Los Angeles County
Metropolitan Transportation Authority

Westside Purple Line Extension

Section 1 Project

QUARTERLY PROJECT STATUS REPORT
JUNE 2016

Metro®

15-0603BC ©2014 LACMTA

WESTSIDE PURPLE LINE EXTENSION SECTION 1 PROJECT

QUARTERLY 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).

JUNE 2016

TABLE OF CONTENTS

Page No.

Project Summary…… 1

Project Overview & Status…… 2-4

Management Issues..... 5

Project Alignment by Sections…… 6

Project Alignment Section 1…… 7

Base Project Scope..... 8-10

Project Status

- Project Schedule
  - Key Milestones Six-Month Look Ahead…….. 11
  - Project Summary Schedule…… 12
  - Schedule Measurements…… 13
  - Overall Construction Progress Curve…… 14
  - Major Equipment Delivery…… 15
  - Design-Builder's (C1045) Long Lead Item List…… 16
  - Critical Path Narrative…….. 17
  - Project Schedule Contingency Drawdown…… 18
  - Project Schedule Contingency Drawdown Analysis…… 18
- Project Cost
  - Project Cost …… 19
  - Project Cost Analysis…… 19
  - Project Cost Contingency Drawdown…… 20
  - Project Cost Contingency Drawdown Analysis…… 20
  - Disadvantaged Business Enterprise (DBE)…… 21
  - Project Labor Agreements (PLA) Status…… 21
  - Summary of Contract Modifications…… 22
- Financial/Grant
  - Financial/Grant …… 23
  - Status of Funding…….. 23
- Staffing
  - Total Project Staffing…… 24
  - Metro Staffing…….. 25

TABLE OF CONTENTS (Continued)

Page No.

- Construction Management Support Services Consultant…….. 25
- Engineering Management Services Consultant…….…… 26
- Real Estate…… 27
- Quality Assurance…… 28
- Environmental…….. 29
- Construction Relations…..……... 30
- Creative Services ……... 30
- Safety & Security…….. 31
- Third Party Agreement & Status...…… 32
- Advanced Utility Relocation Status……...……... 33
- Peak Hour and Nighttime Construction Variances…….…… 34
- Chronology of Events…….. 35-36
- Construction Contracts
  - Contract C1045 Status…..……..……. 37
  - Contract C1056 Status…..……..……. 38
  - Contract C1078 Status…..……..……. 39
- Construction Photographs…….. 40-41

Appendices

- Cost and Budget Terminology…… 42
- List of Acronyms……... 43-46

PROJECT SUMMARY

LOCATION: Los Angeles / Beverly Hills
DESIGN CONSULTANT: Parsons / Brinckerhoff

CONSTRUCTION MANAGEMENT CONSULTANT: WEST, a Joint Venture
CONTRACTOR: Skanska, Traylor and Shea, a Joint Venture

Installing Street Decking Wilshire/La Brea Station

WORK COMPLETED PAST MONTH

- DU 1 Wilshire/Western – AFC complete
- DU 3 Wilshire/Fairfax – 100% complete
- C1045 Wilshire/La Brea north side installation of dewatering wells
- C1045 Wilshire/Fairfax soundwall installation
- C1045 Wilshire/La Brea temporary street decking installation began
  - C1045 Wilshire/La Brea decking stage 1A complete
  - C1045 Wilshire/La Brea decking stage 1B complete
  - C1045 Wilshire/La Brea decking stage 1 complete
  - C1045 Wilshire/La Brea decking stage 2 complete
  - C1045 TBM temporary power
- C1045 Wilshire/La Brea south side pile installation near completion

EXPENDITURE STATUS
($ In Millions)

ACTIVITIES	CURRENT BUDGET	EXPENDED AMOUNT	PERCENT EXPENDED
DESIGN	$159.2	$128.9	81.0%
RIGHT-OF-WAY	$175.6	$135.4	77.1%
CONSTRUCTION	$1,740.3	$414.6	23.8%
OTHER	$1,079.3	$108.3	10.0%
TOTAL	$3,154.4	$787.2	25.0%

Current Budget includes Environmental/Planning and Finance Costs.

AREAS OF CONCERN

SCHEDULE ASSESSMENT

MAJOR SCHEDULE ACTIVITIES	PRIOR PLAN	CURRENT PLAN	VARIANCE WEEKS
Environmental			
FEIS / FEIR	N/A	05/31/12	Complete
Design			
PE Notice to Proceed	N/A	01/12/11	Complete
Final Design complete	03/22/17	03/22/17	0
Right-of-Way			
All parcels available*	12/31/15	12/31/15	0
Construction - Main Design / Build Contract			
Notice to Proceed	01/12/15	01/12/15	Complete
Construction complete	11/08/23	11/08/23	0

* Parcels related to main D/B Contract C1045

ROW ACQUISITION	PLAN	AVAILABLE	REMAINING
PERMANENT PARCELS	15	14	1
TEMPORARY PARCELS	4	4	0
TOTAL PARCELS	19	18	1

CRITICAL ACTIVITIES / 3 MONTH LOOK AHEAD

- DU 2 Wilshire/La Brea – AFC complete
- DU 5 Tunnels – AFC complete
- DU 6 Systems – 100% complete
- C1045 Wilshire/La Brea Station pile installation complete
- C1045 Temporary tunnel ventilation design submittals
- C1045 Wilshire/La Brea decking installation continues
- C1045 Wilshire/La Brea Station excavation begins
- C1045 Wilshire/Fairfax traffic control for pile installation
- C1045 Wilshire/Fairfax pile installation begins

PROJECT OVERVIEW & STATUS

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.

Design

The Engineering Management Services (EMS) team continues to provide design support to the Wilshire/La Cienega Advanced Utility Relocations (AUR) contract, the Design/Build Contract, and the Division 20 Maintenance-of-Way and Non-Revenue Vehicle Building 61S Contract.

For the Wilshire/Fairfax AUR Contract (C1055), the production of record drawings is continuing to reflect the as-built conditions.

For the Wilshire/La Cienega Station AUR Contract (C1056), support to Metro continues with traffic control requests for revised Worksite Traffic Control Plans for the contractor to comply with the Memorandum of Agreement (MOA) between Metro and the City of Beverly Hills; and also with the City of Los Angeles Department of Transportation where the traffic control plans extends beyond the City of Beverly Hills jurisdiction at San Vicente Boulevard. Technical documents are being produced in support of change notices. A fulltime field engineering representative continues to support construction activities. *Continued to update design master files with the received as-built survey information and continued the production of record drawings.*

For the Division 20 Maintenance-of-Way and Non-Revenue Vehicle Building 61S Contract (C1078), support to Metro continues with responding to RFI's and submittals, design updates, and the 6th Street Bridge coordination. *Provided design review comments to the contractor on May 20, 2016 on five design packages and the MEP Basis of Design submittal. Comment resolution is ongoing with the contractor.* These included the new 30% design for Building 61S and the 85% design for the parts storage expansion.

The team continues to attend design task force meetings with Metro and the C1045 Contractor for Tunnels, Stations, Trackwork, Systems and Systems Integration Testing in preparation for the design development and reviews. Support continues in the review of final design submittals, responding to RFI's, and assisting in preparation of change notices.

The C1045 Contractor, Skanska, Traylor and Shea (STS), and their final design team, Parson's Transportation Group (PTG), have identified the design work into six distinct design units. They are:

1. Design Unit 1 – Wilshire/Western Interface Chamber (Shaft)
2. Design Unit 2 – Wilshire/La Brea Station
3. Design Unit 3 – Wilshire/Fairfax Station
4. Design Unit 4 – Wilshire/La Cienega Station
5. Design Unit 5 – Tunnels
6. Design Unit 6 – Systems/Traffic/Trackwork

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). If required, critical design units can be advanced as Advanced Partial Design Units (APDU's) to support ongoing construction activities.

Design activities are well underway with the involvement of every discipline and design task force meetings are occurring weekly related to each design unit.

"Over-the-shoulder" design reviews and design comment resolution meetings are occurring with STS, PTG, Metro and the EMS team prior to each major design submittal. Monthly Metro Fire/Life/Safety meetings are occurring.

The status of the design submittals are as follows:

Design Unit	Percentage	Submittal Date
DU# 1 - Western	AFC	6/10/2016
DU# 2 - La Brea	AFC	7/7/2016
DU# 3 - Fairfax	100%	6/28/2016
DU# 4 - La Cienega	100%	9/9/2016
DU# 5 - Tunnels	AFC	7/7/2016
DU# 6 - Systems	100%	7/7/2016

No major design packages were open for review this period, however DU# 1 Wilshire/Western was submitted for Approval for Construction (AFC). Verification that all design comments have been incorporated is being performed prior to the approval of the submittal.

Comment resolution is continuing on the Wilshire/Fairfax Station Support of Excavation (SOE) 100% design package. Comment verification occurred on the DU# 5 Tunnel 100% design submittal in order for the AFC package to be issued next period. Comment resolution meetings were held with the City of Beverly Hills on the DU# 4 Wilshire/La Cienega Station 85% design submittal.

A number of "over the shoulder" reviews were held to review the station ventilation models, CCTV design coverage, waterproofing designs, and pending deviation requests.

STS is continuing with the required contractual submittals.

Major Contract Procurement

All contracts for the Project have been awarded.

Construction

Follow-on work in the Wilshire/Fairfax Station area by AT&T is anticipated to complete in July 2016 and LADWP Power is anticipated to complete in October 2016. This will complete all AUR work at this location, prior to giving full access to the C1045 Design/Build contractor to begin construction of the Wilshire/Fairfax Station.

On April 28, 2016, the C1056 contractor completed Milestone 1, acceptance of all SCE power vaults, and ducts. This was accomplished 2 ½ months ahead of schedule. *The contractor is continuing with the City of Beverly Hills sewer and water relocations, and this work is projected to complete prior to the contractual substantial completion of December 8, 2016. AT&T work within the same location is scheduled to complete in October 2016.*

The C1045 contractor began pile installation for the Wilshire/La Brea Station in mid-December 2015. The contractor has focused his efforts on the north side of the station, before making the traffic control switch to begin pile installation on the south side of Wilshire Boulevard. *The traffic control switch to the south side occurred on the weekend of April 15, 2016 and pile installation began on May 4, 2016. Pile installation at this station location is projected to complete in early August 2016.*

The C1045 contractor has received approvals from the City of Los Angeles for the support of excavation to begin installation of deck beams and concrete decking for the Wilshire/La Brea Station. *The first of the 22 scheduled weekend closures began on June 10, 2016 for the installation of deck beams and concrete deck panels.* This work is being performed prior to the station excavation which will occur under the temporary street decking.

Traffic reconfiguration work is planned to begin early July 2016 at the Wilshire/Fairfax Station site in preparation of station pile installation. Pile installation is planned to start in August 2016.

Building demolition and site preparation work at the Wilshire/La Cienega Station site is scheduled to begin in September 2016.

The contractor has completed the construction of the Tunnel Boring Machine (TBM) power substation. All that remains is for LADWP Power to energize the substation. The manufacturing of the two TBMs by Herrenknecht Tunneling Systems USA, Inc. is underway.

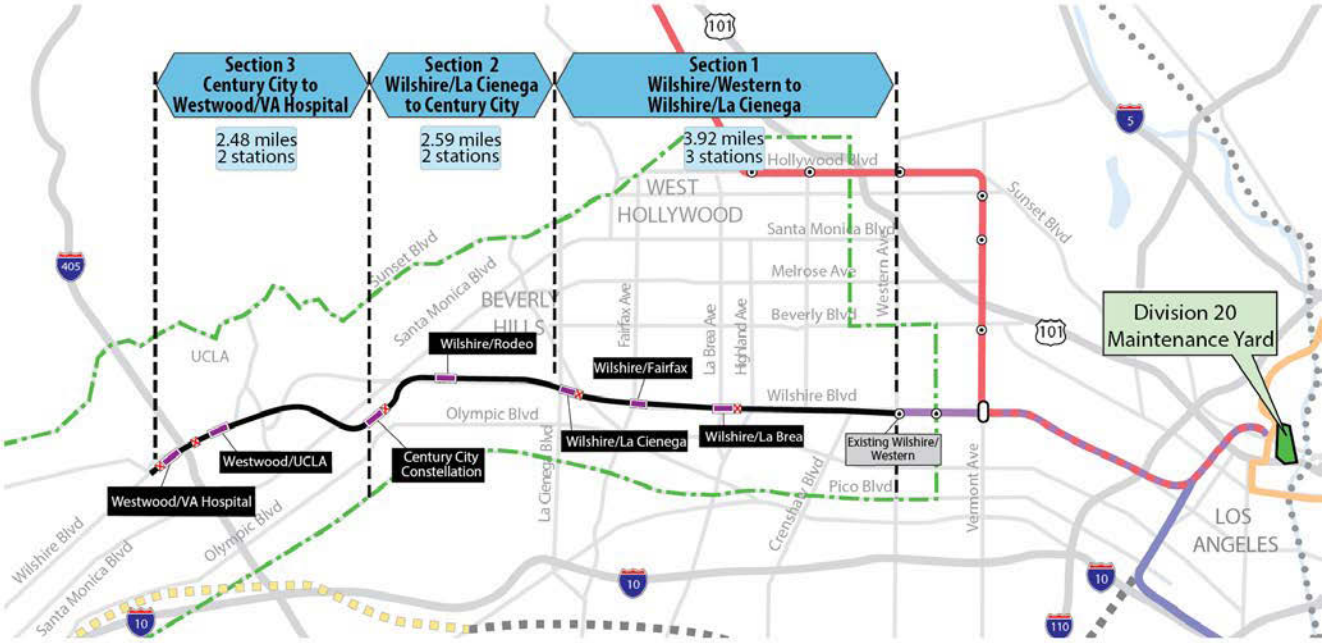
The Beverly Hills City Council staff is reviewing the Memorandum of Agreement. Approvals by the Beverly Hills City Council and the MTA Board are expected in the third quarter of 2016.

The C1045 contractor has access to all properties to construct the Project.

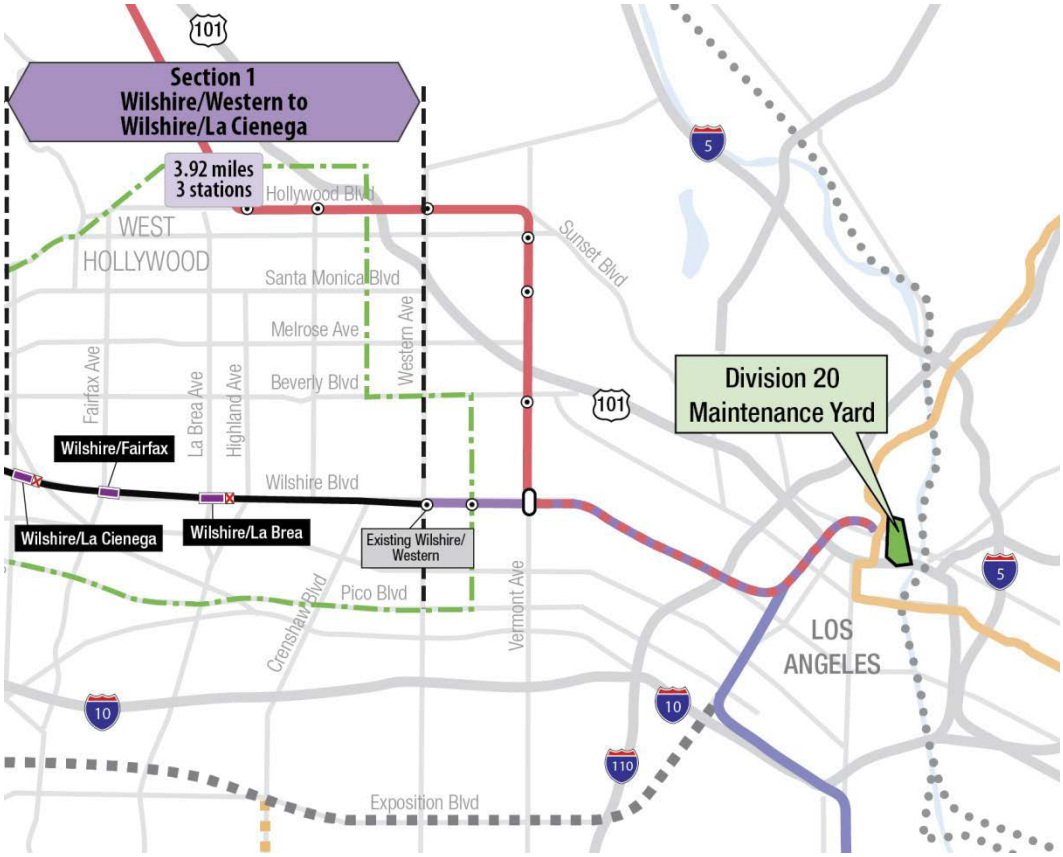
MANAGEMENT ISSUES

No Management Issues this period.

PROJECT ALIGNMENT by SECTIONS



PROJECT ALIGNMENT SECTION 1



BASE PROJECT SCOPE

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.

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
Relocate existing City of Beverly Hills water, storm drain and sewer utilities within the construction limits of the Wilshire/La Cienega Station. The contractor is responsible for working in streets, procure materials, and coordinate with the utility owner. The contractor is to construct the new facilities in accordance with utility plans and specifications, provide traffic control, restore streets, and support utility crews during cut-over of the existing utilities.

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 61S
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 61S). The displacement of the existing MOW stores building and NRV facility are due to the proposed turn-back facility site in the yard.

BASE PROJECT SCOPE (Continued)

Metro Furnished Equipment

Metro will procure separate contracts to provide the 34 Heavy Rail Vehicles (HRV) and the Universal Fare System (UFS) necessary to operate the extension to the Purple Line. The scope of the HRV contract includes design, manufacturing, testing and delivery of the vehicles. The scope of the UFS contract includes design, fabrication and installation of equipment at the three stations and system testing.

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.

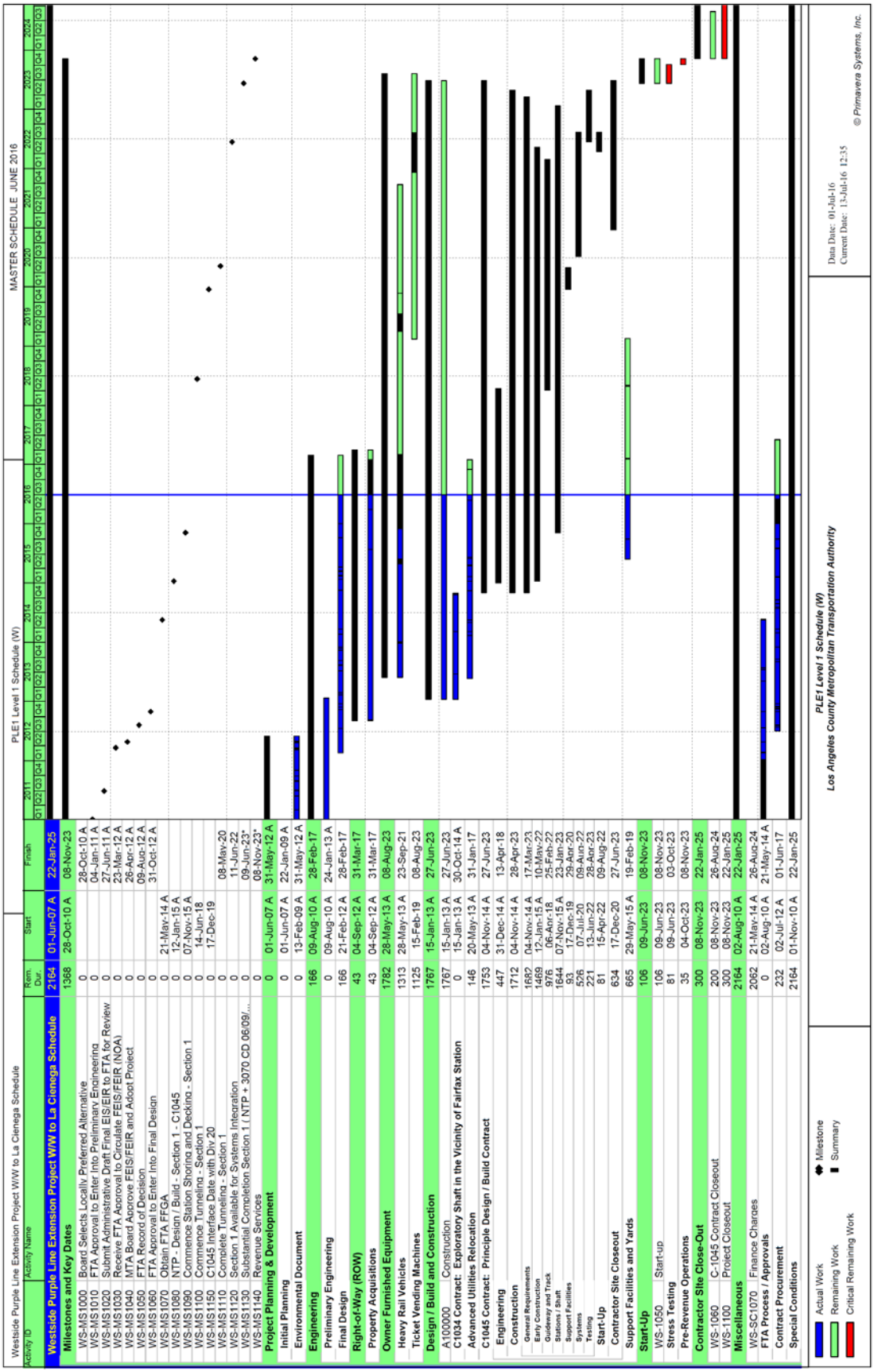
KEY MILESTONES SIX-MONTH LOOK AHEAD

	Milestone Date	Jul-16	Aug-16	Sep-16	Oct-16	Nov-16	Dec-16
C1045 Wilshire/Fairfax Traffic Control Installed for Pile Installation	07/01/16	▭					
C1045 Wilshire/La Brea Muck Shaft Excavation Begins	07/11/16	▭					
C1045 Wilshire/La Brea Ventilation System Installation Begins	07/15/16	▭					
C1045 Wilshire/Fairfax North Side Pile Work Begins	08/02/16		▭				
C1045 Wilshire/La Brea Under Deck Excavation Begins	08/15/16		▭				
C1045 Wilshire/La Brea Dewatering Begins	08/20/16		▭				
C1045 Wilshire/La Cienega Building Demolition	09/08/16			▭			
C1045 Wilshire/La Cienega Soundwall Installation Begins	10/07/16				▭		
C1045 Wilshire/Fairfax Traffic Control South Side for Pile Installation	11/17/16					▭	
C1045 Wilshire/Fairfax South Side Pile Installation Begins	12/01/16						▭
C1056 Wilshire/La Cienega AUR Substantial Completion (Contractual)	12/06/16						▭

◆ MTA Staff Ⓜ MTA Board Action **FTA** (Federal Transit Administration)

△ Other Agencies ▭ Contractors

PROJECT SUMMARY SCHEDULE

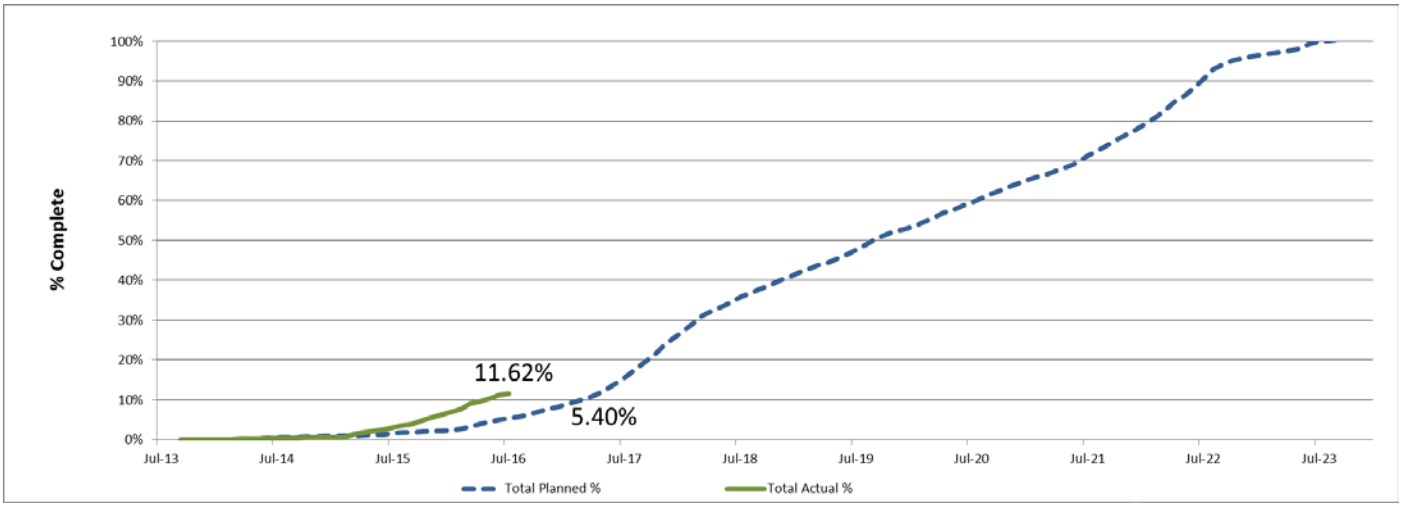


SCHEDULE MEASUREMENTS

	Status	Change from Last Period	Comment
Forecast Revenue Service	11/8/2023	None	
FFGA Revenue Service	10/31/2024	None	
Final Design Progress:			
Contract C1045	85.70%	2.99%	
Contract C1078	31.20%	0.00%	CO-00003 – 30% to IFC pending negotiations and execution
Construction Contracts Progress*:			
Contract C1048	100.00%	0.00%	Completed on schedule
Contract C1045	9.00%	0.39%	
Contract C1055	100.00%	0.00%	Completed on schedule
Contract C1056	78.38%	6.22%	On schedule. Milestone 1 was achieved ahead of schedule.
Contract C1078	5.70%	0.68%	

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

OVERALL CONSTRUCTION PROGRESS CURVE



The actual overall construction progress is 11.62% versus a planned of 5.40% through June 2016. The progress curves represent a composite percentage for the physical progress of work performed to complete the Project's construction contracts, including the major Design-Build (C1045), the three Advanced Utility Relocations (C1048, C1055 & C1056), and the Division 20 MOW & NRV Building 61S (C1078).

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.

MAJOR EQUIPMENT DELIVERY

	Initial Procurement	Submittal	Delivery	Installation
Tunnel Boring Machine	1/29/16	5/30/16	7/29/17	4/19/18
Deliver to Site - Station HVAC System	8/13/18	1/21/19	4/21/19	6/18/20
Deliver to Site - Ventilation Fans	2/16/18	3/17/19	6/15/19	8/3/20
Deliver to Site - Elevators	8/2/18	10/1/18	8/3/19	7/17/20
Deliver to Site - Escalalators	11/30/18	1/29/19	10/1/19	4/19/21
Heavy Rail Vehicles	7/16/15	3/1/19	8/1/21	1/1/22
Ticket Vending Machines	2/15/19	10/8/21	9/8/21	9/8/22

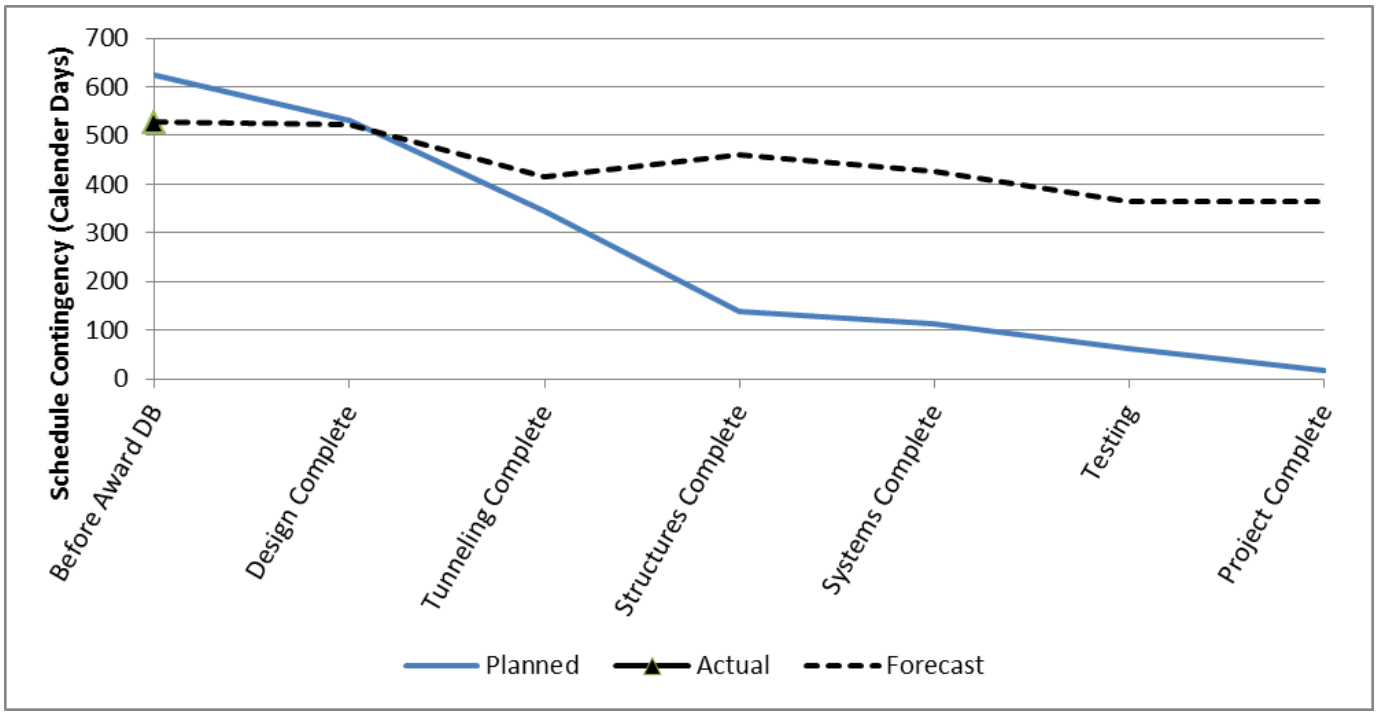
DESIGN BUILDER'S (C1045) LONG LEAD ITEM LIST

Item	Initial Procurement	Approved Submittal	Delivery	Installation Date
Procure / Deliver Fiber Optic Cable	2-Sep-16	21-Aug-16	19-Nov-16	8-Oct-20
Procure / Deliver Innerduct	2-Sep-16	21-Aug-16	19-Nov-16	5-Aug-20
Procure / Deliver Radio Cable	21-Aug-16	11-Aug-16	9-Nov-16	15-Sep-20
SCADA: Procure / Deliver Devices	21-Aug-16	6-Aug-16	4-Nov-16	21-May-21
Procure / Deliver SCADA Cable	21-Aug-16	6-Aug-16	4-Nov-16	5-Aug-20
Procure / Deliver TPS Bonding Cable	23-Mar-17	19-Apr-17	18-Jul-17	8-Oct-21
Procure / Deliver Traction Power Cable	23-Mar-17	19-Apr-17	18-Jul-17	2-Sep-20
TPS: Procure/Deliver BLS Equipment & Devices	23-Mar-17	19-Apr-17	18-Jul-17	26-Aug-20
Mfgr/Assemble/Wire DC Rectifier/Transformer - La Cienega TPSS	27-Jun-17	19-Jul-17	17-Oct-17	2-Feb-22
Mfgr/Assemble/Wire HV Metering Switchgear - La Cienega TPSS	27-Jun-17	19-Jul-17	17-Oct-17	2-Feb-22
Mfgr/Assemble/Wire DC Switches - Fairfax GBS	18-Oct-17	10-Nov-17	8-Feb-18	30-Jul-21
Mfgr/Assemble/Wire HV Metering Switchgear - Fairfax GBS	18-Oct-17	10-Nov-17	8-Feb-18	30-Jul-21
Mfgr/Assemble/Wire DC Rectifier/Transformer - La Brea TPSS	17-Oct-17	16-Nov-17	14-Feb-18	18-Nov-20
Mfgr/Assemble/Wire HV Metering Switchgear - La Brea TPSS	12-Feb-18	14-Mar-18	12-Jun-18	18-Nov-20
CCTV: Assemble/Rack & Stack/Factory Test COM Equipment for Western	26-Jan-17	10-Nov-16	8-Feb-17	2-Mar-22
CCTV: Assemble/Rack & Stack/Factory Test COM Equipment for La Brea	26-Jan-17	1-Mar-17	30-May-17	22-Feb-22
CCTV: Assemble/Rack & Stack/Factory Test COM Equipment for Fairfax	17-May-17	29-Jun-17	27-Sep-17	8-Oct-21
CCTV: Assemble/Rack & Stack/Factory Test COM Equipment for La Cienega	28-Sep-17	28-Oct-17	26-Jan-18	26-Feb-22
CTS: Assemble/Rack & Stack/Factory Test COM Equipment for Western	14-Jul-16	13-Aug-16	11-Nov-16	12-Mar-22
CTS: Assemble/Rack & Stack/Factory Test COM Equipment for La Brea	12-Nov-16	11-Dec-16	11-Mar-17	23-Sep-21
CTS: Assemble/Rack & Stack/Factory Test COM Equipment for Fairfax	14-Mar-17	15-Apr-17	14-Jul-17	10-Jul-21
CTS: Assemble/Rack & Stack/Factory Test COM Equipment for La Cienega	15-Jul-17	16-Aug-17	14-Nov-17	15-Dec-21
EMER MGMT: Assemble/Rack & Stack/Factory Test COM Equipment for La Brea	21-Oct-16	20-Nov-16	18-Feb-17	6-Jul-22
EMER MGMT: Assemble/Rack & Stack/Factory Test COM Equipment for Fairfax	21-Feb-17	25-Mar-17	23-Jun-17	25-Feb-22
EMER MGMT: Assemble/Rack & Stack/Factory Test COM Equipment for La Cienega	24-Jun-17	23-Jul-17	21-Oct-17	1-Jun-22
FIRE ALARM: Assemble/Rack & Stack/Factory Test COM Equipment for Western	14-Jul-16	13-Aug-16	11-Nov-16	21-Mar-22
FIRE ALARM: Assemble/Rack & Stack/Factory Test COM Equipment for La Brea	12-Nov-16	11-Dec-16	11-Mar-17	20-Jan-22
FIRE ALARM: Assemble/Rack & Stack/Factory Test COM Equipment for Fairfax	14-Mar-17	15-Apr-17	14-Jul-17	4-Sep-21
FIRE ALARM: Assemble/Rack & Stack/Factory Test COM Equipment for La Cienega	15-Jul-17	16-Aug-17	14-Nov-17	24-Feb-22
GAS DETECTION: Assemble/Rack & Stack/Factory Test COM Equipment for Western	8-Sep-16	9-Oct-16	7-Jan-17	26-Jan-21
GAS DETECTION: Assemble/Rack & Stack/Factory Test COM Equipment for La Brea	10-Jan-17	11-Feb-17	12-May-17	15-Mar-22
GAS DETECTION: Assemble/Rack & Stack/Factory Test COM Equipment for Fairfax	13-May-17	10-Jun-17	8-Sep-17	30-Oct-21
GAS DETECTION: Assemble/Rack & Stack/Factory Test COM Equipment for La Cienega	9-Sep-17	12-Oct-17	10-Jan-18	4-Mar-22
INTRUSION: Assemble/Rack & Stack/Factory Test COM Equipment for Western	8-Sep-16	9-Oct-16	7-Jan-17	6-Jan-21
INTRUSION: Assemble/Rack & Stack/Factory Test COM Equipment for La Brea	10-Jan-17	12-Jan-17	22-Mar-17	5-Apr-22
INTRUSION: Assemble/Rack & Stack/Factory Test COM Equipment for Fairfax	13-May-17	10-Jun-17	8-Sep-17	19-Nov-21
INTRUSION: Assemble/Rack & Stack/Factory Test COM Equipment for La Cienega	9-Sep-17	12-Oct-17	10-Jan-18	15-Mar-22
RADIO: Assemble/Rack & Stack/Factory Test COM Equipment for Western	31-Aug-16	30-Sep-16	29-Dec-16	9-Oct-20
RADIO: Assemble/Rack & Stack/Factory Test COM Equipment for La Brea	30-Dec-16	3-Feb-17	4-May-17	16-Dec-21
RADIO: Assemble/Rack & Stack/Factory Test COM Equipment for Fairfax	5-May-17	2-Jun-17	31-Aug-17	7-Aug-21
RADIO: Assemble/Rack & Stack/Factory Test COM Equipment for La Cienega	1-Sep-17	1-Oct-17	30-Dec-17	14-Oct-21
SCADA: Assemble/Rack & Stack/Factory Test COM Equipment for Western	14-Jul-16	13-Aug-16	11-Nov-16	27-Jan-21
SCADA: Assemble/Rack & Stack/Factory Test COM Equipment for La Brea	12-Nov-16	11-Dec-16	11-Mar-17	1-Dec-21
SCADA: Assemble/Rack & Stack/Factory Test COM Equipment for Fairfax	14-Mar-17	15-Apr-17	14-Jul-17	21-Jul-21
SCADA: Assemble/Rack & Stack/Factory Test COM Equipment for La Cienega	15-Jul-17	16-Aug-17	14-Nov-17	17-Dec-21
SEISMIC: Assemble/Rack & Stack/Factory Test COM Equipment for La Brea	8-Sep-16	9-Sep-16	22-Nov-16	14-Jul-22
SEISMIC: Assemble/Rack & Stack/Factory Test COM Equipment for Fairfax	10-Jan-17	11-Feb-17	12-May-17	5-Mar-22
SEISMIC: Assemble/Rack & Stack/Factory Test COM Equipment for La Cienega	13-May-17	10-Jun-17	8-Sep-17	22-Jun-22
TELEPHONE: Assemble/Rack & Stack/Factory Test COM Equipment for Western	8-Sep-16	9-Oct-16	7-Jan-17	7-Jan-21
TELEPHONE: Assemble/Rack & Stack/Factory Test COM Equipment for La Brea	10-Jan-17	11-Feb-17	12-May-17	9-Jun-22
TELEPHONE: Assemble/Rack & Stack/Factory Test COM Equipment for Fairfax	13-May-17	10-Jun-17	8-Sep-17	7-Jan-22
TELEPHONE: Assemble/Rack & Stack/Factory Test COM Equipment for La Cienega	9-Sep-17	12-Oct-17	10-Jan-18	4-May-22
TPIS: Assemble/Rack & Stack/Factory Test COM Equipment for La Brea	24-Sep-16	27-Oct-16	25-Jan-17	20-May-22
TPIS: Assemble/Rack & Stack/Factory Test COM Equipment for Fairfax	26-Jan-17	1-Mar-17	30-May-17	24-Feb-22
TPIS: Assemble/Rack & Stack/Factory Test COM Equipment for La Cienega	31-May-17	29-Jun-17	27-Sep-17	9-Jun-22
UPS: Manufacture/Factory Test COM Equipment for La Brea	1-Sep-16	1-Oct-16	30-Dec-16	7-Jan-22
UPS: Manufacture/Factory Test COM Equipment for Fairfax	31-Dec-16	4-Feb-17	5-May-17	14-Oct-21
UPS: Manufacture/Factory Test COM Equipment for La Cienega	6-May-17	3-Jun-17	1-Sep-17	21-Dec-21
PROCURE GAS/WATERPROOFING MATERIALS FOR LA BREA STATION	2-Jul-17	1-Jul-17	29-Sep-17	15-Dec-17
FABRICATE CANOPY STRUCTURE - FAIRFAX STATION	24-Feb-17	23-Feb-17	24-May-17	4-Nov-22
FABRICATE CANOPY STRUCTURE - LA CIENEGA STATION	25-May-17	24-May-17	22-Aug-17	30-Nov-22
Mfgr/Assemble/Wire DC Switchgear - La Cienega TPSS	27-Jun-17	31-Aug-17	29-Nov-17	2-Feb-22
Mfgr/Assemble/Wire AC Switchgear - La Cienega TPSS	27-Jun-17	31-Aug-17	29-Nov-17	15-Feb-22
Mfgr/Assemble/Wire DC Switchgear - La Brea TPSS	30-Nov-17	8-Feb-18	9-May-18	18-Nov-20
Mfgr/Assemble/Wire AC Switchgear - Fairfax GBS	30-Nov-17	8-Feb-18	9-May-18	30-Jul-21
Mfgr/Assemble/Wire AC Switchgear - La Brea TPSS	10-May-18	13-Jul-18	11-Oct-18	13-Aug-21
ATC: Procure/Deliver Switch Machines	31-Jul-16	16-Oct-16	14-Jan-17	17-Feb-22
COMPLETE MOCK-UP, FABRICATE CANOPY STRUCTURE - LA BREA STATION	27-Oct-16	24-May-17	22-Aug-17	21-Dec-22
FAB/DELIVER SOLDIER PILES / BEAMS - TBM RETRIEVAL SHAFT	9-Oct-16	12-Nov-16	10-Feb-17	14-Nov-17
FAB/DELIVER SOLDIER PILES / BEAMS - FAIRFAX STATION	27-Aug-16	30-Sep-16	29-Dec-16	8-Nov-16
FAB/DELIVER SOLDIER PILES / BEAMS - LA CIENEGA STATION	9-Feb-17	15-Mar-17	13-Jun-17	24-Jun-17
ATC: Assemble/Rack & Stack TC&C Equipment for Western	3-Nov-17	23-Feb-18	24-May-18	8-Oct-20
ATC: Assemble/Rack & Stack ATC Equipment for La Brea	3-Nov-17	23-Feb-18	24-May-18	9-Nov-21
ATC: Assemble/Rack & Stack ATC Equipment for Fairfax	20-Jan-18	11-May-18	9-Aug-18	10-Aug-21
ATC: Assemble/Rack & Stack ATC Equipment for La Cienega	12-Jun-18	27-Sep-18	26-Dec-18	28-Jan-22
FABRICATE TRACK MATERIALS	7-Feb-19	5-Sep-19	4-Dec-19	20-Feb-21
ATC: Procure/Deliver WS Equipment & Devices	30-Mar-16	17-Sep-16	16-Dec-16	28-Jan-22
ATC: Procure/Deliver Components & Materials - Western	5-Jan-17	4-Aug-17	2-Nov-17	8-Oct-20
ATC: Procure/Deliver Components & Materials - La Brea	5-Jan-17	4-Aug-17	2-Nov-17	9-Nov-21
ATC: Procure/Deliver Components & Materials - Fairfax	5-Jan-17	4-Aug-17	2-Nov-17	10-Aug-21
ATC: Procure/Deliver Components & Materials - La Cienega	5-Jan-17	4-Aug-17	2-Nov-17	28-Jan-22

CRITICAL PATH NARRATIVE

The critical path for the Westside Purple Line Extension Project begins with the procurement process for the C1045 Design/Build contract, mobilization of the design team for the selected contractor, and the start of final design for station boxes and tunnels. Final design is concurrent with the C1055 Wilshire/Fairfax Advanced Utility Relocation and C1056 Wilshire/ La Cienega Advanced Utility Relocation contracts being performed by Metro's AUR Contractors and by third party utility companies. Upon completion of advanced utility relocations, the Design/Build contractor begins installation of soldier piles, first on the north side of the Wilshire/La Brea Station box, and then on the south side. Street decking is then installed, the station structural box is excavated, and invert concrete is placed. Tunneling then begins, first driving eastbound from Wilshire/La Brea to Wilshire/Western. TBMs are removed though a retrieval shaft at Wilshire/Western, reassembled at Wilshire/La Brea, and then driven westbound to Wilshire/La Cienega. Following construction of cross passages, the critical path continues through construction of the Wilshire/La Brea station box, installation of track-work and traction power, systems integration and testing, and pre-revenue operations.

PROJECT SCHEDULE CONTINGENCY DRAWDOWN



PROJECT SCHEDULE CONTINGENCY DRAWDOWN ANALYSIS

The project schedule contingency drawdown curve is based on a November 8, 2023 Revenue Service Date (RSD).

PROJECT COST STATUS

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	-	380,970	4,301	14,311	-	388,294	-
20	STATIONS, STOPS, TERMINALS, INTERMODAL	440,621	-	440,621	-	435,145	1,050	12,207	-	440,621	-
30	SUPPORT FACILITIES: YARDS, SHOPS, ADMIN. BLDGS	43,323	-	43,323	-	34,198	22	276	-	41,889	(1,434)
40	SITEWORK & SPECIAL CONDITIONS	751,566	-	754,491	1,297	768,966	4,691	379,106	-	790,080	35,589
50	SYSTEMS	113,574	-	113,574	111	98,008	64	8,700	-	113,574	-
	CONSTRUCTION SUBTOTAL (10-50)	1,737,378	-	1,740,303	1,409	1,717,286	10,128	414,600	-	1,774,458	34,155
60	ROW, LAND, EXISTING IMPROVEMENTS	175,634	-	175,634	-	175,634	-	135,357	-	202,980	27,346
70	VEHICLES	160,196	-	160,196	-	-	-	-	-	145,493	(14,703)
80	PROFESSIONAL SERVICES	412,710	-	414,785	115	263,016	5,610	197,934	-	418,013	3,227
	SUBTOTAL (10-80)	2,485,918	-	2,490,918	1,523	2,155,937	15,738	747,891	-	2,540,944	50,025
90	UNALLOCATED CONTINGENCY	248,592	-	248,592	-	-	-	-	-	242,972	(5,620)
100	FINANCE CHARGES	375,470	-	375,470	-	-	-	-	-	331,065	(44,405)
	TOTAL PROJECTS 465518 & 865518 (10-100)	3,109,980	-	3,114,980	1,523	2,155,937	15,738	747,891	-	3,114,980	-
	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	-
	TOTAL PROJECTS 405518 & 465518 (ENV / PLAN'G)	39,370	-	39,370	-	39,370	-	39,357	-	39,370	-
	TOTAL PROJECTS 405518, 465518 & 865518	3,149,350	-	3,154,350	1,523	2,195,306	15,738	787,248	-	3,154,350	-

NOTE: EXPENDITURES ARE CUMULATIVE THROUGH MAY 2016

PROJECT COST ANALYSIS

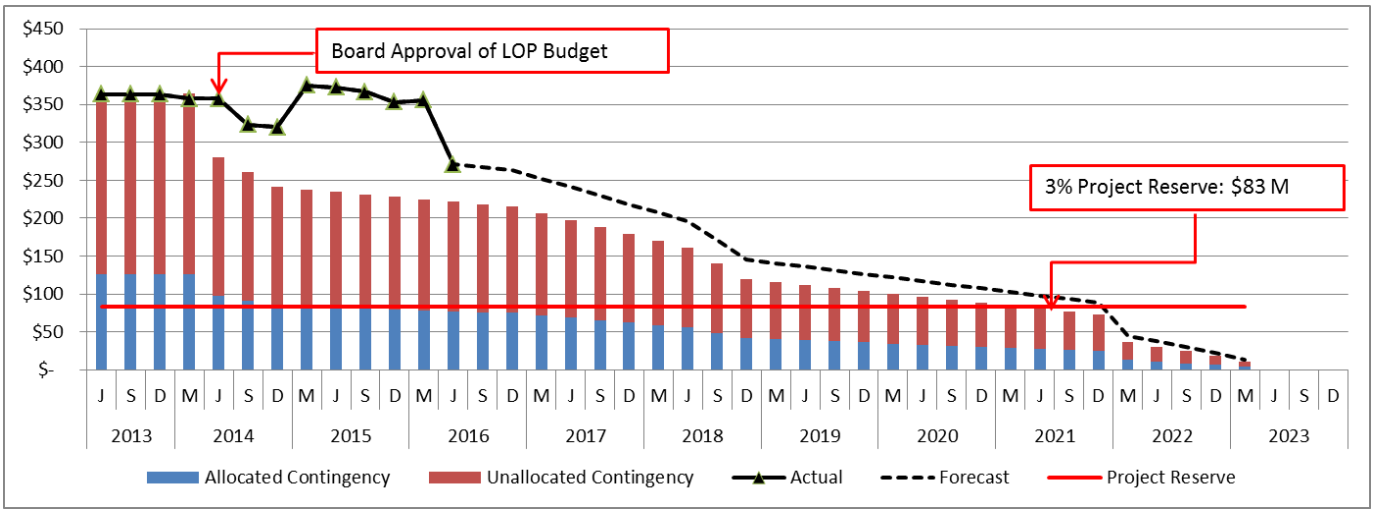
Original Budget
The Original Budget of $3.2 billion reflects the Board approved Life of Project Budget, July 24, 2014, plus Finance Charges of $0.4 billion.

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 $1.5 million primarily due to Environmental Services, Advanced Utility Relocations, and an executed Contract Modification for the Design/Build Contract C1045. The $2.2 billion in Commitments to date represents 69.6% of the Current Budget.

Expenditures
The Expenditures are cumulative through May 2016. The Expenditures increased by $15.7 million this period primarily for costs associated with the Design/Build Contract C1045, Environmental Services, Advanced Utility Relocations, AUR Memorandum of Understanding (MOA) with the City of Beverly Hills, Legal Services, Master Cooperative Agreement with the City of Los Angeles, Legal Services, Engineering Management Services, Construction Management Support Services, and Metro Project Administration. The $787.2 million in Expenditures to date represents 25.0% of the Current Budget.

PROJECT COST CONTINGENCY DRAWDOWN



PROJECT 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 November 8, 2023 Revenue Service date.

The allocated contingency decreased this period by $0.1 million due to an executed Contract Modification 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	(5,620)	0	(5,620)	242,972
Allocated Contingency	71,963	(43,933)	(91)	(44,025)	27,939
Total Contingency	**320,555**	**(49,554)**	**(91)**	**(49,645)**	**270,910**

DISADVANTAGED BUSINESS ENTERPRISE (DBE)

RACE-CONSCIOUS DISADVANTAGED BUSINESS ENTERPRISE (RC-DBE) STATUS

Contract C1045 Westside Purple Line Extension, Section 1 Design-Build
(Reporting Data as of June 2016)

- RC-DBE Goal – Design 20%
- Current RC-DBE Commitment $12,923,604.88 (20.25%)
- Current RC-DBE Participation $7,966,387.78 (15.49%)
- Twelve (12) Design DBE subcontractors have been identified for Design

- DBE Goal – Construction 17%
- Current DBE Commitment $258,940,454.57(17%)
- Current DBE Participation $14,101,415.65 (4.47%)
- Thirty-Five (35) Construction DBE subcontractors have been identified to-date

PROJECT LABOR AGREEMENTS (PLA) STATUS

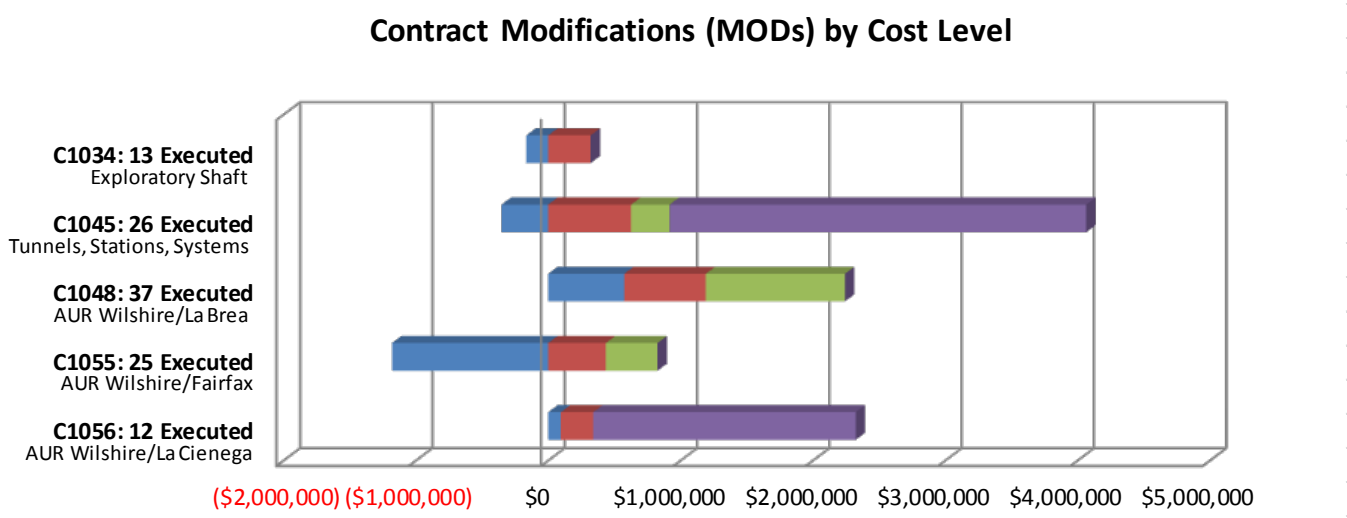
Contract C1045 Westside Purple Line Extension, Section 1 Design-Build
(Reporting Data as of June 2016)

- Targeted Worker Goal 40.00%
- Targeted Worker Current Participation 69.83%

- Apprentice Worker Goal 20.00%
- Apprentice Worker Current Participation 15.00%

- Disadvantaged Worker Goal 10.00%
- Disadvantaged Worker Current Participation 9.92%

SUMMARY OF CONTRACT MODIFICATIONS



	C1034 13 Executed	C1045 26 Executed	C1048 37 Executed	C1055 25 Executed	C1056 12 Executed	Total
Under $100K	(164,288)	(351,856)	574,448	(1,179,119)	95,719	**(1,025,095)**
$100K to $250K	321,000	626,791	616,809	436,190	245,024	**2,245,814**
$250K to $1M	-	290,006	1,050,980	390,709	-	**1,731,695**
Over $1M	-	3,150,000	-	-	1,983,179	**5,133,179**
Total Contract MODs	**156,712**	**3,714,941**	**2,242,237**	**(352,220)**	**2,323,922**	**8,085,593**
Contract Award Amount	**6,487,020**	**1,636,418,585**	**6,181,000**	**14,430,000**	**20,250,000**	**1,683,766,605**
% of Contract MODs	**2.4%**	**0.2%**	**36.3%**	**-2.4%**	**11.5%**	**0.5%**

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.

Twenty-six Contract MODs with a total value of $3.7 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.

Twelve Contract MODs with a total value of $2.3 million have been executed since the award of Contract C1056 – Advanced Utility Relocations at Wilshire/La Cienega by Steve Bubalo Construction Co.

FINANCIAL/GRANT STATUS

SOURCE	(A) ORIGINAL BUDGET	(B) TOTAL FUNDS ANTICIPATED	(C) TOTAL FUNDS AVAILABLE	(D) COMMITMENTS $	(D/B) COMMITMENTS %	(E) EXPENDITURES $	(E/B) EXPENDITURES %	(F) BILLED TO FUNDING SOURCE $	(F/B) BILLED TO FUNDING SOURCE %
FEDERAL - SECTION 5309 NEW STARTS	$1,250.000	$1,250.000	$165.000	$1,250.000	100%	$206.935	17%	$165.000	13%
FEDERAL CMAQ	$12.171	$12.171	$12.171	$12.171	100%	$12.171	100%	$12.171	100%
FEDERAL SECTION 5309 - 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	$0.000	$0.000	0%	$0.000	0%	$0.000	0%
MEASURE R 35%	$869.178	$874.178	$481.414	$846.407	97%	$481.414	55%	$370.525	42%
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%	$50.898	61%
CITY OF LOS ANGELES	$75.273	$75.273	$0.000	$0.000	0%	$0.000	0%	$0.000	0%
TOTAL	$3,149.350	$3,154.350	$745.313	$2,195.306	69.6%	$787.248	25.0%	$601.674	19.1%

EXPENDITURES ARE CUMULATIVE THROUGH MAY 2016
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)

STATUS OF FUNDS ANTICIPATED

FEDERAL SECTION 5309 NEW STARTS: FTA Grant CA-03-0824 for $65.0 million was awarded on June 2, 2014. FTA Grant CA-03-0824-01 for $100.0 million was awarded on August 10, 2015. Funds are available for drawdown. *Metro submitted to the FTA a grant application of $100.0 million in July 2016. Grant is expected to be awarded in August 2016.*

FEDERAL SECTION 5309 ALTERNATIVE ANALYSIS: FTA Grant CA-39-0006 of $0.5 million was awarded on July 25, 2014. Funds are available for drawdown.

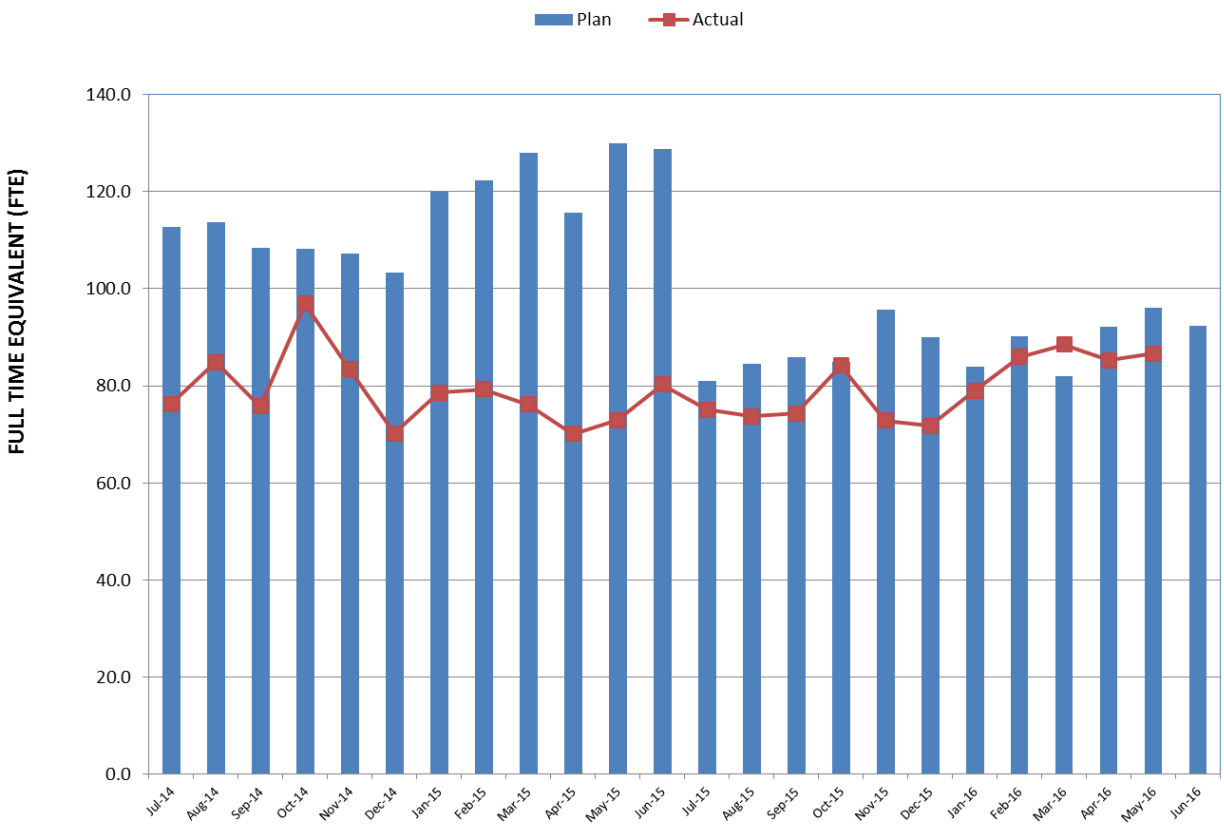
MEASURE R – TIFIA LOAN (Transportation Infrastructure Finance & Innovation Act): TIFIA Loan was executed on May 21, 2014 for $856.0 million. First disbursement is planned for FY 2018.

MEASURE R 35%: $481.4 million have been allocated to the Project through FY16. Funds are available for drawdown.

STATE STIP RIP: State grant application of $8.4 million, of which $2.6 million has been allocated to this project, was awarded on July 26, 2007. Funds are available for drawdown.

CMAQ (Congestion Mitigation & Air Quality): FTA Grant CA-95-X264 for $12.2 million was awarded on July 27, 2015. Funds are available for drawdown.

STAFFING STATUS
Total Project Staffing – FTES



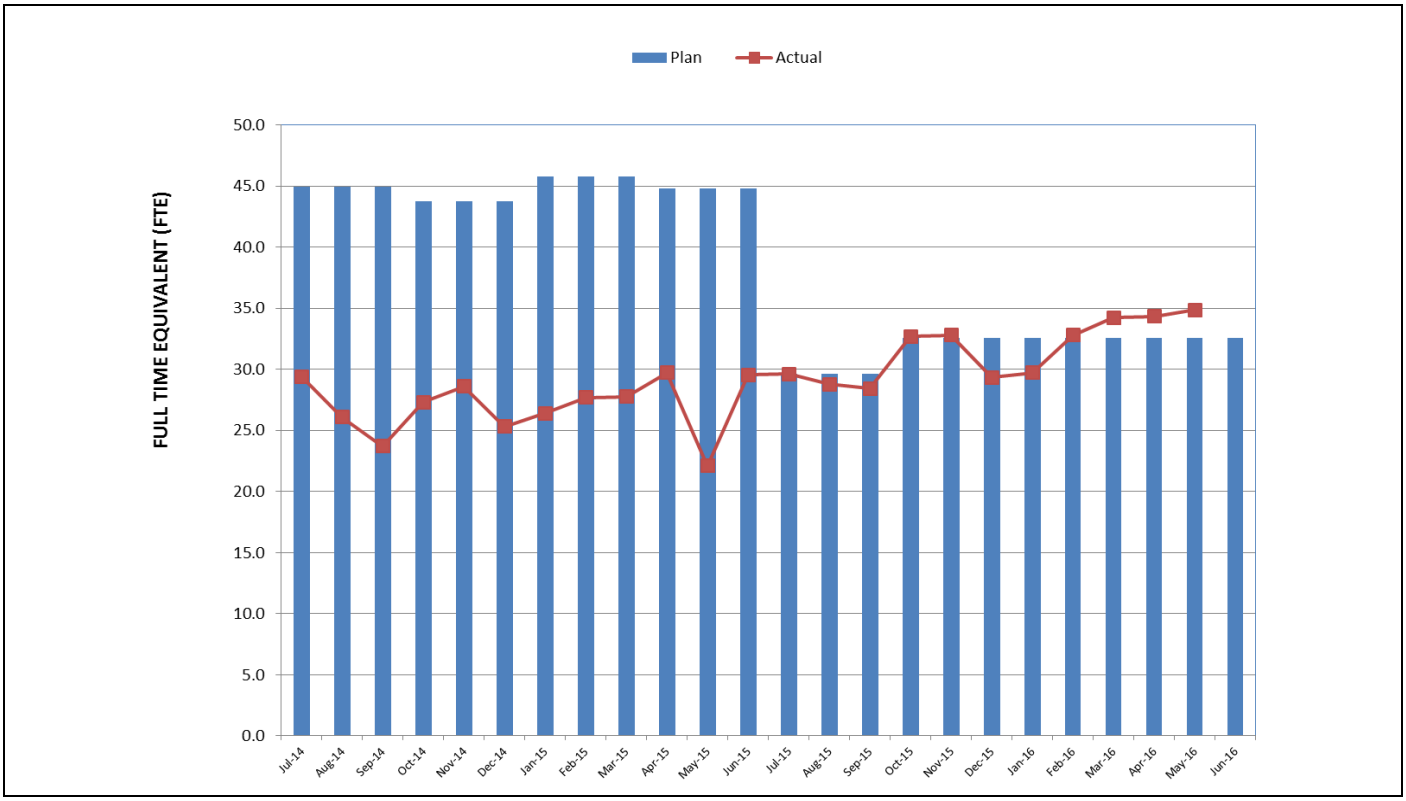
TOTAL PROJECT STAFFING

The overall FY16 Total Project Staffing Plan averages 88.2 FTEs per month.

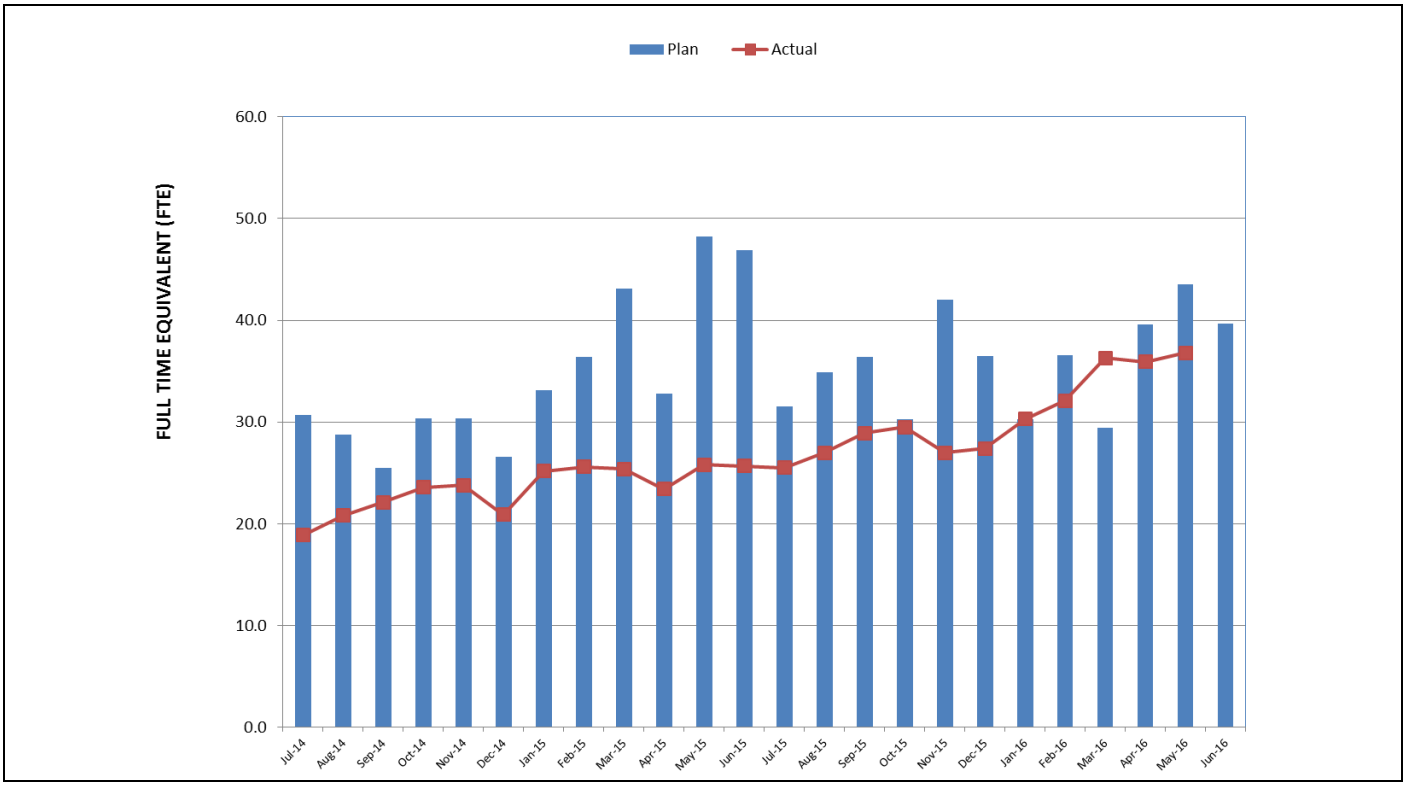
For May 2016, there were a total of 34.9 FTEs for MTA's Project Administration Staff and 51.8 FTEs for Consulting Staff. The total project staffing for May 2016 was 86.7 FTEs.

STAFFING STATUS (Continued)

METRO STAFFING – FTES

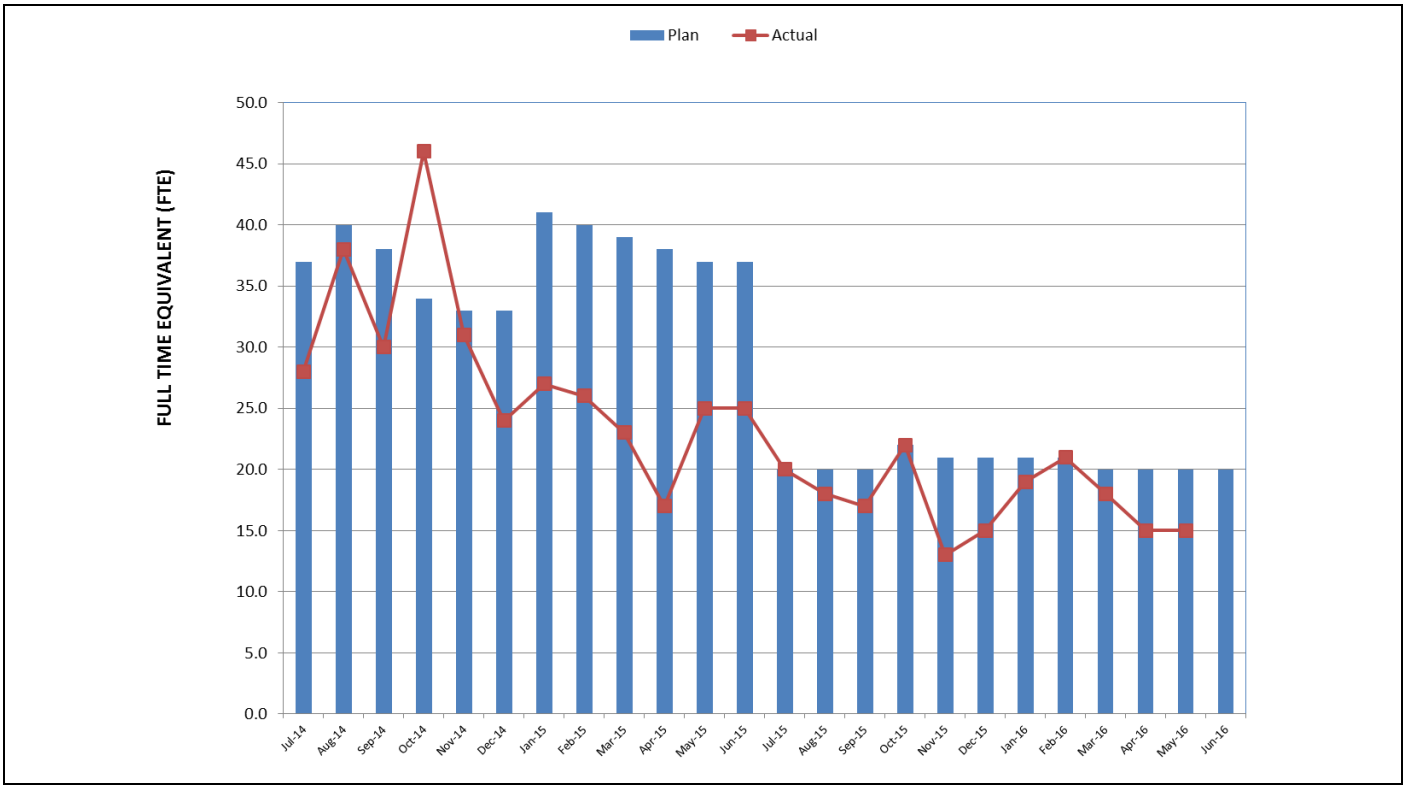


CONSTRUCTION MANAGEMENT SUPPORT SERVICES CONSULTANT – FTES



STAFFING STATUS (Continued)

ENGINEERING MANAGEMENT SERVICES CONSULTANT – FTES



REAL ESTATE STATUS

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	9	109	109	9
Part Takes	6	6	6	5	1	0	0	5
TCE	4	4	4	4	1	0	0	4
Total Parcels	**19**	**19**	**19**	**18**	**11**	**109**	**109**	**18**

The total count of the 19 parcels include the two Division 20 parcels required for constructing the MOW/NRV Building 61S.

Metro has possession of 18 parcels by either acquisition, possession and use agreements or stipulations. The C1045 contractor has possession of all properties needed to construction the Project.

QUALITY ASSURANCE STATUS

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

- Attended weekly Project staff meetings and progress meetings with the Contractor Skanska/Traylor/Shea (STS).
- Ongoing discussions and coordination with the Engineering Management Services Consultant (EMSC) and Construction Management Support Services Consultant (CMSSC) support staff for quality oversight.
- 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.
- *Completed Quality Surveillance for the development of initial Jet Grout Testing Plan. The Wilshire/La Brea Testing Plan was implemented and the Wilshire/Fairfax Testing Plan is pending the engineer's review.*
- *California Testing and Inspection conducted verification and testing activities at the PROCAST Plant for fabrication of pre-stress/precast reinforced concrete deck panels.*

C1056 – Advanced Utility Relocations – Wilshire/La Cienega

- Attended weekly progress meeting with the Contractor.
- Reviewed and provided comments on quality related submittals.
- Attended Readiness Review Meetings.
- Reviewed daily inspection reports from the Contractor/Field Technician and CMSC oversight inspection personnel.
- Reviewed Monthly Quality Control Materials Testing Report for submittal to City of Beverly Hills.

C1078 – Division 20 MOW and NRV Building 61S

- Attended weekly Project Staff Meetings and Progress Meetings with the Contractor.
- Reviewed and provided comments on quality related submittals.
- Verifying Quality personnel who will be responsible for conducting inspections and materials testing during grading activity.

ENVIRONMENTAL STATUS

- Limited noise and vibration monitoring performed by AUR and DB Contractors. No significant noise or vibration exceedances were reported for work performed.
- Conducted Environmental Awareness Training for Construction Noise, Stormwater BMP, and Archeo/Paleo for C1056, C1045 and Third Party Contractors.
- Reviewed C1056 and C1045 Contractor submittals and tracked monitoring and reporting obligations in accordance with contract Specifications and EIR requirements.
- Participated in weekly C1056 and C1045 contract coordination meetings and evaluated progress and schedules for upcoming construction activities.
- Conducted weekly Environmental Construction Progress Meetings and monthly Environmental Mitigation (MMRP) update meeting with C1045 contractor.
- Reviewed Weekly Construction Noise Compliance Reports prepared by the Independent Compliance Monitor and submitted to Metro and City of Beverly Hills.
- Participated in various Construction Work Plan Workshops and Readiness Review Meetings prior to start of new construction activities.
- Reviewed and tracked contractor monitoring and reporting requirements.
- Evaluated progress and upcoming schedules of DB construction activities.
- Conducted field environmental monitoring and spot inspections for construction noise, stormwater BMPs, dust and cultural resources for C1056, C1045, and Third Party AUR work activities.
- *Continue coordination with the Regional Water Quality Control Board on the dewatering discharge permit to storm drain system.*
- Evaluated Contractor's proposed hauling/trucking plans.
- Reviewed bird nest findings and action plan for compliance with Migratory Bird Act.
- Worked on foundation excavation scope and shoring plans for Building 61S (C1078).
- *Compiled Noise Monitoring Terminal data at Wilshire/Western site for inclusion in the Acoustical Analysis Report.*
- *Coordinated the placement of vibration monitoring terminals at Wilshire/Fairfax Station.*
- *Reviewed Contractor's Vibration Control Plan Quarterly update.*
- *Compiled an updated Waste Receiving Facility List with Contractor.*
- Reviewed Sustainability Plan and Green Construction Plan.
- *Coordinated documentation and approvals for brick structure findings at Wilshire/La Brea.*
- *Assess Contractor's SUSMP/LID and Drainage Reports.*

CONSTRUCTION RELATIONS STATUS

- *Produced and distributed 27 construction work notices for advance utility relocations and construction activities*.
- *Made Project Presentations at the following: LAPD Community Meeting, Third Street ES School Safety Presentation, La Brea Business Workshop, La Brea Press Event, Wilshire Crest ES School Safety, Greater Wilshire NC, Carthay Circle HOA, Hancock Park ES School Safety Presentation, Design Advisory Group MOW Bldg., Miracle Mile Farmers Market, Eat, Shop, Play Wilshire Lunch Meet Up, BH Station Design and Art Program.*
- *Fielded and addressed the following: Pedestrian, traffic and bus complaints from Wilshire/La Brea decking weekend closures, dust issues around Wilshire/La Brea staging yards, noise on Sycamore from street sweeper, parking issues related to non-closures and noise at Wilshire/La Cienega.*
- Visited and updated businesses and residences at future station locations to discuss utility relocations, business profiles and Eat, Shop, Play Wilshire promotional campaign for businesses.
- Attended the following meetings: Construction Management, Advanced Utility Relocations, Construction Relations, Environmental Mitigations, STS Third Party Workshop, Beverly Hills MOA and AUR, Marketing, Social Media, Eat, Shop, Play, Bus Relocations and Stops, and DOT/Elected Officials.
- Started “Fortune Fridays” where participants are entered into a drawing each Friday to win $50 if they check in at a participating ESP Wilshire Business.
- Updated website, Facebook, Twitter as needed.
- Continued with the “Eat, Shop, Play Spotlight” campaign to advertise and promote businesses along Wilshire Boulevard. Two businesses are being highlighted per month.

CREATIVE SERVICES STATUS

- Continued to refine project artwork opportunities and locations.
- Responded to RFIs and submittals.
- Participated in Design Build Workshops and document reviews.
- Participated in Building 61S Design Advisory Working Group Meetings.
- Continue to solicit background information from stakeholders for community profile to be provided to project artists.
- *Participated in City of Beverly Hills staff briefing.*

SAFETY & SECURITY STATUS

- *During June 2016 there were no worker injuries.*
- Continue to monitor AUR construction activities, Design Builder's construction activities and the C1078 Maintenance-of-Way Building site to document contractor compliance with contract specifications.
- Participated in weekly Progress Meetings and Readiness Review Meetings to evaluate Contractors Safety Program compliance with contract requirements.
- Continue to work with Program Management and Construction Relations staff to monitor public concerns regarding noise, traffic and transient encampment hazards and public interactions with the construction crews.
- Continue to work with the D/B Contractor to insure adequate Construction Safety Staffing in compliance with the Contract.
- *The California Division of Occupational Safety and Health, Mining and Tunneling Unit, conducted a Pre-Job Safety Conference on June 20, 2016 for excavation activities under the decking at Wilshire/La Brea.*
- *Hosted Monthly All Hands Safety Meeting for all Westside Purple Line Extension Contractors on June 28, 2016.*
- *May 2016 data is presented below*. Construction Safety Staff continue to work with all contractors to insure accurate data.
- *May 2016 Contractor Work Hours (Design & Construction): 50,858*
- *Contractor - Project to Date Work Hours (Design & Construction)(through 5/31/2016): 722,101*
- *Total Project to Date Work Hours (Contractor & the IPO Staff) (through 5/31/2016): 989,359*
- *Project to Date Recordable Injury Rate: 0.6 (Three Recordable Injuries)(each rate is per 200,000 work hours)(National Rate: 3.0)*
- *Project to Date Total Time Away Injury Rate: 0.4 (Two Time Away From Work Injury)(National Rate: 1.7)*
- *Project to Date Total Days Away Rate: 41.0 (203 Days Away From Work) (No National Rate Published)*
- National Rates for Heavy and Civil Construction (NAICS Code 237) are for Calendar Year 2014, published by USBLS in December 2015.

THIRD PARTY AGREEMENT STATUS

Third Party	Type of Agreement	Forecast Execution Date	Required Need Date	Status/ Comments
City of Los Angeles (LA)	Amendment to Master Cooperative Agreement	N/A	N/A	Parties will work under 2003 MCA.
City of Beverly Hills (BH)	MOAs (La Cienega only)	9/14 (AUR) *9/16 (D/B)*	9/14 (AUR) *01/17 (D/B)*	City of Beverly Hills approved the MOA for the C1056 Wilshire/La Cienega AUR contract on August 19, 2014. Metro continues to work with the City to establish an MOA for the C1045 Design/Build contract. *Required Need Date reflects turnover date to C1045 contractor for all areas at Wilshire/La Cienega.*
Los Angeles Department of Water and Power	Amendment to Memorandum of Understanding	N/A	N/A	Metro and LADWP will continue to work under the terms of the previous Cooperative Agreement.
Los Angeles County Public Works	Letter of Agreement	4/11	3/12	Executed
Caltrans	Amendment	8/11	3/12	Executed
Private Utilities	LOA, MOU, MCA, or MUA	9/14	N/A	Metro is working with affected third party utilities under existing agreements except for Qwest/Century Link and Level 3. Draft agreements for Qwest/Century Link and Level 3, and a new agreement for SCE are all under review. In absence of an agreement, work is being performed by work orders.

ADVANCED UTILITY RELOCATION STATUS

- *AT&T relocations at the Wilshire/Fairfax Station began in January 2015 and are anticipated to be completed in July 2016.* The LADWP Power relocations in the same location are on-going and are anticipated to complete in October 2016.

- AT&T relocations on Hamilton Drive at the Wilshire/La Cienega Station area were completed in July 2015. *AT&T work for the remaining portion of the Wilshire/La Cienega Station area is anticipated to complete in October 2016.*

- The Notice to Proceed (NTP) Wilshire/La Cienega AUR Contract (C1056) was issued on January 12, 2015. Construction began in late April 2015. On April 28, 2016, the C1056 contractor completed Milestone 1, acceptance of all SCE power vaults and ducts. This was accomplished 2 ½ months ahead of schedule. *The contractor is continuing with the City of Beverly Hills sewer and water relocations, and this work is projected to complete prior to the contractual substantial completion of December 8, 2016*.

- Relocation of City of Beverly Hills owned fiber lines began on November 30, 2015. Conduit work was completed in February 2016. *Fiber pulling and splicing work to be performed by City of Beverly Hills approved Contractor is scheduled to complete in July 2016.*

PEAK HOUR AND NIGHTTIME CONSTRUCTION VARIANCES

Metro is actively pursuing extended hour variances/exemptions to accommodate the Project needs. Metro staff is working with the City of Los Angeles Bureau of Engineering and the Los Angeles Police Commission to obtain Peak Hour Exemptions and Nighttime Construction Variances. Current efforts center around extending the existing nighttime noise variances to accommodate advanced utility relocations at the Wilshire/La Brea and Wilshire/Fairfax Station sites as well as obtaining new nighttime noise variances and peak hour exemptions to allow night work and weekend work to accommodate the Wilshire/La Brea, Wilshire/Fairfax and Wilshire/Western piling operations for the Design/Build contractor.

- The Peak Hour Exemption for Wilshire/La Brea decking installation was approved by the City of Los Angeles Board of Public Works on May 27, 2016 as part of the full street closure approval. The dates for the Peak Hour Exemption are from June 10, 2016 through November 18, 2016.
- *The Peak Hour Exemption for Wilshire/Fairfax Station pile installation was approved on June 29, 2016. The dates for the Peak Hour Exemption are from July 5, 2016 through October 28, 2016.*
- A Peak Hour Exemption was granted by the City of Los Angeles for the area near the Wilshire/La Cienega Station to allow for the spillover of traffic control devices from the City of Beverly Hills into the City of Los Angeles. *An extension was granted on June 21, 2016 extending the Peak Hour Exemption to September 16, 2016.*
- *The Nighttime Noise Variance for the Wilshire/La Brea Advanced Utility Relocation work has been extended to December 17, 2016 by the Los Angeles Police Commission.*
- *The Nighttime Noise Variance for the Wilshire/Fairfax Advanced Utility Relocation work has been extended to January 17, 2016 by the Los Angeles Police Commission.*
- The Nighttime Noise Variance for pile installations at the Wilshire/La Brea Station has been extended to October 30, 2016 by the Los Angeles Police Commission. In addition, a new Nighttime Noise Variance was issued to support pile installation activities after 11pm. The activities after 11pm include setting of steel piles and pumping concrete to stabilize the piles.
- *An additional Nighttime Noise Variance for the decking and excavation work at Wilshire/La Brea Station has been approved by the Los Angeles Police Commission for the full street closures that began on June 10, 2016.*
- A new Nighttime Noise Variance for the pile installations at Wilshire/Fairfax was approved by the Los Angeles Police Commission on May 24, 2016 and extends to November 24, 2016.

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

CHRONOLOGY OF EVENTS (Continued)

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
June 2016	*Began deck beam and decking operations for Wilshire/La Brea Station*

CONTRACT C1045 STATUS

Description: Westside Purple Line Extension Design-Build
Contractor: SKANSKA - TRAYLOR - SHEA

Contract No. C1045
Status as of: July 1, 2016

Progress / Work Completed:

- Wilshire/La Brea north side installation of dewatering wells
- Wilshire/Fairfax soundwall installation
- Wilshire/La Brea temporary decking installation began
- DU 1 Wilshire/Western – AFC complete
- DU 3 Wilshire/Fairfax – 100% complete

Areas of Concern:

None

Major Activities (In Progress):

- DU 2 Wilshire/La Brea – AFC
- DU 5 Tunnels – AFC
- DU 6 Systems – 100% design
- Wilshire/La Brea south side pile installation
- Wilshire/Western soundwall installation
- Wilshire/La Brea temporary decking installation
- Deck panel fabrication
- Wilshire/La Brea geotechnical instrumentation installation
- Wilshire/La Brea under deck utility support

Major Activities Next Period:

- Wilshire/Fairfax traffic control for pile work
- Wilshire/Fairfax pre-pile installation work
- DU 2 Wilshire/La Brea – AFC submittal
- DU 5 Tunnels – AFC submittal

Schedule Summary:

Date of Award:	11/04/14
Notice to Proceed:	01/12/15
Original Contract Duration:	3250 CD
Current Contract Duration:	3250 CD
Elapsed Time from NTP:	536 CD

	Original Contract Dates	Time Extension	Current Contract	Forecast	Variance CDs
Notice to Proceed (Estimated)	01/12/15	0	01/12/15	01/12/15	0
Milestone 1: Substantial Completion	06/09/23	0	06/09/23	06/09/23	0
Milestone 2: Stations available to UFS	10/07/22	0	10/07/22	10/07/22	0
Milestone 3: Start of Integration Testing to ROC	01/10/23	0	01/10/23	01/10/23	0
Milestone 4: Demobilization	12/06/23	0	12/06/23	12/06/23	0
Milestone 5: Temporary Construction Easements	01/10/23	0	01/10/23	01/10/23	0

Physical Percent Complete:

Physical completion: 9.00%*

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

Cost Summary:

	$ In millions
1. Award Value:	1,636.4
2. Executed Modifications:	3.7
3. Approved Change Orders:	0.0
4. Current Contract Value (1+2+3):	1,640.1
5. Incurred Cost:	413.8

CONTRACT C1056 STATUS

Description: Wilshire/La Cienega AUR
Contractor: Steve Bubalo Construction Co.

Contract No. C1056
Status as of: July 1, 2016

Progress / Work Completed:

- South WL Relocation- Hamilton Dr. to Gale Dr. STA 26+95 to 30+20
- South WL Relocation- 8" South Hamilton Dr. Lateral
- South WL Relocation- 8" South Gale Dr. Lateral
- South WL Relocation- 12" Insert Valve @ Eastside La Cienega Inters.

Major Activities (In Progress):

- Waterline South Side @ La Cienega

Areas of Concern:

None

Major Activities Next Period:

- Continue water lines along Wilshire Blvd at Hamilton

Schedule Summary:

Date of Award:	10/13/14
Notice to Proceed:	01/12/15
Original Contract Duration:	696 CD
Current Contract Duration:	696 CD
Elapsed Time from NTP:	536 CD

	Original Contract Dates	Time Extension	Current Contract	Forecast	Variance CDs
Notice to Proceed (Estimated)	01/12/15	0	01/12/15	01/12/15	0
Milestone 1:	07/13/16	0	07/13/16	04/28/16	76
Milestone 2: Substantial Completion	12/08/16	0	12/08/16	12/08/16	0

Physical Percent Complete:

Physical completion: 78.38%*

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

Cost Summary:

	$ In millions
1. Award Value:	20.3
2. Executed Modifications:	2.3
3. Approved Change Orders:	0.0
4. Current Contract Value (1+2+3):	22.6
5. Incurred Cost:	18.1

CONTRACT C1078 STATUS

Description: Building 61S (MOW/NRV)
Contractor: Clark Construction

Contract No. **C1078**
Status as of: **July 1, 2016**

Progress / Work Completed:

- Contractor continued progress of 30% to IFC design per the modified location of the facility (Alternative A-1)
- Contractor submitted 60% APDU#2 (Utility) & APDU#3 (Foundation) on 7/01/16.

Areas of Concern:

None at this time.

Major Activities (In Progress):

- Contractor continue design development for Alternative A-1 30% to IFC (APDU#2, APDU#3, DU#2 and a portion of DU#3).
- Processing CO-00003/CN-00006: Revised Building Location Design 30% to IFC. NTE CO was issued to the Contractor on 5/23/16.
- Processing CN-00002: Reduction of Parts Storage Expansion.
- Processing CN-00004: Inspection Pit, CMU Wall and Security Gate.
- Processing CN-00005: Track Design by Clark.
- Processing CN-00007: 3 Additional VLMs (requested by Metro Operation).

Major Activities Next Period:

- Contractor to submit 85% design package APDU#2 (Utility) & APDU#3 (Foundation), 60% DU#2, 100% DU#3 and specifications.
- Complete negotiation and execution of CO-00003.
- Metro prepare independent TIA for CO-00003.

Schedule Summary:

Date of Award:	08/03/15
Notice to Proceed:	09/30/15
Original Contract Duration:	853 CD
Current Contract Duration:	944 CD
Elapsed Time from NTP:	275 CD

	Original Contract Dates	Time Extension	Current Contract	Forecast	Variance CDs
Notice to Proceed (Estimated)	09/30/15	0	0	09/30/15	0
Milestone 1: Substantial Completion	01/30/18	91	944	05/01/18	-91

Physical Percent Complete:

Physical completion: 5.70%

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

Cost Summary: $ In millions

1. Award Value:	$ 52.8
2. Executed Modifications:	$ -
3. Approved Change Orders:	$ 1.9
4. Current Contract Value (1+2+3):	$ 54.7
5. Incurred Cost:	$ 7.5

CONSTRUCTION PHOTOGRAPHS

C1045 Contractor Installing Deck Beam during the 1st of 22 Weekend Closures at Wilshire/La Brea Station

C1045 Contractor Preparing for 3rd Weekend Closure at Wilshire/La Brea Station to Install Deck Beams and Street Decking

APPENDIX

COST AND BUDGET TERMINOLOGY

Project Cost Descriptions

ORIGINAL BUDGET	The Original Project Budget as authorized by the Metropolitan Transportation Authority (Metro) Board.
CURRENT BUDGET	The Original Budget plus all budget amendments approved by formal Metro Board action. Also referred to as Approved Budget.
COMMITMENTS	The total of actual contracts awarded, executed change orders or amendments, and approved work orders of Master Cooperative Agreements, offers accepted for purchase of real estate, and other Metro actions which have been spent or result in the obligation of specific expenditures at a future time.
EXPENDITURES	The total dollar amount of funds expended by Metro for contractor or consultant services, third party services, staff salaries, real estate and other expenses that is reported in Metro's Financial Information System (FIS).
CURRENT FORECAST	The best estimate of the final cost of the Project when all checks have been issued and the Project is closed out. Current Forecast is composed of actual costs incurred to date, the best estimate of work remaining and a current risk assessment for each budgeted cost item.

Cost Report by Element Descriptions

CONSTRUCTION	Includes construction contracts. Cost associated with Guideways, Stations, Southwestern Yard, Sitework/Special. Conditions and Systems.
RIGHT-OF-WAY	Includes purchase cost of parcels, easements, right-of-entry permits, escrow fees, contracted real estate appraisals and tenant relocation.
VEHICLES	Includes the purchase of Heavy Rail Vehicles and spare parts for the Project.
PROFESSIONAL SERVICES	Includes design engineering, project management assistance, construction management support services, legal counsel, agency staff costs, and other specialty consultants.
CONTINGENCY	A fund established at the beginning of a project to provide for anticipated but unknown additional costs that may arise during the course of the Project.
PROJECT REVENUE	Includes all revenue received by Metro as a direct result of project activities. This includes cost sharing construction items, insurance premium rebates, and the like.

APPENDIX

LIST OF ACRONYMS

ATC	Automatic Train Control
ATSAC	Automated Traffic Surveillance and Control
BAFO	Best and Final Offer
BIM	Building Information Modeling
BNSF	Burlington Northern Santa Fe Railway Company
BRT	Bus Rapid Transit
CADD	Computer Aided Drafting and Design
CALTRANS	California Department of Transportation
CCTV	Closed Circuit Television
CD	Calendar Day
CEQA	California Environmental Quality Act
CM	Construction Manager
CMAQ	Congestion Mitigation and Air Quality Improvement Program
CMSSC	Construction Management Support Services Consultant
CN	Change Notice
CO	Change Order
COBH	City of Beverly Hills
COLA	City of Los Angeles
CPM	Critical Path Method
CPUC	California Public Utilities Commission
CR	Camera Ready
CRMMP	Cultural Resource Monitoring and Mitigation Plan
CSPP	Construction Safety Phasing Plan
CTC	California Transportation Commission
CUD	Contract Unit Description
DB	Design Build
DBB	Design Bid Build
DOT	Department of Transportation
DWP	Department of Water and Power
EIR	Environmental Impact Report
EIS	Environmental Impact Statement
EMS	Engineering Management Services
EPBM	Earth Pressure Balance Machine
FAA	Federal Aviation Administration
FAR	Federal Acquisition Regulation
FD	Final Design
FEIS	Final Environmental Impact Statement
FEIR	Final Environmental Impact Report
FIS	Financial Information System
FLSR	Fire Life Safety Report
FONSI	Finding of No Significant Impact
FRA	Federal Railroad Administration
FSEIR	Final Supplemental Environmental Impact Report
FSEIS	Final Supplemental Environmental Impact Statement

APPENDIX

LIST OF ACRONYMS (Continued)

FTA	Federal Transit Administration
FTE	Full Time Equivalent
GBR	Geotechnical Baseline Report
GDSR	Geotechnical Design Summary Report
HMM	Hatch Mott MacDonald
HRT	Heavy Rail Transit
HRV	Heavy Rail Vehicle
IFB	Invitation for Bid
IPMO	Integrated Project Management Office
JV	Joint-Venture
LA	Los Angeles
LABOE	Los Angeles Bureau of Engineering
LABOS	Los Angeles Bureau of Sanitation
LABSL	Los Angeles Bureau of Street Lighting
LACFCD	Los Angeles County Flood Control District
LACMTA	Los Angeles County Metropolitan Transportation Authority
LADOT	Los Angeles Department of Transportation
LADPW	Los Angeles Department of Public Works
LADWP	Los Angeles Department of Water and Power
LAUSD	Los Angeles Unified School District
LAWA	Los Angeles World Airports
LAX	Los Angeles International Airport
LNTP	Limited Notice To Proceed
LONP	Letter Of No Prejudice
LOP	Life-of-Project
LPA	Locally Preferred Alternative
LRTP	Long Range Transportation Plan
LRV	Light Rail Vehicle
MCA	Master Cooperative Agreement
MIS	Major Investment Study
MMRP	Mitigation Monitoring and Reporting Plan
MOU	Memorandum of Understanding
MPSR	Monthly Project Status Report
N/A	Not Applicable
NEPA	National Environmental Protection Act
NOD	Notice of Determination
NPDES	National Pollution Discharge Elimination System
NTE	Not to Exceed
NTP	Notice To Proceed
OCC	Operations Control Center
OSHA	Occupational Health and Safety Administration
PA/VMS	Public Address/Visual Messaging Sign
PE	Preliminary Engineering

APPENDIX

LIST OF ACRONYMS (Continued)

PEER	Permit Engineering Evaluation Report
PIP	Project Implementation Plan
PLA	Project Labor Agreement
PM	Project Manager
PMIP	Project Management Implementation Plan
PMOC	Project Management Oversight Consultant
PMP	Project Management Plan
P&P	Policies & Procedures
PR	Project Report
PRMMP	Paleontological Resource Monitoring Mitigation Plan
PSR	Project Study Report
QA	Quality Assurance
QAR	Quality Assurance Report
QC	Quality Control
QPSR	Quarterly Project Status Report
QTIB	Qualified Transit Improvement Bonds
RAMP	Real Estate Acquisition Management Plan
RCHAR	Rail Crossing Hazards Analysis Report
RCMP	Risk Assessment Management Plan
RFC	Request For Change
RFP	Request For Proposals
RFSC	Request for Special Consideration
RHA	Risk Hazard Analysis
RLPE	Red Light Photo Enforcement
ROC	Rail Operations Center
ROD	Record Of Decision
ROM	Rough Order of Magnitude
ROW	Right-Of-Way
RPZ	Runway Protection Zone
RSD	Revenue Service Date
SAV	Stand Alone Validator
SBCC	*Steve Bubalo Construction Co*
SCAQMD	Southern California Air Quality Management District
SCADA	Supervisory Control and Data Acquisition
SCC	Standard Cost Category
SCE	Southern California Edison
SCG	Southern California Gas Company
SCRRA	Southern California Regional Rail Authority
SHA	State Highway Account
SHPO	State Historic Preservation Office
SIT	System Integration Testing
SOQ	Statement of Qualification
SOV	Schedule Of Value
SOW	Statement Of Work

APPENDIX

LIST OF ACRONYMS (Continued)

SP	Special Provision
SSMP	Safety and Security Management Plan
STB	Surface Transportation Board
STIP	State Transportation Improvement Program
STP	Surface Transportation Program
STV	STV Group
SWPPP	Storm Water Pollution Prevention Plan
TBD	To Be Determined
TBM	Tunnel Boring Machine
TCE	Temporary Construction Easement
TCRP	Traffic Congestion Relief Program
TIFIA	Transportation Infrastructure Finance and Innovation Act
TIGER	Transportation Investment Generating Economic Recovery
TPSS	Traction Power Substation
TRACS	Transit Automatic Control System
TVA	Threat Vulnerability Analysis
TVM	Ticket Vending Machine
UFS	Universal Fare System
USDOT	United States Department Of Transportation
VE	Value Engineering
WBS	Work Breakdown Structure
WP	Work Package
YOE	Year of Expenditure