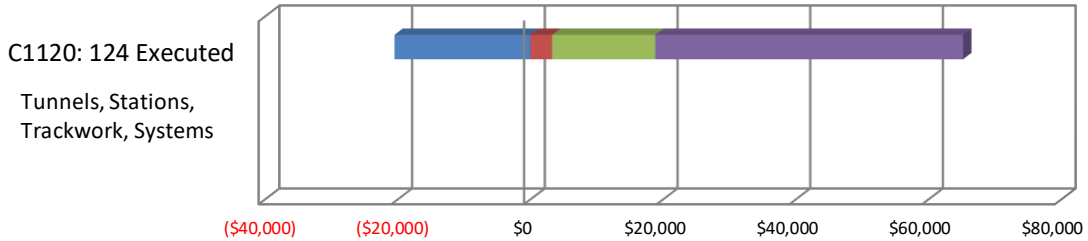
The table below shows the top five (5) Project risks identified after the risk register meeting.

Risk ID	Risk Description	Risk Score	Action Items
PLE2-136	COVID-19 Pandemic Impact	20.0	1. Evaluate the guidelines from State and local Government. 2. Put contingency plans in place.
PLE2-135	CMSS difficulty finding key resources	10.0	
PLE2-102	Potential tunnel delays that are encountered after November 2020.	9.0	1. If potential anomalies prove to be well casings then follow MMRP Con-53.
PLE2-24	Resource constraints at private utility companies delays schedule.	9.0	1. Maintain close coordination with utility companies and sequence utility work as necessary.
PLE2-92	Coordination between contractors at the system interface point between Section 1:2 causes delays and additional cost.	9.0	1. Metro Operations to assist Metro Engineering. 2. Perform system interface plan. 3. WSP to prepare agenda and set-up meeting. 4. Ashok Kothari to initiate preparation of agenda and set-up meeting. Provide status by 3/15/2020. 5. A list of items to be considered was provided. Meeting needs to be conducted. Date pending for initial meeting. 6. First internal meeting scheduled for 7/24/2020. 14 prelim items have been identified for discussion at meeting.

Summary of Contract Modifications

Contract Modifications (MODs) by Cost Level

Dollars in Thousands



C1120: 124 Executed	
Under \$100K	(20,456)
\$100K to \$250K	3,285
\$250K to \$1M	15,545
Over \$1M	46,408
<b>Total Contract MODs</b>	<b>44,782</b>
<b>Contract Award Amount</b>	<b>1,376,500</b>
<b>% of Contract MODs</b>	<b>3.25%</b>

Percent of Contract MODs equals the Total Contract MODs divided by the Contract Award Amount.

*One hundred and twenty-four (124) Contract Modifications (MODS) with a total value of \$44.8 million have been executed since the award of C1120 Contract – Tunnels, Stations, Trackwork and Systems.*

## DISADVANTAGED BUSINESS ENTERPRISE (DBE)

*As of November 2021:*

<b>DBE Goal – Design</b> The percentage of funds apportioned to Design Contracts	25.31%
<b>Current DBE Commitment Design</b> Total DBE Committed Dollars divided by Total Contract Value for Design	\$18.4M 26.38%
<b>Current DBE Participation</b> Total amount paid to date to DBEs divided by the amount paid to date to Prime	\$20.2M 35.57%

Twenty (20) Design DBE sub-consultants have been identified to date.

<b>DBE Goal – Construction</b> The percentage of funds apportioned to Construction Contracts	17.00%
<b>Current DBE Commitment Construction</b> Contract commitment divided by current contract value for Construction	\$155.4M 11.57%
<b>Current DBE Participation</b> Total amount paid to date to DBEs divided by the amount paid to date to Prime	\$97.5M 14.10%

*Forty-seven (47) Construction DBE sub-contractors have been identified to date.*



## PROJECT LABOR AGREEMENTS (PLA)

*As of October 2021:*

<b>Targeted Worker Goal</b> Construction work to be performed by residents from Economically Disadvantaged Area in the United States	40.00%
<b>Targeted Worker Current Attainment</b>	40.84%
<b>Apprentice Worker Goal</b> Construction work to be performed by Apprentices	20.00%
<b>Apprentice Worker Current Attainment</b>	13.80%
<b>Disadvantaged Worker Goal</b> Construction work to be performed by disadvantaged workers	10.00%
<b>Disadvantaged Worker Current Attainment</b>	3.96%

## FINANCIAL/GRANT

### Status of Funds Source

NOVEMBER 2021

STATUS OF FUNDS BY SOURCE

SOURCE	(A)	(B)	(C)	(D)	(D/B)	(E)	(E/B)	(F)	(F/B)
	ORIGINAL BUDGET	TOTAL FUNDS ANTICIPATED	TOTAL FUNDS AVAILABLE	COMMITMENTS \$	%	EXPENDITURES \$	%	BILLED TO FUNDING SOURCE \$	%
FEDERAL - SECTION 5309 NEW STARTS	\$1,187.000	\$1,187.000	\$597.711	\$1,057.536	89%	\$550.000	46%	\$548.658	46%
FEDERAL - SECTION 5309 NEW STARTS (ARPA-CIG**)	\$0.000	\$58.418	\$0.000	\$0.000	0%	\$0.000	0%	\$0.000	0%
FEDERAL CMAQ	\$169.000	\$169.000	\$169.000	\$169.000	100%	\$169.000	100%	\$169.000	100%
MEASURE R - TIFIA LOAN	\$307.000	\$307.000	\$307.000	\$307.000	100%	\$307.000	100%	\$307.000	100%
MEASURE R 35%	\$811.902	\$753.484	\$608.598	\$487.129	65%	\$259.711	34%	\$234.501	31%
STATE CAPITAL PROJECT LOANS	\$54.762	\$54.762	\$54.762	\$54.762	100%	\$54.762	100%	\$54.762	100%
<b>TOTAL</b>	<b>\$2,529.664</b>	<b>\$2,529.664</b>	<b>\$1,737.071</b>	<b>\$2,075.427</b>	<b>82.0%</b>	<b>\$1,340.473</b>	<b>53.0%</b>	<b>\$1,313.921</b>	<b>51.9%</b>

EXPENDITURES ARE CUMULATIVE THROUGH NOVEMBER 30, 2021

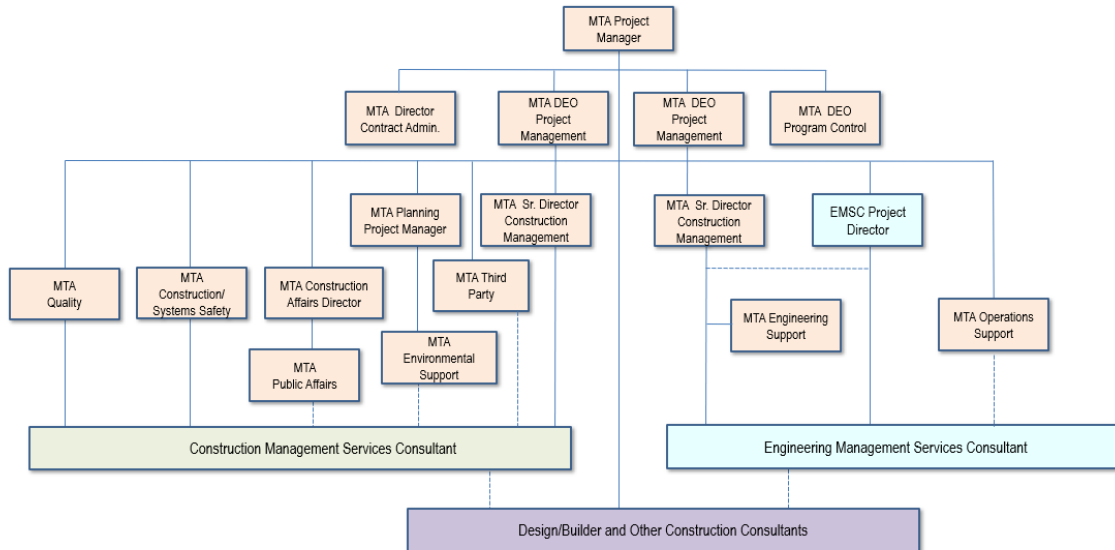
\*\*AMERICAN RESCUE PLAN ACT - CAPITAL INVESTMENTS PROGRAM (ARPA-CIG)

Original Budget based on 2017 Board approved LOP Budget, plus Finance Charges of \$88.7 million.

## PROJECT ORGANIZATION AND STAFFING

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

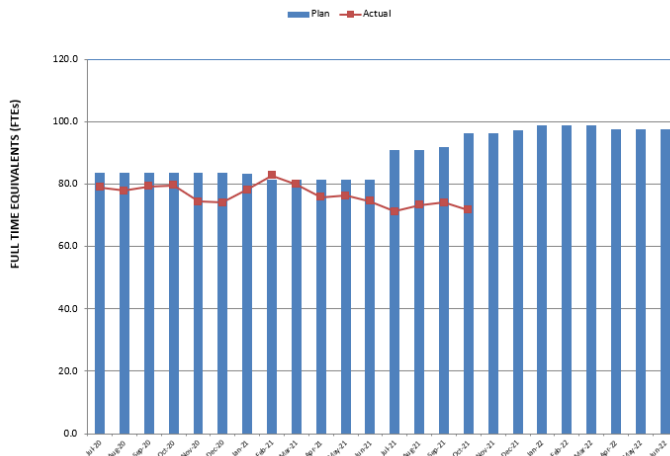
### Purple (D Line) Extension Project Section 2 Responsibility and Reporting Matrix



The overall FY22 Total Project Staffing Plan averages 96.1 FTEs per month.

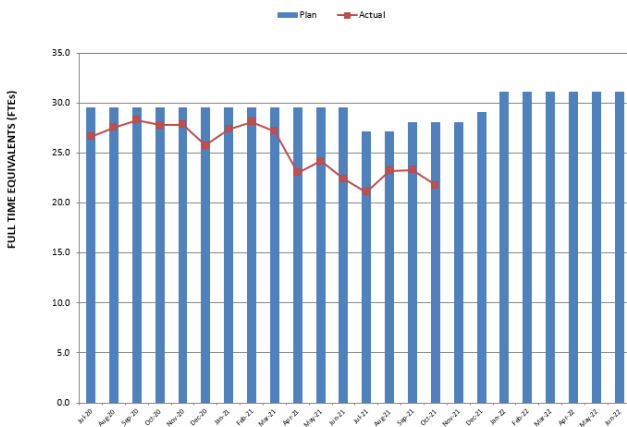
For October 2021, there were a total of 21.8 FTEs for MTA’s Project Administration Staff and 49.9 FTEs for Consulting Staff. The total project staffing for October 2021 was 71.7 FTEs. Review of staffing plans is on-going to ensure staffing needs are appropriately managed.

### Total Project Staffing – Metro and Consultants

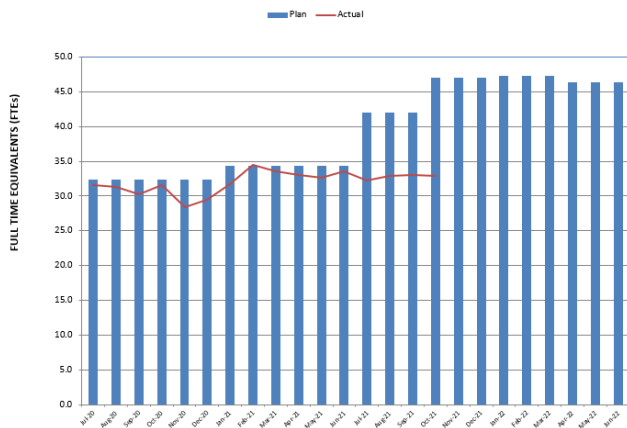


\*Actuals include 4.0 FTEs related to Project Management Support Services (PMSS).

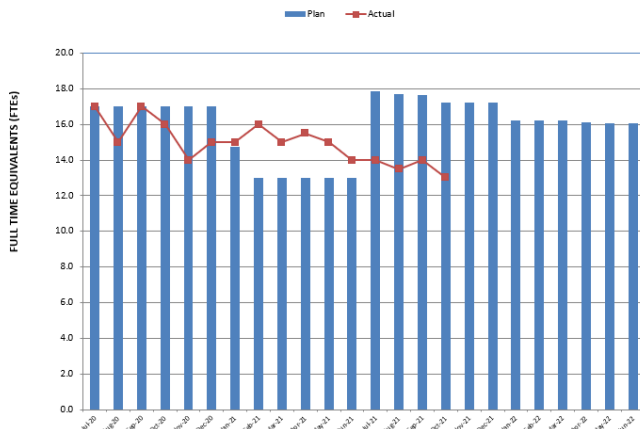
**Metro Staff**



**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.

## REAL ESTATE

Real Estate Status Summary									
Description	Number of Parcels	Certified	Appraisals Completed	Offers Made	Agreements Signed	Condemnation Filed	Relocations		Parcels Available
							Required	Completed	
Full Takes	3	3	3	3	1	2	21	21	3
Part Takes	0	0	0	0	0	0	0	0	0
TCE	3	3	3	3	2	1	1	1	3
SSE	23	23	23	23	15	9	3	3	23
Permanent Easements	3	3	3	3	3	1	0	0	3
<b>Total Parcels</b>	<b>32</b>	<b>32</b>	<b>32</b>	<b>32</b>	<b>21</b>	<b>13</b>	<b>25</b>	<b>25</b>	<b>32</b>

- TPOG has possession of the former ACE Gallery property for construction staging and ultimately construction of the Wilshire/Rodeo Station entrance.
- TBM Launch Box site turnover to TPOG was issued on January 11, 2018, and access to the adjacent sidewalk was provided on January 16, 2018.
- AAA property and Gillis Family Partnership property turnover to TPOG was provided on January 26, 2018.
- TPOG gained possession of 2040 Century Park East (JMB parking lot) on February 24, 2018.
- TPOG gained possession of the three parcels (W-3001, W-3001-01 and W-3002) located at the Wilshire/Rodeo Construction Staging Area (North) on July 11, 2018.
- TPOG gained possession of the Wilshire/Rodeo Station footprint after completion of third-party utility relocations on October 18, 2018.
- TPOG gained possession of W-3604 and W-3604-1 (AT&T) on March 20, 2019.
- Settlement agreement reached for W-3603 (Gillis) for loss of goodwill.
- TPOG gained site access to Parcel W-3901 located on the Southeast corner of Constellation Boulevard and Century Park West 10250 Constellation Boulevard on September 27, 2019.
- The acquisition for Parcel W-3604 (Pacific Bell) was completed on November 21, 2019.
- Settlement agreement reached for Subsurface Easement Parcel W-3402 (GCIP Holdings II, LLC).
- TPOG gained possession of W-3801 for the Century City Constellation Station entrance on August 21, 2020.
- Parcel W-3903 under platform exhaust will be moved to public sidewalk. Requirement from Westfield has been decertified and reduces the total parcel number to 32.
- W-3801 available under right of entry agreement. Final agreement has been executed and escrow closed on February 18, 2021.
- Seven (7) sub surface easements are in ongoing eminent domain lawsuits awaiting trial dates.

## QUALITY ASSURANCE

- Attended weekly Project construction progress meetings.
- Reviewed construction submittals, inspection and assessment reports at various job locations, Twining Independent test laboratory reports (TPOG), Ninyo and Moore test laboratory reports (Metro) and invoices for the work performed by Ninyo and Moore and PQM.
- Contributed to the development of Metro Quality Management Oversight Program and managed the implementation of the Project.
- *Chaired weekly quality meetings with TPOG Quality Manager for the status, corrective actions, close out documents and verification actions for NCRs issued by Metro; quality control results for the current and upcoming works; planning activities of Metro laboratory materials verification testing and special processes construction assessments.*
- Reviewed the following with a disposition for record only/approved/approved as noted:
  - *Entrance HVAC and Plumbing Equipment Pad Shop Drawings Wilshire/Rodeo Station*
  - *Concrete Lift Drawings for Station Invert Slab Wilshire/Rodeo Station*
  - *Architectural and Cast-In-Place Concrete Patching Repair Materials.*

## ENVIRONMENTAL

- Reviewed and provided responses to various contractor submittals and requests for information related to environmental matters.
- Issued various QMO reports assessing implementation of environmental requirements.
- Participated in various Project coordination meetings and evaluated progress and schedules for environmental compliance and sustainability efforts.
- Provided environmental awareness training as needed.
- Conducted field environmental monitoring and spot check inspections for construction noise and vibration, stormwater and fugitive dust BMPs, and Metro's Green Construction Policy.
- *Enwave line encasement at Century City Constellation station entrance completed on November 30, 2021.*

## CONSTRUCTION AND COMMUNITY RELATIONS

- *Produced and distributed six (6) construction work notices including construction work updates in Beverly Hills and Century City, and monthly look ahead notices for Century City and Beverly Hills.*
- Conducted monthly construction update project presentations via webinar for community and business stakeholders in Beverly Hills. Conducted multiple one-on-one stakeholder meetings in Century City regarding traffic control updates, and upcoming sanitary sewer/storm drain relocations. *Scheduled and attended final follow up coordination meeting with LA Marathon production team and COLA for the November 7, 2021 marathon finish line in Century City.* Continued ongoing contact with commercial and residential stakeholders in Beverly Hills.
- Extensive outreach for community meetings including distribution of digital notices, direct emails, social media and paid online and print advertising. Primary outreach efforts are digital during continued COVID19 restrictions. Maintained expanded door to door monthly notice distribution in Beverly Hills. *Completed 2021 Holiday Moratorium exemption outreach in Beverly Hills and Century City.*
- Participated in the following online internal meetings: Construction Management Weekly meetings, Construction Relations weekly meetings, Third Party Coordination, LADOT coordination, BOE and BSS coordination, Rodeo Station and Century City Construction Coordination weekly meetings.
- Continued efforts on behalf of Eat Shop Play and Business Interruption Fund in Century City and Beverly Hills. Updated Facebook/Twitter and website as needed.

## CREATIVE SERVICES

- Coordination for Customer Experience continuity between sections
- *Artist selection process and procurement underway for stations*
- *Continued coordination with arts and cultural stakeholders*



## SAFETY & SECURITY

- *TPOG reported was one (1) Recordable Injuries in November 2021.*
- Attended daily toolbox meetings, weekly crew all hand safety meeting, progress meetings, readiness reviews, and other project meetings to evaluate Contractor's Safety Program compliance with contract requirements.
- Worked with Program Management and Construction Relations staff to monitor issues related to public concerns regarding noise, traffic and public/construction interfaces as well as public interactions with the construction crews.
- Conducted Project Safety Orientation, SCSR and H2S Safety Training for new Metro/Consultants and IPMO project staff.
- *Hosted the November Monthly Safety and Security Meeting.*
- Conducted right-of-way (ROW) and Safety/Security walks, Safety/Security reviews and coordination with TPOG staff for oversight and support of all project field work activities.
- *TPOG reported 46,434 actual work hours in November 2021.*
- *TPOG Project to Date Work Hours are 2,401,213 with thirty-eight (38) Recordable Injuries and nine (9) day's Away from Work Injuries.*
- *The Recordable Injury Rate is 3.17, The Bureau of Labor Statistics reports the National Average Recordable Injury Rate is 2.4.*

## APPENDIX CHRONOLOGY OF EVENTS

January 2011	FTA approval to enter Preliminary Engineering
August 2012	FTA Record of Decision
December 2014	FTA approval to enter New Starts Engineering Phase
March 2015	Began Real Estate Acquisition
May 2015	Began Advanced Preliminary Engineering
September 2015	Issued RFQ for C1120 Design/Build contract
October 2015	Received RFQ responses for C1120 Design/Build contract
May 2016	Submitted draft FFGA application
May 2016	Submitted TIFIA loan application
June 2016	Submitted application to FTA requesting an FFGA
June 2016	Received RFP Proposals for Contract C1120
September 2016	Began telecom joint trench construction in Century City
December 2016	FTA executed FFGA
December 2016	Received TIFIA Loan
January 2017	NTP for Construction Management Support Services Contract
January 2017	Metro Board approved staff recommendation to award the Design/Build Contract C1120 to TPOG and approved Life-of-Project Budget
January 2017	Issued C1120 Contract Award to TPOG
April 2017	Issued C1120 Contract NTP to TPOG
May 2017	Mobilized C1120 Contract Design and Construction Team
August 2017	Third party relocations started at Century City Constellation Station
September 2017	Third party relocations started at the Wilshire/Rodeo Station
November 2017	Beverly Hills City Council approved Memorandum of Agreement (MOA) governing remaining third-party utility relocations

December 2017	Final Supplemental Environmental Impact Statement (FSEIS) was available to the public in the Federal Registry on December 1, 2017
January 2018	Completed all utility relocations within the Tunnel Boring Machine “Launch Box”
February 2018	Held Groundbreaking Ceremony on February 23, 2018
May 2018	Bureau of Engineering approved a nine-month street closure of Constellation Blvd. between Century Park East and Avenue of the Stars
September 2018	Full street closure of Constellation Blvd. commenced
September 2018	Delivery of tunnel boring machines (TBMs) commenced
October 2018	Piling installation commenced at launch box in Century City
October 2018	Granted Wilshire/Rodeo Station footprint right-of-way (ROW) access to TPOG
December 2018	Completed all civil work for third parties at Century City Constellation Station
December 2018	Demolition of former Ace Gallery completed
January 2019	Completed soldier pile installation for the TBM launch box at the eastern end of the Century City Constellation Station
January 2019	Metro Board Approves City of Beverly Hills MOA for C1120 Contract
February 2019	City of Beverly Hills City Council Approves MOA for C1120 Contract
March 2019	Start of installation of deck beams for the TBM launch box
May 2019	Completed soldier pile installation for Tunnel Access Shaft in Century City
June 2019	TBM Unveiling Event
June 2019	Full Street Closure of Constellation Blvd. Extension Granted
August 2019	Completed Construction of Santa Monica Boulevard Bus Layover in Century City
September 2019	Metro’s request to lift the holiday moratorium for construction activities in Beverly Hills was rejected by the City Council
October 2019	Piling installation commenced for the Wilshire/Rodeo Station box.
November 2019	Poured invert slab at TBM launch box in Century City.

December 2019	An Additional 7-Month Full Street Closure of Constellation Blvd. was Granted by Los Angeles Board of Public Works.
December 2019	Started TBM Assembly.
December 2019	Motion for prejudgment possession for SSE under Beverly Hill High School was granted.
January 2020	Piling activities resumed at Wilshire/Rodeo Station after the holiday moratorium.
March 2020	LADWP completed 4.8kv system cabling pulling and splicing, along with the remaining cable removals at Century City Constellation Station.
March 2020	Beverly Hills City Council approved a full street closure of Wilshire Boulevard (between Beverly Drive and Crescent Drive) for the duration of the "Safer at Home" orders due to the COVID-19 Pandemic.
March 2020	Right of Entry Executed to Access BHUSD
April 2020	Began tunneling operations of the BL Tunnel.
April 2020	Completed implementation of the Wilshire Boulevard closure (between Beverly Drive and Crescent Drive) for the duration of the "Safer at Home" orders due to the COVID-19 Pandemic.
May 2020	Completed station box and entrance piling activities at Wilshire/Rodeo Station.
June 2020	Wilshire Boulevard reopened to traffic following completion of decking at Wilshire/Rodeo Station.
July 2020	Began tunneling operations of the BR Tunnel.
August 2020	Completed excavation of Tunnel Access Shaft.
August 2020	Access granted to contractor to W-3801 for the Century City Constellation Station entrance.
September 2020	Abandonment of the first legacy oil well was completed.
September 2020	BL TBM "Ruth" Breaks into Tunnel Access Shaft.
September 2020	TIFIA Loan Paid Off and Account Closed.
October 2020	BR TBM "Harriet" Breaks into Tunnel Access Shaft.
November 2020	Settlement agreement reached with City of Beverly Hills ending city's lawsuit against FTA and Metro.

November 2020	Beverly Hills City Council approved Metro's holiday moratorium waiver request and work hours established by the Memorandum of Agreement (MOA). Construction of Wilshire/Rodeo Station will continue through New Year's Day.
November 2020	City of Los Angeles approved additional closures east of Avenue of the Stars along Constellation Boulevard through January 2, 2021.
December 2020	First TBM clears all buildings under Beverly Hills High School campus.
January 2021	City of Los Angeles approved extension of street closure for decking and utility work between Avenue of the Stars and Solar Way to April 5, 2021 and weekend closures at the intersection of Constellation Boulevard and Avenue of the Stars.
February 2021	Both TBMs have pushed through the Tunnel Access Shaft and the BL TBM "Ruth" is using conveyor belts for muck removal.
March 2021	Decking complete at Century City Constellation Station except for the twelve (12) remaining panels that are being utilized for additional ventilation openings.
March 2021	BL TBM (Ruth) excavation suspended after approximately 1,300 feet from eastern end of Century City Constellation Station due to unplanned maintenance to face of cutterhead and completion of repairs.
March 2021	Street restoration complete and Constellation Blvd. between Avenue of the Stars and Solar Way fully reopened earlier than planned.
April 2021	Permanent concrete work began at the Wilshire/Rodeo Station.
May 2021	Reopening of Constellation Blvd.
May 2021	Concrete placement for the first section of the invert slab at Wilshire/Rodeo station in Beverly Hills.
May 2021	TBM's resumed excavation after cutterhead inspection and maintenance for BL TBM and muck removal transitioning to conveyor belts for BR TBM.
June 2021	Switching from vertical conveyor belts to crane and muck boxes in the Tunnel Access Shaft.
July 2021	The conversion of the muck conveyance systems for both tunnels was completed on July 27, 2021.
August 2021	The first concrete placement for the first level Wilshire/Rodeo Station walls occurred this period.

August 2021	Both BL and BR TBM have exited the first of two seismic lining sections this period.
October 2021	Both TBM's have exited the 2 <sup>nd</sup> seismic zone of the alignment.
October 2021	Excavation of the Century City Constellation station entrance box has commenced.
October 2021	City of Beverly Hills approved the request for the Holiday Moratorium waiver allowing work to continue with adjusted hours and activities.