

# Westside Purple Line Extension Section 1 Project



# **Westside Purple Line Extension Section 1 Project**

## **MONTHLY PROJECT STATUS REPORT**

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

**October 2018**

## TABLE OF CONTENTS

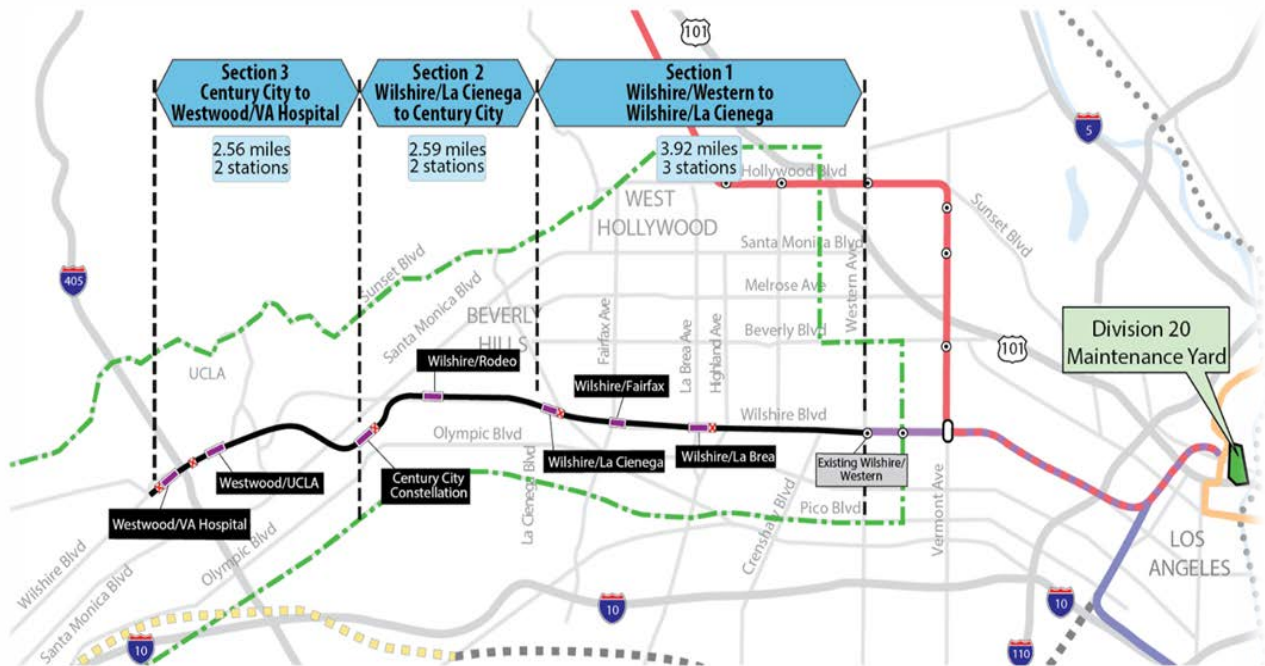
Project Overview.....	1
Executive Summary .....	6
Project Status .....	9
Project Schedule.....	9
Project Summary Schedule.....	9
Progress Summary .....	10
Planned vs. Actual Progress .....	10
Key Milestones Six-Month Look Ahead.....	11
Major Equipment Delivery .....	12
Critical Path .....	13
Project Schedule Contingency Drawdown.....	14
Risk Management Narrative .....	15
Project Cost.....	16
Project Cost Status & Analysis.....	16
Cost Contingency Drawdown & Analysis .....	17
Summary of Contract Modifications.....	18
Disadvantaged Business Enterprise (DBE) .....	19
Project Labor Agreement .....	20
Financial/Grant .....	21
Project Staffing .....	22
Real Estate.....	24
Quality Assurance Report.....	25
Environmental .....	26
Construction and Community Relations .....	27
Creative Services .....	27
Safety and Security.....	28
Appendices.....	29
Chronology of Events .....	29

## PROJECT OVERVIEW

### Project Background

Section 1 of the Westside Purple Line Extension Project is the first of three sections to be designed and constructed as part of the Los Angeles County Metropolitan Transportation Authority (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 1 will extend the existing Purple Line by 3.92 miles beginning at the Wilshire/Western Station. From this station, the twin tunnel alignment will travel westerly within the existing Wilshire Boulevard right-of-way. Stations will be located at the intersections of Wilshire/La Brea, Wilshire/Fairfax, and Wilshire/La Cienega. All three of the station boxes will be located within the Wilshire Boulevard right-of-way with station portals extending to off-street entrances. Two of the stations, Wilshire/La Brea and Wilshire/Fairfax are within the jurisdiction of the City of Los Angeles. The Wilshire/La Cienega Station is within the City of Beverly Hills jurisdiction.



The Wilshire/La Brea Station box will be located under the center of Wilshire Boulevard in between Detroit Street and Orange Drive. A double crossover will be located east of the station box. The station entrance will be on the northwest corner of Wilshire Boulevard and La Brea Avenue.

The Wilshire/Fairfax Station box will be located under the center of Wilshire Boulevard west of Fairfax Avenue to west of Ogden Drive. The station entrance will be on the southeast corner of Wilshire Boulevard and Orange Grove Avenue.

The Wilshire/La Cienega Station box will be located under the center of Wilshire Boulevard immediately east of La Cienega Boulevard. A double crossover will be located east of the station box. The station entrance will be on the northeast corner of Wilshire Boulevard and La Cienega Boulevard. Since the station will be the terminus station for Section 1, tail tracks will be located west of the station box.

### **Major Procurements**

#### Contract C1034 – Wilshire/Fairfax Exploratory Shaft

Metro constructed an exploratory shaft to observe ground conditions prior to the award of Contract C1045. The location of the exploratory shaft was adjacent to the future Wilshire/Fairfax Station. The construction of the shaft included furnishing and installing monitoring instruments, ventilation, and record and report instrumentation data during the excavation of the shaft. After construction of the shaft, the shaft was maintained for an observation time period. Afterwards, the shaft was dismantled and the site backfilled in a condition acceptable to the property owner. The contract was substantially completed on October 31, 2014.

#### Contract C1048 – Wilshire/La Brea Advanced Utility Relocations

The work scope of this contract included the relocation of existing LADWP power, water utilities and a sewer line within the construction limits of the Wilshire/La Brea Station. The contractor was responsible for working in streets, procuring materials, and coordinating with the utility owner. The contractor constructed the new facilities in accordance with the utility plans and specifications, provided traffic control, restored streets, and supported utility crews installing cabling and during cut-over of the existing utilities. The contract was substantially completed on October 27, 2014.

#### Contract C1055 – Wilshire/Fairfax Advanced Utility Relocations

The work scope of this contract included the relocation of existing LADWP power and water utilities within the construction limits of the Wilshire/Fairfax Station. The contractor was responsible for working in streets, procuring materials, and coordinating with the utility owner. The contractor constructed the new facilities in accordance with utility plans and specifications, provided traffic control, restored streets, and supported utility crews installing cabling and during cut-over of the existing utilities. The contract was substantially completed on October 7, 2015.

#### Contract C1056 – Wilshire/La Cienega Advanced Utility Relocations

The work scope of this contract included the relocation of existing City of Beverly Hills water, storm drain and sewer utilities within the construction limits of the Wilshire/La

Cienega Station. The contractor was responsible for working in streets, procuring materials, and coordinating with the utility owner. The contractor constructed the new facilities in accordance with utility plans and specifications, provided traffic control, restored streets, and supported utility crews during cut-over of the existing utilities. The contract was substantially completed on August 5, 2016.

Contract C1045 – Tunnels, Stations, Trackwork, Systems and Systems Integration Testing

The procurement of this contract utilizes 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 3.92-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 finish work. A retrieval shaft will be constructed to the west of the existing Wilshire/Western Station for extraction of the tunnel boring machines. Three underground stations are to be constructed, two with double-crossovers, and the terminus station to include tail tracks. Each station has a single entrance plaza with stairs, escalators and elevators which meet ADA requirements. The scope of work includes all architectural finishes, mechanical, electrical, systems and equipment including train control, traction power, communications, trackwork and the system tie-in to the existing Metro Purple Line, testing and commissioning.

Contract C1078 – Division 20 Maintenance-of-Way and Non-Revenue Vehicle Building Location 64

The Design/Build contract provides for final design and construction of a new Maintenance-Of-Way (MOW) stores and Non-Revenue Vehicle (NRV) building at the south end of the existing Division 20 Yard (Location 64). The displacement of the existing MOW stores building and NRV facility are due to the proposed turn-back facility site in the yard.

Metro Furnished Equipment

Metro has procured a contract to provide 34 Heavy Rail Vehicles (HRV) necessary to operate the extension to the Purple 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 three stations and system testing.

## **Program Management**

The Westside Purple Line Extension Section 1 Project is being managed under the direction of an Integrated Project Management Office (IPMO). WSP provides engineering and design support services, while the Westside Extension Support Team (WEST) provides construction management support services. An overview of staffing is provided under the Staffing section of this report. The on-site program management team is also supported by Metro Headquarters resources to include, but not limited to, engineering, risk management, environmental, quality management, operations and creative services departments.

Project Schedule and Budget: The Revenue Service Date (RSD) is planned for the Fall of 2023.

The Original Budget of \$3.2 billion reflects the Board approved Life of Project Budget, July 24, 2014, plus Finance Charges of \$0.4 billion. The Current Budget and Current Forecast remains the same this period at \$3.2 billion. A detailed Life of Project Budget forecast is included under the Budget and Cost Forecast Section of this report.

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

- Federal Section 5309 New Starts
- Federal Section 5339 Alternative Analysis
- Measure R – TIFIA Loan (Transportation Infrastructure Finance & Innovation Act)
- Measure R 35%
- State STIP RIP
- CMAQ (Congestion Mitigation & Air Quality)
- State Capital Project Loans
- City of Los Angeles

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. To facilitate the communication, community leadership councils have been formed which represent geographic-based constituent groups along the Project.

The Project is also engaged in social media outreach and various marketing and advertising efforts designed 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; as well as abnormal and emergency scenarios in which random combinations of system interactions are tested; equipment “burned-in”; and training of Metro personnel who will eventually operate and maintain the extension and for emergency services personnel. Activities occurring during Pre-Revenue Operations are carried out by a designated Metro Project Rail Activation Group.



## EXECUTIVE SUMMARY

*In October, the Project achieved 42.7% completion based on earned value measurements for design and construction. On October 15, 2018, Tunnel Boring Machine (TBM) #1 was launched at the Wilshire/La Brea Station site to start the Reach One (1) tunnel mining operation, which is the current critical path of the Project. TBM #2 is scheduled to launch in November 2018. The C1045 Design Build Contract is on schedule to complete by the June 15, 2023, contract completion date, and the forecast Revenue Service Date (RSD) for the Project remains targeted for the Fall of 2023. The following is an overview of current design and construction activities.*

### **Design Status**

The C1045 Contractor, Skanska, Traylor and Shea (STS), and their final design team, Parsons Transportation Group (PTG), completed final design in June 2017.

For the Division 20 Maintenance-of-Way and Non-Revenue Vehicle Building Location 64 Contract (C1078), all Design Unit (DU) packages have been approved by Metro.

The Engineering Management Services (EMS) team continues to provide design support services during construction to both design build contracts.

### **Construction Status**

*At the Wilshire/Western TBM retrieval site, Level C bracing has been completed. Excavation to the bottom of the Western Retrieval Shaft and the installation of the TBM temporary invert slab are both scheduled to complete in November 2018.*

The two, Herrenknecht Tunneling Systems USA, Inc., Tunnel Boring Machines (TBMs) were delivered to the United States in December 2017. *On October 15, 2018, TBM #1 was launched at the Wilshire/La Brea Station site to start the Reach One (1) tunnel mining operation. TBM #2 is scheduled to launch in November 2018. Station concrete activities for interior load bearing walls are planned to continue after both TBMs have launched.*

At the Wilshire/Fairfax Station, Level D excavation, waler/strut installation continues. Installation of canopy/soil nails (1st Phase) is nearing completion, and fine grading has commenced with mudmat pours scheduled to start in December 2018.

Level A strut installation is complete and Level B strut installation has commenced at the Wilshire/La Cienega Station. Excavation on the main station box continues. Maintenance of surface aesthetics per the COBH MOA is ongoing.

*For the Division 20 Maintenance-of-Way and Non-Revenue Vehicle Building Location 64, overhead electrical rough-in, along with panel/switchgear installation, inside the electrical/communication rooms continues, and work on vertical transportation has commenced. At the Division 20 Parts and Storage Expansion, fireproofing and exterior metal framing moves forward, and vertical lift module construction inside the building is underway.*

**Cost and Schedule Summary**

*For the C1045 Design/Build contract, Metro has received the October 2018 schedule update, which reports that Substantial Completion is on schedule to finish by the June 15, 2023 contract completion date.*

The Critical Path (CP) of the Project runs through TBM Assembly/Testing at Wilshire/La Brea Station, tunnel mining, tunnel concrete/MEP and trackwork installation along Reach 1 (Wilshire/La Brea Station to Wilshire/Western TBM Retrieval Shaft), followed by Systems, Testing and Pre-Revenue Operations. A summary graphic of the critical path is found on Page 13.

**C1045 Design-Build Contract Schedule Metrics**

	<b>Original Contract Date/Duration</b>	<b>Time Extension (CD)</b>	<b>Current Contract Schedule</b>	<b>Forecast (Metro PMS)</b>	<b>Variance CD (Trending)</b>
NTP	01/12/2015				
Substantial Completion	06/9/23	6	06/15/23	06/15/23	0 days

Project costs continue to track within budget and projected contingency limits. To date, the Current Budget and Current Forecast remains the same this period at \$3.2 billion. There are no claims on the Project. Detailed cost and budget information is provided on Page 16.

**Key Management Concerns**

No concerns to report at this time.

**Project Construction Photos**



Excavation at Wilshire/Western



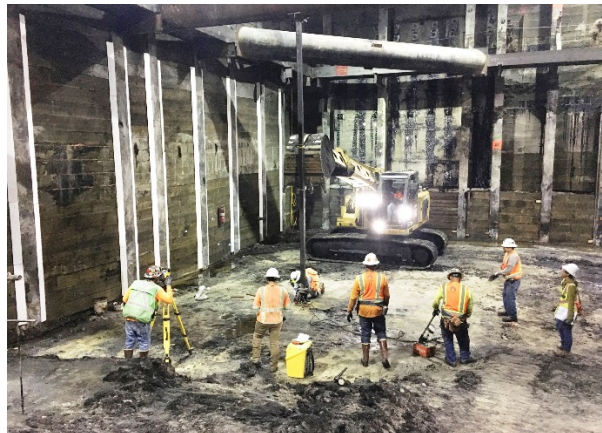
Division 20 Building Exterior



Tunnel Ring Assembly at Wilshire/La Brea Station



TBM Launch at Wilshire/La Brea Station



Wilshire/Fairfax Station Subgrade

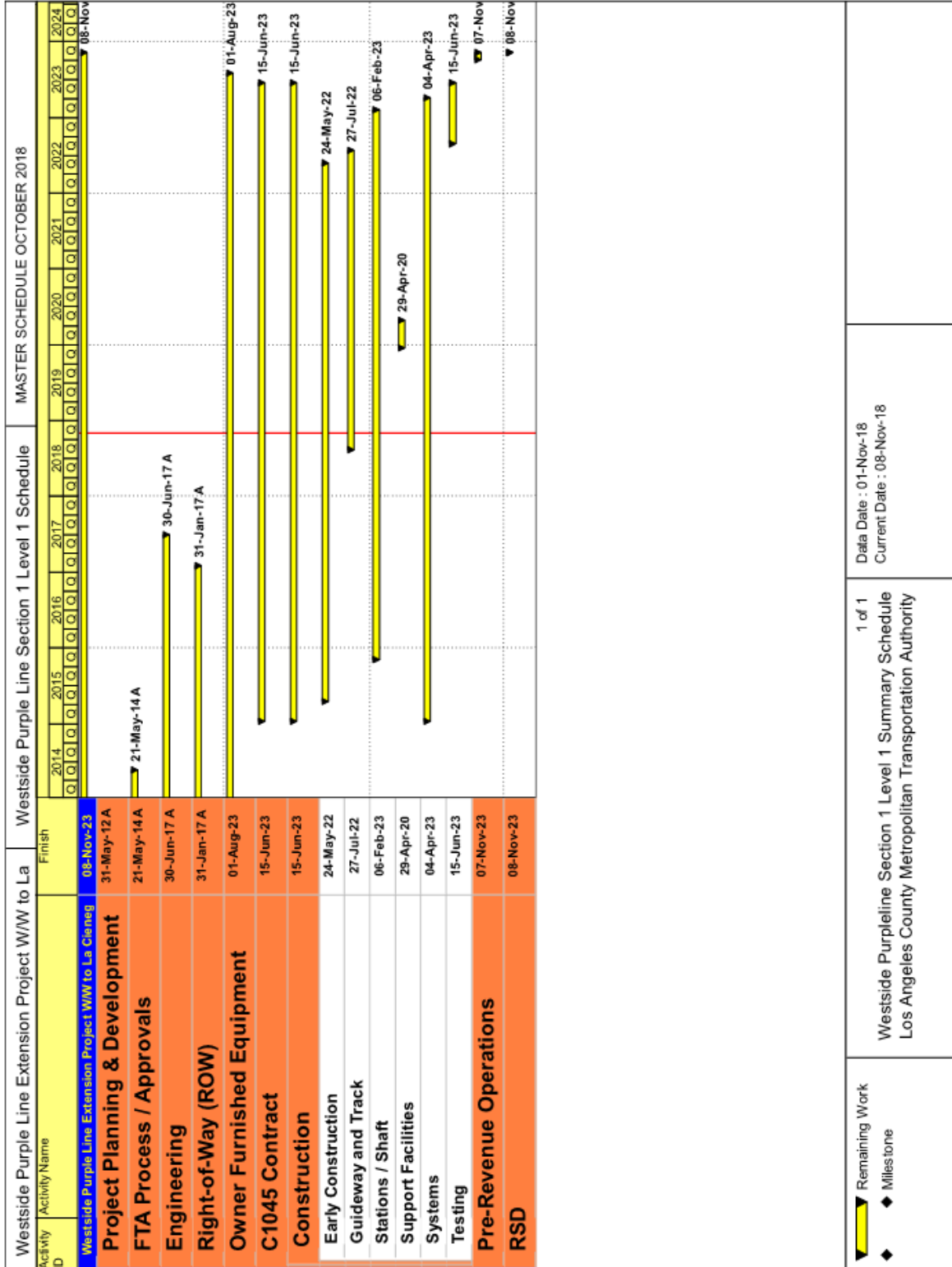


Ventilation Ducts at Wilshire/La Cienega Station

# PROJECT STATUS

## PROJECT SCHEDULE

### Project Summary Schedule

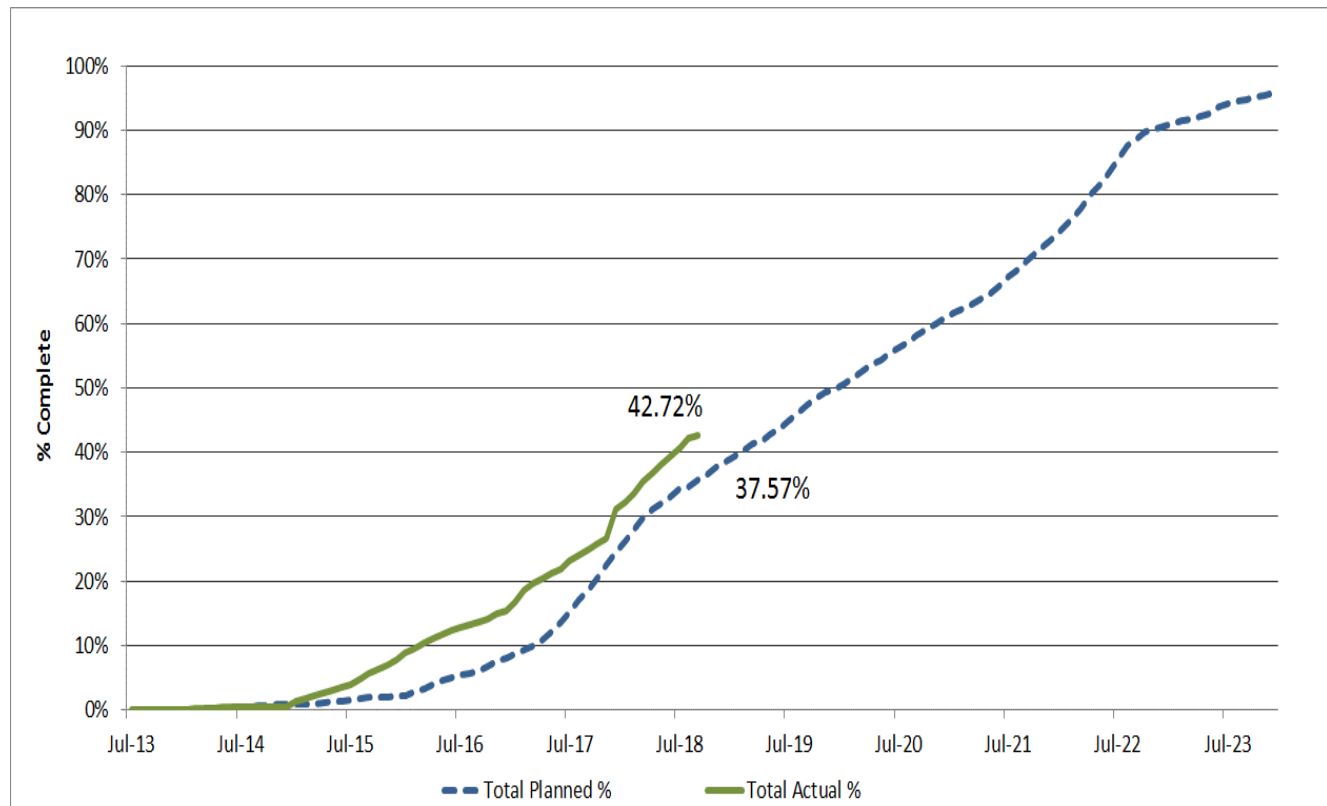


**Progress Summary**

	Status	Change from Last Period	Comment
Forecast Revenue Service	Fall 2023		
TIFIA Revenue Service	10/31/2024	None	
FFGA Revenue Service	10/31/2024	None	
<b>Final Design Progress:</b>			
Contract C1045	100.0%	0.0%	
Contract C1078	96.1%	1.0%	
<b>Construction Contracts Progress:</b>			
Contract C1048	100.00%	0.0%	Completed on schedule
Contract C1045	39.5%	0.4%	
Contract C1055	100.0%	0.0%	Completed on schedule
Contract C1056	100.0%	0.0%	Completed on schedule
Contract C1078	75.9%	4.9%	









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

**Planned vs. Actual Progress**



**Key Milestones**

	Milestone Date	Oct-18	Nov-18	Dec-18	Jan-19	Feb-19	Mar-19
TBM #1 Mining Operation Commenced at Wilshire/La Brea Station	10/15/18 A	⬡					
1st Concrete Ring Installed (TBM #1) at Wilshire/La Brea Station	10/18/18 A	⬡					
Reach Bottom of Excavation at Wilshire/Western Station	11/14/18		⬡				
Commence TBM #2 Mining Operation at Wilshire/La Brea Station	11/26/18		⬡				
Complete Temporary Support Slab at Wilshire/Western Station	11/28/18		⬡				
Commence Interior Load Bearing Walls at Wilshire/La Brea Station	12/01/18			⬡			
Commence Mudmat pours at Wilshire/Fairfax Station	12/20/18			⬡			
Commence Scaffolding at Wilshire/La Brea Station Concourse	01/02/19				⬡		
Complete Level C Bracing at Wilshire/La Cienega Station	01/02/19				⬡		
Reach Bottom of Excavation at Wilshire/La Cienega Station	01/21/19				⬡		
Commence Invert Concrete Pours at Wilshire/Fairfax Station	02/08/19					⬡	
Complete Level D Bracing at Wilshire/La Cienega Station	03/27/19						⬡

 MTA Staff     
  MTA Board Action     
  FTA (Federal Transit Administration)     
  Utility Company  
 Other Agencies     
  Contractors     
  Design Consultant     
  D/B Contractor  
 "A" following date is actual and completed      \* New

**Major Equipment Delivery**

**MAJOR EQUIPMENT DELIVERY**

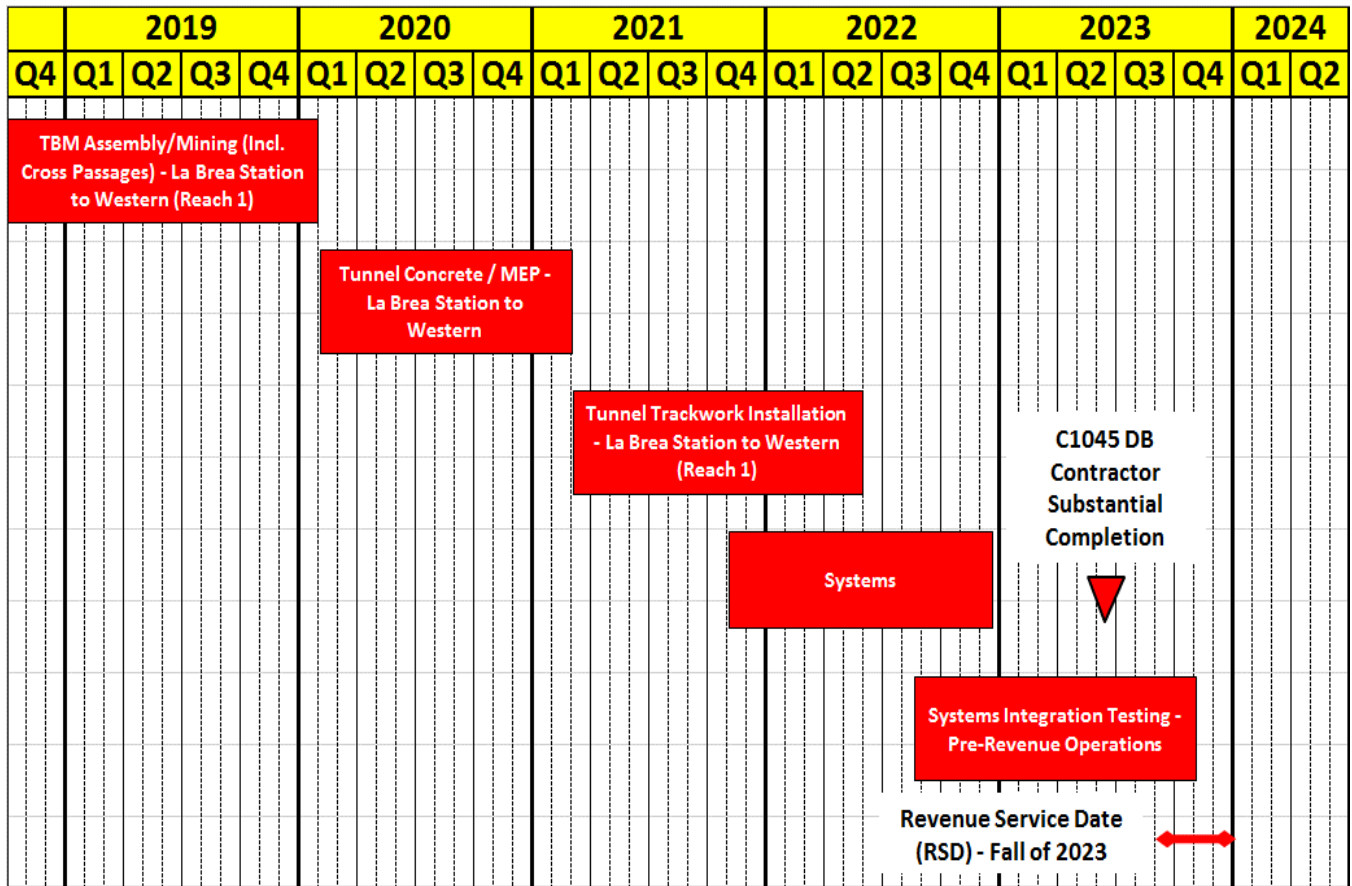
	Submittal	Procurement	Delivery	Installation
<b>C1045 DESIGN/BUILD*</b>				
Tunnel Boring Machine	1/29/16 A	8/14/17 A	12/15/17 A	7/13/18 A
Emergency Ventilation Fans	3/15/19	6/3/19	7/12/20	7/13/20
Station Elevators	4/27/18 A	12/25/18	12/5/19	9/2/21
Station Escalators	4/27/18 A	4/27/18	2/3/20	9/2/21
Track - Running Rail	12/25/18	2/3/19	10/1/19	12/17/19
Traction Power Equipment	12/28/18	3/11/19	7/1/19	7/14/20
Automatic Train Control	4/1/16 A	7/1/16 A	12/20/16 A	11/15/21
SCADA RTU System	2/2/17 A	1/16/18 A	5/18/18 A	5/27/21
Radio System	2/2/17 A	3/11/19	5/3/19	7/20/21
<b>Heavy Rail Vehicles**</b>	7/16/15 A	4/4/19	8/31/22	1/9/23
<b>Universal Fare System***</b>	TBD	TBD	TBD	11/15/21

\* Dates derived from STS's October 2018 Updated Schedule.

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

\*\*\* Metro supplied equipment

**Project Critical Path**



For the month of October 2018, the critical path (CP) runs through TBM (Tunnel Boring Machine) assembly, testing and launch.

On October 15, 2018, TBM #1 was launched at the Wilshire/La Brea Station site to start the Reach One (1) tunnel mining operation.

The assembly of TBM #2 continues and tunneling for TBM #2 is scheduled to start in November 2018.

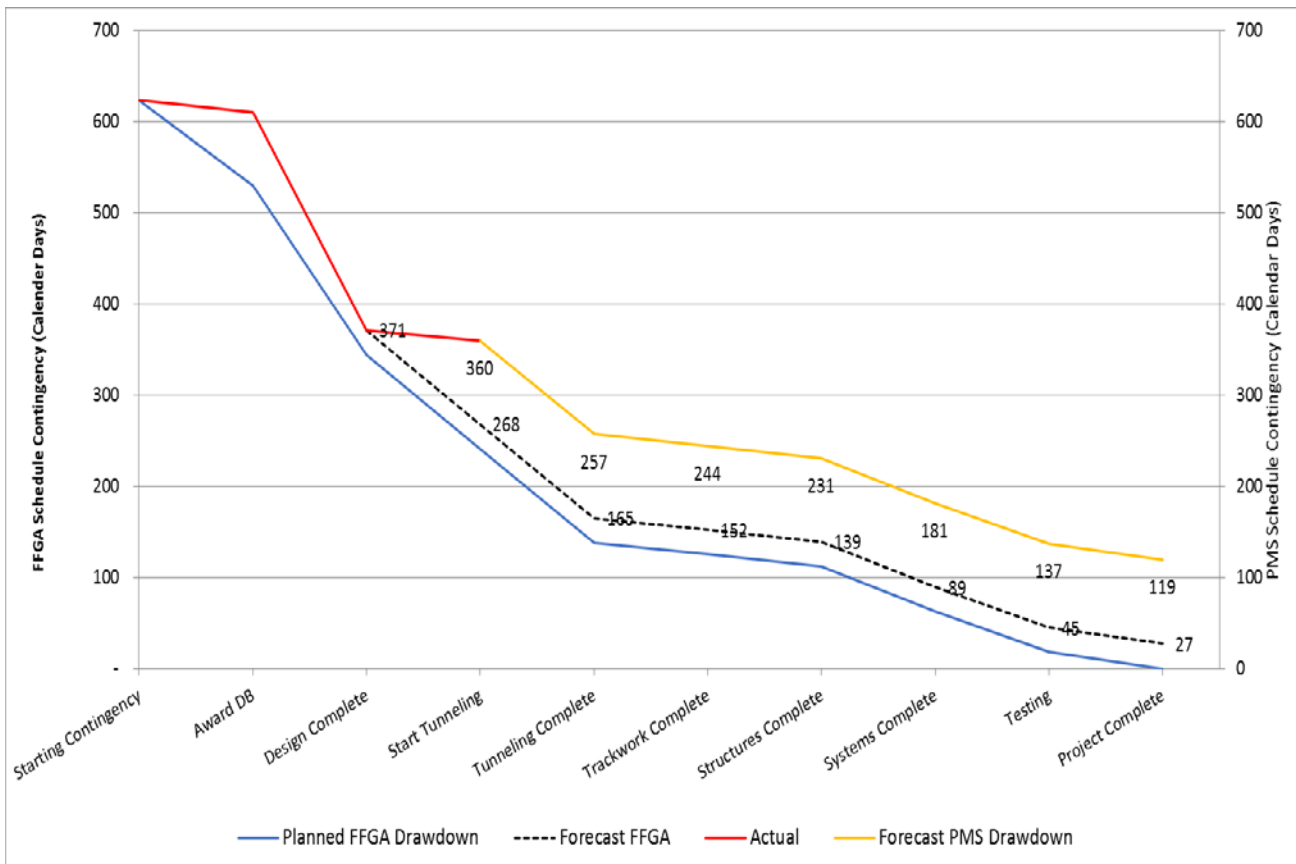


### Project Schedule Contingency Drawdown Analysis

The project schedule contingency drawdown model provides a dual-axis perspective based upon the FFGA RSD of October 2024 and Metro’s Project Master Schedule (PMS) forecast of fall 2023.

The introduction of the PMS model axis reflects a proportional distribution of available float relative to the FFGA model. *Based on an October 15, 2018 actual start of TBM mining, schedule contingency appears to maintain a noticeable buffer from the FFGA model.*

With regard to the FFGA RSD, schedule float of twelve months has been maintained.



**Risk Management Narrative**

**Summary of Risks**

The WPLE Section 1 Project Risk Register gets updated on a quarterly basis. Within the quarterly reporting period one (1) active risk was closed, and three (3) new risks identified leaving a total of forty-one (41) risks to be managed in the next reporting period.

Of the forty-one (41) risks, four (4) are scored as high, twelve (12) as medium and twenty-five (25) as low.

**Top Five Risks**

The table below shows the top five (5) project risks.

**Top Risks**

Risk ID	Risk Description	Risk Score	Action Items
633.0	Cost of ROW acquisition exceeds the FFGA SCC Line Item.	15	1. Metro's Life of Project Budget includes contingency that covers the increase. The Risk Score will remain as "high" until the \$3.15 billion Life of Project Budget is reconciled with the \$2.82 billion FFGA Budget. 2. FTA has approved the property sale. Escrow on the Gale property has closed. Proceeds from the sale have been reflected in FIS (Financial Information System). 3. Reconciliation process is in progress. Targeting the end of year (2018) to complete reconciliation.
676 (New)	Subcontractor ability to get the required resources to perform work.	15	1. Actively manage schedule and resource needs.
674.0	Station subgrade at Fairfax.	13	1. Metro and DB Contractor working on mutual agreement for limited liability text.
677 (New)	Resource (Labor) shortage (Direct and Indirect).	13	1. Actively manage schedule and resource needs.
668.1	Gas may travel into adjacent properties or utilities and result in incident.	9	1. Metro has strict safety requirements in place, which are part of the safety requirements for contractors. Metro will further supplement existing safety requirements based on Geotechnical/Environmental investigations. 2. Re-assemble taskforce. The taskforce is currently meeting on a periodic basis.

## PROJECT COST

### Project Cost Analysis – 865518

DOLLARS IN THOUSANDS

SCC CODE	DESCRIPTION	ORIGINAL BUDGET	CURRENT BUDGET		COMMITMENTS		EXPENDITURES		CURRENT FORECAST		CURRENT BUDGET / FORECAST / VARIANCE
			PERIOD	TO DATE	PERIOD	TO DATE	PERIOD	TO DATE	PERIOD	TO DATE	
10	GUIDEWAY & TRACK ELEMENTS	388,294	-	388,294	-	381,233	7,633	146,076	-	387,938	(356)
20	STATIONS, STOPS, TERMINALS, INTERMODAL	440,621	-	440,621	-	468,344	1,199	166,974	-	489,322	48,701
30	SUPPORT FACILITIES: YARDS, SHOPS, ADMIN. BLDGS	43,323	-	43,323	-	41,570	2,792	29,438	-	43,352	29
40	SITework & SPECIAL CONDITIONS	751,566	-	754,491	1,695	782,977	8,000	537,493	-	814,446	59,956
50	SYSTEMS	113,574	-	113,574	-	100,490	4	25,299	-	115,199	1,625
<b>CONSTRUCTION SUBTOTAL (10-50)</b>		<b>1,737,378</b>	<b>-</b>	<b>1,740,303</b>	<b>1,695</b>	<b>1,774,613</b>	<b>19,628</b>	<b>905,279</b>	<b>-</b>	<b>1,850,257</b>	<b>109,954</b>
60	ROW, LAND, EXISTING IMPROVEMENTS	175,634	-	175,634	-	202,980	-	174,260	-	202,980	27,346
70	VEHICLES	160,196	-	160,196	-	98,118	-	14,607	-	108,302	(51,893)
80	PROFESSIONAL SERVICES	412,710	-	414,785	5,711	371,044	3,725	309,744	-	510,504	95,719
<b>SUBTOTAL (10-80)</b>		<b>2,485,918</b>	<b>-</b>	<b>2,490,918</b>	<b>7,406</b>	<b>2,446,755</b>	<b>23,353</b>	<b>1,403,889</b>	<b>-</b>	<b>2,672,044</b>	<b>181,126</b>
90	UNALLOCATED CONTINGENCY	248,592	-	248,592	-	-	-	-	-	111,871	(136,721)
100	FINANCE CHARGES	375,470	-	375,470	-	-	-	-	-	331,065	(44,405)
<b>TOTAL PROJECTS 465518 &amp; 865518 (10-100)</b>		<b>3,109,980</b>	<b>-</b>	<b>3,114,980</b>	<b>7,406</b>	<b>2,446,755</b>	<b>23,353</b>	<b>1,403,889</b>	<b>-</b>	<b>3,114,980</b>	<b>-</b>
ENVIRONMENTAL/PLANNING - 405518		8,505	-	8,505	-	8,505	-	8,505	-	8,505	-
ENVIRONMENTAL/PLANNING - 465518		30,865	-	30,865	-	30,865	-	30,852	-	30,865	-
<b>TOTAL PROJECTS 405518 &amp; 465518 (ENV / PLAN'G)</b>		<b>39,370</b>	<b>-</b>	<b>39,370</b>	<b>-</b>	<b>39,370</b>	<b>-</b>	<b>39,357</b>	<b>-</b>	<b>39,370</b>	<b>-</b>
<b>TOTAL PROJECTS 405518, 465518 &amp; 865518</b>		<b>3,149,350</b>	<b>-</b>	<b>3,154,350</b>	<b>7,406</b>	<b>2,486,125</b>	<b>23,353</b>	<b>1,443,246</b>	<b>-</b>	<b>3,154,350</b>	<b>-</b>

#### Original Budget:

The Original Budget of \$3.2 billion reflects the Board approved Life of Project Budget, July 24, 2014, plus Finance Charges of \$0.4 billion.

#### Current Budget and Current Forecast:

The Current Budget and Current Forecast remains the same this period at \$3.2 billion.

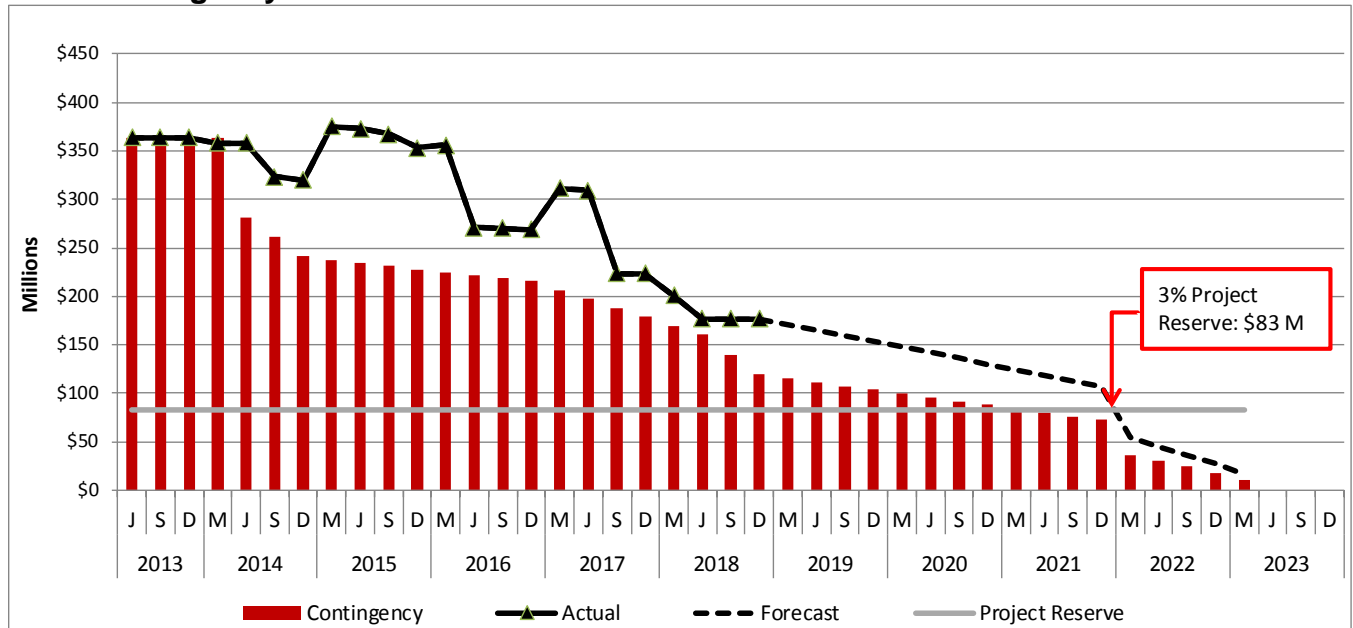
#### Commitments

*The Commitments increased by \$7.4 million primarily due to the Board Approved FY19 Annual Work Plans with the City of Los Angeles (Master Cooperative Agreement) and with the City of Beverly Hills (Memorandum of Agreement), and the award of the Artists' contracts. The \$2.5 billion in Commitments to date represent 78.8% of the Current Budget.*

#### Expenditures

*The Expenditures increased by \$23.4 million primarily for costs associated with the Design/Build Contracts C1045 and C1078, City of Beverly Hills (Memorandum of Agreement), Engineering Management Services, Construction Management Support Services, and Metro Project Administration. The \$1.4 billion in Expenditures to date represent 45.8% of the Current Budget.*

### Cost Contingency Drawdown



### Cost Contingency Drawdown Analysis

The Current Budget of \$3.2 billion (plus Finance Charges of \$0.4 billion) includes a project cost contingency of \$320.6 million or 10.2% of the total project. The project cost contingency of \$320.6 million is based upon the Life of Project (LOP) Budget that was approved by the Board in July 2014. The LOP Budget also included an allocated contingency amount of \$72.0 million. The allocated contingency is an amount to cover anticipated but unknown contract modifications issued by Metro where applicable to specific contracts within each Standard Cost Category (SCC).

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

The project cost contingency drawdown curve is based on a fall 2023 Revenue Service date.

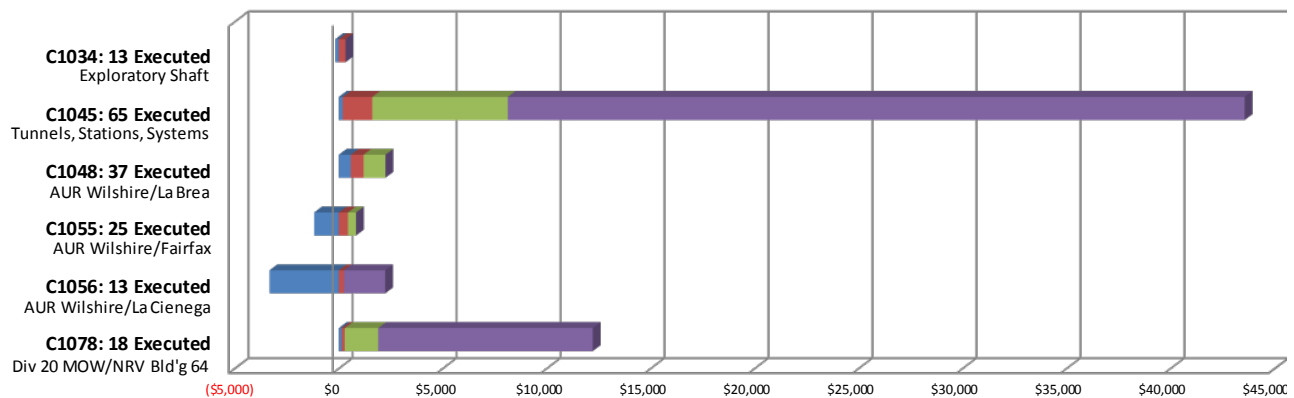
*The allocated contingency decreased this period by \$0.2 million due to executed Contract Modifications for the Design/Build Contract C1045.*

PROJECT COST CONTINGENCY					
DOLLARS IN THOUSANDS					
	Original Contingency (Budget)	Previous Period	Current Period	To-Date	Remaining Contingency (Forecast)
Unallocated Contingency	248,592	(136,721)	-	(136,721)	111,871
Allocated Contingency	71,963	(7,008)	(194)	(7,202)	64,761
<b>Total Contingency</b>	<b>320,555</b>	<b>(143,728)</b>	<b>(194)</b>	<b>(143,923)</b>	<b>176,633</b>

**Summary of Contract Modifications**

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

Dollars in Thousands



	C1034 13 Executed	C1045 65 Executed	C1048 37 Executed	C1055 25 Executed	C1056 13 Executed	C1078 18 Executed	Total
Under \$100K	(164)	189	574	(1,179)	(3,325)	136	(3,769)
\$100K to \$250K	321	1,422	617	436	245	151	3,192
\$250K to \$1M	-	6,510	1,051	391	-	1,611	9,563
Over \$1M	-	35,438	-	-	1,983	10,309	47,730
<b>Total Contract MODs</b>	<b>157</b>	<b>43,559</b>	<b>2,242</b>	<b>(352)</b>	<b>(1,097)</b>	<b>12,207</b>	<b>56,716</b>
<b>Contract Award Amount</b>	<b>6,487</b>	<b>1,636,419</b>	<b>6,181</b>	<b>14,430</b>	<b>20,250</b>	<b>52,830</b>	<b>1,736,597</b>
<b>% of Contract MODs</b>	<b>2.4%</b>	<b>2.7%</b>	<b>36.3%</b>	<b>-2.4%</b>	<b>-5.4%</b>	<b>23.1%</b>	<b>3.3%</b>

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

Thirteen Contract MODs with a total value of \$0.2 million have been executed since the award of Contract C1034 – Exploratory Shaft Construction by Innovative Construction Solutions (ICS). The contract has been completed and is closed out.

Sixty-five Contract MODs with a total value of \$43.6 million have been executed since the award of Contract C1045 – Tunnels, Stations, Trackwork, Systems and Systems Integration Testing by Skanska - Traylor - Shea, a Joint Venture.

Thirty-seven Contract MODs with a total value of \$2.2 million have been executed since the award of Contract C1048 – Advanced Utility Relocations at Wilshire/La Brea by Metro Builders & Engineering Group, LTD. The contract has been completed and is closed out.

Twenty-five Contract MODs with a total value of (\$0.4) million have been executed since the award of Contract C1055 – Advanced Utility Relocations at Wilshire/Fairfax by W. A. Rasic Construction Company, Inc. The contract has been completed and is closed out.

Thirteen Contract MODs with a total value of (\$1.1) million have been executed since the award of Contract C1056 – Advanced Utility Relocations at Wilshire/La Cienega by Steve Bubalo Construction Co. The contract has been completed and is closed out.

*Eighteen Contract MODs with a total value of \$12.2 million have been executed since the award of Contract C1078 – Division 20 Maintenance-of-Way and Non-Revenue Vehicle Building Location 64.*

**DISADVANTAGED BUSINESS ENTERPRISE (DBE)**

**DISADVANTAGED BUSINESS ENTERPRISE (DBE)**

**Contract C1045 Westside Purple Line Extension - Section 1**

(Reported Data as of September 2018)

• **DBE Goal – Design**

A numerically expressed percentage of funds apportioned to Design Contracts and is calculated based upon the relative availability of DBE firms as compared to all firms in the relevant geographic market area. 20.25%

• **Current DBE Commitment – Design**

Total DBE Committed Dollars divided by Total Contract Value for Design or Construction. \$13,119,472 (20.25%)

• **Current DBE Participation**

Total amount paid to date to DBEs divided by the amount paid to date to Prime. \$12,353,196 (19.34%)

Fourteen (14) Design DBE subcontractors have been identified to-date.

• **DBE Goal – Construction**

A numerically expressed percentage of funds apportioned to Construction Contracts and is calculated based upon the relative availability of DBE firms as compared to all firms in the relevant. 17.00%

• **Current DBE Commitment – Construction**

Contract commitment divided by current contract value for Construction. \$266,155,899 (17.00%)

• **Current DBE Participation**

Total amount paid to date to DBEs divided by the amount paid to date to Prime. \$103,974,062 (15.87%)

One hundred-ten (110) Construction DBE subcontractors have been identified to-date.

## PROJECT LABOR AGREEMENTS (PLA)

*As of September 2018:*

**Contract C1045 Westside Purple Line Extension, Section 1 Design-Build**  
*(Reporting Data as of September 2018)*

- |   |        |
|---|--------|
| <ul style="list-style-type: none"> <li>• <b>Targeted Worker Goal</b><br/>                     Construction work to be performed by residents from Economically Disadvantaged Area in the United States</li> </ul> | 40.00% |
| <ul style="list-style-type: none"> <li>• <b>Targeted Worker Current Participation</b></li> </ul>  | 64.72% |
| <ul style="list-style-type: none"> <li>• <b>Apprentice Worker Goal</b><br/>                     Construction work to be performed by Apprentices</li> </ul>   | 20.00% |
| <ul style="list-style-type: none"> <li>• <b>Apprentice Worker Current Participation</b></li> </ul>  | 17.36% |
| <ul style="list-style-type: none"> <li>• <b>Disadvantaged Worker Goal</b><br/>                     Construction work to be performed by Disadvantaged Workers who are residents of the United States</li> </ul>   | 10.00% |
| <ul style="list-style-type: none"> <li>• <b>Disadvantaged Worker Current Participation</b></li> </ul>   | 10.01% |

## FINANCIAL/GRANT

### 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	\$	%	\$	%	\$	%
FEDERAL - SECTION 5309 NEW STARTS	\$1,250.000	\$1,250.000	\$465.000	\$1,250.000	100%	\$460.506	37%	\$460.506	37%
FEDERAL CMAQ	\$12.171	\$12.171	\$12.171	\$12.171	100%	\$12.171	100%	\$12.171	100%
FEDERAL SECTION 5339 - ALTERNATIVES ANALYSIS	\$0.512	\$0.512	\$0.512	\$0.512	100%	\$0.512	100%	\$0.512	100%
MEASURE R - TIFIA LOAN	\$856.000	\$856.000	\$340.644	\$340.644	40%	\$340.644	40%	\$340.644	40%
MEASURE R 35%	\$869.178	\$874.178	\$593.732	\$796.582	91%	\$543.197	62%	\$470.308	54%
STATE STIP RIP	\$2.568	\$2.568	\$2.568	\$2.568	100%	\$2.568	100%	\$2.568	100%
STATE CAPITAL PROJECT LOANS - OTHERS *	\$83.648	\$83.648	\$83.648	\$83.648	100%	\$83.648	100%	\$67.923	81%
CITY OF LOS ANGELES	\$75.273	\$75.273	\$0.000	\$0.000	0%	\$0.000	0%	\$0.000	0%
<b>TOTAL</b>	<b>\$3,149.350</b>	<b>\$3,154.350</b>	<b>\$1,498.275</b>	<b>\$2,486.125</b>	<b>78.8%</b>	<b>\$1,443.246</b>	<b>45.8%</b>	<b>\$1,354.632</b>	<b>42.9%</b>

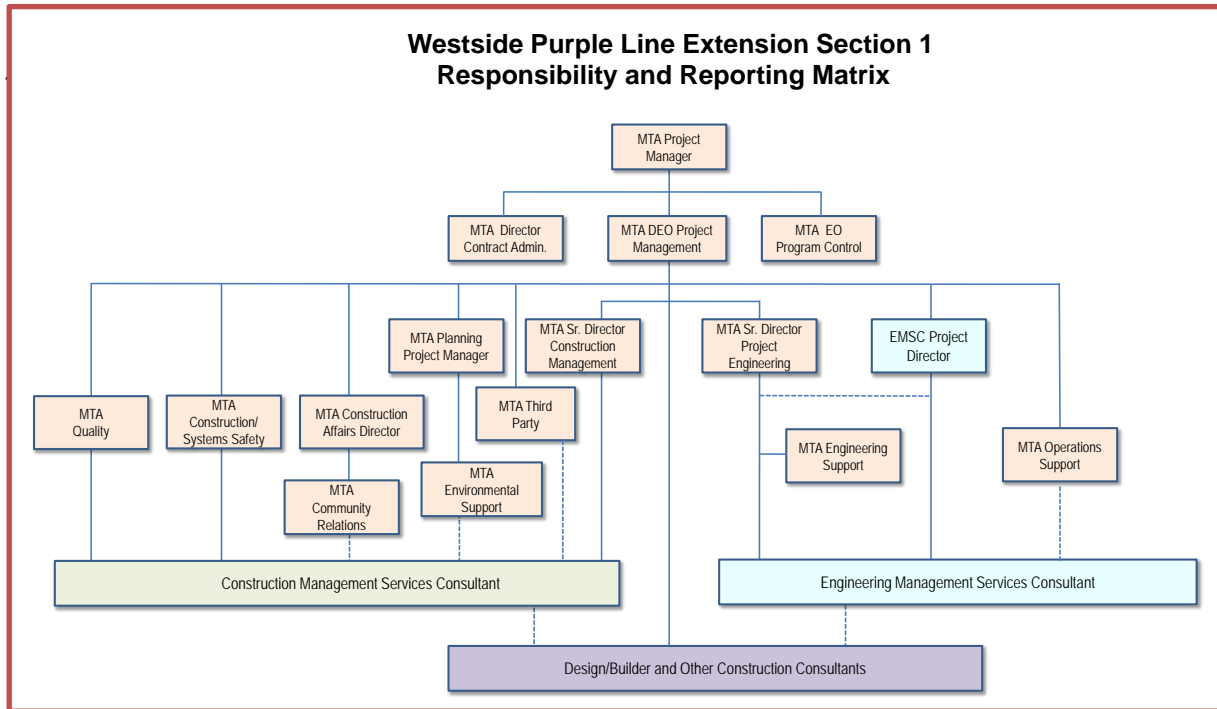
EXPENDITURES ARE CUMULATIVE THROUGH OCTOBER 2018  
 ORIGINAL BUDGET BASED ON JULY 2014 BOARD APPROVED LOP BUDGET

\* OTHERS INCLUDE TDA ADMINISTRATION (\$4.1M), LTF GENERAL REVENUES (\$1.8M), AND LEASE REVENUES (\$37.8M)



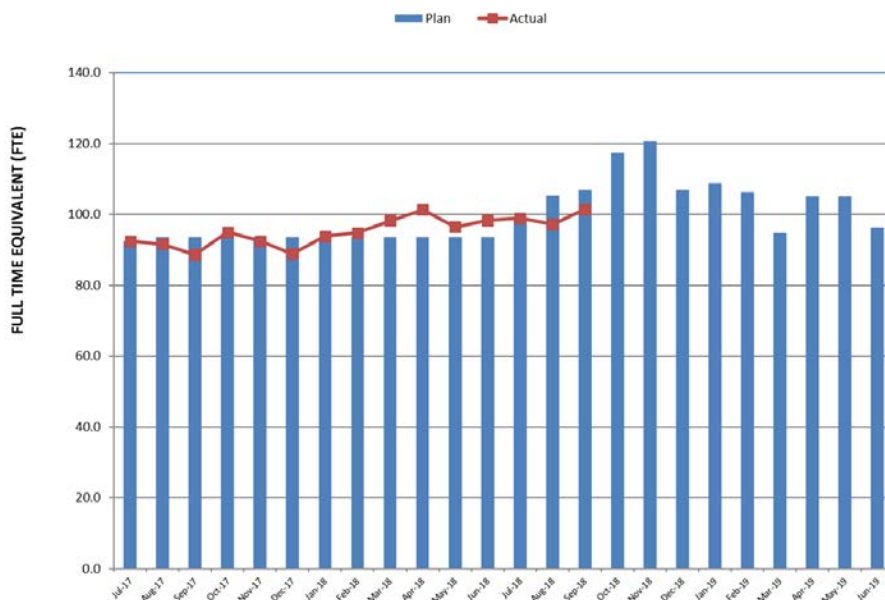
## PROJECT ORGANIZATION AND STAFFING

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).



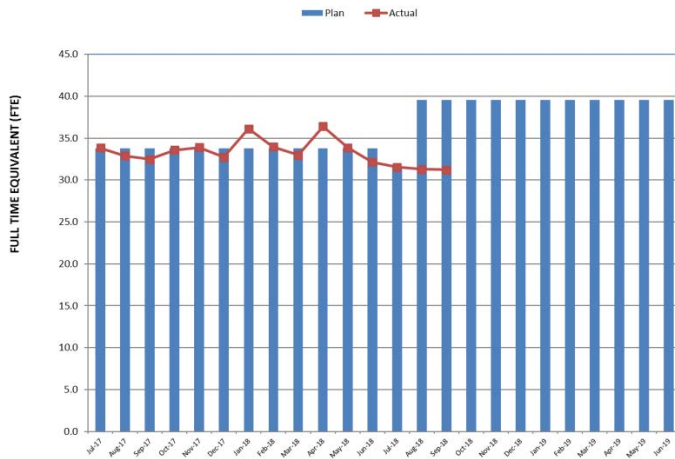
For September 2018, there were a total of 31.2 FTEs for MTA's Project Administration Staff and 70.2 FTEs for Consulting Staff. The total project staffing for September 2018 was 101.4 FTEs.

### Total Project Staffing – Metro and Consultants

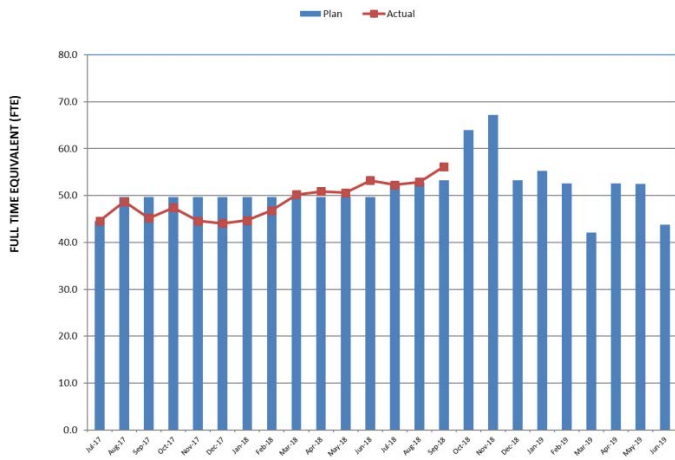


Data through September 2018

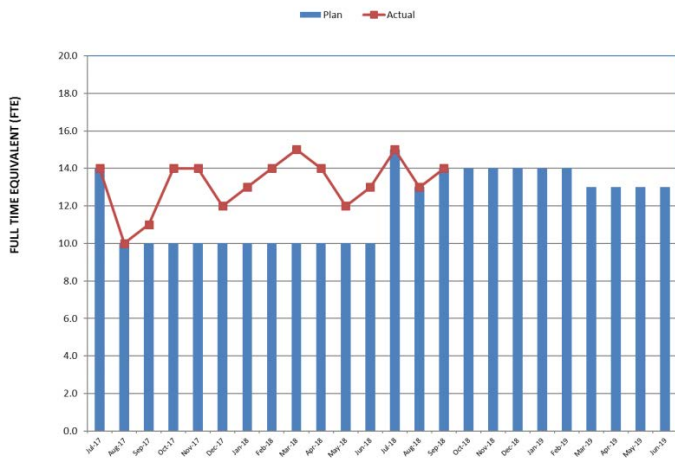
**Metro Staff**



**CM Support Services Staff (Consultant)**



**Engineering Services Staff (Consultant)**



All above data through September 2018

**Staffing by Group**

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

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

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

## REAL ESTATE

### Purple Line Extension Section 1 - Real Estate Status Summary

Description	Number of Parcels	Certified	Appraisals Completed	Offers Made	Agreements/ Settlements Signed	Relocations		Parcels Available
						Required	Completed	
Full Takes	9	9	9	9	8	109	109	9
Part Takes	6	6	6	6	6	0	0	6
TCE	4	4	4	4	2	0	0	4
<b>Total Parcels</b>	<b>19</b>	<b>19</b>	<b>19</b>	<b>19</b>	<b>16</b>	<b>109</b>	<b>109</b>	<b>19</b>

Metro has possession of all the parcels by either acquisition, possession and use agreements or stipulations. The C1045 contractor has possession of all properties needed to construct the Project.

There are three parcels at the Wilshire/Fairfax Station location that are still in the condemnation phase.

## QUALITY ASSURANCE

### **C1045 – Tunnels, Stations, Trackwork, Systems and Systems Integration Testing**

- Reviewed daily inspection reports from the Contractor/Field Technician and CMSSC oversight inspection personnel. Inspections show that the work is predominately compliant.
- Reviewed and provided comments on quality related submittals, construction work plan, project specifications, product data and quality manuals.
- Engaged in oversight for the excavation and installation of structural steel members for the Wilshire/La Cienega Station SOE and the Fairfax subgrade acceptance process.
- Processed 25 surveillances, 17 Quality Action Requests and 12 Nonconformance Reports and 1 Corrective Action Request.

### **C1078 – Division 20 MOW and NRV Building Location 64**

- Reviewed and provided comments on quality related submittals.
- Reviewed daily inspection reports from Contractor's quality assurance inspection team. Inspections show that the work is predominately compliant.
- Processed 3 surveillances, 11 Quality Action Requests, 12 Nonconformance Reports and 1 Corrective Action Request.

## ENVIRONMENTAL

- Conducted environmental review of Work Plans and attended Workshops and Readiness Review meetings for various upcoming activities including Tunnel Muck Testing and Stockpile Management.
- *Worked with contractor to update haul routes for tunnel muck export.*
- *Cogstone Paleo Monitors recovered multiple localities containing large mammal remains. Finds include a possible ground sloth and other large mammals from the Wilshire/La Cienega Station.*
- *Worked with City of Beverly Hills to provide noise mitigation enhancements to La Cienega and Gale Yards.*
- *Conducted field environmental monitoring and spot inspections for construction noise, vibration, stormwater and dust for C1045 and C1078.*
- Continued to evaluate noise impacts during late night ventilation, excavation and cross passage jet grouting activities.

## CONSTRUCTION AND COMMUNITY RELATIONS

### Construction Relations

- *Produced and distributed 10 construction work notices for construction activities.*
- Produced and distributed weekly construction lookahead emails to construction stakeholders.
- *Held meetings and made Project Presentations at the following: Mid-City West Community Council, Wilshire Center Koreatown Neighborhood Council, Elected Officials Briefing, Beverly Hills City Hall, Wilshire Center Business Improvement District, Construction Community Meetings and various stakeholders.*
- *Represented the Westside Purple Line Extension at Metro's Older Adults Expo at the Los Angeles Cathedral.*
- Continued additional business mitigations including: alternative parking options, business signage, street signs and print ads at no cost to the businesses.
- Updated website, Facebook, Twitter as needed. Published monthly PLE (Purple Line Extension) newsletter to email list.
- Continued with the "Eat, Shop, Play Spotlight" campaign to advertise and promote businesses that participate in ESP Wilshire and Beverly Hills.

## CREATIVE SERVICES

### Community Relations

- Continued design development for Wilshire Customer Center artwork relocation.
- Continued design development for MOW Location 64.
- *Provided art program update at Los Angeles County Museum of Art Community Meeting.*
- *Initiated station artwork design development.*

## SAFETY & SECURITY

- *Metro has updated its work hour and injury report records to include an incident that occurred in September 2018. An electrician foreman on the C1078 contract lacerated his upper leg while unloading equipment. The injury did not restrict his ability to complete his duties, so it was classified as a recordable injury only. There were no recordable Injuries in October 2018.*
- *During the month of October, the C1045 Contractor and Metro continued to partner with the California Division of Occupational Safety & Health (Cal/OSHA) to complete the process of declassifying the Wilshire/La Brea Station box to Potentially Gassy with Special Conditions.*
- *The C1045 Design Builder's construction activities (day, swing and weekend) and the C1078 Maintenance of Way Building site continue to be monitored to document contractor compliance with contract specifications.*
- *Metro Safety staff attended weekly Tool Box Meetings, Progress Meetings, readiness reviews, and other project meetings to evaluate Contractors Safety Program compliance with contract requirements.*
- *Metro Construction Safety hosted the Monthly All Hands Safety Meeting for all Westside-Purple Line Extension Contractors on October 25, 2018.*
- *Construction Safety staff work regularly 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.*
- *September 2018 Contractor Work Hours (Design & Construction): 84,725*
- *Contractor - Project to Date Work Hours (Design & Construction) (through 09/30/2018): 2,589,343.*
- *Total Project to Date Work Hours (Contractor & the IPO Staff) (through 09/30/2018): 3,220,991.*
- *Project to Date - Recordable Injury Rate: 0.9 (Fifteen Recordable Injuries) (each rate is per 200,000 work hours) (National Rate: 2.5).*
- *Project to Date - Total Days Away (DART) Injury Rate: 0.3 (Five Days Away/Restricted/Transferred (DART) Injury cases) (National Rate: 1.5).*
- *Project to Date Total Days Away (DART) Rate: 28.0 (451 Days Away/Restricted/Transferred From Work) (No National Rate Published).*
- *National Rates for Heavy and Civil Construction (NAICS Code 237) are for Calendar Year 2017, as recently published by USBLS.*

## APPENDIX CHRONOLOGY OF EVENTS

June 2007	Began Alternatives Analysis study
January 2009	Board approval of Alternatives Analysis study and next phase
February 2009	Began Draft Environmental Impact Statement / Report (EIS / EIR)
October 2010	Board approval of Draft EIS / EIR and selection of locally preferred alternative
January 2011	FTA approval to enter Preliminary Engineering
May 2011	Began Preliminary Engineering
April 2012	Board certification of Final EIS / EIR and adoption of project
July 2012	Completion of Exploratory Shaft final design
August 2012	FTA Record of Decision
September 2012	Began Real Estate Acquisition
November 2012	Began Final Design - C1048 - Advanced Utility Relocations contract – Wilshire/La Brea
November 2012	Began Final Design - C1055 - Advanced Utility Relocations contract – Wilshire/Fairfax
November 2012	Issued RFQ for C1045 Design / Build contract
December 2012	Began Final Design - C1056 - Advanced Utility Relocations contract – Wilshire/La Cienega
January 2013	Began C1034 Exploratory Shaft construction
February 2013	Received RFQ responses for C1045 Design / Build contract
June 2013	Issued RFP for C1045 Tunnels, Stations, Trackwork, Systems and Systems Integration Testing
June 2013	Beginning of C1055 AUR Wilshire/Fairfax Bid Period
July 2013	Submitted draft FFGA application
July 2013	Completed Final Design - C1048 - Advanced Utility Relocations contract – Wilshire/La Brea



July 2013	Submitted TIFIA loan application
August 2013	Began C1048 Advanced Utility Relocations contract – Wilshire/La Brea
August 2013	NTP for Construction Management Support Services Contract
January 2014	Submitted application to FTA requesting an FFGA
January 2014	Received RFP Proposals for Contract C1045
February 2014	Beginning of C1056 AUR Wilshire/La Cienega Bid Period
May 2014	FTA awarded FFGA
May 2014	Received TIFIA Loan
June 2014	Began C1055 Advanced Utility Relocations at Wilshire/Fairfax
July 2014	Metro Board approved staff recommendation to award Contract C1045 and approved Life-of-Project Budget
September 2014	Issued Invitation to Bid for Contract C1078
October 2014	Issued C1056 Contract Award
November 2014	Issued C1045 Contract Award
January 2015	Issued C1045 Contract Notice to Proceed
January 2015	Issued C1056 Contract Notice to Proceed
February 2015	Received Contract C1078 Bids
August 2015	Issued C1078 Contract Award
September 2015	Issued C1078 Contract Notice to Proceed
October 2015	Contract C1055 achieved Substantial Completion
December 2015	Began piling operations for Wilshire/La Brea Station
June 2016	Began deck beam and decking operations for Wilshire/La Brea Station
August 2016	Began piling operations for Wilshire/Fairfax Station
August 2016	Contract C1056 achieved Substantial Completion
February 2017	Began deck beam and decking operations for Wilshire/Fairfax Station

March 2017	Began piling operations for Wilshire/La Cienega Station
June 2017	Decking operations for Wilshire/Fairfax Station are complete
September 2017	Began utility relocation work at the Wilshire/Western site
October 2017	Began street decking for Wilshire/La Cienega Station
November 2017	Began concreting activities for Wilshire/La Brea Station
December 2017	Structural steel erection commenced at the Division 20 Maintenance-of-Way and Non-Revenue Vehicle Building Location 64
January 2018	Decking operations for Wilshire/La Cienega Station are complete
February 2018	Began invert slab concrete placement at the Wilshire/La Brea Station
April 2018	Wilshire/Fairfax Station excavation cleared the Paleo Zone (Elevation 105')
June 2018	Concrete wall pours needed to support TBM assembly at Wilshire/La Brea Station have been completed
July 2018	Began delivery of TBM components to the Wilshire/La Brea Station site
October 2018	<i>The Reach One (1) mining operation commenced with the launch of TBM #1 from Wilshire/La Brea Station.</i>