

PURPLE (D LINE) EXTENSION PROJECT Section 2



Metro

Purple (D Line) Extension Project Section 2

MONTHLY PROJECT STATUS REPORT

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May 2022

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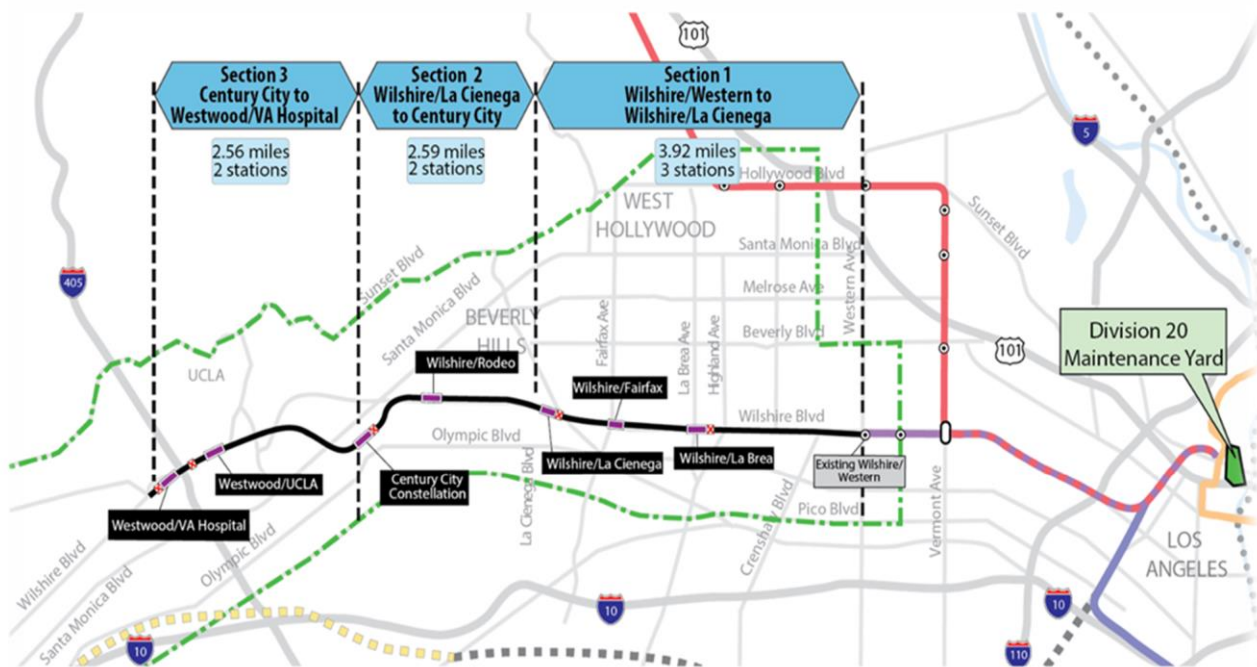
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PROJECT OVERVIEW

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 May 2022, the Project reached 52% completion based on earned value measurements for design and construction. The focus of the Project continued to be completion of final design and construction activities in Century City and Beverly Hills. Final design base scope is anticipated to be completed in August 2022. The C1120 Design Build Contract is anticipated 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) continued 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: 100% - DWP Water Main Relocation at CCS (PSA-0135) APDU 2.5.1*

Construction Status

Century City Constellation Station:

Construction activities associated with the sewer and storm drain relocation continued this month. TPOG continued to work with City of Los Angeles BOE and Sanitation Departments to obtain approvals for utility materials. TPOG obtained a renewal on the project's nighttime noise variance permit for nighttime work to extend the permit through November 2, 2022. The contractor also worked with the City of Los Angeles Department of Transportation (DOT) to adjust traffic control plans at the request of the community to continue the utility work during the night shift.

Decking operations were substantially completed. Deck panels are 98% complete, remaining deck panels have not been installed in order to provide additional ventilation through the openings.

Excavation of the remainder of the station box west of the TBM launch box is underway and is 42% complete. Excavation of the station entrance continued and is 46% complete. Installation of the third level walers and struts continued this period.

Tunnels:

Tunneling operations began on April 30, 2020 with the launch of the BL TBM, "Ruth" from the Launch box. The BL TBM, "Harriet" was re-launched east of the Tunnel Shaft on February 22, 2021 after the completion of the installation of the conveyor belt system. The BL TBM had an unplanned stop underneath the Beverly Hills Unified School District's administration building for cutterhead inspection and maintenance.

On January 28, 2022 the BL TBM broke into the Wilshire/Rodeo station box. BL reach 5 is now 100% mined. BL TBM began excavation on reach 4 toward Wilshire/La Cienega Station on March 29, 2022. *The BL TBM has excavated 1,415 feet of Reach 4, equating to 25% for this reach with 277 rings installed. Overall, it has excavated 7,221 feet and installed a total of 1438 equating to 62% complete for both reaches.*

Launch of the BR TBM, for Reach 5 began on July 20, 2020. On January 12, 2022 the BR TBM broke into the Wilshire/Rodeo station box. BR reach 5 is now 100% mined. BR TBM began excavation on reach 4 toward Wilshire/La Cienega Station on March 2, 2022. *The BR TBM has excavated 2,553 feet of Reach 4, equating to 45% for this reach with 505 rings installed. Overall, it has excavated 8,330 feet and installed a total of 1,661 equating to 67% complete for both reaches.*

Wilshire/Rodeo Station:

The first concrete placement for the invert slab occurred on May 20, 2021. Placement of concrete for the invert slab and first level station walls are approximately 72% complete, including a portion requiring remedial repair. The installation of rebar, conduits, embedded items and storm drain at the station entrance invert has been completed. *Preparation for concourse level slab formwork and rebar in the station box has begun and continues.*

Concrete placement for the invert slab at the station entrance has been completed.. Waterproofing installation at the station entrance walls has begun and is ongoing. Removal of struts below bracing level 4 at the station entrance has begun and is ongoing. Cutting and removing welds for strut removal is ongoing.

Cal/OSHA M&T granted TPOG a temporary reclassification of Wilshire/Rodeo Station from underground classification of "Gassy" to the "Potentially Gassy with Special Conditions". The primary benefit of this temporary designation was the ability to utilize tools/equipment for maintenance work on the TBMs which would otherwise have been restricted within a "Gassy" underground location. The station has reverted to a "Gassy" classification after the BR TBM broke out of the station to begin Reach 4 mining.

Cost and Schedule Summary

For the C1120 Design/Build contract, Metro has received the Contractor’s May 2022 schedule update, which reports the substantial completion date finishing 27 calendar days behind the May 23, 2025 contractual date. Slower than anticipated excavation progress is causing the impact. The Project Team is concerned about the continued monthly schedule slippages and is closely monitoring these impacts. The Contractor reported a two-day improvement to the overall Project this reporting period. The forecasted delay to the Century City Constellation Station excavation 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. Due to the Contractor’s forecasted completion, the project team is identifying opportunities to mitigate project delays and is monitoring potential impacts

The Critical Path (CP) continued to go through the Century City station Excavation and Invert Slab activities. It also includes completion of the tunnel excavations, tunnel walkway and invert concrete work, track installation, Century City Station finishes, and 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 twenty-seven (24) claims that are being evaluated.

1. Mitigation Plan for Subsurface Settlement above BL Tunnel (Claim 19)
2. WRS Groundwater Inflows (Claim 21)
3. COVID Impacts (Claim 22)
4. Wilshire/Rodeo Structural Changes (Claim 23)
5. Elevator Balustrade Lighting Design Changes (Claim 24)
6. Seismic Analysis Redesign (Claim 27)
7. Cutterhead Damage (Claim 28)
8. Resubmittal of 100% Submittal DU 6.1 Pkg 3, Volume 3B (Claim 29)
9. CCS Appendage Grating 15 (Claim 31)
10. CCS Emergency Stair 1 (Claim 33)
11. CCS Appendage Grating 5 (Claim 34)
12. CCS Additional Elevator Machine Room (Claim 35)
13. Move Public Platform Exterior Wall (Claim 36)
14. WRS Storm Drain Utility Changes (Claim 37)
15. WRS Appendage Grating 9 (Claim 39)

16. WRS Water and Communication Design Change (Claim 40)
17. WRS East EVS Grating 4 Design (Claim 41)
18. WRS Emergency Exit 4 Design (Claim 42)
19. Stations OPE Design Revision (Claim 44)
20. Unilateral CO No. 48 NPDES Construction Project Dewatering Permit (Claim 45)
21. Appendage Grating 10 Design (Claim 46)
22. Station Revised OPE Construction (Claim 47)
23. Status Electrical Heat Load Updates (Claim 49)
24. CCS Elevators 1 & 2 Additional Sheet – Framing (Claim 50)

Detailed cost and budget information is provided on Page 18.

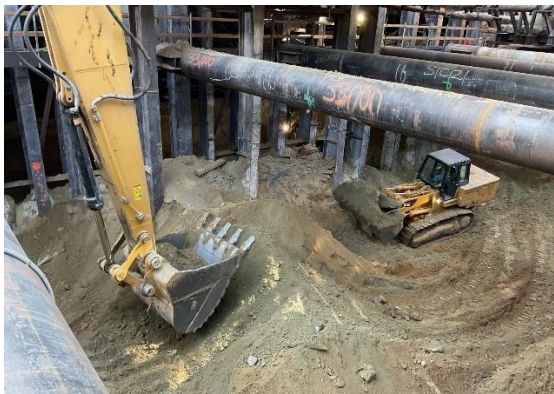
Key Management Concerns

- *The Project Recordable Injury Rate for this period is 3.05 which is higher than the national average of 2.4.*
- Metro remains concerned about TPOG's elevated Recordable Injury Rate and expects to see continued improvements to help lower the rate. To monitor progress, Metro recently completed an audit of TPOG's implementation of its safety plan. The audit indicated that TPOG was found to be in substantial conformance with the necessary requirements. Additionally, Metro Safety staff have been preparing bi-weekly safety observations for reference and possible necessary action.
- 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 improved towards the end of Reach 5 mining. *Average excavation rates remained the same for the BR tunnel this month as compared to April averages. The BL tunnel showed an improvement from last month of approximately 9.4 feet per day.*

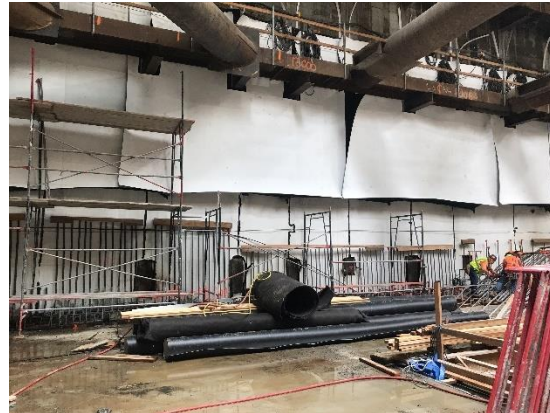
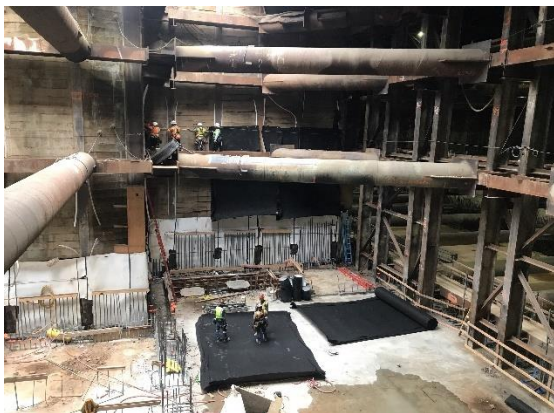
Project Construction Photos



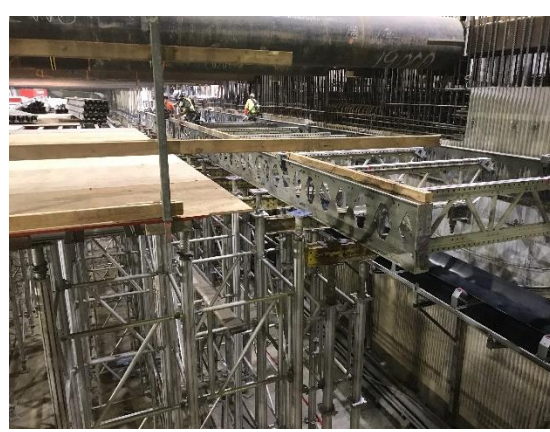
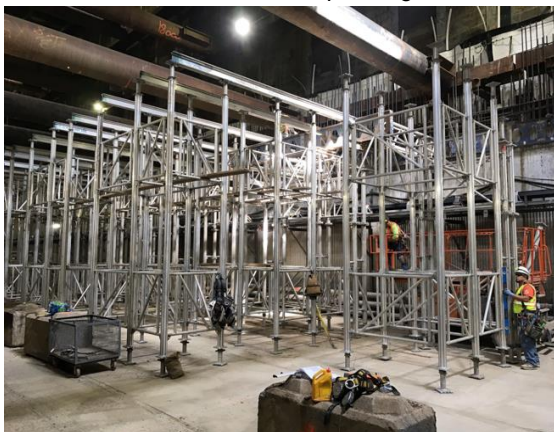
Excavation Activities West of the Launch Box in Century City



Station Entrance Excavation Activities for Station Entrance in Century City



Waterproofing Activities at the Wilshire/Rodeo Station Entrance

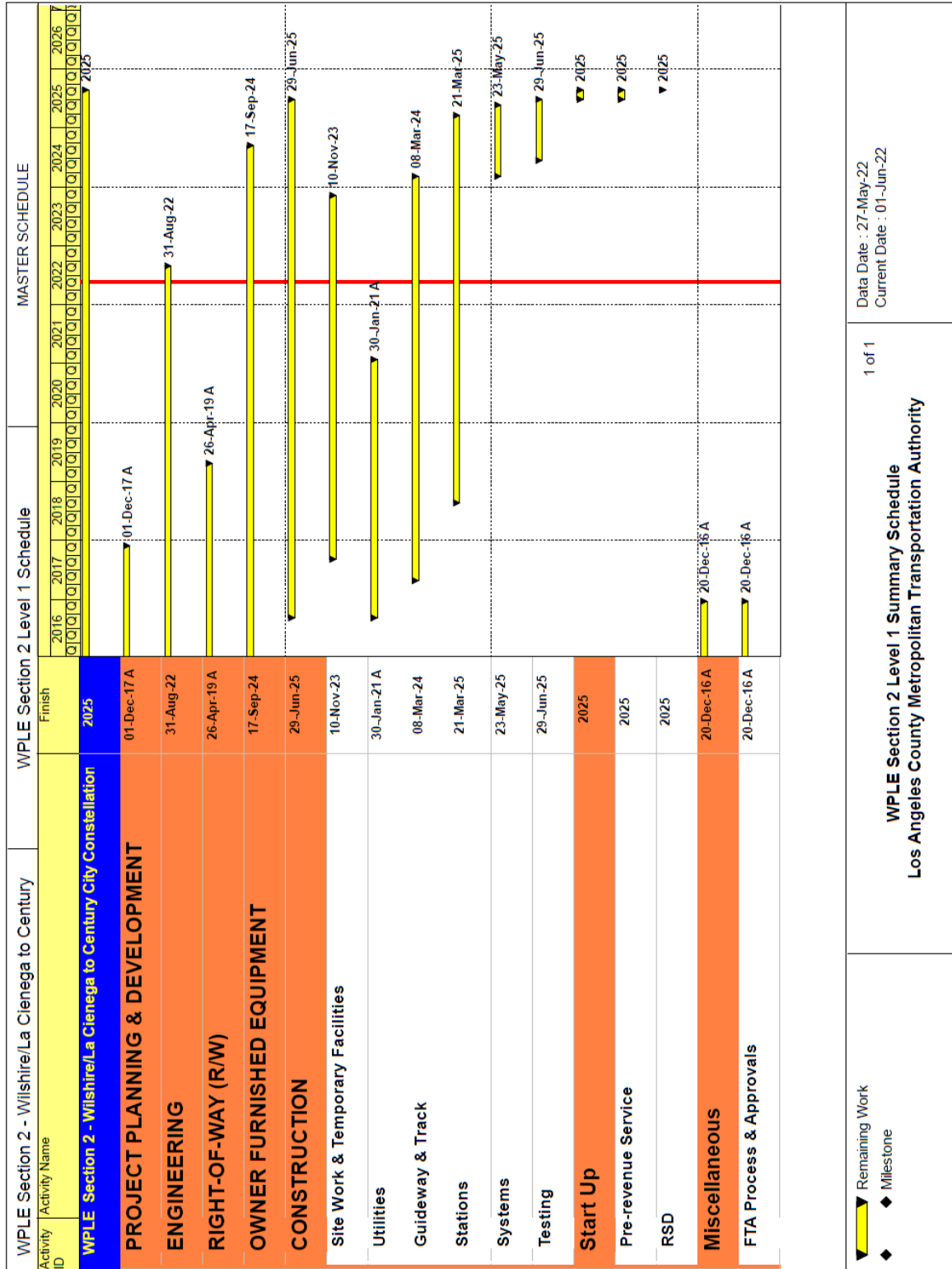


Station Concourse Level Formwork at Wilshire/Rodeo Station

PROJECT UPDATE

PROJECT SCHEDULE

Project Summary Schedule

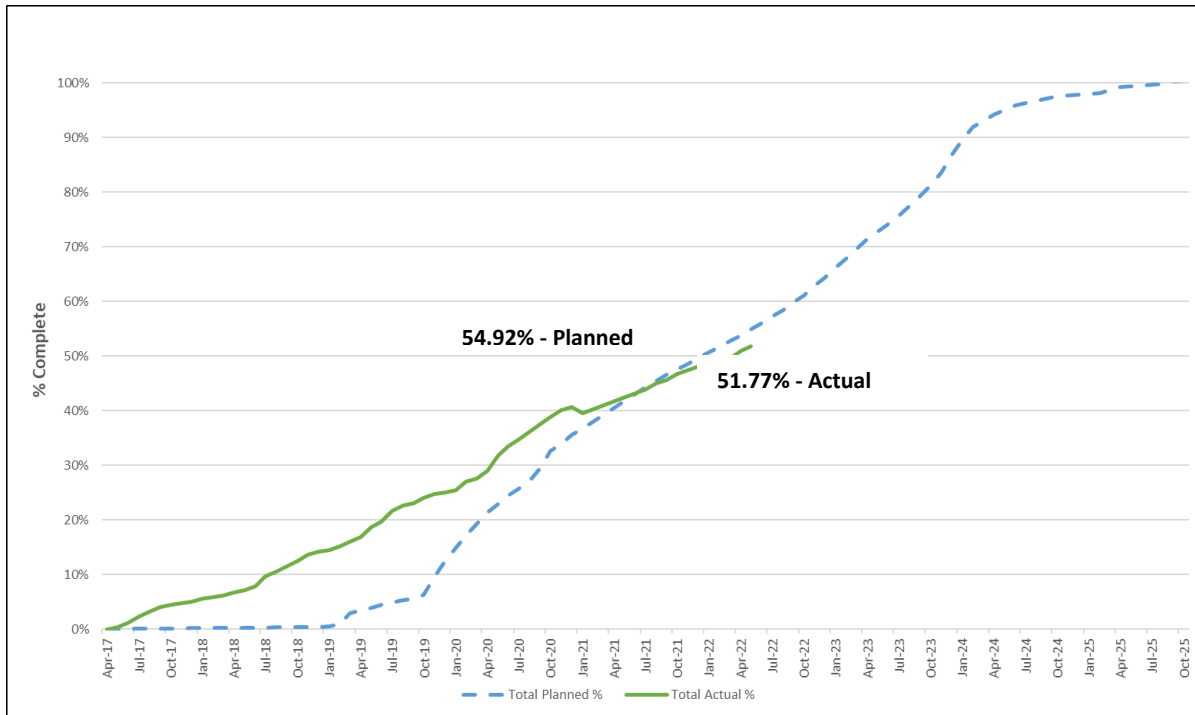


Progress Summary

	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	
Final Design Progress:			
Contract C1120	99.8%	0.00%	Final design is anticipated to be complete by August 2022 for Base scope. No impact to Project schedule.
Construction Contracts Progress:			
Contract C1120	51.77%	0.82%	

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

Planned vs. Actual Progress



The actual overall construction progress is 51.77% versus a planned of 54.92% through May 2022. 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	May-22	Jun-22	Jul-22	Aug-22	Sep-22	Oct-22
Completed drilling piles for Sewer Line B at Century City Constellation Station	5/31/22 A	⬡					
Complete installation of membrane waterproofing on Wilshire/Rodeo Station concourse walls	06/01/22		⬡				
Complete concourse level exterior walls concrete pouring at Wilshire/ Rodeo Station entrance	06/14/22		⬡				
Complete concourse to intermediate landing level exterior walls concrete pouring at Wilshire/Rodeo Station	07/13/22			⬡			
Complete installation of 1st level of struts & wales at Century City Constellation Station	07/27/22			⬡			
Start construction of tunnel Crosspassages	08/12/22				⬡		
Complete intermediate landing level exterior walls concrete pouring at Wilshire/ Rodeo Station entrance	8/25/2022				⬡		
Complete protective slab sloped roof concrete pouring at Wilshire/Rodeo Station entrance	09/20/22					⬡	
Complete excavation of lift 3 to below 3rd level of struts at Century City Constellation Station	09/20/22					⬡	
Complete excavation of lift 4 to below 4th Level of Struts at Century City Constellation Station	10/31/22						⬡

◆ 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

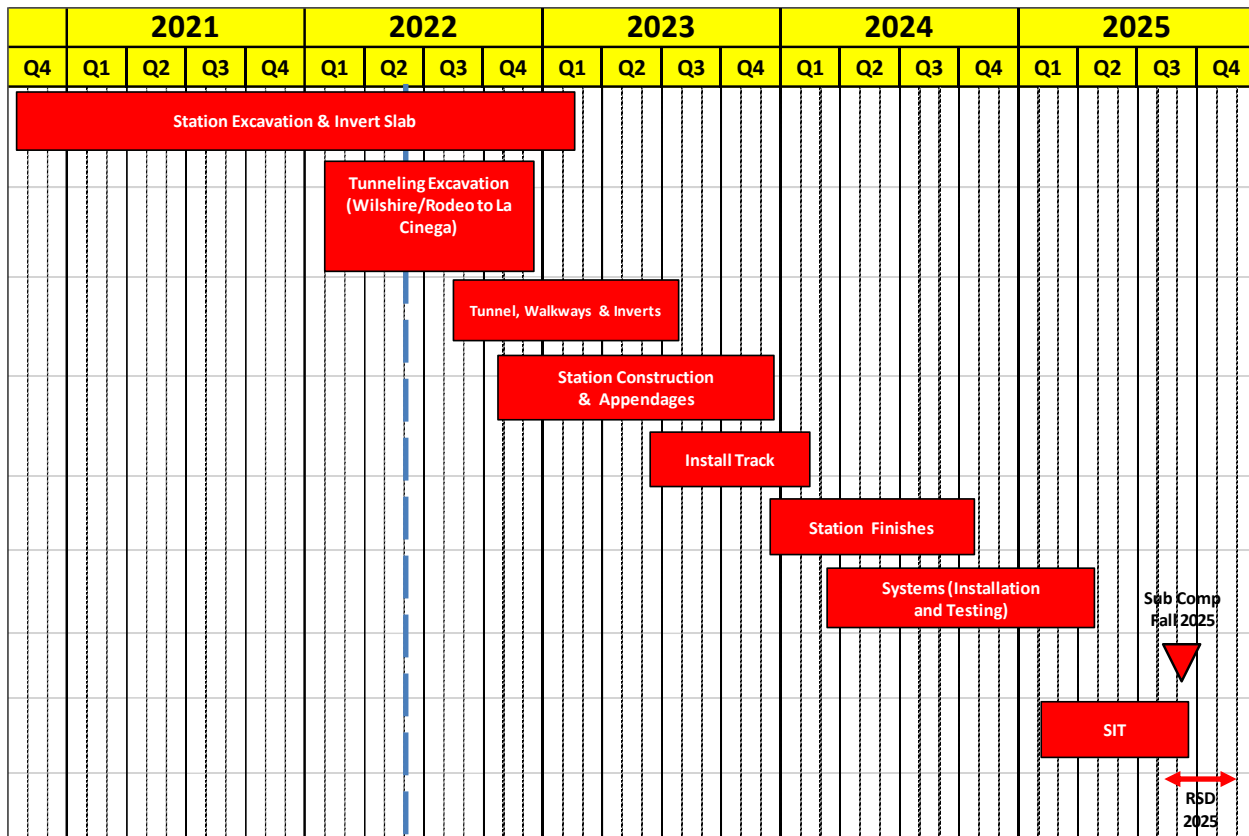
	Submittal	Procurement	Delivery	Installation
C1120 DESIGN/BUILD*				
Tunnel Boring Machines	27-Jul-17(A)	14-Aug-17(A)	13-Sep-18(A)	26-Dec-19(A)
Emergency Ventilation Fans	12-Aug-22	15-Aug-22	3-Feb-23	15-Aug-23
Station Elevators/Escalators	26-Sep-22	12-Aug-22	13-Sep-24	8-Oct-24
Track - Running Rail	26-Sep-22	27-Sep-22	22-Dec-22	28-Feb-24
Traction Power Equipment	29-Aug-22	30-Aug-22	8-May-23	10-Dec-24
Automatic Train Control	11-Mar-22 (A)	1-Jun-22	4-Jan-23	19-Aug-24
Radio System	3-Jun-22	6-Jun-22	9-Jan-23	16-Aug-23
SCADA RTU System	11-Mar-22 (A)	1-Jun-22	9-Jan-23	16-Aug-23
Heavy Rail Vehicles	Option 3 for WPLE Section 2 will not be exercised and HRV procurement is being reevaluated.			
Universal Fare System***	TBD	TBD	TBD	Feb 2025**

* Dates derived from TPOG's May 2022 Schedule.

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

*** Metro supplied equipment.

Critical Path Project



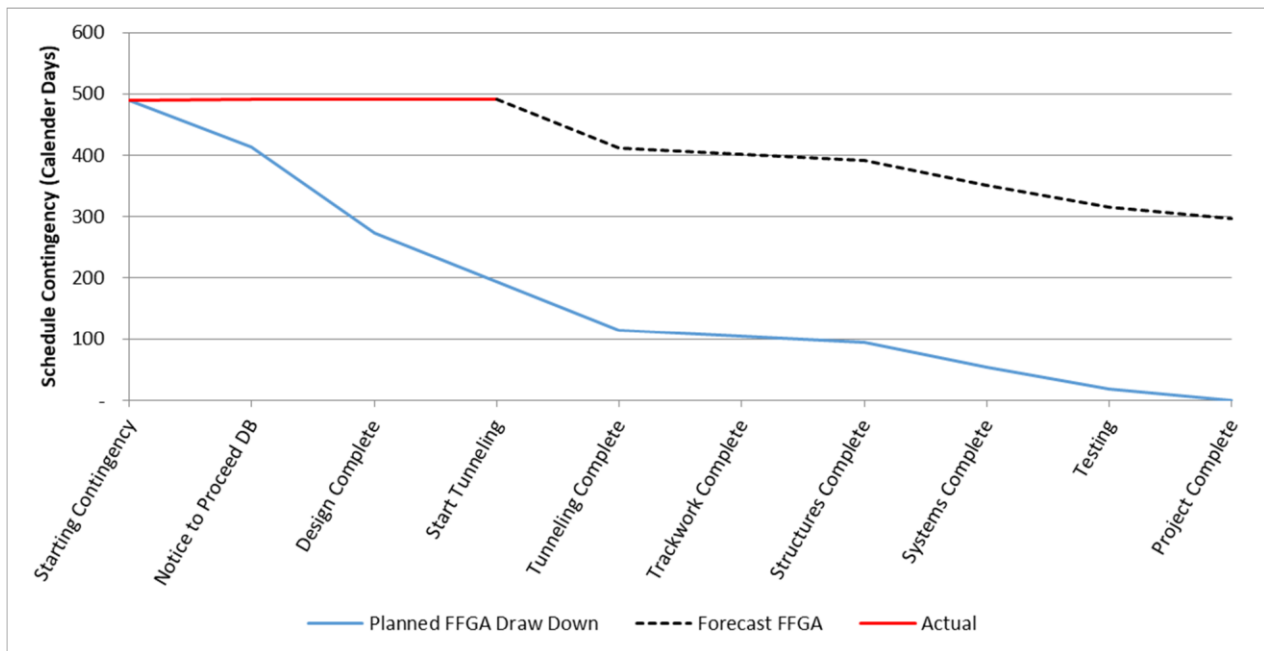
For the month of May 2022, the critical path remains the same as shown last month.

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.

Regarding 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	-	314,259	8,664	185,026	-	324,202	(6,750)
20	STATIONS, STOPS, TERMINALS, INTERMODAL	434,990	-	492,470	-	450,737	3,251	175,699	-	492,470	-
30	SUPPORT FACILITIES: YARDS, SHOPS, ADMIN. BLDGS	-	-	-	-	-	-	-	-	-	-
40	SITework & SPECIAL CONDITIONS	553,282	-	588,052	12	578,134	4,099	438,358	-	591,552	3,500
50	SYSTEMS	81,457	-	87,345	-	69,850	-	9,537	-	85,845	(1,500)
CONSTRUCTION SUBTOTAL (10-50)		1,416,169	-	1,498,819	12	1,412,980	16,014	808,620	-	1,494,069	(4,750)
60	ROW, LAND, EXISTING IMPROVEMENTS	426,396	-	430,075	-	318,091	1	297,895	-	430,075	-
70	VEHICLES	42,000	-	42,000	-	-	-	-	-	42,000	-
80	PROFESSIONAL SERVICES	374,878	-	421,608	555	352,225	4,019	302,037	-	423,108	1,500
SUBTOTAL (10-80)		2,259,444	-	2,392,502	567	2,083,296	20,033	1,408,552	-	2,389,252	(3,250)
90	UNALLOCATED CONTINGENCY	177,176	-	44,118	-	-	-	-	-	47,368	3,250
100	FINANCE CHARGES	88,695	-	88,695	-	-	-	-	-	88,695	-
TOTAL PROJECT 865522 (FFGA & NON-FFGA CONCURRENT ACTIVITIES)		2,525,314	-	2,525,314	567	2,083,296	20,033	1,408,552	-	2,525,314	-
ENVIRONMENTAL/PLANNING 465522		4,349	-	4,349	-	3,957	-	3,377	-	4,349	-
TOTAL PROJECT 465522 (ENV / PLAN'G)		4,349	-	4,349	-	3,957	-	3,377	-	4,349	-
TOTAL PROJECTS 465522 & 865522		2,529,664	-	2,529,664	567	2,087,253	20,033	1,411,930	-	2,529,664	-

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.

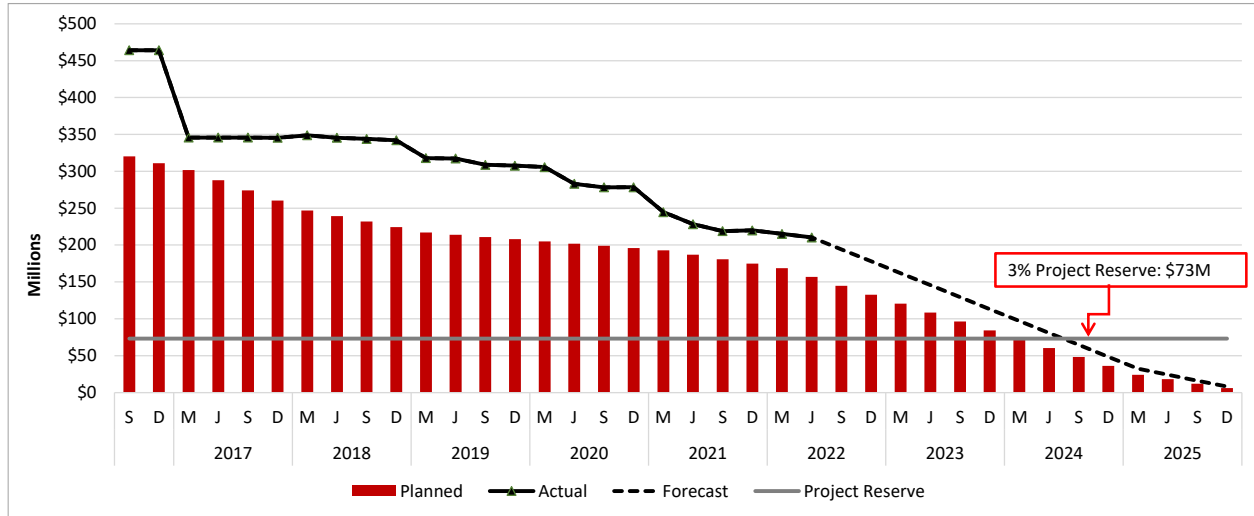
Commitments

The Commitments increased this period by \$0.6 million mainly due to executed Modifications for the Design/Build Contract C1120. The \$2.1 billion in Commitments to date represent 82.5% of the Current Budget.

Expenditures

The Expenditures increased this period by \$20.0 million primarily for costs associated with Design/Build Contract C1120, Environmental Services, Real Estate Acquisitions, Metro Project Administration, Construction Management Support Services, Engineering Management Support Services, Legal Support Services, Quality Management Services, City of Beverly Hills Memorandum of Agreement and City of Los Angeles Master Cooperative Agreement. The \$1.4 billion in Expenditures to date represent 55.8% 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 \$0.6 million due to executed Modifications 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	(5,658)	(567)	(6,225)	162,308
Total Contingency	345,710	(135,467)	(567)	(136,033)	209,676

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

Risk Management

Summary of Risks

During the quarterly risk register meeting that occurred on April 7, 2022, seven (7) new risks were identified, and two (2) risk were closed. There are a total of seventy-four (74) risks, two (2) are scored as high, thirty-eight (38) scored as medium and thirty-four (34) are scored as low to be managed in the next quarter.

New Risks Identified:

Seven (7) new risks were identified: The risks are the following:

Risk ID	Risk Description	SCC	Risk Score
PLE2-146	Impact of global economic conditions on the project	90	9.0
PLE2-37	Section 1 Interface not completed/ready for BL and BR TBM Arrival	10	7.5
PLE2-140	Start up and commissioning delay due to System Integration Testing	50	6.0
PLE2-141	Civil construction delays negatively impact systems installation, testing and commissioning	50	6.0
PLE2-142	Systems testing schedule taking longer than expected	50	6.0
PLE2-143	Supply chain issue delays (chip shortages) and sourcing of specialized equipment.	50	6.0
PLE2-144	Budgets are exceeded due to inflation levels that exceed normal inflation rates.	80	4.0

Closed Risks:

Two (2) risks closed this period: The risks were the following:

Risk ID	Risk Description	SCC	Risk Score
PLE2-115	TBM start-up issues results in delay to TBM tunneling (e.g. launching, software programming).	10	2.0
PLE2-108	Metro delays availability of ROC.	50	2.0

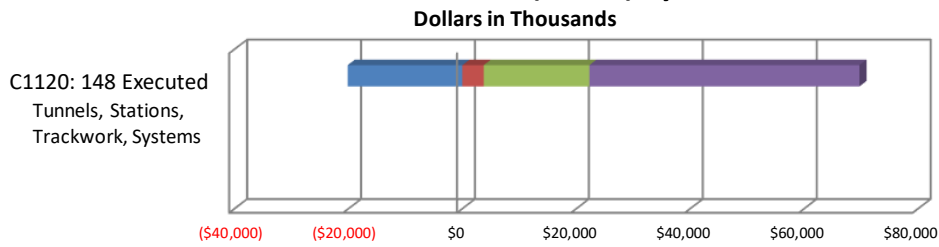
Top Five Risks

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 delay 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



	C1120: 148 Executed
■ Under \$100K	(20,127)
■ \$100K to \$250K	3,735
■ \$250K to \$1M	18,556
■ Over \$1M	47,408
Total Contract MODs	49,572
Contract Award Amount	1,376,500
% of Contract MODs	3.60%

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

One hundred and forty-eight (148) Contract Modifications (MODS) with a total value of \$49.6 million have been executed since the award of C1120 Contract – Tunnels, Stations, Trackwork and Systems.

DISADVANTAGED BUSINESS ENTERPRISE (DBE)

As of April 2022:

DBE Goal – Design The percentage of funds apportioned to Design Contracts	25.31%
Current DBE Commitment Design Total DBE Committed Dollars divided by Total Contract Value for Design	\$19.5M 27.85%
Current DBE Participation Total amount paid to date to DBEs divided by the amount paid to date to Prime	\$20.5M 36.12%

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

DBE Goal – Construction The percentage of funds apportioned to Construction Contracts	17.00%
Current DBE Commitment Construction Contract commitment divided by current contract value for Construction	\$161.0M 12.0%
Current DBE Participation Total amount paid to date to DBEs divided by the amount paid to date to Prime	\$105.6M 14.38%

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

PROJECT LABOR AGREEMENTS (PLA)

As of April 2022:

Targeted Worker Goal Construction work to be performed by residents from Economically Disadvantaged Area in the United States	40.00%
Targeted Worker Current Attainment	40.05%
Apprentice Worker Goal Construction work to be performed by Apprentices	20.00%
Apprentice Worker Current Attainment	16.12%
Disadvantaged Worker Goal Construction work to be performed by disadvantaged workers	10.00%
Disadvantaged Worker Current Attainment	5.14%

FINANCIAL/GRANT

Status of Funds Source

MAY 2022

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	\$	%	\$	%	BILLED TO FUNDING SOURCE \$	%
FEDERAL - SECTION 5309 NEW STARTS	\$1,187,000	\$1,187,000	\$597,711	\$1,057,536	89%	\$570,000	48%	\$567,528	48%
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	\$498,955	66%	\$311,168	41%	\$252,773	34%
STATE CAPITAL PROJECT LOANS	\$54,762	\$54,762	\$54,762	\$54,762	100%	\$54,762	100%	\$54,762	100%
TOTAL	\$2,529,664	\$2,529,664	\$1,737,071	\$2,087,253	82.5%	\$1,411,930	55.8%	\$1,351,063	53.4%

EXPENDITURES ARE CUMULATIVE THROUGH MAY 31, 2022

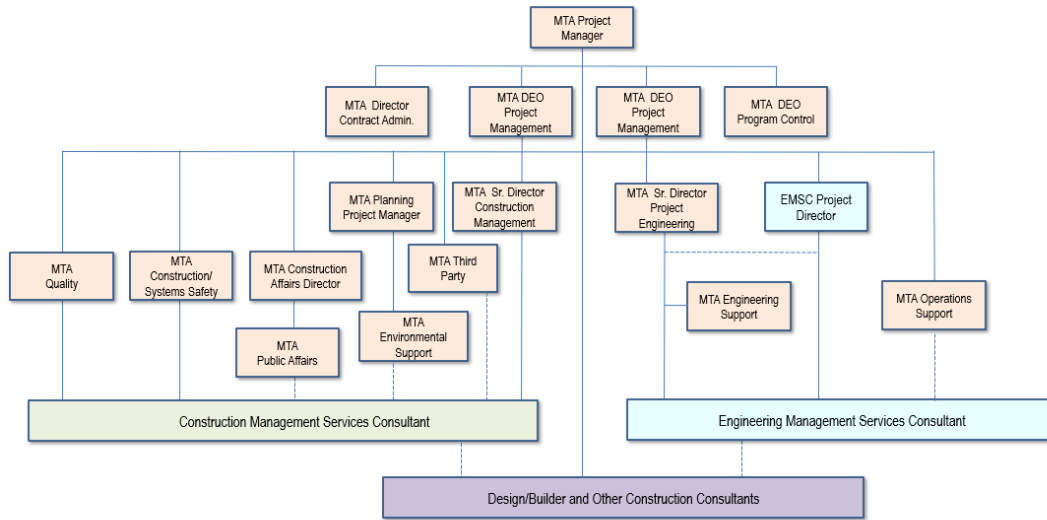
**AMERICAN RESCUE PLAN ACT - CAPITAL INVESTMENTS PROGRAM (ARPA-CIG)

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).

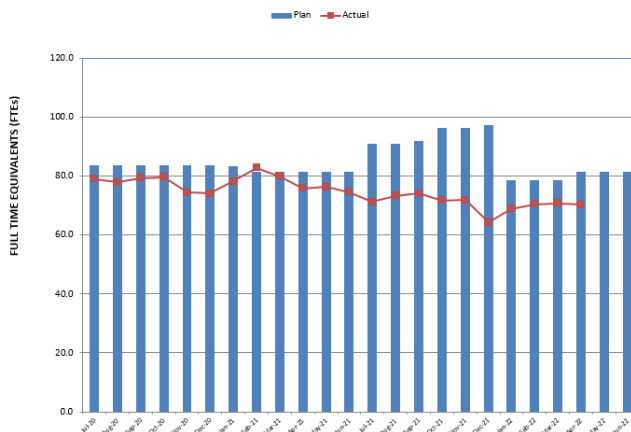
**Purple (D Line) Extension Project Section 2
 Responsibility and Reporting Matrix**



The overall FY22 Total Project Staffing Plan averages 87.1 FTEs per month.

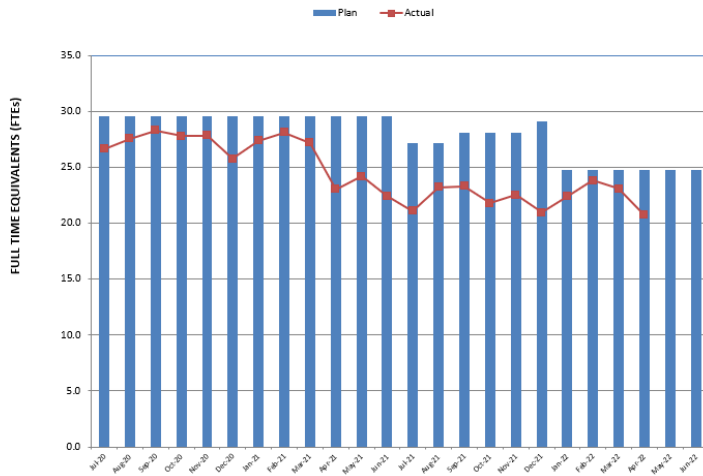
For April 2022, there were a total of 20.7 FTEs for MTA’s Project Administration Staff and 49.7 FTEs for Consulting Staff. The total project staffing for April 2022 was 70.4 FTEs. Review of staffing plans is on-going to ensure staffing needs are appropriately managed.

Total Project Staffing – Metro and Consultants

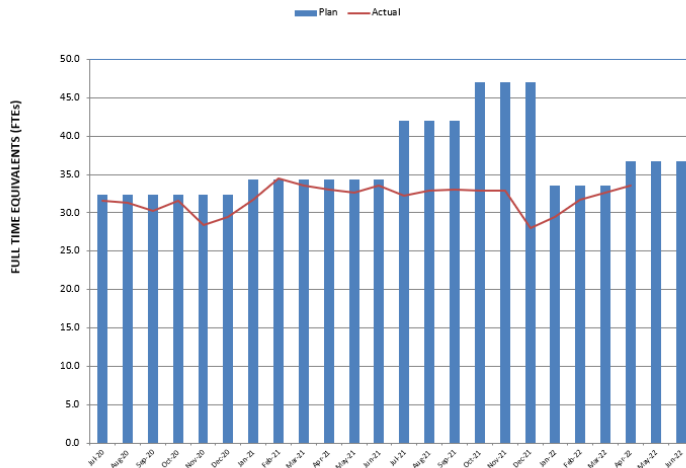


*Actuals include 3.5 FTEs related to Project Management Support Services (PMSS).

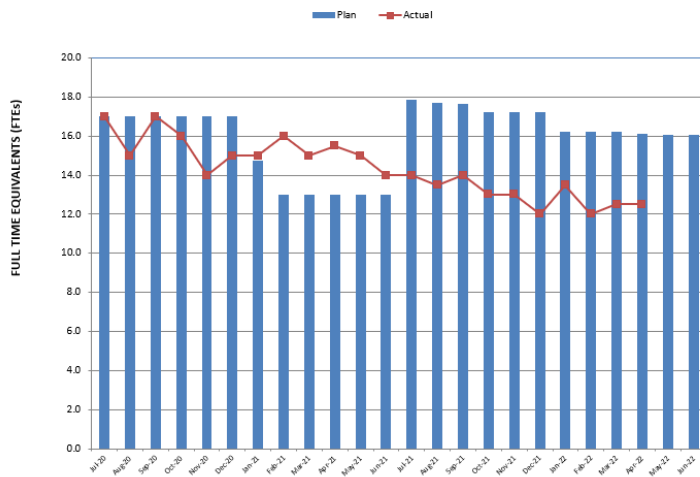
Metro Staff



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
Total Parcels	32	32	32	32	21	13	25	25	32

- 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. Remaining trial dates have been scheduled for June 20, August 29, October 24, and pending new dates targeted in Winter (November or December) of 2022.

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. Prepared QMO program project monthly report.
- 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:
 - *CWP Cross Passages Temporary Dewatering Well Installation at Wilshire Rodeo Station*
 - *BR Tunnel As-Built - Tunnel Shaft to Wilshire Rodeo Station*
 - *TPSS 27kV AIS AC Switchgear Shop Drawings of Wilshire Rodeo Station*

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.
- *Collect and compile data for NPDES Permit Application to cover cross passage dewatering activities.*

CONSTRUCTION AND COMMUNITY RELATIONS

- *Produced and distributed eighteen (18) construction work notices which include weekly 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 the 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. Continue individual contact with commercial and residential stakeholder in Beverly Hills regarding specific construction activities.
- 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 footprint of door to door monthly notices and construction distribution in Beverly Hills.
- *Participated in the following online internal meetings: Construction Management Weekly meetings for Century City and Beverly Hills, Construction Relations weekly meetings, Third Party Coordination, LADOT coordination, BOE and BSS coordination, weekly Rodeo Station and Century City Construction Coordination 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

- *Announced commission of eight artists for architecturally integrated station artworks*
- Presented art program update at the quarterly Sections 1, 2 and 3 Construction Update public webinar
- Presented Art Program update to Wilshire Rodeo Business Stakeholders
- Continued assessment of Project operating impacts to signage between sections and systemwide
- Managed artist design development for integrated station artworks
- Continued coordination with arts and cultural stakeholders

SAFETY & SECURITY

- *TPOG reported one (1) Recordable Injury in May 2022.*
- *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.*
- *Metro / TPOG-JV project safety staff conducted schedule, Safety / Security and over-the- shoulder review meetings.*
- *Hosted the May 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 50,500 actual work hours in May 2022.*
 - *TPOG-JV provided a correction of 1,626 Work Hours for previous months of 2022 to be deducted from the Project's total work hours.*
- *TPOG Project to Date Work Hours are 2,685,792 with forty-one (41) Recordable Injuries and nine (9) day's Away from Work Injuries.*
- *The Recordable Injury Rate is 3.05. 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.
<i>January 2020</i>	<i>A geophysical survey identified three oil wells located east of the Tunnel Access Shaft underneath Beverly Hills High School within the tunnel alignment.</i>
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	<i>The abandonment of the remaining oils wells has been completed.</i>
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 nd 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.
December 2021	Both TBM's reached the planned stopping point prior to break-in at Wilshire/Rodeo.
January 2022	BR TBM "Ruth" Breaks into Wilshire/Rodeo Station Box on January 12, and BL TBM "Ruth" Breaks into Wilshire/Rodeo Station Box on January 28.
March 2022	Both TBM's have begun excavation on reach 4 toward Wilshire/La Cienega Station. BL on March 2, 2022 and BR on March 29, 2022.
April 2022	<i>On April 8, 2022, VCM notifies CRRC MA Corporation that Metro does no intend to exercise any of the available Options for the HR4000 Contract.</i>