

Westside Purple Line Extension Section 1 Project



Metro[®]

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).

AUGUST 2014


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PROJECT SUMMARY

LOCATION: Los Angeles / Beverly Hills				CONSTRUCTION MANAGEMENT CONSULTANT: WEST JV			
DESIGN CONSULTANT: Parsons / Brinckerhoff				CONTRACTOR: TBD			
ADVANCED UTILITY RELOCATION POTHOLING				WORK COMPLETED PAST MONTH			
				<ul style="list-style-type: none"> - C1034 Exploratory Shaft monitoring period is ongoing - C1048 Advanced Utility Relocations (AUR) continuing at La Brea - CES and LADWP power AUR continuing at La Brea & Fairfax - Continuing real estate acquisitions - C1055 Fairfax AUR power work completed at Orange Grove - Continued design for 3rd-party and advanced utility relocations & traffic control 			
EXPENDITURE STATUS (\$ In Millions)				SCHEDULE ASSESSMENT			
ACTIVITIES	CURRENT BUDGET	EXPENDED AMOUNT	PERCENT EXPENDED	MAJOR SCHEDULE ACTIVITIES	PRIOR PLAN	CURRENT PLAN	VARIANCE WEEKS
DESIGN	\$157.7	\$58.8	37.3%	Environmental			
				FEIS / FEIR	N/A	05/31/12	Complete
RIGHT-OF-WAY	\$175.6	\$36.5	20.8%	Design			
				PE Notice to Proceed	N/A	01/12/11	Complete
CONSTRUCTION	\$1,737.4	\$16.5	0.9%	Final Design complete	03/22/17	03/22/17	0
OTHER	\$1,078.7	\$67.5	6.3%	Right-of-Way			
TOTAL	\$3,149.4	\$179.3	5.7%	All parcels available	12/31/15	12/31/15	0
Current Budget includes Environmental/Planning and Finance Costs.				Construction - Main Design / Build Contract			
AREAS OF CONCERN				Notice to Proceed	10/30/14	10/30/14	0
				Construction complete	08/29/23	08/29/23	0
ROW ACQUISITION	PLAN	ACQUIRED	REMAINING	CRITICAL ACTIVITIES / 3 MONTH LOOK AHEAD			
PERMANENT PARCELS	17	0	17	<ul style="list-style-type: none"> - C1034 Exploratory Shaft: Complete monitoring period & begin backfill - CES: Complete advanced utility relocations at La Brea - C1045 Design/Build Contract: Issue award and NTP - C1055 Fairfax AUR: Construction of water & power relocations - C1056 La Cienega AUR: Issue award and NTP - C1078 Div 20 MOW & NRV facilities: Advertise and Issue for Bids 			
TEMPORARY PARCELS	1	0	1				
TOTAL PARCELS	18	0	18				

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 design team continues to support Metro during the monitoring stage of the exploratory shaft and design support to the three Advanced Utility Relocations (AUR) contracts.

For the Wilshire/Fairfax Exploratory Shaft Contract (C1034), the team worked with Metro on finalizing the procedures for backfilling the shaft.

For the Wilshire/La Brea AUR Contract (C1048) and the Wilshire/Fairfax AUR Contract (C1055), the team continues to support Metro in responding to Request for Information (RFI's) and submittals, and attending meetings with the contractors as required. The team received and reviewed red line drawings from the AUR contractor. The drawings are being incorporated into the C1045 composite utilities drawings.

For the Wilshire/La Cienega Station AUR Contract (C1056), the team is in the process of closing out comments received from the City of Beverly Hills on the traffic control drawings. The submittal to the City is scheduled for early next period. .

For the Design/Build Contract (C1045), the team prepared a draft of the conformed set of drawings and specifications.

Major Contract Procurement

The recommendation to award the C1045 contract was presented at the July 2014 Metro Board Meeting. The Board of Directors approved staff's recommendation to award to Skanska, Traylor and Shea, a joint venture (STS) and authorized the Chief Executive Officer (CEO) to award the 107 month firm fixed price contract, subject to the resolution of any timely protests. Two protests were received on July 22, 2014. Responses to the protests are scheduled to be released early next period.

The Wilshire/La Cienega AUR Contract (C1056) was advertised for bid on February 28, 2014. Price bids were received on May 21, 2014. Contract award is expected in early October 2014 with a Notice to Proceed (NTP) in November 2014.

PROJECT OVERVIEW & STATUS (Continued)

The Invitation for Bid (IFB) for the Division 20 Maintenance-of-Way Building (MOW) and the Non-Revenue Vehicle (NRV) Facility Contract (C1078) is planned to be solicited in late September 2014.

Construction

The monitoring/observation period is continuing at the Wilshire/Fairfax Exploratory Shaft Contract (C1034). Demolition and backfill is to start in early October 2014 with contract completion in November 2014.

The advanced utility relocations for the Wilshire/La Brea Contract (C1048) are anticipated to be completed in October 2014. AT&T relocations in the same area are anticipated to be completed also in October 2014, followed by the completion of the LADWP power work in January 2015. This will complete all AUR work at this location.

The Wilshire/Fairfax AUR (C1055) contractor is continuing with submittals and construction. CES and the fiber optics companies are continuing with their work in the same area. Southern California Gas work will begin in December 2014.

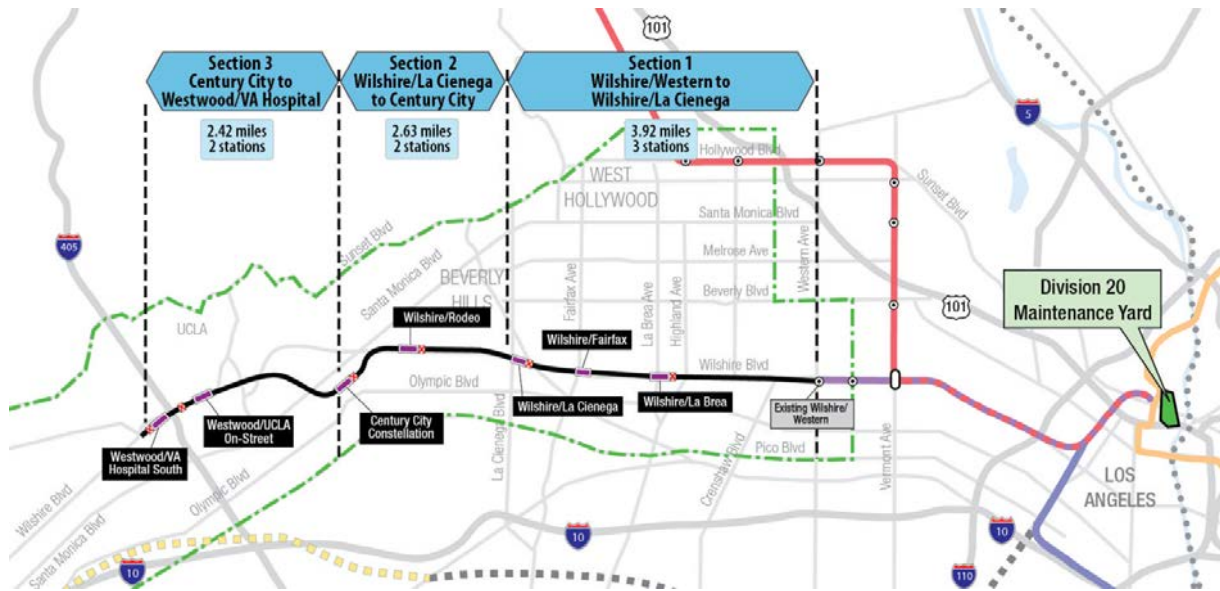
CES is continuing the relocation of fiber optic cables at the Wilshire/La Cienega Station area. This work is anticipated to be completed in October 2014.

The Beverly Hills City Council approved the Memorandum of Agreement (MOA) for the AUR phase of work, at the Wilshire/La Cienega Station area, on August 19, 2014. At the same Council meeting, the City also approved the C1056 AUR work permit.

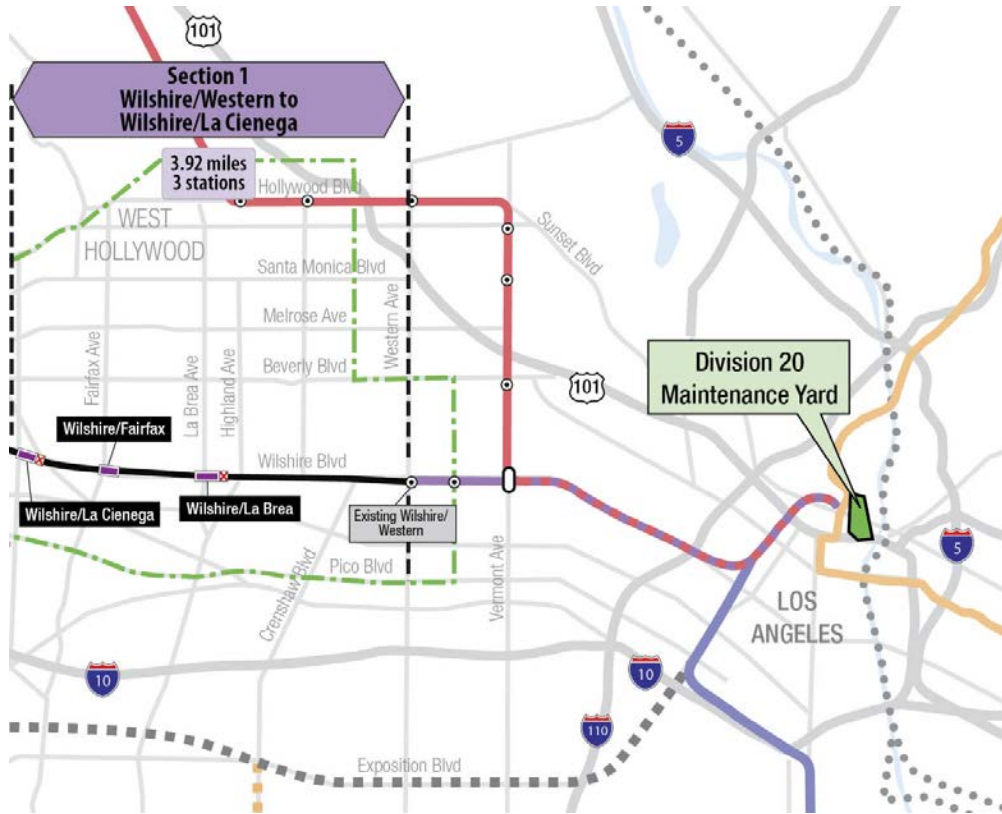
MANAGEMENT ISSUES

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.

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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 is constructing an exploratory shaft to observe ground conditions prior to the award of Contract C1045. The location of the exploratory shaft is adjacent to the future Wilshire/Fairfax Station. The construction of the shaft includes 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 will be maintained for an observation time period. Afterwards, the shaft will be dismantled and the site backfilled in a condition acceptable to the property owner.

Contract C1048 – Wilshire/La Brea Advanced Utility Relocations

Relocate existing LADWP power, water utilities and a sewer line within the construction limits of the Wilshire/La Brea 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

BASE PROJECT SCOPE (Continued)

in accordance with utility plans and specifications, provide traffic control, restore streets, and support utility crews installing cabling and during cut-over of the existing utilities.

Contract C1055 – Wilshire/Fairfax Advanced Utility Relocations

Relocate existing LADWP power and water utilities within the construction limits of the Wilshire/Fairfax 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 installing cabling and during cut-over of the existing utilities.

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 Building and Non-Revenue Vehicle Facility

The Design/Build contract provides for final design and construction of a new maintenance-of-way (MOW) stores building and a non-revenue vehicle (NRV) facility at the south end of the existing Division 20 Yard. 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 contacts 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

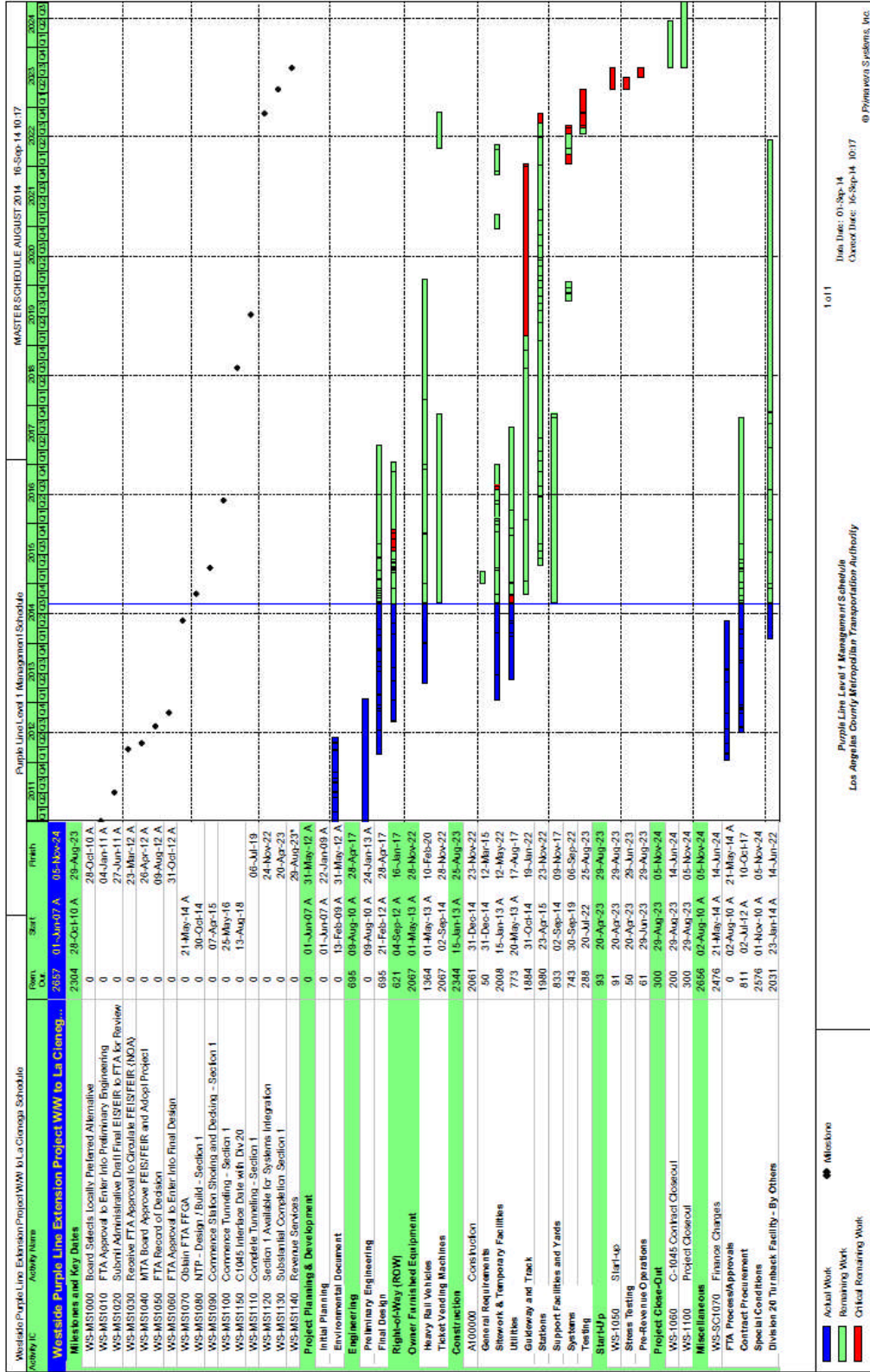
The commencement of pre-revenue operations will be determined by Metro. Generally, all systems integration testing will have been completed and passed. All testing will be required to include and pass a “stress test” of maximum operational service levels to be acceptable. Pre-Revenue Operations include 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	Aug-14	Sep-14	Oct-14	Nov-14	Dec-14	Jan-15
C1078 Division 20 Design / Build Contract - Issue IFB	09/19/14		◆				
C1045 Design / Build Contract Award	09/25/14		◆				
C1056 La Cienega AUR - Award	10/07/14			Ⓜ			
C1048 La Brea AUR - Complete Construction - Water	10/14/14			□			
C1056 La Cienega AUR - NTP	11/07/14				◆		
C1045 Design / Build Contract - NTP	10/30/14			◆			
C1034 Exploratory Shaft Project Complete	11/15/14				□		
C1056 Utility Relocation Construction Begins	12/02/14					□	
C1078 Building 61S Receive Bids	12/10/14					◆	
C1055 MS#1 Water @ La Brea Complete	01/15/15						□

- ◆ MTA Staff
- Ⓜ MTA Board Action
- FTA (Federal Transit Administration)
- △ Other Agencies
- Contractors
- PB

PROJECT SUMMARY SCHEDULE



Actual Work
 Remaining Work
 Critical Remaining Work
 Milestone

Purple Line Level 1 Management Schedule
 Los Angeles County Metropolitan Transportation Authority

1 of 11
 Rev. Date: 03-Sep-14
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SCHEDULE MEASUREMENTS

To be provided when the baseline schedule for Contract C1045 has been approved.

OVERALL CONSTRUCTION PROGRESS CURVE

To be provided when the baseline schedule for Contract C1045 has been approved.

MAJOR EQUIPMENT DELIVERY

To be provided when the baseline schedule for Contract C1045 has been approved.

DESIGN BUILDER'S (C1045) LONG LEAD ITEM LIST

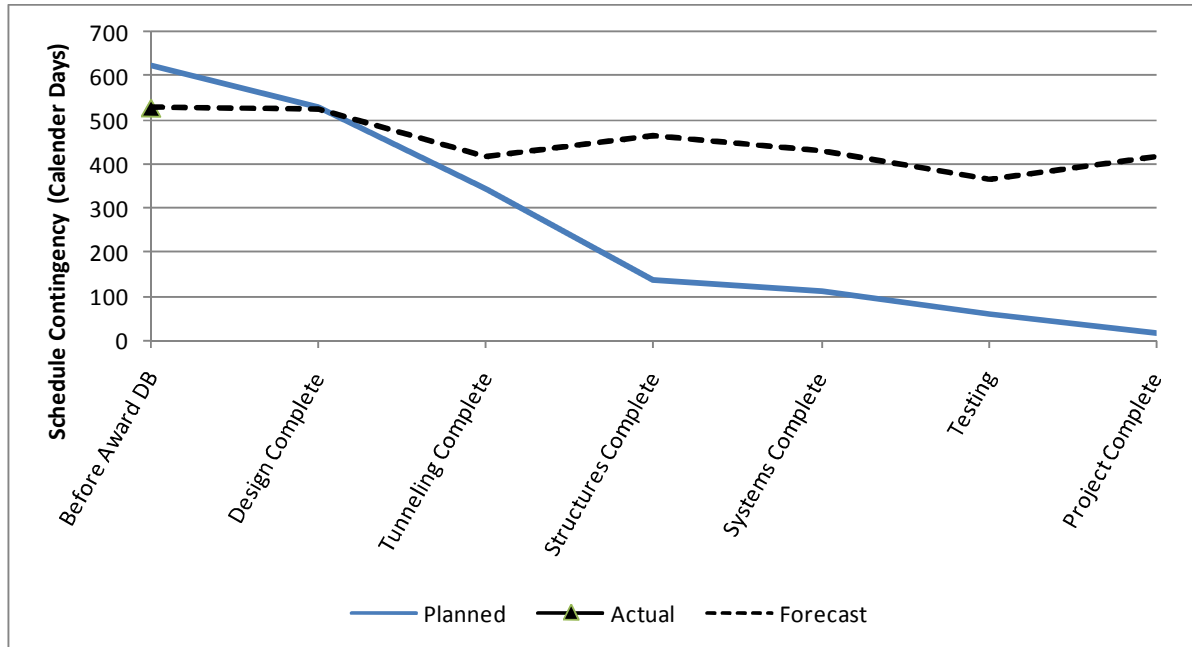
To be provided when the baseline schedule for Contract C1045 has been approved.

CRITICAL PATH NARRATIVE

Critical Path:

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 La Brea advanced utilities that are being relocated under the C1048 contract and by third parties. Upon completion of utility relocations, the contractor begins installation of soldier piles, first on the north side of the 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 through a retrieval shaft at Wilshire / Western, re-assembled 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 / Fairfax station box, installation of trackwork 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 an August 29, 2023 revenue service date.

PROJECT COST STATUS

COST REPORT

DOLLARS IN THOUSANDS

SCC CODE	DESCRIPTION	ORIGINAL BUDGET	CURRENT BUDGET		COMMITMENTS		EXPENDITURES		CURRENT FORECAST		BUDGET / FORECAST VARIANCE
			PERIOD	TO DATE	PERIOD	TO DATE	PERIOD	TO DATE	PERIOD	TO DATE	
10	GUIDEWAY & TRACK ELEMENTS	388,294	-	388,294	-	3,785	-	-	-	-	-
20	STATIONS, STOPS, TERMINALS, INTERMODAL	440,621	-	440,621	-	958	-	-	-	-	440,621
30	SUPPORT FACILITIES: YARDS, SHOPS, ADMIN. BLDGS	43,323	-	43,323	-	3,881	-	-	-	-	43,323
40	SITWORK & SPECIAL CONDITIONS	751,566	-	751,566	226	38,420	-	16,472	-	-	751,566
50	SYSTEMS	113,574	-	113,574	-	-	-	-	-	-	113,574
CONSTRUCTION SUBTOTAL (10-50)		1,737,378	-	1,737,378	226	47,045	-	16,472	-	-	1,737,378
60	ROW, LAND, EXISTING IMPROVEMENTS	175,634	-	175,634	-	119,010	31,718	36,520	-	-	175,634
70	VEHICLES	160,196	-	160,196	-	-	-	-	-	-	160,196
80	PROFESSIONAL SERVICES	412,710	-	412,710	-	119,471	361	87,143	-	-	412,710
SUBTOTAL (10-80)		2,485,918	-	2,485,918	226	285,526	32,079	140,136	-	-	2,485,918
90	UNALLOCATED CONTINGENCY	248,592	-	248,592	-	4,238	-	-	-	-	248,592
100	FINANCE CHARGES	375,470	-	375,470	-	-	-	-	-	-	375,470
TOTAL PROJECTS 465518 & 865518 (10-100)		3,109,980	-	3,109,980	226	289,765	32,079	140,136	-	-	3,109,980
ENVIRONMENTAL/PLANNING - 405518		8,505	-	8,505	-	8,505	-	8,505	-	-	8,505
ENVIRONMENTAL/PLANNING - 465518		30,865	-	30,865	-	30,865	(1)	30,648	-	-	30,865
TOTAL PROJECTS 405518 & 465518 (ENV / PLAN'G)		39,370	-	39,370	-	39,370	(1)	39,153	-	-	39,370
TOTAL PROJECTS 405518, 465518 & 865518		3,149,350	-	3,149,350	226	329,134	32,078	179,289	-	-	3,149,350

NOTE: EXPENDITURES ARE CUMULATIVE THROUGH JULY 2014

PROJECT COST ANALYSIS

Original Budget, Current Budget and Current Forecast

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

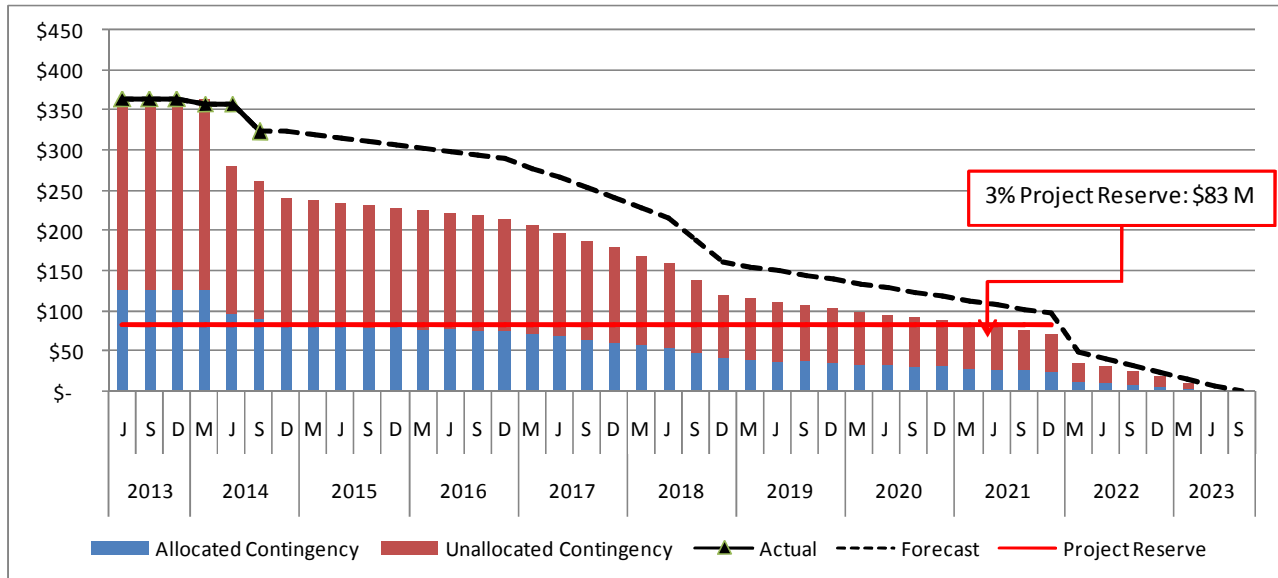
Commitments

The Commitments increased by \$0.2 million due to executed modifications associated with Contract C1048 - Advanced Utility Relocations and Environmental Compliance. The \$329.1 million in Commitments to date represents 10.5% of the Current Budget.

Expenditures

The expenditures are cumulative through July 2014. The expenditures increased by \$32.1 million this period primarily for costs associated Real Estate Acquisitions and Metro Project Administration. The \$179.3 million in Expenditures to date represents 5.7% of the Current Budget.

PROJECT COST CONTINGENCY DRAWDOWN



PROJECT COST CONTINGENCY DRAWDOWN ANALYSIS

The current budget of \$2.8 billion, excluding finance charges, for the project includes an unallocated contingency amount of \$248.6 million. Also included within the current budget is an allocated contingency of \$75.0 million which is allocated, where applicable, to specific contracts within each Standard Cost Category (SCC) item. The allocated contingency is an amount to cover anticipated but unknown contract modifications issued by Metro. The total project cost contingency is \$323.6 million or 11.7% of total project cost.

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 an August 29, 2023 revenue service date.

DISADVANTAGED BUSINESS ENTERPRISE (DBE)

To be provided after the issuance of the Notice to Proceed for Contract C1045.

PROJECT LABOR AGREEMENTS (PLA) STATUS

To be provided after the issuance of the Notice to Proceed for Contract C1045.

SUMMARY OF CONTRACT MODIFICATIONS

Contract Modifications (MODs) by Cost Level



	C1034: 11 Executed	C1048: 16 Executed	C1055: 1 Executed	Total
■ Under \$100K	322,286	436,047	-	758,333
■ \$100K to \$250K	321,000	196,184	-	517,184
■ \$250K to \$1M	-	-	390,709	390,709
■ Over \$1M	-	-	-	-
Total Contract MODs	643,286	632,231	390,709	1,666,226
Contract Award Amount	6,487,020	6,181,000	14,430,000	27,098,020
% of Contract MODs	9.9%	10.2%	2.7%	6.1%

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

Eleven Contract MODs with a total value of \$0.6 million have been executed since the award of Contract C1034 – Exploratory Shaft Construction by Innovative Construction Solutions (ICS).

Sixteen Contract MODs with a total value of \$0.6 million have been executed since the award of Contract C1048 – Advanced Utility Relocations at Wilshire/La Brea by Metro Builders & Engineering Group, LTD.

One Contract MOD with a value of \$0.4 million has been executed since the award of Contract C1055 - Advanced Utility Relocations at Wilshire/Fairfax by W. A. Rasic Construction Company, Inc.

FINANCIAL/GRANT STATUS

AUGUST 2014		STATUS OF FUNDS BY SOURCE									
SOURCE	(A)	(B)	(C)	(D)	(D/B)	(E)	(E/B)	(F)	(F/B)		
	ORIGINAL BUDGET	TOTAL FUNDS ANTICIPATED	TOTAL FUNDS AVAILABLE	COMMITMENTS		EXPENDITURES		BILLED TO FUNDING SOURCE *		\$	%
FEDERAL SECTION 5309 NEW STARTS	\$1,250.000	\$1,250.000	\$65.000	\$65.000	5%	\$55.941	4%	\$55.941	4%		
FEDERAL CMAQ	\$12.171	\$12.171	\$0.000	\$0.000	0%	\$0.000	0%	\$0.000	0%		
FEDERAL SECT. 5339 ALT. 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	\$869.178	\$255.104	\$196.123	23%	\$67.641	8%	\$52.938	6%		
STATE STIP RIP	\$2.568	\$2.568	\$2.568	\$2.568	100%	\$2.568	100%	\$2.568	100%		
STATE CAPITAL PROJ LOANS - OTHERS*	\$83.648	\$83.648	\$64.931	\$64.931	78%	\$52.627	63%	\$52.627	63%		
CITY OF LOS ANGELES	\$75.273	\$75.273	\$0.000	\$0.000	0%	\$0.000	0%	\$0.000	0%		
TOTAL	\$3,149.350	\$3,149.350	\$388.115	\$329.134	10.5%	\$179.289	5.7%	\$164.586	5.2%		

NOTE: EXPENDITURES ARE CUMULATIVE THROUGH JULY 2014
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

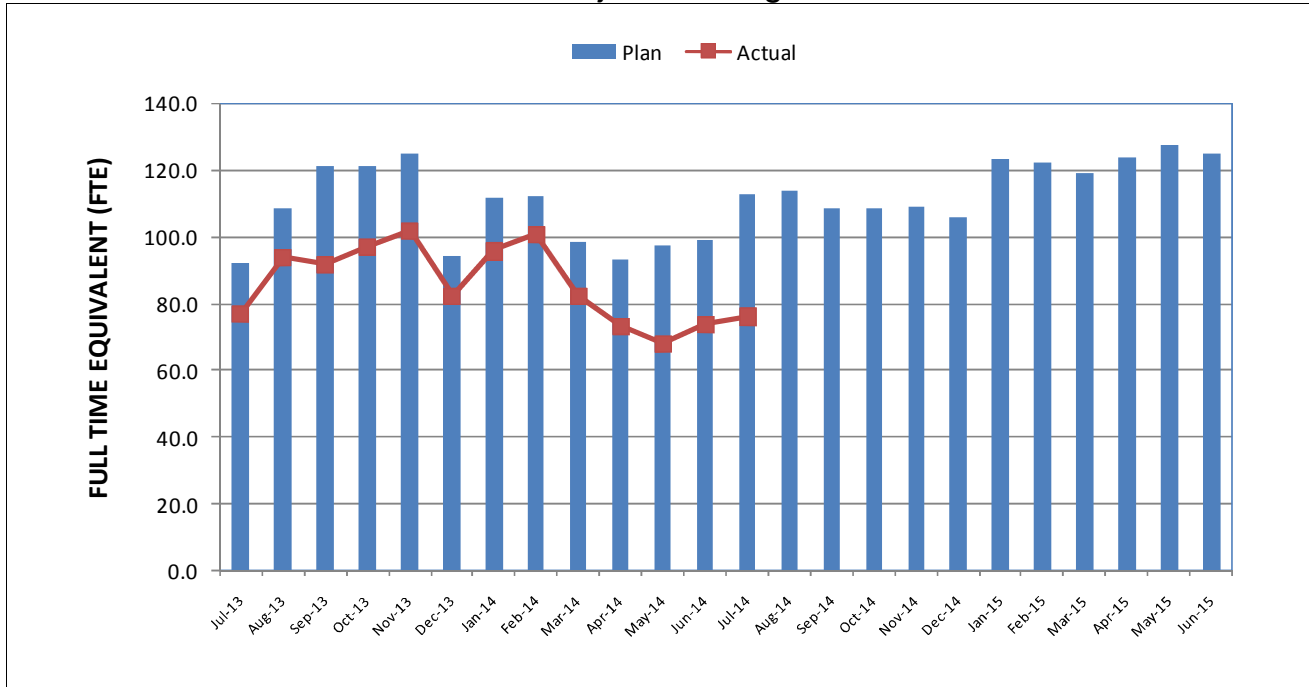
FEDERAL SECTION 5309 NEW STARTS: FTA grant application of \$65 million was awarded on June 2, 2014. Funds are available for drawdown.

FEDERAL SECTION 5309 ALTERNATIVE ANALYSIS: FTA grant application of \$511.6 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.

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.

STAFFING STATUS
Total Project Staffing – FTES

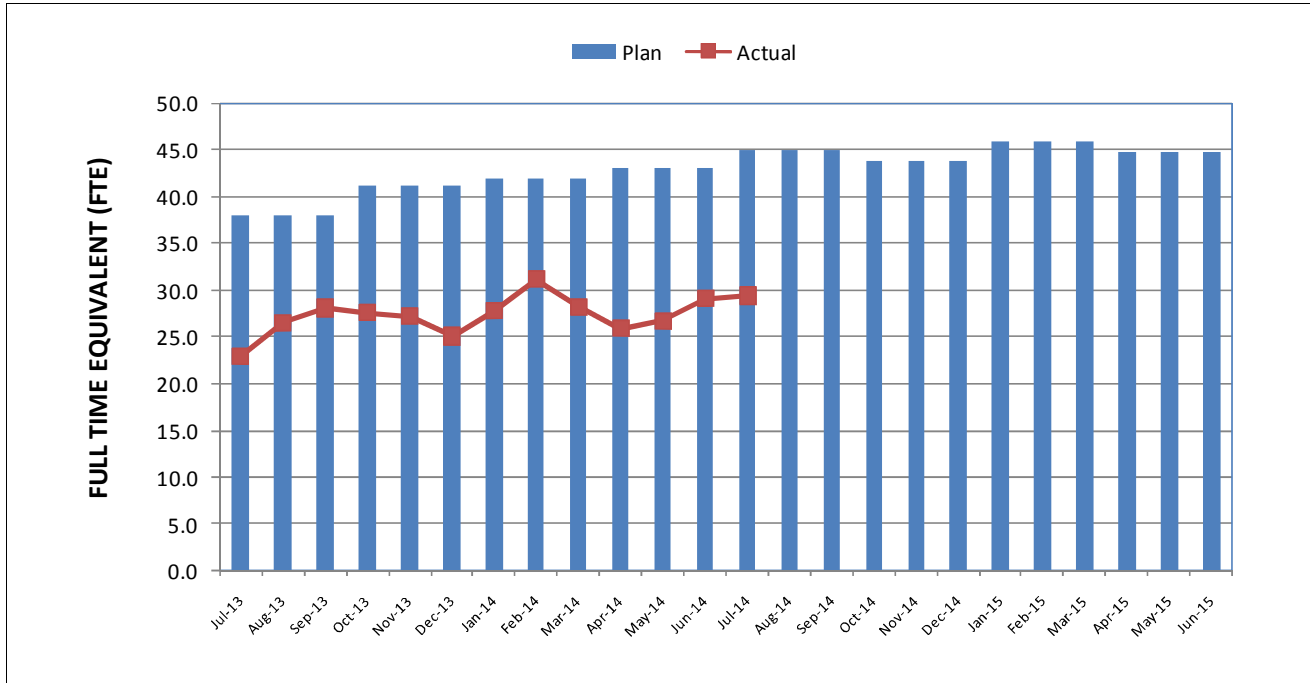


TOTAL PROJECT STAFFING

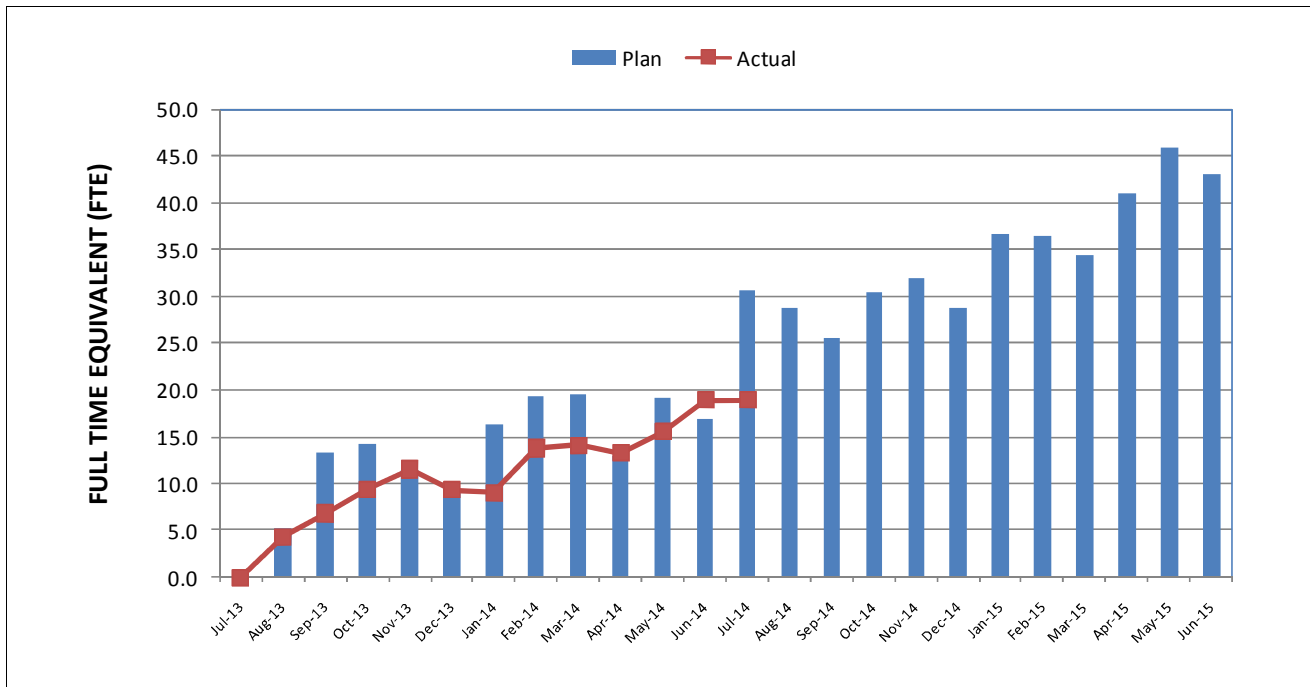
The overall FY15 Total Project Staffing plan averages 116.5 FTEs per month.

For July 2014, there were a total of 29.4 FTEs for MTA's Project Administration staff and 46.9 FTEs for consulting staff. The total project staffing for July 2014 was 76.3 FTEs.

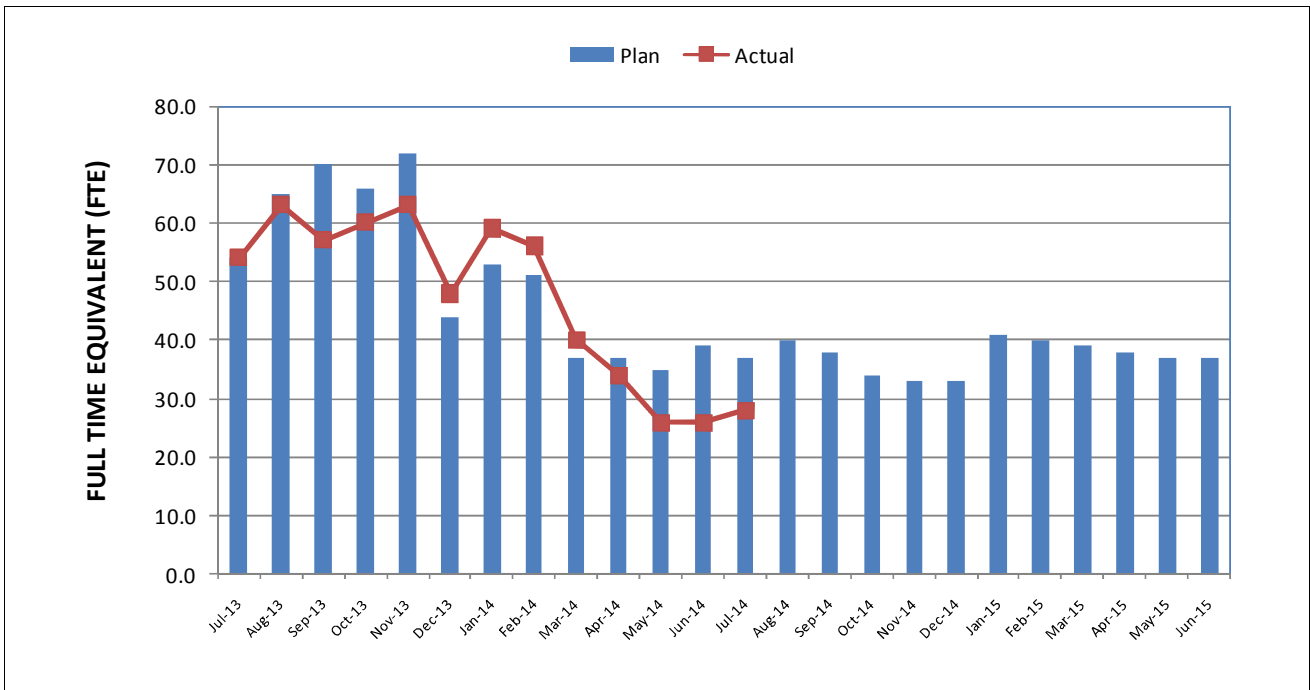
**STAFFING STATUS (Continued)
METRO STAFFING – FTES**



**CONSTRUCTION MANAGEMENT
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 Signed	Condemnation Filed	Relocations		Parcels Available
							Required	Completed	
Full Takes	15	15	15	13	2	5	109	14	0
Part Takes	2	2	2	2	0	3	0	0	0
TCE	1	1	1	1	0	1	0	0	0
Total Parcels	18	18	18	16	2	9	109	14	0

QUALITY ASSURANCE STATUS

C1034 Exploratory Shaft

- Attended readiness review meeting with the Contractor to discuss the shaft backfill operation.

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

- Attended bi-weekly Project staff meetings and pre-construction meetings.
- Ongoing discussions with the Project staff to plan for CMSS coordination and oversight.
- Reviewed and commented on revised procedures for CMSS site inspection.

C1048 – Advanced Utility Relocations – Wilshire/La Brea

- Attended weekly Project meetings with the Contractor.
- Coordination with CMSS Inspector. Reviewed daily inspection reports from the Contractor/Field Technician.
- Reviewed and provided comments on submittals.
- Reviewed Non-Conformance Report. NCR-01.

C1055 – Advanced Utility Relocations – Wilshire /Fairfax

- Attended-weekly Project meetings with the Contractor.
- Reviewed and provided comments on submittals, including CWPs.
- Reviewed and approved proposed corrective action for Non-Conformance Report, NCR-01.
- Coordination with CMSS Inspector. Reviewed daily inspection reports from the Contractor/Field Technician.

ENVIRONMENTAL STATUS

- Planning on remobilizing to continue to provide noise and SWPPP monitoring for backfilling activities at the exploratory shaft.
- Noise and VOC monitoring in support of AUR Contracts and basic oversight on SWPPP requirements. Currently working on Wilshire/Fairfax submittals.
- Continued to finalize the Baseline Ambient Noise Report and adding additional noise studies at up to 19 sensitive receptor locations.
- Attended weekly progress meetings for Wilshire/Fairfax and Wilshire/La Brea AUR contracts.
- Continue to provide Noise Awareness Training to the AUR Contractor.
- Preparing Tree Removal Replacement and Mitigation Plan for Wilshire/Fairfax, Wilshire/La Brea and Wilshire/Western locations. Plan will be prepared by a qualified Registered Arborist.
- Submitted 5th Quarter MMRP update to FTA and working on 6th Quarter update.
- Continued meetings on coordinating the scope for the MOW/NRV 61S Building regarding the projected remediation costs for the 590 S. Santa Fe Avenue property. Met with owner and continue to wait for feedback on path-forward regarding DTSC requirements.
- Working on Draft Parking Studies for Section 1 Stations.

CONSTRUCTION RELATIONS STATUS

- Attended the following meetings: Pre-Construction, Construction Management, Advanced Utility Relocations, Exploratory Shaft, Construction Relations, Pre-Construction Survey, Marketing, Beverly Hill MOA, Customer Service Center signage and Los Angeles Police Commission.
- Produced and distributed eleven work notices for advance utility relocations.
- Initiated outreach meeting for the Wilshire/Western TBM retrieval shaft with Korea Town businessmen and community activists and coordinated the second meeting with the Miracle Mile Median Advisory Group.
- Gave Project Presentations for Miracle Mile Civic Coalition landscape, Wilshire/Fairfax Area Construction Coordination Meeting with LACMA and Peterson and Academy Museum, Wilshire Center Korea Town Neighborhood Council, Westside Service Council, Section 1 Advisory Group, Miracle Mile Chamber of Commerce and Wilshire Division Community Police Advisory Board.
- Visited and updated businesses and residences at future station locations to discuss utility relocations, business profiles and project area discounts.
- Fielded and addressed nighttime noise at Wilshire/Crenshaw Yard and Wilshire/La Brea, questions regarding pre-construction surveys, questions regarding contractor recommendation and Board action, questions and complaints about other projects in the Purple Line Extension vicinity and emergency access during construction in Beverly Hills.
- Updated Facebook/Twitter website as needed.

CREATIVE SERVICES STATUS

Art Program

- Continue to support mitigation efforts.

Signage Design

- Coordination and oversight of sign removal at Customer Center.

SAFETY & SECURITY STATUS

- There were no recordable injuries on the Project during August 2014.
- Safety staff participated in scheduled readiness review meetings to ensure compliance with approved Work Plans and contract specifications.
- Construction activities (Advance Utility Relocations and Exploratory Shaft) continue to be monitored during both day and night work shifts to ensure contractor compliance with contract specifications.
- Safety staff monitored and provided Licensed Underground Safety Representative and Gas Tester coverage for engineering staff testing operations.
- 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 and traffic hazards as well as public interactions with the construction crews.
- Safety staff completed work with Procurement and Program Management staff to prepare documents for upcoming maintenance facility design contract packages.
- Metro Construction Safety staff is providing Safety & Security Contract Compliance oversight during both day and night shifts.
- Work Hour and Injury statistics are reported with a one month lag.
- July Contractor Work Hours (Design & Construction): 8,372
- Contractor – Project to Date Work Hours (Design & Construction through 7/31/2014): 65,482
- Total Project to Date Work Hours (Contractor & the IPO Staff through 7/31/2014): 118,056
- Project to Date Recordable Injury Rate: 0.0 (Zero Recordable Injuries). Each rate is per 200,000 work hours.
- Project to Date Total Time Away Injury Rate: 0.0 (Zero Time Away From Work Injuries).
- Project to Date Total Days Away Rate: 0.0 (Zero Days Away From Work).

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)	MOA (La Cienega only)	9/14	9/14	City of Beverly Hills approved the MOA for the Wilshire/La Cienega AUR contract on August 19, 2014. Metro to continue to work with the City to establish an MOA for the 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. Metro has provided comments to Qwest on the revised agreement. Awaiting Level 3 response to accept and honor an existing agreement in lieu of a new MCA. Metro's proposed MOU is being reviewed by SCE. In absence of an agreement, work is being performed by work orders.

ADVANCED UTILITY RELOCATION STATUS

- C1048 AUR for the Wilshire/La Brea Station is scheduled to be completed in October 2014.
- AT&T relocations at the Wilshire/La Brea Station are continuing and are scheduled to be completed in October 2014.
- LADWP Power continued cable pulling at the Wilshire/La Brea Station site and is scheduled to be completed in January 2015.
- The C1055 AUR contractor for Wilshire/Fairfax Station continues with submittals and construction.
- CES is continuing fiber relocations at the Wilshire/Fairfax Station and the Wilshire/La Cienega Station areas.

ADVANCED UTILITY RELOCATION STATUS (Continued)

- The City of Beverly Hills City Council approved the C1056 AUR work permit at their August 19, 2014 council meeting.

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 Night Time Work 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 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.
- The Peak Hour Exemptions for Wilshire/Fairfax and Wilshire/Western pile installations were approved by the City of Los Angeles on May 12, 2014.
- The Nighttime Noise Variance for the Wilshire/La Brea and Wilshire/Fairfax Advanced Utility Relocation work was extended to October 17, 2014 by the Los Angeles Police Commission.
- A nighttime noise variance application was submitted on June 19, 2014 for the Wilshire/La Cienega AUR contract for the area east of San Vicente Boulevard (City of Los Angeles). Metro received approval from the Los Angeles Police Department (LAPD) on July 3, 2014.
- LAPD issued a notice to Metro that Nighttime Noise Variances for the Wilshire/Crenshaw and Wilshire/Detroit laydown yards are not required.
- A new Nighttime Noise Variance application for pile installations at the Wilshire/Fairfax Station area will be submitted in late 2014.

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 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

CONTRACT C1034 STATUS

<p>Description: Exploratory Shaft Contractor: Innovative Construction Solutions (ICS)</p>	<p>Contract No. C1034 Status as of: August 29, 2014</p>															
<p>Progress / Work Completed:</p> <ul style="list-style-type: none"> - Notice to Proceed: 01/15/13 - Demolition / site preparation: 04/05/13 - 06/17/13 - Site Utilities: 05/06/13 - 09/04/13 - Soldier Piles: 07/05/13 - 08/27/13 - Shaft excavation started: 09/03/13 - Shaft excavation to 15' depth: 10/18/13 - Shaft excavation to 20' depth: 11/01/13 - Shaft excavation to 32' depth: 11/30/13 - Shaft excavation to 44' depth: 12/27/13 - Shaft excavation to 58' depth: 01/31/14 - Shaft excavation to 66' depth: 02/28/14 - Shaft excavation to bottom of pit: 03/28/14 -Monitoring period began: 04/01/14 <p>Areas of Concern: None</p>	<p>Major Activities (In Progress):</p> <p>Monitoring period</p> <p>Major Activities Next Period:</p> <p>Complete monitoring period</p>															
<p>Schedule Summary:</p> <p>Date of Award: 11/26/12 Notice to Proceed: 01/15/13 Original Contract Duration: 669 CD Current Contract Duration: 699 CD Elapsed Time from NTP: 594 CD</p>		Original Contract Dates	Time Extension	Current Contract	Forecast	Variance CDs										
	Notice to Proceed	01/15/13	0	01/15/13	01/15/13	0										
	Milestone 1: Shaft Completion	02/14/14	16	03/07/14	03/28/14	-21										
	Milestone 2: Substantial Completion	11/15/14	0	11/15/14	11/15/14	0										
<p>Physical Percent Complete:</p> <p>Physical completion: 83%*</p> <p><i>* Note: Physical completion assessment reflects work completed and work in progress.</i></p>	<p>Cost Summary: \$ In millions</p> <table border="0"> <tr> <td>1. Award Value:</td> <td style="text-align: right;">6.5</td> </tr> <tr> <td>2. Executed Modifications:</td> <td style="text-align: right;">0.6</td> </tr> <tr> <td>3. Approved Change Orders:</td> <td style="text-align: right;">0.0</td> </tr> <tr> <td>4. Current Contract Value (1+2+3):</td> <td style="text-align: right;">7.1</td> </tr> <tr> <td>5. Incurred Cost:</td> <td style="text-align: right;">6.0</td> </tr> </table>						1. Award Value:	6.5	2. Executed Modifications:	0.6	3. Approved Change Orders:	0.0	4. Current Contract Value (1+2+3):	7.1	5. Incurred Cost:	6.0
1. Award Value:	6.5															
2. Executed Modifications:	0.6															
3. Approved Change Orders:	0.0															
4. Current Contract Value (1+2+3):	7.1															
5. Incurred Cost:	6.0															

CONTRACT C1055 STATUS

<p>Description: Fairfax AUR Contractor: W.A. RASIC Construction Company, Inc.</p>	<p>Contract No. C1055 Status as of: August 29, 2014</p>															
<p>Progress / Work Completed:</p> <ul style="list-style-type: none"> - Submittal process continues - Material procurement process continues - Project schedule update approved - Pot hole exploration continues - Ductbank at Orange Grove completed - Soundwall installation at Wilshire/Crenshaw laydown is near completion - Electrical power work began at Wilshire/Fairfax <p>Areas of Concern: None</p>	<p>Major Activities (In Progress):</p> <ul style="list-style-type: none"> - Submittal process - Material procurement - Power work at Wilshire/Fairfax - Pot hole exploration - Soundwall installation <p>Major Activities Next Period:</p> <ul style="list-style-type: none"> - Waterline at La Brea begins - Material fabrication & delivery - Ductbank at Wilshire/Fairfax intersection continues - Power vaults delivery, installation to begin 															
<p>Schedule Summary:</p> <p>Date of Award: 04/22/14 Notice to Proceed: 05/01/14 Original Contract Duration: 535 CD Current Contract Duration: 535 CD Elapsed Time from NTP: 123 CD</p>		Original Contract Dates	Time Extension	Current Contract	Forecast	Variance CDs										
	Notice to Proceed	05/01/14	0	01/15/14	01/15/14	0										
	Milestone 1: Water @ La Brea	08/29/14	0	08/29/14	08/29/14	0										
	Milestone 2: Power @ Fairfax	07/25/15	0	07/25/15	07/25/15	0										
	Milestone 3: Substantial Completion	10/18/15	0	10/18/15	10/18/15	0										
<p>Physical Percent Complete:</p> <p>Physical completion : 5%*</p> <p><i>* Note: Physical completion assessment reflects work completed and work in progress.</i></p>	<p>Cost Summary: \$ In millions</p> <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 80%;">1. Award Value:</td> <td style="text-align: right;">14.4</td> </tr> <tr> <td>2. Executed Modifications:</td> <td style="text-align: right;">0.4</td> </tr> <tr> <td>3. Approved Change Orders:</td> <td style="text-align: right;">0.0</td> </tr> <tr> <td>4. Current Contract Value (1+2+3):</td> <td style="text-align: right;">14.8</td> </tr> <tr> <td>5. Incurred Cost:</td> <td style="text-align: right;">1.5</td> </tr> </table>						1. Award Value:	14.4	2. Executed Modifications:	0.4	3. Approved Change Orders:	0.0	4. Current Contract Value (1+2+3):	14.8	5. Incurred Cost:	1.5
1. Award Value:	14.4															
2. Executed Modifications:	0.4															
3. Approved Change Orders:	0.0															
4. Current Contract Value (1+2+3):	14.8															
5. Incurred Cost:	1.5															

CONSTRUCTION PHOTOGRAPHS



CES Performing Fiber Optic Work on Wilshire Boulevard in the City of Beverly Hills



Installation of Sound Wall at the Wilshire/Crenshaw Laydown Yard

**APPENDIX
COST AND BUDGET TERMINOLOGY**

Project Cost Descriptions

ORIGINAL BUDGET	The Original Project Budget as authorized by the Metropolitan Transportation Authority (Metro) Board (to be established).
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
CMSC	Construction Management 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
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
EMSC	Engineering Management Services Consultant
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
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
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
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
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