# 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).

**FEBRUARY 2016** 

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# **PROJECT SUMMARY**

LOCATION:       Los Angeles / Beverly Hills         DESIGN CONSULTANT:       Parsons / Brinckerhoff			<b>CONSTRUCTION MANAGEMENT CONSULTANT:</b> WEST, a Joint Venture <b>CONTRACTOR:</b> Skanska, Traylor and Shea, a Joint Venture				
Wilshire/La E	Brea Pile Inst	allation Activi	ties	WORK COMPLETED PA	ST MONTH		
		<ul> <li>C1045 Wilshire/Western 100% design submitted</li> <li>C1045 Wilshire/La Brea 100% design submitted</li> <li>C1045 Wilshire/Fairfax 85% design review by Metro complete</li> <li>C1045 Tunnel 100% design underway</li> <li>C1045 Systems/Trackwork 85% design review by Metro underway</li> <li>C1045 Temporary TBM power substation continues</li> <li>C1045 Utility relocation continues</li> <li>C1045 Wilshire/La Brea pile delivery and north side installation continues</li> <li>C1045 Wilshire/Fairfax utility pothole work underway</li> <li>C1056 Storm Drain Laterals North - Wilshire Blvd La Cienega to Hamilton</li> <li>C1056 Storm Drain - Wilshire between La Cienega and Hamilton</li> </ul>					
EXPENDITURE STATUS (\$ In Millions)				SCHEDULE ASSESSME	NT		
	CURRENT	EXPENDED	PERCENT	MAJOR SCHEDULE	PRIOR	CURRENT	
ACTIVITIES	BUDGET	AMOUNT	EXPENDED	ACTIVITIES	PLAN	PLAN	VARIANCE WEEKS
				Environmental	1	· · · · ·	
DESIGN	\$159.2	\$117.1	73.5%	FEIS / FEIR	N/A	05/31/12	Complete
RIGHT-OF-WAY	\$175.6	\$123.4	70.3%	Design	1		
CONSTRUCTION	\$1,740.3	\$370.4	21.3%	PE Notice to Proceed	N/A	01/12/11	Complete
	. ,			Final Design complete	03/22/17	03/22/17	0
OTHER	\$1,079.3	\$96.7	9.0%	Right-of-Way			
TOTAL	\$3,154.4	\$707.6	22.4%	All parcels available	12/31/15	12/31/15	0
Current Budget includes En	vironmental/Pl	anning and Fir	nance Costs.	Construction - Main Des	sign / Build C	ontract	
AREAS OF CONCERN				Notice to Proceed	01/12/15	01/12/15	Complete
				Construction complete	11/08/23	11/08/23	0
ROW ACQUISITION	PLAN	AVAILABLE	REMAINING	CRITICAL ACTIVITIES /	3 MONTH LC	OK AHEAD	
				- C1045 Dewatering wells	installation		
PERMANENT PARCELS	15	14	1	- C1045 Removal of south	•		
				- C1045 Wilshire/La Brea Station north side pile installation completes			
TEMPORARY PARCELS	4	4	0	- C1045 Deck panels fabr		or releasting	user continuing
				<ul> <li>C1056 Wilshire/La Ciene</li> <li>C1045 Wilshire/Westerr</li> </ul>	-	ver relocation v	work continuing
TOTAL PARCELS	19	18	1	- C1045 Wilshile/Western		sian submittal	s
-	13	10	'	- C1045 Wilshire/La Cien		0	-
				- C1045 Tunnel 100% des	-		

# **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.

#### <u>Design</u>

The Engineering Management Services (EMS) team continues to provide design support to the Advanced Utility Relocation (AUR) contracts, 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.

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 6<sup>th</sup> Street Bridge coordination. The first Design Advisory Working Group meeting was held on December 14, 2015 with the neighboring stakeholder and a second meeting was held on January 28, 2016. Two alternative site plans have been reviewed and evaluated; a recommendation was presented to the MTA Board and it was approved on February 25, 2016.

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 design submittals under review or completed are the Wilshire/Western 100% Interface Chamber design, Wilshire/La Brea Station 100% design, Wilshire/Fairfax 85% design, and Systems 85% design.* 

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 are occurring with STS, PTG, Metro and the EMS team prior to each major design submittal and 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	4/8/2016
DU# 2 - La Brea	AFC	4/20/2016
DU# 3 - Fairfax	100%	4/6/2016
DU# 4 - La Cienega	85%	3/25/2016
DU# 5 - Tunnels	100%	3/11/2016
DU# 6 - Systems	100%	4/18/2016

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 and LADWP Power is anticipated to be completed in March 2016 and September 2016, respectively. This will complete all AUR work at this location and prior to the contractual access date for the C1045 Design/Build contractor to begin construction of the Wilshire/Fairfax Station.

The C1056 contractor is continuing with Southern California Edison (SCE) relocations along with the City of Beverly Hills sewer, water and storm drain relocations. Work is on schedule for substantial completion in December 2016.

The C1045 contractor began pile installation for the Wilshire/La Brea Station in mid-December 2015. The contractor is focusing his efforts on the north side of the station. However, due to delays caused by late delivery of equipment, mobilization and initial difficulty in their means and methods, a schedule plan has been introduced to maintain their baseline schedule. Mitigations included re-sequencing work activities, and providing a third pile drilling rig and additional crews.

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.

Metro has completed the construction of the new tar sump facility at the Wilshire/La Brea South construction staging area. The C1045 contractor will then proceed to demolish the existing tar sump once the traffic switch has been completed from the north to the south side of Wilshire Boulevard to begin the remaining station pile installation work.

The contractor is planning to mobilize in March 2016 at the Wilshire/Western site to begin building demolition and site preparation work.

The contractor is continuing with the construction of the Tunnel Boring Machine (TBM) power substation. The purchase order for the two TBMs has been placed with Herrenknecht Tunneling Systems USA, Inc.

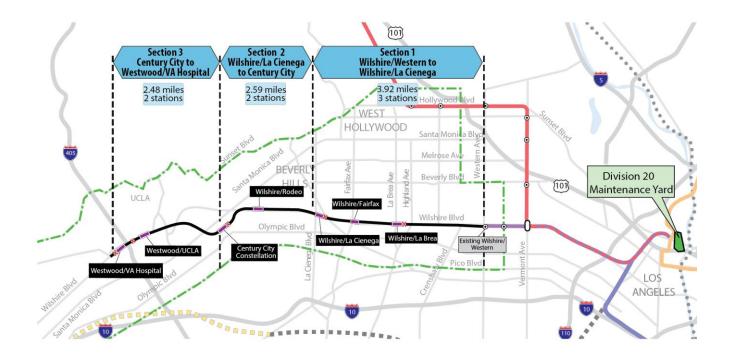
Metro staff continues to meet with the City of Beverly Hills to finalize the terms and conditions of the Memorandum of Agreement (MOA) required for Contract C1045. The City of Beverly Hills staff is planning to present the complete MOA to the Beverly Hills City Council for discussion on April 19, 2016, and seek approvals by the Beverly Hills City Council and the MTA Board in mid-2016.

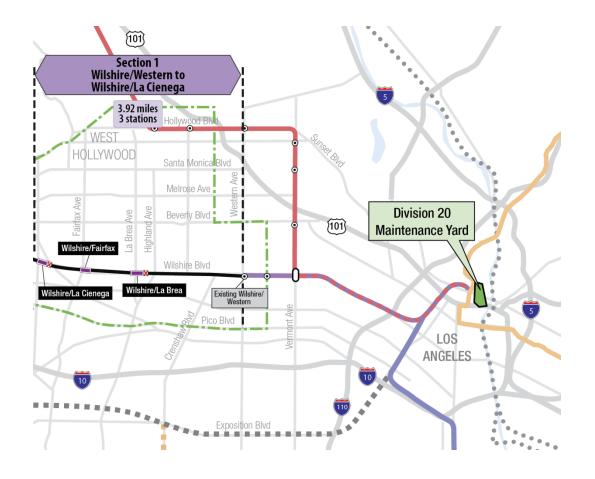
The C1045 contractor has access to all properties to construct the Project.

## 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 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.

#### <u>Contract C1045 – Tunnels, Stations, Trackwork, Systems and Systems Integration</u> <u>Testing</u>

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	Mar-16	Apr-16	May-16	Jun-16	Jul-16	Aug-16
	Date						
C1045 Jet Grouting at Wilshire/La Brea Begins	03/05/16						
C1045 Dewatering Equipment Installation Begins	03/14/16						
C1045 Wilshire/La Brea Station Design Complete	03/23/16						
C1045 Building Demolition Wilshire/Fairfax Complete	03/25/16						
C1045 Wilshire/Western Shaft Design Complete	03/30/16						
C1045 TBM Temporary Power Work Complete	04/15/16						
C1045 Wilshire/La Brea Soundwalls Complete, Including Tar Sump Relocation	04/15/16						
C1045 Wilshire/La Brea North Pile Installation Complete	04/15/16						
C1045 South Side Pile Installation Begins	04/18/16						
C1045 Wilshire/La Brea Muck Shaft Excavation Begins	06/02/16						
C1045 Initial Excavation and Decking Installation at Wilshire/La Brea Begins	06/10/16						
C1045 Wilshire/Fairfax Mobilize Pile Work	07/10/16						
C1045 Wilshire/La Brea Ventilation System Installation	07/18/16						
C1045 Wilshire/La Brea Dewatering Begins	08/05/16						
<ul> <li>MTA Staff</li> <li>MTA Board Action</li> <li>Other Agencies</li> <li>Contractors</li> </ul>	FTA (Feder	al Transit /	Administrat	ion)			

MASTER SCHEDULE 2016 IN PROCESS DATA DATE: 01-Mar-16

Purple Line Level 1 Management Schedule

Westside Purple Line Extension Project W/W to La Cienega Schedule

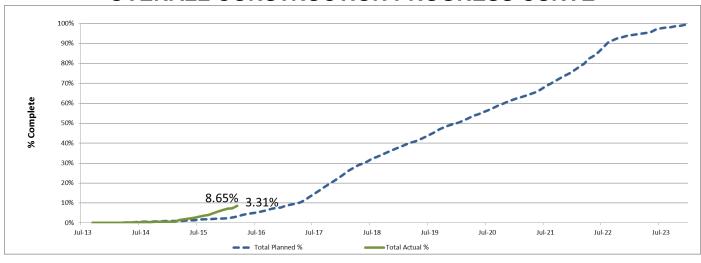
© Primavera Systems, Inc. ٠ ٠ Data Date: 01-Mar-16 Current Date: 16-Mar-16 11:05 1 of 1 Purple Line Level 1 Management Schedule Los Angeles County Metropolitan Transportation Authority ٠ 22-Jan-25 26-Aug-24 21-May-14 A 14-Nov-16 28-Oct-10 A 04-Jan-11 A 27-Jun-11 A 23-Mar-12 A 22-Jan-09 A 31-May-12 A 08-Aug-23 23-Sep-21 08-Aug-23 18-Jan-23 12-Jan-22 28-Oct-21 03-Nov-22 29-Apr-20 20-Apr-22 20-Jan-23 24-May-22 03-Oct-23 08-Nov-23 22-Jan-25 26-Aug-24 22-Jan-25 26-Apr-12 A 09-Aug-12 A 31-Oct-12 A 31-Jan-17 22-Mar-23 29-Jun-18 20-Jan-23 31-Jan-20 11-Mar-22 09-Jun-23\* 08-Nov-23\* -12 A 31-Mar-17 30-Oct-14 A 22-Mar-23 19-Feb-19 22-Jan-25 21-May-14 A 12-Jan-15 A 07-Nov-15 A 01-Feb-18 17-Dec-19 01-Jun-07 A 13-Feb-09 A 20-May-13 A 04-Nov-14 A 12-Jan-15 A 02-Jul-19 11-Mar-22 20-Dec-21 27-Dec-19 -15 A 08-Nov-23 08-Nov-23 02-Aug-10 A 21-May-14 A 02-Aug-10 A 02-Jul-12 A 02-Jul-12 A 15-Feb-19 -15 A 23-Nov-22 23-Nov-22 21-Feb-12 A 28-May-13 A -14 A 15 A 04-Sep-12 A 219 5-Jan-13 A 04-Oct-23 9989 680 680 83 83 811 108 811 108 811 108 35 241 241 241 285 35 300 300 900 0 2251 181 728 400 233 730 1 (NTP + 3070 CD 06/09/23) to FTA for to Circulate FEIS/FEIR (NO/ Milestone Summary Enter Into Preliminary En ative Draft Final EIS/EIR and Adop Build - Section 1 - C1045 Into Final Design the Vicinity of Fairfax • 045 Contract: Principle Design / Build Contract val to Enter I val to Enter ion 1 Available for e FTA Appro Actual Work Remaining Work Critical Remaining Work pproval to EI C-1045 Contract Finance Charges - Design / I Project Clo ratory : ntract Closeout oort Facilities and Yards Start-up eering ninary Engineering E wner Furnished Equit Heavy Rail Vehicles Ticket Vending Machines esign / Build and Con ideway and Track ations / Shaft pport Facilities FTA Process / Approval: ect Planning & D 034 Contract: Explor vanced Utilities Reloc of-Way (ROW) Close-Out -MS1120 -MS1130 -MS1140 inal Design -SC1070 WS-MS1110 VS-1100

### PROJECT SUMMARY SCHEDULE

# SCHEDULE MEASUREMENTS

Status	Change from Last Period	Comment
11/8/2023	None	
10/31/2024	None	
72.95%	2.03%	
31.35%	13.27%	Based on a draft submittal currently under review.
ss*:		
100.00%	0.00%	Completed on schedule
6.24%	0.81%	Schedule recovery Is underway
100.00%	0.00%	Completed on schedule
59.99%	6.47%	On schedule
3 17%	1 70%	Based on a draft submittal currently under review Awaiting Baseline Schedule to be approved Approval is expected in early March 2016.
	11/8/2023 10/31/2024 72.95% 31.35% ss*: 100.00% 6.24% 100.00%	Status         from Last Period           11/8/2023         None           10/31/2024         None           72.95%         2.03%           31.35%         13.27%           100.00%         0.00%           6.24%         0.81%           100.00%         0.00%           59.99%         6.47%

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



### **OVERALL CONSTRUCTION PROGRESS CURVE**

*The actual overall construction progress is* 8.65% *versus a planned of* 3.31% *through February* 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). Currently Contract C1078 is not included with the overall progress calculation. Once the contract baseline schedule is approved, the curve will be updated to include Contract C1078 progress.

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.

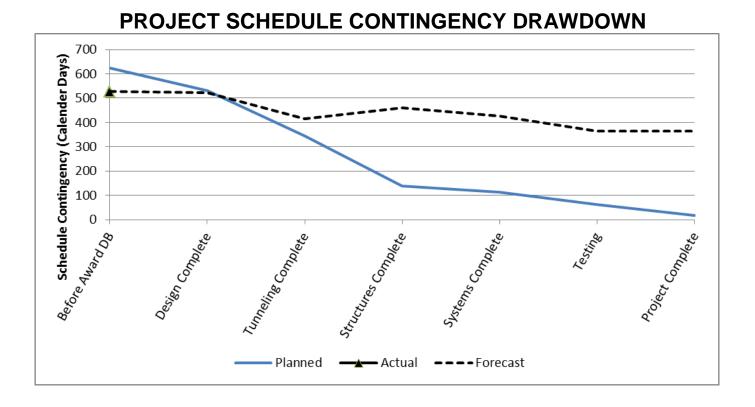
	Initial Procurement	Submittal	Delivery	Installation
Tunnel Boring Machine	1/29/16	5/30/16	6/28/17	2/18/18
Deliver to Site - Station HVAC System	5/7/18	5/6/19	5/11/19	5/20/20
Deliver to Site - Ventilation Fans	2/16/18	4/1/19	6/15/19	8/3/20
Deliver to Site - Elevators	3/3/18	5/3/18	6/11/19	4/16/20
Deliver to Site - Escalalators	7/1/18	8/31/18	10/9/19	6/14/21
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

ltem	Initial Procurement	Approved Submittal	Delivery	Installation Date
Procure / Deliver Fiber Optic Cable	2-Apr-16	23-Apr-16	22-Jul-16	10-Jun-20
Procure / Deliver Innerduct	2-Apr-16	23-Apr-16	22-Jul-16	7-Apr-20
Procure / Deliver Radio Cable	21-Mar-16	13-Apr-16	12-Jul-16	18-May-20
SCADA: Procure / Deliver Devices	16-Mar-16	8-Apr-16	7-Jul-16	21-Jan-21
Procure / Deliver SCADA Cable	16-Mar-16	8-Apr-16	7-Jul-16	7-Apr-20
Procure / Deliver TPS Bonding Cable	23-Nov-16	20-Dec-16	20-Mar-17	10-Jun-21
Procure / Deliver Traction Power Cable	23-Nov-16	20-Dec-16	20-Mar-17	5-May-20
TPS: Procure/Deliver BLS Equipment & Devices	23-Nov-16	20-Dec-16	20-Mar-17	28-Apr-20
Mgr/Assemble/Wire DC Rectifier/Transformer - La Cienega TPSS	27-Feb-17	21-Mar-17	19-Jun-17	5-Oct-21
Mfgr/Assemble/Wire HV Metering Switchgear - La Cienega TPSS	27-Feb-17	21-Mar-17	19-Jun-17	5-Oct-21
Vfgr/Assemble/Wire DC Switches - Fairfax GBS	20-Jun-17	13-Jul-17	11-Oct-17	1-Apr-21
Mgr/Assemble/Wire HV Metering Switchgear - Fairfax GBS	20-Jun-17	13-Jul-17	11-Oct-17	1-Apr-21
Mgr/Assemble/Wire DC Rectifier/Transformer - La Brea TPSS	19-Feb-17	19-Jul-17	17-Oct-17	21-Jul-20
Mgr/Assemble/Wire BC Rectifier/ Hansonner - La Brea TPSS	17-Jun-17	14-Nov-17	12-Feb-18	21-Jul-20
CCTV: Assemble/Rack & Stack/Factory Test COM Equipment for Western	28-Sep-16	13-Jul-16	11-Oct-16	2-Nov-21
CCTV: Assemble/Rack & Stack/Factory Test COM Equipment for Vestern	28-Sep-16	1-Nov-16	30-Jan-17	25-Oct-21
CCTV: Assemble/Rack & Stack/Factory Test COM Equipment for Fairfax	17-Jan-17	1-Mar-17	30-May-17	10-Jun-21
CCTV: Assemble/Rack & Stack/Factory Test COM Equipment for La Cienega	31-May-17	30-Jun-17	28-Sep-17	29-Oct-21
CTS: Assemble/Rack & Stack/Factory Test COM Equipment for Western	16-Mar-16	15-Apr-16	14-Jul-16	12-Nov-21
CTS: Assemble/Rack & Stack/Factory Test COM Equipment for La Brea	15-Jul-16	13-Aug-16	11-Nov-16	26-May-21
CTS: Assemble/Rack & Stack/Factory Test COM Equipment for Fairfax	14-Nov-16	16-Dec-16	16-Mar-17	12-Mar-21
CTS: Assemble/Rack & Stack/Factory Test COM Equipment for La Cienega	17-Mar-17	18-Apr-17	17-Jul-17	17-Aug-21
MER MGMT: Assemble/Rack & Stack/Factory Test COM Equipment for La Brea	23-Jun-16	23-Jul-16	21-Oct-16	8-Mar-22
MER MGMT: Assemble/Rack & Stack/Factory Test COM Equipment for Fairfax	24-Oct-16	25-Nov-16	23-Feb-17	28-Oct-21
MER MGMT: Assemble/Rack & Stack/Factory Test COM Equipment for La Cienega	24-Feb-17	25-Mar-17	23-Jun-17	1-Feb-22
IRE ALARM: Assemble/Rack & Stack/Factory Test COM Equipment for Western	16-Mar-16	15-Apr-16	14-Jul-16	21-Nov-21
FIRE ALARM: Assemble/Rack & Stack/Factory Test COM Equipment for La Brea	15-Jul-16	13-Aug-16	11-Nov-16	22-Sep-21
FIRE ALARM: Assemble/Rack & Stack/Factory Test COM Equipment for Fairfax	14-Nov-16	16-Dec-16	16-Mar-17	7-May-21
FIRE ALARM: Assemble/Rack & Stack/Factory Test COM Equipment for La Cienega	17-Mar-17	18-Apr-17	17-Jul-17	27-Oct-21
GAS DETECTION: Assemble/Rack & Stack/Factory Test COM Equipment for Western	11-May-16	11-Jun-16	9-Sep-16	28-Sep-20
GAS DETECTION: Assemble/Rack & Stack/Factory Test COM Equipment for La Brea	12-Sep-16	14-Oct-16	12-Jan-17	15-Nov-21
, , , , , , , , , , , , , , , , , , , ,		14-0ct-16 10-Feb-17		2-Jul-21
GAS DETECTION: Assemble/Rack & Stack/Factory Test COM Equipment for Fairfax	13-Jan-17		11-May-17	
SAS DETECTION: Assemble/Rack & Stack/Factory Test COM Equipment for La Cienega	12-May-17	14-Jun-17	12-Sep-17	4-Nov-21
VTRUSION: Assemble/Rack & Stack/Factory Test COM Equipment for Western	11-May-16	11-Jun-16	9-Sep-16	8-Sep-20
NTRUSION: Assemble/Rack & Stack/Factory Test COM Equipment for La Brea	12-Sep-16	12-Jan-17	22-Nov-16	6-Dec-21
NTRUSION: Assemble/Rack & Stack/Factory Test COM Equipment for Fairfax	13-Jan-17	10-Feb-17	11-May-17	22-Jul-21
NTRUSION: Assemble/Rack & Stack/Factory Test COM Equipment for La Cienega	12-May-17	14-Jun-17	12-Sep-17	15-Nov-21
RADIO: Assemble/Rack & Stack/Factory Test COM Equipment for Western	3-May-16	2-Jun-16	31-Aug-16	11-Jun-20
RADIO: Assemble/Rack & Stack/Factory Test COM Equipment for La Brea	1-Sep-16	6-Oct-16	4-Jan-17	18-Aug-21
RADIO: Assemble/Rack & Stack/Factory Test COM Equipment for Fairfax	5-Jan-17	2-Feb-17	3-May-17	9-Apr-21
RADIO: Assemble/Rack & Stack/Factory Test COM Equipment for La Cienega	4-May-17	3-Jun-17	1-Sep-17	16-Jun-21
SCADA: Assemble/Rack & Stack/Factory Test COM Equipment for Western	16-Mar-16	15-Apr-16	14-Jul-16	29-Sep-20
SCADA: Assemble/Rack & Stack/Factory Test COM Equipment for La Brea	15-Jul-16	13-Aug-16	11-Nov-16	3-Aug-21
SCADA: Assemble/Rack & Stack/Factory Test COM Equipment for Fairfax	14-Nov-16	16-Dec-16	16-Mar-17	23-Mar-21
SCADA: Assemble/Rack & Stack/Factory Test COM Equipment for La Cienega	17-Mar-17	18-Apr-17	17-Jul-17	19-Aug-21
SEISMIC: Assemble/Rack & Stack/Factory Test COM Equipment for La Brea	11-May-16	9-Sep-16	25-Jul-16	16-Mar-22
EISMIC: Assemble/Rack & Stack/Factory Test COM Equipment for Fairfax	12-Sep-16	14-Oct-16	12-Jan-17	5-Nov-21
EISMIC: Assemble/Rack & Stack/Factory Test COM Equipment for La Cienega	13-Jan-17	10-Feb-17	11-May-17	22-Feb-22
ELEPHONE: Assemble/Rack & Stack/Factory Test COM Equipment for Western	11-May-16	11-Jun-16	9-Sep-16	9-Sep-20
ELEPHONE: Assemble/Rack & Stack/Factory Test COM Equipment for La Brea	12-Sep-16	14-Oct-16	12-Jan-17	9-Feb-22
ELEPHONE: Assemble/Rack & Stack/Factory Test COM Equipment for Fairfax	13-Jan-17	10-Feb-17	11-May-17	9-Sep-21
ELEPHONE: Assemble/Rack & Stack/Factory Test COM Equipment for La Cienega	12-May-17	14-Jun-17	12-Sep-17	4-Jan-22
PIS: Assemble/Rack & Stack/Factory Test COM Equipment for La Brea	27-May-16	29-Jun-16	27-Sep-16	20-Jan-22
PIS: Assemble/Rack & Stack/Factory Test COM Equipment for Fairfax	28-Sep-16	1-Nov-16	30-Jan-17	27-Oct-21
PIS: Assemble/Rack & Stack/Factory Test COM Equipment for La Cienega	31-Jan-17	1-Mar-17	30-May-17	9-Feb-22
IPS: Manufacture/Factory Test COM Equipment for La Brea	4-May-16	3-Jun-16	1-Sep-16	9-Sep-21
JPS: Manufacture/Factory Test COM Equipment for Fairfax	2-Sep-16	7-Oct-16	5-Jan-17	16-Jun-21
IPS: Manufacture/Factory Test COM Equipment for La Cienega	6-Jan-17	3-Feb-17	4-May-17	23-Aug-21
ROCURE GAS/WATERPROOFING MATERIALS FOR LA BREA STATION	4-Mar-17	3-Mar-17	1-Jun-17	17-Aug-17
ABRICATE CANOPY STRUCTURE - FAIRFAX STATION	27-Oct-16	26-Oct-16	24-Jan-17	7-Jul-22
ABRICATE CANOPY STRUCTURE - LA CIENEGA STATION	25-Jan-17	24-Jan-17	24-Apr-17	2-Aug-22
lfgr/Assemble/Wire DC Switchgear - La Cienega TPSS	27-Feb-17	3-May-17	1-Aug-17	5-Oct-21
Ifgr/Assemble/Wire AC Switchgear - La Cienega TPSS	27-Feb-17	3-May-17	1-Aug-17	18-Oct-21
Ifgr/Assemble/Wire DC Switchgear - La Brea TPSS	2-Aug-17	11-Oct-17	9-Jan-18	21-Jul-20
Ifgr/Assemble/Wire AC Switchgear - Fairfax GBS	2-Aug-17	11-Oct-17	9-Jan-18	1-Apr-21
Ifgr/Assemble/Wire AC Switchgear - La Brea TPSS	10-Jan-18	15-Mar-18	13-Jun-18	15-Apr-21
TC: Procure/Deliver Switch Machines	2-Apr-16	18-Jun-16	16-Sep-16	20-Oct-21
OMPLETE MOCK-UP, FABRICATE CANOPY STRUCTURE - LA BREA STATION	29-Jun-16	24-Jan-17	24-Apr-17	23-Aug-22
AB/DELIVER SOLDIER PILES / BEAMS - TBM RETRIEVAL SHAFT	11-Jun-16	15-Jul-16	13-Oct-16	17-Jul-17
AB/DELIVER SOLDIER PILES / BEAMS - FAIRFAX STATION	29-Apr-16	2-Jun-16	31-Aug-16	11-Jul-16
AB/DELIVER SOLDIER PILES / BEAMS - LA CIENEGA STATION	12-Oct-16	15-Nov-16	13-Feb-17	24-Feb-17
TC: Assemble/Rack & Stack TC&C Equipment for Western	6-Jul-17	26-Oct-17	24-Jan-18	10-Jun-20
TC: Assemble/Rack & Stack ATC Equipment for La Brea	6-Jul-17	26-Oct-17	24-Jan-18	12-Jul-21
TC: Assemble/Rack & Stack ATC Equipment for Fairfax	22-Sep-17	11-Jan-18	11-Apr-18	12-Apr-21
TC: Assemble/Rack & Stack ATC Equipment for La Cienega	12-Feb-18	30-May-18	28-Aug-18	30-Sep-21
ABRICATE TRACK MATERIALS	10-Oct-18	8-May-19	6-Aug-19	23-Oct-20
TC: Procure/Deliver WS Equipment & Devices	1-Dec-15	20-May-16	18-Aug-16	30-Sep-21
TC: Procure/Deliver Components & Materials - Western	7-Sep-16	6-Apr-17	5-Jul-17	10-Jun-20
TC: Procure/Deliver Components & Materials - La Brea	7-Sep-16	6-Apr-17	5-Jul-17	12-Jul-21
TC: Procure/Deliver Components & Materials - Fairfax	7-Sep-16	6-Apr-17	5-Jul-17	12-Apr-21

### **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 power, systems integration and testing, and pre-revenue operations.



### **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**

SCC	DESCRIPTION		CURRENT BUDGET		COMMITMENTS		EXPENDITURES		CURRENT FORECAST		CURRENT BUDGET /
CODE		BUDGET	PERIOD	TO DATE	PERIOD	TO DATE	PERIOD	TO DATE	PERIOD	TO DATE	FORECAST VARIANCE
10	GUIDEWAY & TRACK ELEMENTS	388,294	-	388,294	-	380,970	-	1,820	-	388,294	-
20	STATIONS, STOPS, TERMINALS, INTERMODAL	440,621	-	440,621	-	435,105	816	2,668	-	440,621	-
30	SUPPORT FACILITIES: YARDS, SHOPS, ADMIN. BLDGS	43,323	-	43,323	-	34,198	-	-	2,925	42,252	(1,071)
40	SITEWORK & SPECIAL CONDITIONS	751,566	2,925	754,491	727	763,890	5,929	358,912	-	774,363	19,872
50	SYSTEMS	113,574	-	113,574	135	97,897	859	6,987	-	113,574	-
	CONSTRUCTION SUBTOTAL (10-50)	1,737,378	2,925	1,740,303	862	1,712,059	7,604	370,387	2,925	1,759,104	18,801
60	ROW, LAND, EXISTING IMPROVEMENTS	175,634	-	175,634	-	175,634	29	123,418	-	175,634	-
70	VEHICLES	160,196	-	160,196	-	-	-	-	-	145,493	(14,703
80	PROFESSIONAL SERVICES	412,710	2,075	414,785	675	260,491	6,745	174,410	2,075	417,650	2,865
	SUBTOTAL (10-80)	2,485,918	5,000	2,490,918	1,537	2,148,185	14,378	668,214	5,000	2,497,881	6,963
90	UNALLOCATED CONTINGENCY	248,592	-	248,592	-	-	-	-	-	286,034	37,442
100	FINANCE CHARGES	375,470	-	375,470	-	-	-	-	-	331,065	(44,405
	TOTAL PROJECTS 465518 & 865518 (10-100)	3,109,980	5,000	3,114,980	1,537	2,148,185	14,378	668,214	5,000	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	5,000	3,154,350	1,537	2,187,554	14,378	707,571	5,000	3,154,350	-

NOTE: EXPENDITURES ARE CUMULATIVE THROUGH JANUARY 2016

# PROJECT COST ANALYSIS

#### **Original Budget**

The Original Budget of \$3.1 billion reflects the Board approved Life of Project Budget, July 24, 2014, plus Finance Charges of \$0.4 billion.

#### **Current Budget and Current Forecast**

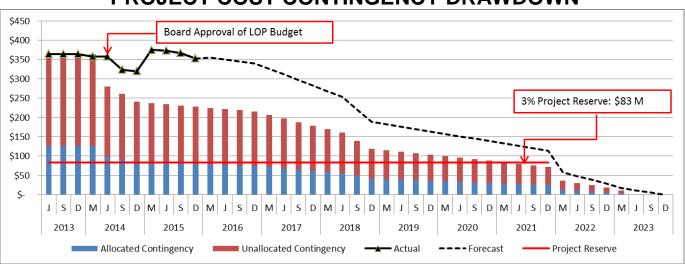
The Current Budget and Current Forecast increased by \$5.0 million to reflect to the Board approved Life of Project Budget Amendment for work associated with the relocation of the Division 20 Maintenance of Way/Non-Revenue Vehicle Building 61S.

#### Commitments

The Commitments increased by \$1.5 million primarily due to design and construction services by LADWP, an executed Contract Modification for the Design/Build Contract C1045, continuation of Project Management Assistance, and Metro Project Administration. The \$2.2 billion in Commitments to date represents 69.4% of the Current Budget.

#### Expenditures

The Expenditures are cumulative through January 2016. The Expenditures increased by \$14.4 million this period primarily for costs associated with the Design/Build Contracts C1045 & C1078, Advanced Utility Relocations, Master Cooperative Agreement with the City of Los Angeles, Environmental Services, Legal Services, Engineering Management Services, and Metro Project Administration. The \$707.6 million in Expenditures to date represents 22.4% of the Current Budget.



### PROJECT COST CONTINGENCY DRAWDOWN

# PROJECT COST CONTINGENCY DRAWDOWN ANALYSIS

The Current Budget of \$3.1 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 increased this period by \$4.4 million. The Board authorized a not-to-exceed amount of \$4.5 million for the CEO to negotiate and execute a Contract Modification to the Design/Build Contract C1078 for work associated with the relocation of the Division 20 Maintenance of Way/Non-Revenue Vehicle Building 61S. Also, a Contract Modification of \$0.1 million was executed to 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	37,442	0	37,442	286,034		
Allocated Contingency	71,963	(5,482)	4,365	(1,117)	70,846		
Total Contingency	320,555	31,960	4,365	36,325	356,880		

### DISADVANTAGED BUSINESS ENTERPRISE (DBE)

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

Contract C1045 Westside Purple Line Extension, Section 1 Design-Build

- **RC-DBE Goal Design** 20% • Current RC-DBE Commitment \$12,923,783.69 (20.25%) • **Current RC-DBE Participation** \$ 6,725,555.21 (14.63%) • Twelve (12) Design DBE subcontractors have been identified for Design • **DBE Goal – Construction** 17% • **Current DBE Commitment** \$258,827,081.11 (17%) • **Current DBE Participation** \$ 9,249,194.58 (3.11%) •
- Thirty two (32) construction DBE subcontractors have been identified to-date

## **PROJECT LABOR AGREEMENTS (PLA) STATUS**

Contract C1045 Westside Purple Line Extension, Section (Reporting Data as of February 26, 2016)	on 1 Design-Build
Targeted Worker Goal	40.00%
Targeted Worker Current Participation	66.78%
Apprentice Worker Goal	20.00%
Apprentice Worker Current Participation	18.16%
Disadvantaged Worker Goal	10.00%
<ul> <li>Disadvantaged Worker Current Participation</li> </ul>	3.48%

#### Contract Modifications (MODs) by Cost Level C1034: 13 Executed **Exploratory Shaft** C1045: 20 Executed Tunnels, Stations, Systems C1048: 37 Executed AUR Wilshire/La Brea C1055: 25 Executed AUR Wilshire/Fairfax C1056: 11 Executed AUR Wilshire/La Cienega (\$2,000,000)(\$1,000,000)\$0 \$1,000,000 \$2,000,000 \$3,000,000 \$4,000,000 C1034 C1045 C1048 C1055 C1056 Total 13 Executed 20 Executed 25 Executed 37 Executed 11 Executed Under \$100K (164,288) (501,709)574,448 (1,179,119) 42,013 (1,228,654) \$100K to \$250K 321,000 391,321 436,190 245,024 2,010,344 616,809 \$250K to \$1M 290,000 1,050,980 390,709 1,731,689 Over \$1M 3,150,000 1,983,179 5,133,179 \_ --**Total Contract MODs** 156,712 3,329,612 2,242,237 (352, 220)2,270,216 7,646,558 20,250,000 **Contract Award Amount** 6,487,020 1,636,418,585 6,181,000 14,430,000 1,683,766,605 % of Contract MODs 2.4% 0.2% 36.3% -2.4% 11.2% 0.5%

### SUMMARY OF CONTRACT MODIFICATIONS

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 Contract MODs with a total value of \$3.3 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.

Eleven 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		(C) TOTAL FUNDS AVAILABLE	(D) (D/B) COMMITMENTS		(E) (E/B) EXPENDITURES		(F) (F/B) BILLED TO FUNDIN SOURCE	
				\$	%	\$	%	\$	%
FEDERAL - SECTION 5309 NEW STARTS	\$1,250.000	\$1,250.000	\$165.000	\$1,250.000	100%	\$165.000	13%	\$165.000	13%
FEDERAL CMAQ	\$12.171	\$12.171	\$12.171	\$12.171	100%	\$12.171	100%	\$4.786	39%
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	\$838.655	96%	\$443.672	51%	\$258.260	30%
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	\$2,187.554	69.4%	\$707.571	22.4%	\$482.024	15.3%

EXPENDITURES ARE CUMULATIVE THROUGH JANUARY 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 million was awarded on June 2, 2014. FTA Grant CA-03-0824-01 for \$100 million was awarded on August 10, 2015. Funds are available for drawdown.

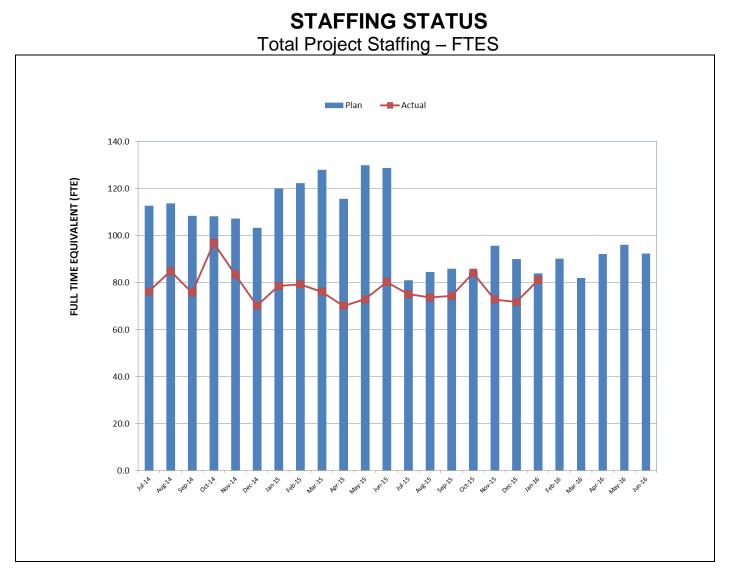
**FEDERAL SECTION 5309 ALTERNATIVE ANALYSIS:** FTA Grant CA-39-0006 of \$0.5 million was awarded on July 25, 2014. Funds are available for drawdown.

**MEASURE R – TIFIA LOAN (Transportation Infrastructure Finance & Innovation Act):** TIFIA Loan was executed on May 21, 2014 for \$856 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 July 27, 2015. Funds are available for drawdown.

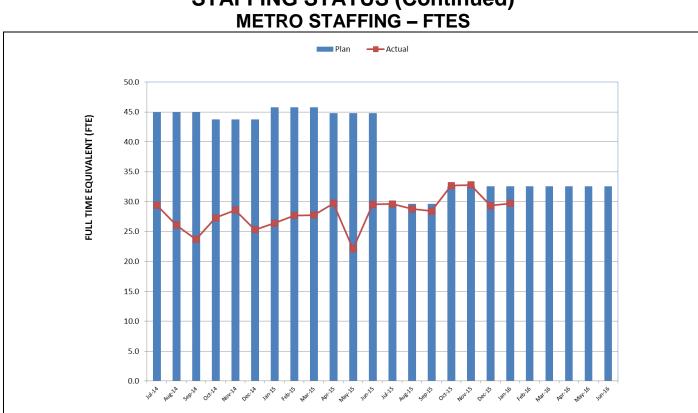


# TOTAL PROJECT STAFFING

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

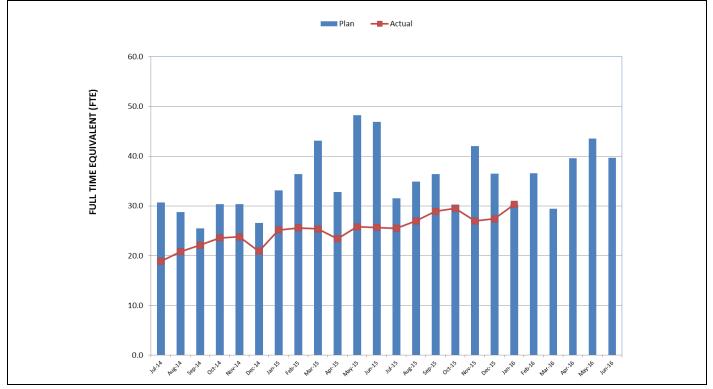
For January 2016, there were a total of 29.7 FTEs for MTA's Project Administration Staff and 51.3 FTEs for Consulting Staff. The total project staffing for January 2016 was 81.0 FTEs.

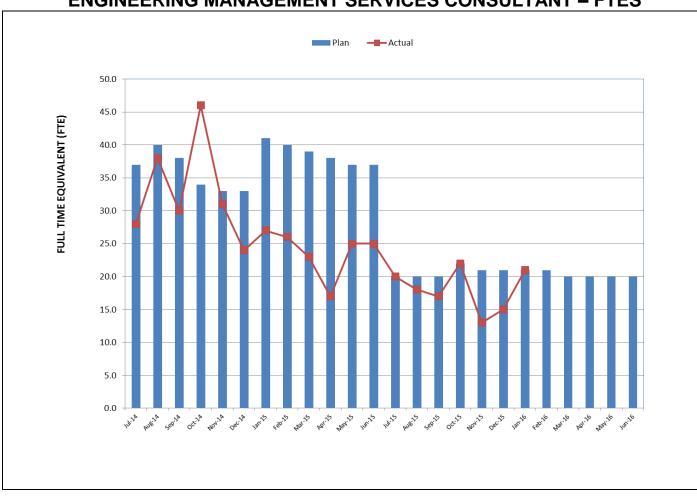
Metro has re-visited the CMSS staffing requirements for Fiscal Year 2016 and has provided an update based upon the recent CMSS Board action that was approved in January 2016.



# **STAFFING STATUS (Continued)**

### **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										
Decerintian	Number	Certified	Appraisals	Offers	Agreements	Condemnation	Relocations		Parcels	
Description	of Parcels	Certified	Completed	Made	Signed	Filed	Required	Completed	Available	
Full Takes	9	9	9	9	2	7	109	109	9	
Part Takes	6	6	6	5	1	3	0	0	5	
TCE	4	4	4	4	1	4	0	0	4	
Total Parcels	19	19	19	18	4	14	109	109	18	

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

# 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.*
- STS issued three Non-Conformance Reports related to soldier pile installation.
- Conducted quality surveillance (S2016-001) SOE Soldier Pile Installation and quality procedure verification. Contractor's quality process was found effective.
- Ongoing monitoring of Contractor's (STS) quality process during field modifications due to adverse conditions during the installation of SOE piles. RFI process under review.
- Reviewed and provided comments on quality related submittals construction work plan, project specifications, product data and quality manuals.
- Inspection verification and testing was found effective during soldier pile installation and field concrete testing.
- Contractor submitted resumes of disciplined inspection personnel as activities ramp up.
- Wilshire/La Brea Station Contractor has installed 127 piles, north side of station box.

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

- Contract has been completed, and all punch list items have been addressed and closed out.
- Testing Agency Compliance Statements for field and lab testing of construction materials have been submitted to governing jurisdiction (City of Beverly Hills).

### 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.

# **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, Archeo/Paleo, 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.
- Conducted weekly Environmental Construction Progress Meeting and monthly Environmental Mitigation (MMRP) update meeting with DB Contractor.
- Reviewed Weekly Construction Noise Compliance Reports prepared by the Independent Compliance Monitor and submitted to Metro and City of Beverly Hills.
- Participated in Construction Work Plan Workshops and Readiness Review Meetings.
- Reviewed and tracked contractor monitoring and reporting requirements.
- Performed periodic field inspections for noise and vibration mitigation measures, construction stormwater, BMPS and dust mitigation.
- 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.
- Ambient Noise Measurements Survey conducted at Wilshire/Western area.
- Attended Vibration Monitoring being performed at all designated locations.
- Attended Sustainability and Envisioning Workshop with Metro and C1045 staff.
- Reviewed RFI regarding FTA land use classification for Wilshire Ebell Theater.
- Developed new protocol and quick reference document for Unanticipated Archaeological and Paleontological findings.
- Exploring options with City of Los Angeles Sanitation District for offset of sewer charges.

### **CONSTRUCTION RELATIONS STATUS**

- Produced and distributed 21 construction work notices for advance utility relocations and construction activities.
- Made Project Presentations at the following: Council District 4, Executive Coordination, Senator Allen's Office, Senator Beall's Office, Miracle Mile Residential Association, Miracle Mile Civic Coalition, Wilshire Median Advisory Group, Wilshire/LA Brea Business Meeting, Bus Stop Working Group, Saban Working Group and LAPD Commission.
- Fielded and addressed the following: Nighttime noise issues related to pile work in front of Avalon Apartments, dust from street cleaning on sidewalks, steel plates making noise and Odgen Yard demo complaints.
- Contacted businesses and residents about street decking options for Wilshire/La Brea Station.
- Visited and updated businesses and residences at future station locations to discuss utility relocations, business profiles and Eat, Shop, Play promotional campaign for businesses.
- Attended the following meetings: Construction Management, Advanced Utility Relocations, Construction Relations, Environmental Mitigations, STS Third Party Workshop, Beverly Hills MOA, Marketing, Social Media, Eat, Shop, Play, Bus Relocations and Stops, and DOT/Elected Officials.
- Updated Facebook/Twitter website 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.

### **SAFETY & SECURITY STATUS**

- A minor recordable injury was reported in January 2016 and is reflected in the statistics below.
- There were no recordable injuries on the Project during February 2016.
- Safety staff participated in scheduled readiness review meetings to ensure compliance with approved Work Plans and contract specifications.
- Advance Utility Relocations, Design Builder's demolition and construction activities and C1078 Maintenance of Way Building site activities continue to be monitored during both day and night work shifts to document contractor compliance with contract specifications.
- Safety staff attended weekly progress meetings and other project meetings to evaluate Contractors Safety Program compliance with contract requirements.
- Construction Safety staff continue to work with Program Management and Construction Relations staff to monitor issues related to public concerns regarding noise, traffic and transient encampment hazards as well as public interactions with the construction crews.
- Hosted Monthly All Hands Safety Meeting for all Westside Purple Line Extension Contractors on February 23, 2016.
- January 2016 data is presented below. Construction Safety staff continue to work with contractors to insure accurate data.
- January 2016 Contractor Work Hours (Design & Construction): 59,740
- Contractor Project to Date Work Hours (Design & Construction through 1/31/2016): 531,899
- Total Project to Date Work Hours (Contractor & the IPMO Staff through 1/31/2016): 750,832
- Project to Date Recordable Injury Rate: 0.5 (Two Recordable Injuries). Each rate is per 200,000 work hours. National Rate: 3.0
- Project to Date Total Time Away Injury Rate: 0.3 (One Time Away From Work Injury). National Rate: 1.7.
- Project to Date Total Days Away Rate: 52.8 (180 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) 3/16 (D/B)	9/14 (AUR) 8/16 (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.
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 and Level 3. Draft agreements for Qwest 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 March 2016.
- AT&T relocations on Hamilton Drive in 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 was temporarily put on hold to allow the gas, power and storm drain work to proceed. It is anticipated that the AT&T work will start back up in March 2016 and complete by the end of 2016.
- The LADWP Power relocations at the Wilshire/Fairfax Station are on-going and are anticipated to complete by September 12, 2016.
- The Notice to Proceed (NTP) Wilshire/La Cienega AUR Contract (C1056) was issued on January 12, 2015. Construction began in late April 2015. Southern California Edison (SCE) relocations are continuing along with the City of Beverly Hills sewer, water and storm drain relocations. Work is on track for substantial completion in December 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 and is anticipated for completion in April 2016.
- Gas Company relocations are continuing at the Wilshire/La Cienega Station and are anticipated to complete in late March 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 pile installation was approved by the City of Los Angeles on November 8, 2013. A revised application was approved in June 2015 with the new construction dates of November 11, 2015 to May 3, 2016.
- The Peak Hour Exemptions for Wilshire/Fairfax and Wilshire/Western pile installations were approved by the City of Los Angeles on May 12, 2014. There will be a resubmittal with updated construction dates in early 2016.
- The Nighttime Noise Variance for the Wilshire/La Brea Advanced Utility Relocation work has been extended to June 2016 by the Los Angeles Police Commission.
- The Nighttime Noise Variance for the Wilshire/Fairfax Advanced Utility Relocation work has been extended to July 17, 2016 by the Los Angeles Police Commission.
- 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 in February 2016 extending the Peak Hour Exemption to April 29, 2016.*
- An approved Nighttime Noise Variance for pile installations at the Wilshire/La Brea Station was extended to April 30, 2016, at which time a six-month extension will be requested.
- Nighttime noise variances for the five Construction Yards were approved by the Los Angeles Police Commission. The dates for the variances are from January 20, 2016 to July 15, 2016, at which time STS will be required to obtain the next six month extension. The five yards include North Wilshire/La Brea, South Wilshire/La Brea, Wilshire/Crenshaw, Wilshire/Western, and Wilshire/Fairfax.

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# **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

Description: Westside Purple Line Extension Design-Build Contractor: SKANSKA - TRAYLOR - SHEA	Contract No. Status as of:	C1045 Februa	ary 26, :	2016		
Progress / Work Completed: - Wilshire/Western 100% design submitted - Wilshire/La Brea 100% design submitted - Wilshire/Fairfax 85% design review by Metro complete - Tunnel 100% design underway - Systems/Trackwork 85% design review by Metro underway - Temporary TBM power substation continues Areas of Concern: None	Major Activities (In Progress):         - Wilshire/Western AFC design package         - Wilshire/La Brea AFC design package         - Wilshire/Fairfax 100% design         - Wilshire/La Cienega 85% design         - Tunnel 100% design         - Systems/Trackwork 100% design         - Utility Relocations         - Wilshire/La Brea pile delivery and north side installation         - Wilshire/La Brea pile delivery and north side installation         - Wilshire/La Brea pile delivery and north side installation         - Wilshire/La Brea pile delivery and north side installation         - Wilshire/La Brea pile delivery and north side installation         - Wilshire/La Brea pile grouting preparation         - Wilshire/Western demolition         - Wilshire/La Brea jet grouting preparation         Major Activities Next Period:         - Removal of south yard tar sump         - Wilshire/Western sound wall					
	- Wilshire/Fairfax sound wall					
Schedule Summary:	- Wilshire/La Brea pile	Original Contract Dates	Time Extension	Current Contract	Forecast	Variance CDs
Date of Award:     11/04/14       Notice to Proceed:     01/12/15	Notice to Proceed (Estimated)	01/12/15	0	01/12/15	01/12/15	0
Original Contract Duration:3250 CDCurrent Contract Duration:3250 CD	Milestone 1: Substantial Completion	06/09/23	0	06/09/23	06/09/23	0
Elapsed Time from NTP: 410 CD	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:	Cost Summary	:		\$ I	n millio 1,636.4	ons
Physical completion: 6.24%*	<ol> <li>Award Value.</li> <li>Executed Modification</li> <li>Approved Change (</li> </ol>				1,636.4 3.3 0.0	
* Note: Physical completion assessment reflects work completed and work in progress.	4. Current Contract Value (1+2+3):         1,639.7           5. Incurred Cost:         373.1					

# **CONTRACT C1045 STATUS**

Description: Wilshire/La Cienega AUR	Contract No.	C1056					
Contractor: Steve Bubalo Construction Co.	Status as of:	Februa	ary 26,	2016			
Progress / Work Completed:	Major Activities	s (In Pro	ogress)	:			
- Storm Drain Laterals - North Wilshire Blvd - La Cienega to Hamilton - Storm Drain - Wilshire between La Cienega Blvd and Hamilton Dr.	<ul> <li>Storm Drain Laterals</li> <li>Storm Drain Laterals</li> <li>North Wilshire Water</li> <li>COBH - South Water</li> <li>Gale Dr. (North) Water</li> </ul>	- North Wil <sup>.</sup> Laterals @ r Line Reloc	shire Blvd 9 STA 29+2 ation - La	- Hamilton 10 & 29+18 Cienega to	to Gale 3 - Hamilto Hamilton	n to Gale	
Areas of Concern: None	Major Activities Next Period: - Continue sewer lines on Wilshire Blvd - Continue SCE ductbank going west						
Schedule Summary:		Original Contract Dates	Time Extension	Current Contract	Forecast	Variance CDs	
Date of Award:         10/13/14           Notice to Proceed:         01/12/15	Notice to Proceed (Estimated)	01/12/15	0	01/12/15	01/12/15	0	
Original Contract Duration:696 CDCurrent Contract Duration:696 CD	Milestone 1:	07/13/16	0	07/13/16	07/13/16	0	
Elapsed Time from NTP: 410 CD	Milestone 2: Substantial Completion	12/08/16	0	12/08/16	12/08/16	0	
Physical Percent Complete:	-	Cost Summary:			\$ In millions		
	1. Award Value:20.32. Executed Modifications:2.33. Approved Change Orders:0.0						
Physical completion: 59.99%*		Orders:			0.0		

# **CONTRACT C1056 STATUS**

Description: Division 20 (MOW/NRV) Contractor: Clark Construction	Contract No. Status as of:					
Progress / Work Completed: - Review of Baseline Schedule and Schedule of Values - Completed APDU #1, APDU#2 and DU #3 85% final design - Completed APDU #3 and DU #1 60% final design	<ul> <li>Major Activities (In Progress):</li> <li>Start APDU# 1 and APDU#2 100% final design development</li> <li>Start APDU #3 and DU#1 85% final design</li> <li>Start DU#2 60% and DU#3 100% final design</li> <li>Processing CN-0001 to respond to Metro Board Motion 40.1 for feasibility study to explore options for site placement of MOW Facility</li> <li>Processing CN-0002 for reduction of parts storage expansion</li> </ul>					
Areas of Concern: - On February 25, 2016 the Board authorized Metro to negotiate and execute a Contract modification with a Not-To-Exceed amount of \$4.5M to revise the baseline design building floor plans and site plan for the new placement of the MOV/NRV Building as shown on design Alternative A-1. There will be a schedule impact.	<ul> <li>Major Activities Next Period:</li> <li>Contractor shall discontinue baseline design development of Project Definition documents for the Maintenance of Way/ Non Revenue Maintenance (MOV/NRV) Building 61S (effective Feb 25, 2016) and prepare 30% design package per the modified location of the facility (Alternative A-1).</li> <li>Contractor shall review and modify existing design packages to determine how much of Project Definition Documents design can be used for Alternative A-1.</li> </ul>					
Schedule Summary:         Date of Award:       08/03/15         Notice to Proceed:       09/30/15         Original Contract Duration:       853 CD         Current Contract Duration:       853 CD         Elapsed Time from NTP:       149 CD	Notice to Proceed (Estimated) Milestone 1: Substantial Completion	Original Contract Dates 09/30/15 01/30/18	Time Extension 0	Current Contract 0 853	Forecast 09/30/15 01/30/18	Variance CDs 0
Physical Percent Complete: Physical completion: 3.17% * Note: Physical completion assessment reflects work completed and work in progress.	Cost Summary     Award Value:     Executed Modifica     Approved Change (     Current Contract V     Lourrent Cost:	tions: Orders:	3):	\$ I	n millio 52.8 0.0 0.0 52.8 5.7	



Installation of SCE Electrical Vault West of La Cienega Boulevard



C1045 Contractor Lowering Pile #117 at Wilshire/La Brea Station

## 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				

#### Includes construction contracts. Cost associated with CONSTRUCTION Guideways, Stations, Southwestern Yard, Sitework/Special. Conditions and Systems. Includes purchase cost of parcels, easements, right-of-entry **RIGHT-OF-WAY** permits, escrow fees, contracted real estate appraisals and tenant relocation. Includes the purchase of Heavy Rail Vehicles and spare parts VEHICLES for the Project. PROFESSIONAL Includes design engineering, project management assistance, SERVICES 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.

# 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
СОВН	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
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# LIST OF ACRONYMS (Continued)

	For device Transit A desirie traction
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
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# 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

# 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
ТВМ	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