

Los Angeles County  
Metropolitan Transportation Authority

# Crenshaw/LAX Transit Project



Metro<sup>®</sup>

# **CRENSHAW/LAX TRANSIT PROJECT**

## **MONTHLY PROJECT STATUS REPORT**

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

**OCTOBER 2014**

## TABLE OF CONTENTS

	Page No.
Project Summary.....	1
Project Overview & Status.....	2-4
Management Issues.....	5-7
Project Alignment.....	8
Project Scope.....	9-10
Project Status	
• Project Schedule	
○ Key Milestones Six-Month Look Ahead.....	11
○ Project Summary Schedule.....	12
○ Schedule Measurements.....	13
○ Overall Construction Progress Curve.....	14
○ Major Equipment Delivery .....	15
○ Design-Builder’s (C0988) Long Lead Item List.....	16
○ Critical Path Narrative.....	17
○ Project Schedule Contingency Drawdown.....	18
○ Project Schedule Contingency Drawdown Analysis.....	18
• Project Cost	
○ Project Cost .....	19
○ Project Cost Analysis.....	19-21
○ Project Contingency Drawdown.....	22
○ Project Contingency Drawdown Analysis.....	22-23
○ Disadvantaged Business Enterprise (DBE).....	24
○ Project Labor Agreements (PLA) Status.....	24
○ Summary of Changes.....	25-26
• Financial/Grant	
○ Financial/Grant .....	27
○ Status of Funds Anticipated.....	28
• Staffing	
○ Total Project Staffing.....	29
○ Metro Staffing.....	30
○ Construction Management Support Services Consultant.....	30


**TABLE OF CONTENTS (Continued)**

	Page No.
o Engineering Services Consultant.....	31
• Real Estate.....	32
• Quality Assurance.....	33
• Environmental.....	34
• Construction Relations.....	35
• Systemwide Design and Art Program.....	35
• Safety and Security.....	36
• Third Party Agreement and Advanced Utility Relocation.....	37-38
• Peak Hour and Nighttime Construction Variances.....	39
• California Public Utilities Commission (CPUC) Crossing Summary...	40
• Chronology of Events.....	41-43
• Construction Contracts	
o Contract C0988 .....	44
o Contract C0990. ....	45
o Contract C0991 .....	46
o Contract C0992.....	47
o Contract C0992A.....	48
• Construction Photographs.....	49-52
Appendices	
• Cost and Budget Terminology.....	53
• List of Acronyms.....	54-58

**PROJECT SUMMARY**

CRENSHAW/LAX TRANSIT PROJECT

As of October 2014

LOCATION: Crenshaw Blvd at Exposition south to Green Line DESIGN/CONSULTANT: Hatch Mott MacDonald				CONSTRUCTION MANAGEMENT CONSULTANT: Stantec CONTRACTOR: Walsh-Shea Corridor Constructors (WSCC)																			
PROJECT PHOTO: Tunnel Boring Machine (TBM) parts being shipped from Germany to Los Angeles.				WORK COMPLETED PAST MONTH:																			
				<ul style="list-style-type: none"> <li>o Metro initiated close out of Advance Utility Relocations.</li> <li>o WSCC continued final design.</li> <li>o WSCC continued coordination with LAWA/FAA for upcoming construction activities next to end of airport runways.</li> <li>o WSCC continued cutter soil mixing (CSM) pile installation at Exposition Station.</li> <li>o WSCC TBM enroute to Los Angeles with arrival planned for early November 2014.</li> <li>o Metro continued real estate acquisitions.</li> </ul>																			
EXPENDITURE STATUS (\$ In Millions)				SCHEDULE ASSESSMENT																			
ACTIVITIES	CURRENT BUDGET	EXPENDED AMOUNT	PERCENT EXPENDED	MAJOR SCHEDULE ACTIVITIES	PRIOR PLAN	CURRENT PLAN	VARIANCE WEEKS																
DESIGN	\$ 136.7	\$ 88.4	64.6%	<b>Environmental</b>																			
				FEIS/FEIR	Sep-11	Sep-11	Complete																
RIGHT-OF-WAY	\$ 127.4	\$ 102.6	80.5%	Record of Decision	Dec-11	Dec-11	Complete																
				<b>Design</b>																			
CONSTRUCTION	\$ 1,353.1	\$ 236.7	17.5%	Preliminary Engineering	Nov-11	Nov-11	Complete																
				Final Design	Sep-15	Sep-15	On Schedule																
OTHER	\$ 440.8	\$ 89.9	20.4%	<b>Right-of-way</b>																			
				TOTAL	\$ 2,058.0	\$ 517.5	25.1%	All full-take parcels available	Aug-14	Dec-14	4 months behind												
Note: cost expended as of November 1, 2014.				<table border="1"> <tr> <td colspan="4"><b>Construction</b></td> </tr> <tr> <td>D-B Notice to Proceed</td> <td>Sep-13</td> <td>Sep-13</td> <td>Complete</td> </tr> <tr> <td>D-B Substantial Complete</td> <td>Sep-18</td> <td>Dec-18</td> <td>3.8 months behind</td> </tr> <tr> <td>Revenue Service Date</td> <td>Oct-19</td> <td>Oct-19</td> <td>On schedule*</td> </tr> </table>				<b>Construction</b>				D-B Notice to Proceed	Sep-13	Sep-13	Complete	D-B Substantial Complete	Sep-18	Dec-18	3.8 months behind	Revenue Service Date	Oct-19	Oct-19	On schedule*
<b>Construction</b>																							
D-B Notice to Proceed	Sep-13	Sep-13	Complete																				
D-B Substantial Complete	Sep-18	Dec-18	3.8 months behind																				
Revenue Service Date	Oct-19	Oct-19	On schedule*																				
<b>AREAS OF CONCERN</b> <ul style="list-style-type: none"> <li>o Timely future reviews of WSCC's designs by City of Los Angeles, City of Inglewood, Caltrans, FAA and Los Angeles World Airports.</li> <li>o Third party relocations prior to design-builder's construction activities</li> <li>o Execution of Agreement with City of Inglewood.</li> <li>o Mitigation of design-builder's current forecast of 3.8 month schedule delay to substantial completion milestone.</li> </ul>				*Note: Current Revenue Service Date includes a reduction in contingency.																			
ROW ACQUISITION	PLAN	ACQUIRED	REMAINING	<b>CRITICAL ACTIVITIES / 3 MONTH LOOK AHEAD</b>																			
FULL TAKES	35	34	1	<ul style="list-style-type: none"> <li>o WSCC implement schedule recovery plan.</li> <li>o WSCC continue final design.</li> <li>o WSCC continue support of excavation work at Exposition Station.</li> <li>o WSCC continue support of excavation work at MLK Station.</li> <li>o WSCC commence support of excavation work at Vernon Station.</li> <li>o WSCC commence new Century/Aviation bridge construction.</li> <li>o WSCC commence decking operations at Exposition Station.</li> </ul>																			
PARTIAL TAKES	27	3	24																				
TEMPORARY EASEMENTS	12	2	10																				
<b>TOTAL PARCELS</b>	<b>74</b>	<b>39</b>	<b>35</b>																				

## **PROJECT OVERVIEW**

### **Major Contract Procurement**

Metro advertised the Southwestern Yard (Division 16) design-build contract on August 29, 2014. *Amendment 1 was issued on September 19, 2014 and Amendment 2 on October 24, 2014.* For this two-step procurement, both Step One Technical Bid and Step Two Price Bid are due from proposers on December 2, 2014. Proposers whose Step-One Technical Bids are determined to be acceptable by Metro will be notified that their Step-Two Price Bids will be publicly opened. Award and notice-to proceed are planned for first quarter of 2015.

### **Construction**

**Contract C0990** - The advanced utility relocations contractor, Metro Builders and Engineers Group, LTD was substantially completed on August 21, 2014. Contract is now in close-out phase.

**Design- Build Contract C0988** – The design-builder, Walsh-Shea Corridor Constructors (WSCC) continues final design with preparation of required contract submittals. Key design status this month:

- *Continued to hold various task force and workshop meetings to resolve design issues. These meetings were for underground stations, structures and systems disciplines.*
- *Utility design meetings held to discuss utility conflicts and resolution for protect-in-place and relocation.*
- *Weekly coordination meetings with City of Los Angeles for support of excavation and street restoration design.*
- *WSCC continues final design and submit design packages for Metro and City of Los Angeles review.*

Construction efforts by the design-builder continued along the three major areas or segments:

Segment A – (South end, stationing 7+50 to 130+00)

- *First shipments of TBM equipment have arrived.*
- *Continued preparation work for start of first CIDH piles for new Century Bridge.*
- *Continued coordination with LAWA and FAA for upcoming construction activities near LAX runways.*

Segment B – (Stationing 130+00 to 365+00)

- No major work in this area during the month.

Segment C – (North end, Stationing 365+00 to 449+00)

- Crenshaw/Exposition Station area
  - *Continued pile installation on both sides of Crenshaw Blvd.*
  - *Preparation continued for full street closure of Crenshaw Blvd. for decking operation in November 2014.*

## **PROJECT OVERVIEW (Continued)**

### **Right-of-Way**

There are a total of 74 parcels; one more parcel was added in October 2013 which was originally an encroachment. There are 35 full takes, 27 partial takes and 12 temporary construction easements (TCE's). *There have been 39 parcels acquired through October 2014. Thirty-three full takes, five part takes/ temporary construction easements have been provided to design-builder WSCC. One full take parcel has been acquired but will be provided to the design-builder WSCC in late November 2014.*

### **Systems**

Metro staff initiated a study to explore possible alternative layouts to accommodate the central control functions associated with new project needs, such as Crenshaw/LAX project, within the existing ROC facility as an interim measure. Metro has determined that the best interim course of action is to expand the existing functional operations at the ROC under a Phase 1 approach to support five new rail lines and extensions including the Crenshaw/LAX Project. The existing ROC will be expanded and will reconfigure the existing ROC service control and closed circuit television monitoring areas to increase overall space requirements by approximately 22 percent. A full build-out of a combined BOC/ROC is also being planned under a Phase 2 approach on land to be acquired by Metro as a separate Capital Improvement Project near Division 20.

Final design of the ROC Reconfiguration Plan was completed and issued for review on February 28, 2014. The initial ROC reconfiguration effort will be for Exposition Phase II and Foothill Gold Line Projects. Crenshaw/LAX Transit Project ROC reconfiguration will be initiated in June 2017 and completed by February 2019.

### **Program Management**

In May 2013, the Board approved a Motion that amended the fiscal year 2014 Proposed Metro Budget to include funding for an underground station at Leimert Park Village and an at-grade station at Hindry as part of the baseline project. This Motion added \$135 million to the LOP budget which included \$80 million in uncommitted fiscal year 2014 funding and \$55 million from the City of Los Angeles. Metro reached agreement with the City of Los Angeles to cover the incremental cost of the stations above the \$80 million identified in fiscal year 2014 funding which the Metro Board approved in May 2014.

With board approval on June 27, 2013, the additional \$135 million is included in the sources of funds chart as well as the additional \$160.1 million for the increased cost of the base work. All recommendations were approved by the Board on June 27, 2013 except that change order authority was maintained at \$500,000. This board action amended the life of project budget to \$2,058 million.

The current budget includes the 49% cost allocation share that the Project is responsible for paying for the design and construction of the Southwestern Yard. This amount is \$139.4 million of the \$285.2 million forecast cost for the Southwestern Yard. The \$139.4 million is allocated in the various SCC categories.

## **PROJECT OVERVIEW (Continued)**

The amount of funding available for the Crenshaw/LAX Transit Corridor Project, excluding the Southwestern Yard \$139.4 million allocation and Environmental/Planning budget of \$26.0 million is \$1,892.6 million.

The LOP budget is funded by various sources of funds which include local, state and federal funding. The TIFIA Loan is categorized under local funds as the loan is secured by a pledge of Measure R local sales tax funds. The funding percentages are as follows: local funding 79.8%, state funding 10.5% and federal funding 9.7%.

*The project commitments thru October 2014 are \$1,655.1 million or 80.4% of the Current Budget. The project expenditures thru October 2014 are \$517.5 million or 25.1% of the Current Budget. The current period expenditures are for design-builders monthly design and construction costs as well as right-of-way and professional services costs. The expenditures to date also include the Southwestern Yard expenditures that are part of the 49% cost allocation share (\$139.4 million) that the Project is responsible for paying for.*

The project master schedule continues to reflect a forecast of October 2019 for Revenue Service which includes the additional two station options, Leimert Park Station and Hindry Station.

*A significant portion of the project schedule contingency was restored this period. The schedule contingency has been restored by 65 calendar days and is now at 7.1 months. This was a result of the design-builder incorporating a schedule recovery plan into their monthly schedule update and thus pulling back the forecast contract substantial completion milestone date. The cumulative to date reduction in schedule contingency is 50 calendar days.*

On a monthly basis, the project's risk manager will advise project management of the risk register items mitigation status. A Risk Management Quarterly Progress Report was issued on July 18, 2014. *The next issuance of the Risk Management Quarterly Progress Report is planned by late November, 2014.*



## **MANAGEMENT ISSUES**

**Concern No. 1:** Complete Construction Safety Phasing Plan (CSPP) for design-builder scope of work near LAX and receive FAA approval.

**Status/Action** *WSCC continues working on updating the CSPP and will request activation of the permit required (FAA 7460) in order to start on underground guideway No. 1 trench in front of LAX runways in January 2015.*

**Concern No. 2:** Execution of 3% Local Match funding agreement with the City of Inglewood.

**Status/Action** Metro and the City of Inglewood continue to work through various issues and may have solutions to outstanding issues so an agreement can be executed in the future.

**Concern No. 3:** Right-of-way acquisition forecast dates are trending later than planned.

**Status/Action** Metro continues to turn over parcels to the design-builder as they are acquired. *There have been 39 parcels acquired through October 2014.*

*Metro staff continues to collaborate with the design-builder to update priorities for the acquisition of smaller real estate parcels which include part takes, street easements, temporary construction easements and rights of entry required for construction.*

**Concern No. 4:** Timely future reviews of WSCC final design submittals by City of Los Angeles, City of Inglewood, Caltrans, FAA and Los Angeles World Airports.

**Status/Action** Metro is coordinating with all third party agencies in advance of WSCC final design submittals to ensure that timely review requirements will be met to support WSCC's current schedule submittal dates. The final design submittals will be submitted for review by third parties according to the most critical submittals to ensure the third party agencies are reviewing the most important designs first. Also, along with the concern above is the potential for third party agencies review comments leading to potential change requests outside of the original design signed off by the agencies during the preliminary engineering phase of the project. Metro will take action and strictly monitor the review comments from the agencies.

## **MANAGEMENT ISSUES (Continued)**

**Concern No. 5:** Additional scope of work for the design-builder to accommodate the Los Angeles World Airports (LAWA) Specific Plan Amendment Study (SPAS).

**Status/Action** The scope of work is for Metro to undertake a parallel design effort and construct changes in the vicinity of the Aviation/Century Station to accommodate elements of the SPAS. The Crenshaw/LAX Transit Project obtained Metro Board authorization to Proceed in December 2013 with the required future design or construction effort. Four changes have been executed with WSCC, three for design and one for construction. Metro is also working with LAWA on additional changes that may be considered by the Metro Board of Directors in the near future. The existing and any potential new changes to WSCC are not funded by the Crenshaw/LAX Transit Project but are funded by other funding sources.

**Concern No. 6:** Relocations of utilities by outside third parties required to be performed in advance of the main Crenshaw/LAX Design Build Contractor's work.

**Status/Action** Metro continues to work closely with various third party agencies and have set up weekly meetings to address all known remaining utility relocation work. The emphasis is to have the relocations of utilities performed in advance of when WSCC will be performing work in the same location.

**Concern No. 7:** Design-builders design submittal schedule

**Status/Action** WSCC is still behind in meeting key interim design milestones but is working to submit submittals that could impact the critical path if not submitted on time. Metro is working closely with WSCC to timely review critical submittals so as not to impact to the project schedule critical path.

**Concern No. 8:** Design-builders construction schedule

**Status/Action** Metro has received a proposed recovery plan from WSCC. Metro and WSCC are working with City of Los Angeles officials to implement two key mitigation strategies:

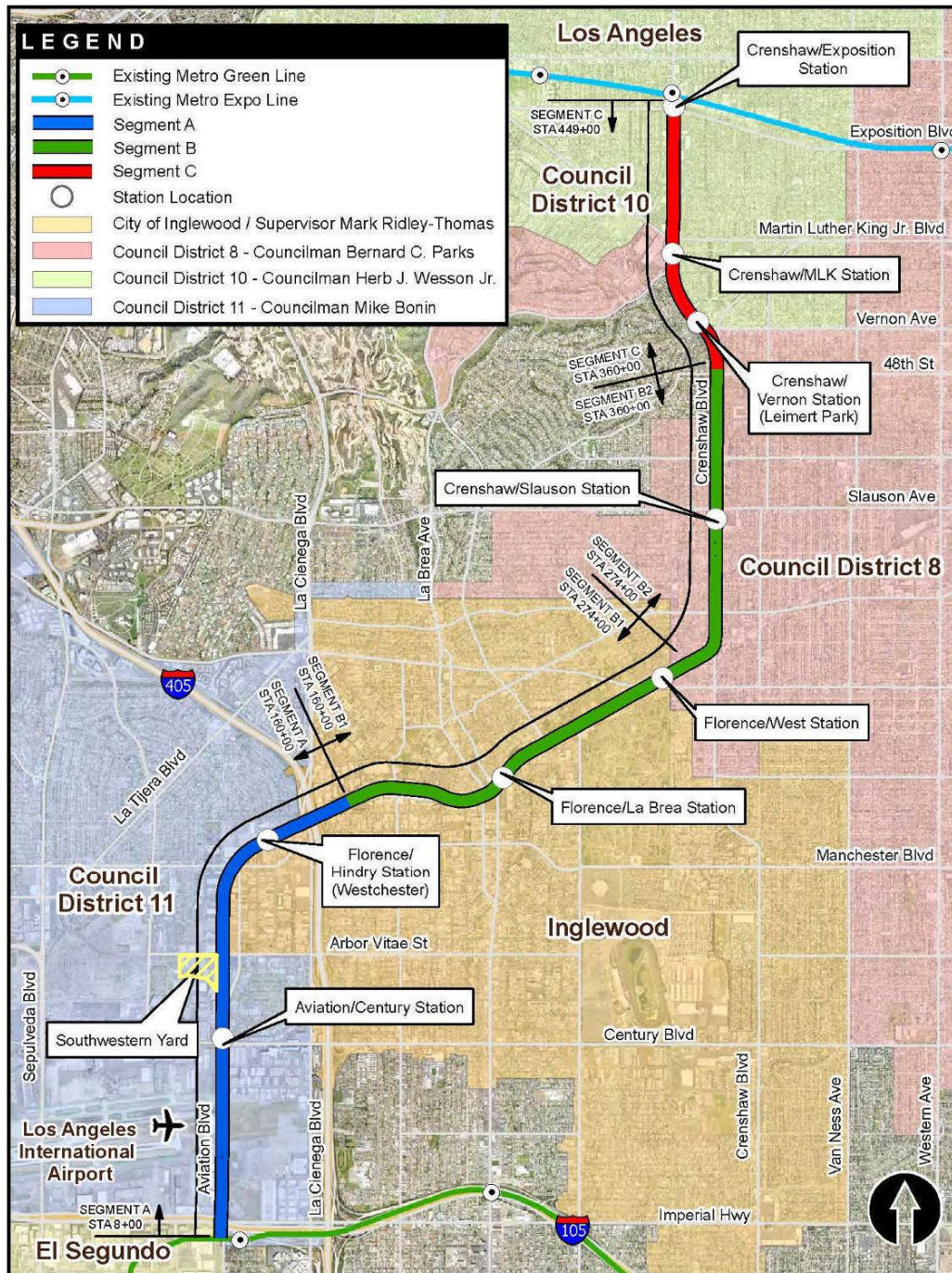
- WSCC request for 35 consecutive days (break for Thanksgiving week) for street closures instead of 18 weekend closures to install decking for underground stations, and
- WSCC request for a partial exemption of the City of Los Angeles' holiday street moratorium.

### **MANAGEMENT ISSUES (Continued)**

With these proposed mitigation strategies a significant amount of the almost four months of delay can be mitigated.

Metro requested that the recovery plan be incorporated into WSCC's current monthly updated schedule so progress can be monitored against the current plan and not against the baseline schedule.

**PROJECT ALIGNMENT**



## **PROJECT SCOPE**

The Crenshaw/LAX Transit Corridor is a north/south corridor that serves the cities of Los Angeles, Inglewood, Hawthorne and El Segundo as well as portions of unincorporated Los Angeles County. The alignment extends 8.5 miles, from the intersection of Crenshaw and Exposition Boulevards to a connection with the Metro Green Line at the Aviation/LAX Station. The project provides major connections with the Los Angeles International Airport (LAX) as well as links to the Metro Green Line, the Exposition Line and countywide bus network. The Board adopted a light rail system as the Locally Preferred Alternative (LPA) in December 2009.

The alignment is comprised of a double-tracked right-of-way consisting of sections of at-grade in-street, at-grade within railroad right-of-way, aerial, and below-grade guideway sections, eight stations, park and ride facilities at three locations, utilities, landscaping, roadway improvements required by the project and a maintenance & storage facility (Southwestern Yard).

The scope of work for the three construction contracts and two owner-supplied equipment contracts is shown below.

### **Contract C0990 Crenshaw/LAX Advanced Utility Relocations**

The design of several early utility relocations was advanced sufficiently into final design to allow for bidding of critical early utility relocations. This contract includes relocating three (3) existing duct banks that feed various NAVAIDS on the south airfield complex. New ductbank infrastructure will be built by Metro with the fiber replacement work and cut-over by FAA/LAWA. These ductbanks contain fiber lines and power lines which belong to both LAWA and FAA. Since the track alignment is below grade at these crossings, the ductbanks have to be relocated in advance to allow for the construction of the track alignment. In addition, other wet utilities along the Harbor Branch and Crenshaw Boulevard segments of the corridor that can be relocated in advance are included as part of this contract.

The project delivery method for this contract was bid-build Invitation for Bid (IFB).

### **Design-Build Contract C0988 Crenshaw/LAX Transit Corridor**

This is the largest project contract which will complete final design and construction of the infrastructure required along the corridor alignment. The structures required to be constructed are eight stations, grade separations including flyover structures, cut and cover trenching, tunneling and three park-n-ride facilities. The scope of work will include all the necessary systems work including train control, traction power supply substations and distribution, overhead catenary, communications, and systems tie-in to the existing Metro Green Line. The project delivery method for this contract was design-build utilizing a two-step best value procurement approach with submittal of qualification statements through a RFQ process, pre-qualification of qualified proposers followed by release of a RFP soliciting technical and price proposals with an option at Metro's discretion for best and final offers (BAFO).

## **PROJECT SCOPE (Continued)**

### **Design-Build Contract C0991 Southwestern Yard**

The Board-adopted 2009 Long Range Transportation Plan (LRTP) for Los Angeles County envisioned one new central Light Rail Transit (LRT) Maintenance facility to be used by all projects. Since the LRTP adoption, substantial progress on light rail system planning and development, including more accurate vehicle assignments, cost estimates, and functional requirements, has led Metro to conclude that two new LRT yards, an Eastern Yard and a Southwestern Yard, are necessary. This contract will construct the Southwestern Yard which will consolidate maintenance facility requirements for this project as well as the operating Metro Green Line, proposed South Bay Metro Green Line Extension and proposed Metro Green Line to LAX. The cost of constructing the Southwestern Yard will be proportionately split among the four projects.

*The project delivery method for this contract is a two-step design-build IFB approach.*

### **Owner-Supplied Equipment - Contract C0992 Crenshaw/LAX Concrete Ties and Assembly Items**

Metro added a contract for procuring owner-supplied equipment for the Design-Build Contract C0988 Crenshaw/LAX Transit Corridor Contractor. The equipment within the contract scope of work includes concrete ties and assembly items.























The project delivery method for this contract was bid-build IFB approach.


### **Owner-Supplied Equipment - Contract C0992A Crenshaw/LAX Rail and Bumping Posts Procurement**


Metro added a contract for rebidding the procurement of running rail and bumping posts for the Design-Build Contract C0988 Crenshaw/LAX Transit Corridor Contractor.

The project delivery method for this contract was bid-build IFB approach.


**KEY MILESTONES SIX- MONTH LOOK AHEAD**

	Milestone Date	Oct-14	Nov-14	Dec-14	Jan-15	Feb-15	Mar-15
Contract C0988 Start Aviation / Century Bridge	10/27/2014A						
Contract C0988 Deliver TBM	11/07/14						
Contract C0988 Start Decking - Expo	11/07/14						
Contract C0988 Readiness For Construction Design - Seg B	11/07/14						
Contract C0988 Complete Shoring CSM Construction - Expo	11/08/14						
Contract C0988 Start Soldier Piling at Vernon	11/17/14						
Contract C0991 Southwestern Yard Bids Due	12/02/14						
Contract C0988 Readiness For Construction Design - COMM	12/10/14						
Contract C0988 Readiness For Construction Design - Seg A	01/05/14						
Contract C0988 Start La Brea Bridge	01/05/15						
Contract C0988 Start Shoring - Underground Structure #3	01/12/15						
Contract C0988 Readiness For Construction Design - Seg C	01/13/15						
Contract C0988 Readiness For Construction Design - TPSS	01/13/15						
Contract C0988 Complete Shoring CSM West Side - MLK	01/20/15						
Contract C0988 Start Decking - Vernon	01/31/15						
Contract C0988 Start Soldier Piling Underground Structure #1	02/02/14						
Contract C0988 Start Soldier Piles - Underground Structure #4	02/11/15						
Contract C0988 Readiness For Construction Design - OCS	02/12/14						
Contract C0988 Start Aerial Structure #1	02/16/15						
Contract C0988 Start Decking - MLK	02/20/15						
Contract C0988 Final Design - Seg B	02/27/14						
Contract C0988 Start Manchester Bridge	03/02/14						

 MTA Staff

 MTA Board Action

FTA (Federal Transportation Authority)

 Other Agencies

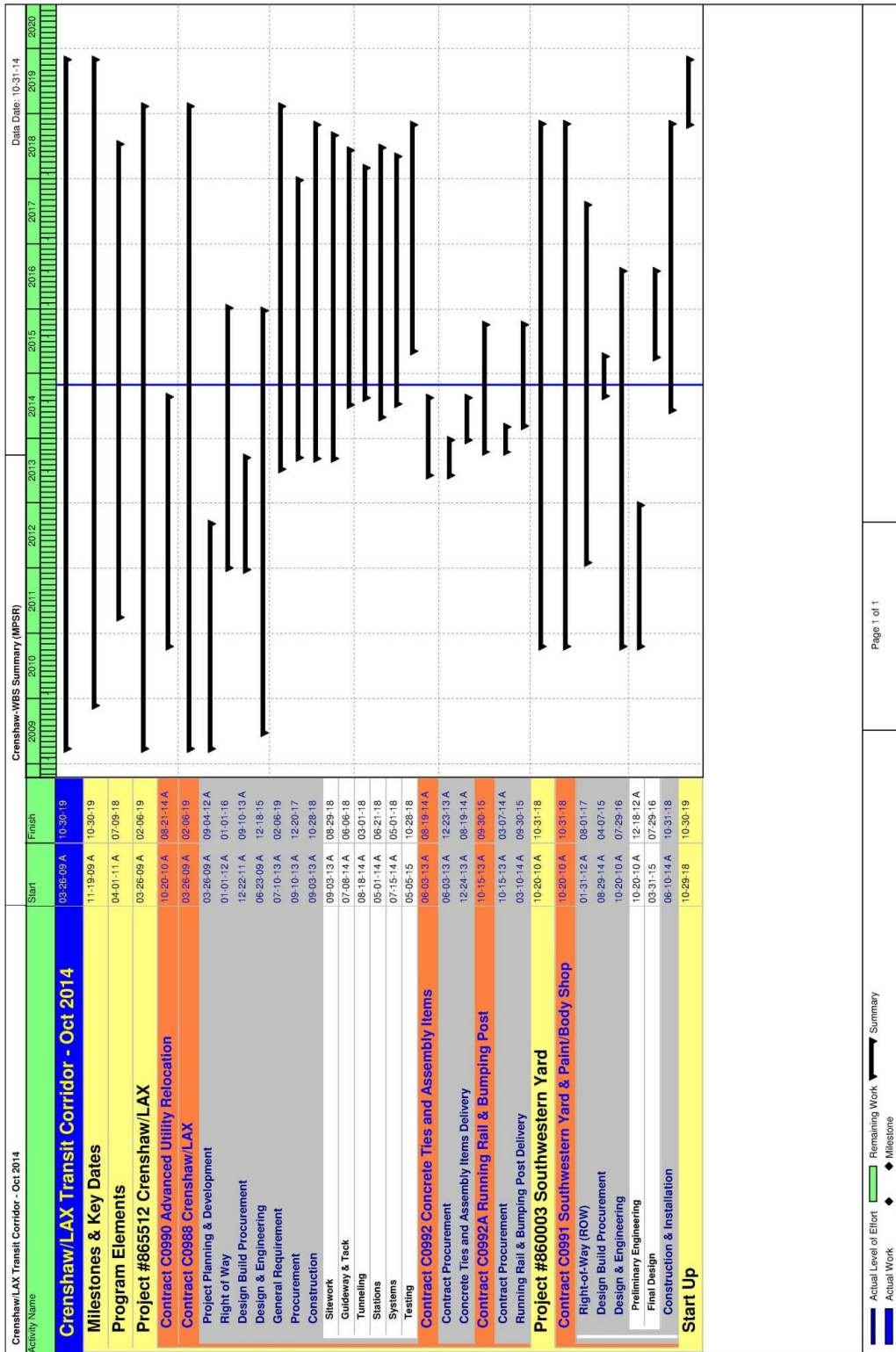
 Contractors

 Walsh

"A" following date is actual and completed

 New Date

## PROJECT SUMMARY SCHEDULE

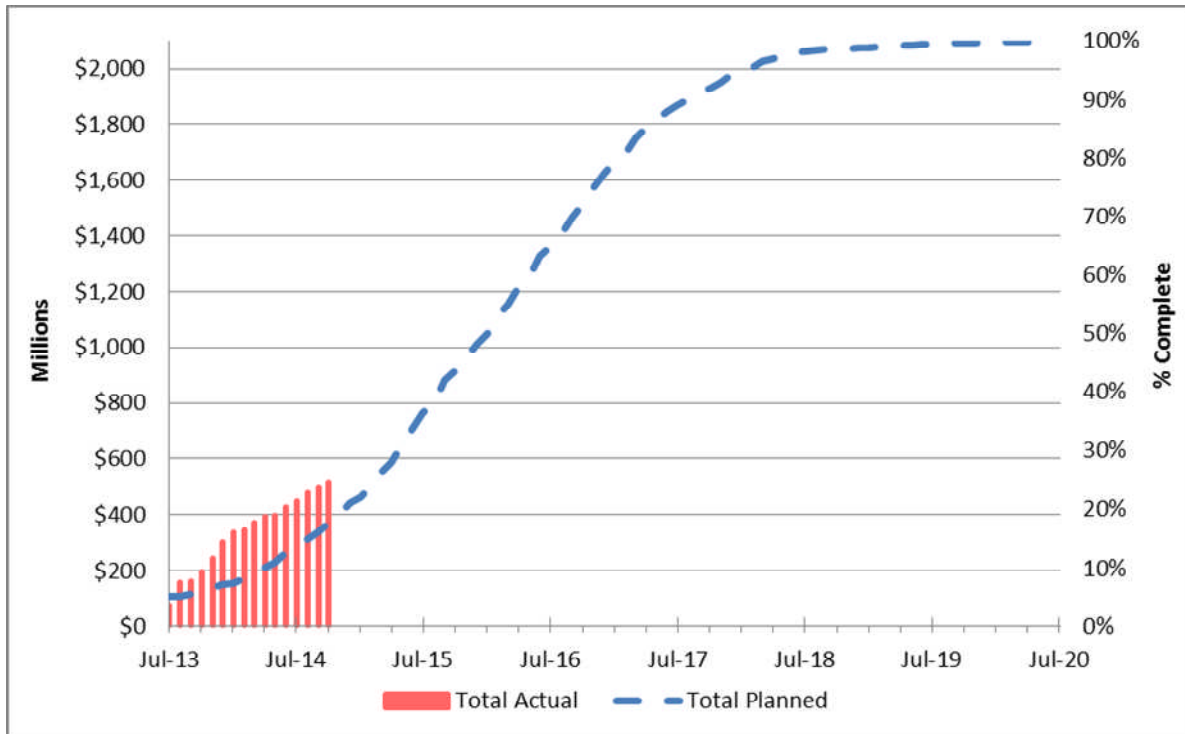




**SCHEDULE MEASUREMENTS**

	Status	Change from Last Period	Comment
Current Revenue Service:	10/30/2019	None	
Forecast Revenue Service:	10/30/2019	None	
TIFIA Revenue Service:	10/30/2019	None	
<b>Final Design Progress:</b>			
Contract C0988	76%	4%	Behind Schedule
Contract C0990	100%	None	Design Completed
Contract C0991	-	-	P.E Completed only
Contract C0992	100%	None	Design Completed
Contract C0992A	100%	None	Design Completed
<b>Construction Contracts Progress:</b>			
Contract C0988	7.6%	1.3%	Behind Schedule
Contract C0990	100%	0%	Substantially Completed
Contract C0991	0%	-	Advertised
Contract C0992	100%	0%	Substantially Completed
Contract C0992A	93%	0%	On Schedule
<b>Cumulative To Date Progress:</b>			
	22.1%	0.7%	

**OVERALL CONSTRUCTION PROGRESS CURVE STATUS**



The above progress curve is based on planned expenditures by the design-build contractor in the C0988 baseline schedule and actual program expenditures which incorporated progress projected by the design-build contractor in their October 2014 schedule update.

The cumulative overall final design and construction progress is 22.1%.

Contract C0990 was Substantially Completed on Aug 21, 2014, which is 297 calendar days behind Contract Milestone #1.

Final Design for C0988 commenced upon MTA issuing NTP on September 10, 2013. Cumulative final design progress to date is 76%, while the construction progress is 7.6% to date.

**MAJOR EQUIPMENT DELIVERY STATUS**

**Tunnel Boring Machine**

WSSC, the design-builder for Contract C0988, will procure the tunnel boring machine (TBM) and equipment.

Following are the major milestone dates for TBM procurement:

	Baseline	Sep-14	Oct-14	Monthly Variance
Submit Final Design Details for TBM	01/03/14	10/31/14	12/01/14	31
Fabricate & Deliver TBM	09/22/14	11/07/14	11/07/14	0
Procure & Deliver TBM Rolling Stock & Accessories	06/23/14	05/01/15	05/01/15	0
TBM SB Breakout at Expo	04/28/15	10/30/15	09/25/15	-35
TBM SB Break through at Vernon	09/17/15	03/22/16	02/10/16	-41
TBM NB Breakout at Expo	10/29/15	05/03/16	03/23/16	-41
TBM NB Break through at Vernon	03/21/16	09/22/16	08/11/16	-42

**Light Rail Vehicles**

The Board approved exercising Option 1 of Contract P3010 with Kinkisharyo International to provide light rail vehicles (LRV) for the Crenshaw/LAX project. By exercising this option prior to August 20, 2013, the Project avoided price escalation costs. The total number of vehicles in the option is 28 which include 20 LRVs for the Crenshaw/LAX project and two additional cars for spares.

The first six pilot cars for the initial order of cars (non-option) are planned to be delivered on July 2015; then four cars will be delivered every month starting from Aug 2015 with the last group of cars to be delivered on Jan 2017.

Mobilization of Option 1 will commence after completion of the initial order. First delivery of Option 1 cars will be February 2017 and the last of the cars in September 2017.

**Ticket Vending Machines**

Procurement of the ticket vending machines will commence after the design-builder completes final design and the total requirements for the project are known.

**Concrete Ties and Assembly Items**

All required concrete ties have been delivered to the job site.

**Running Rail & Bumping Post**

The delivery of the equipment is as follows:

- SDI 115RE SS Rail Delivery – 7/16/2014 (Completed)
- Evraz 115RE HH Rail Delivery – 8/11/2014 (Completed)
- Bumping Post Delivery – 9/30/2015

**DESIGN-BUILDER'S (C0988) LONG LEAD ITEM LIST**

<b>Item</b>	<b>Delivery</b>	<b>Needed by</b>
Traffic Signal Poles	5/28/2015	5/28/2015
Street Light Poles	5/28/2015	5/28/2015
Tunnel Ventilation Fans	9/21/2015	3/23/2017
Jet Fans (Cut & Cover)	3/7/2016	4/19/2017
Structural Steel - Canopies	10/23/2015	5/11/2017
Laminated Tempered Canopy	7/23/2015	4/7/2017
Station - Elevators	4/5/2016	3/9/2017
Station - Escalators	4/5/2016	6/28/2016
Track - Special Trackwork	6/3/2016	6/6/2016
Unit Substations - Expo	8/27/2015	12/6/2017
Unit Substations - MLK	8/27/2015	5/23/2017
Unit Substations - Vernon	8/27/2015	4/18/2017
TPSS - Substation 1	12/10/2015	1/25/2016
TPSS - Substation 2	2/22/2016	2/23/2016
TPSS - Substation 3	5/2/2016	5/3/2016
TPSS - Substation 5	7/13/2016	7/14/2016
TPSS - Substation 6	9/22/2016	10/17/2016
TPSS - Substation 8	12/2/2016	2/14/2017
TPSS - Substation 9	2/14/2017	7/6/2017
TPSS - Substation 10	4/25/2017	8/21/2017
OCS Poles	12/15/2015	12/15/2016
Communication Equipment for TC&C #1 / Aviation Yard	8/27/2015	9/6/2016
Communication Equipment for TC&C #2 / Aviation/Century	12/29/2015	11/24/2016
Communication Equipment for TC&C #4 / Hindry	2/24/2016	4/17/2017
Communication Equipment for TC&C #5 / Florence/West	10/3/2016	4/11/2017
Communication Equipment for TC&C #6 / Crenshaw/Slauson	2/9/2017	8/8/2017
Communication Equipment for TC&C #7 / Crenshaw/MLK	9/19/2017	9/20/2017
Communication Equipment for TC&C #8 / Crenshaw/Expo	12/20/2017	12/21/2017
Communication Equipment for COM #1 / UG-1	10/2/2015	7/2/2016
Communication Equipment for COM #2 / UG-2	4/6/2016	5/16/2017
Communication Equipment for COM #2 / Florence/La Brea	6/30/2016	5/16/2017
Communication Equipment for COM #3 / UG-3	11/14/2016	6/26/2017
Communication Equipment for COM #4 / UG-4	3/23/2017	12/21/2018
Communication Equipment for COM #4 / Vernon	6/16/2017	8/29/2017

## **CRITICAL PATH NARRATIVE**

**Critical Path:**

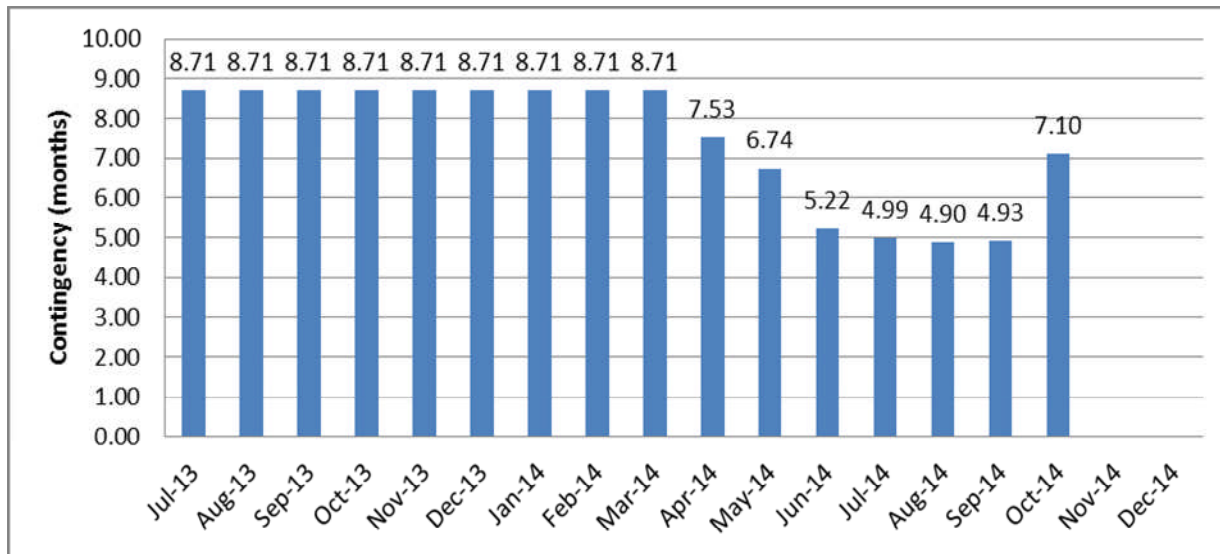
The longest path to project substantial completion begins with final design of the Design/Build Contract #C0988 Crenshaw/LAX Transit Corridor.

The most critical and longest path starts with the Expo and MLK Station support of excavation (SOE) and decking, excavation & invert construction; TBM mining in south bound tunnel; cross passage excavation, tunnel invert and walkway construction; track and system installation, while the Vernon station SOE, decking & excavation, underground structure #3 shoring and excavation and underground structure #4 cut and cover follow closely as the secondary critical path.

Critical work concludes with phase I systems integration testing by the C0988 contractor, phase 2 systems integration testing by MTA and then pre-revenue operations.

The current critical path indicates Milestone 1 - Contract Substantial Completion date is Oct 28, 2018, which is 50 calendar days behind. As part of a recovery plan, the Contractor is targeting completing decking before the holiday moratorium to gain six weeks of schedule. WSCC is also reviewing the deck installation plan in Expo and MLK with a full closure option rather than the weekend only to gain another eight weeks.

### PROJECT SCHEDULE CONTINGENCY DRAWDOWN



### PROJECT SCHEDULE CONTINGENCY DRAWDOWN ANALYSIS

The project schedule contingency drawdown is based on the revenue service date of October 30, 2019. The change of LOP Contingency is due to design-builder reforecast of their substantial completion milestone.

**PROJECT COST STATUS**

COST REPORT BY ELEMENT  
PERIOD: OCTOBER 2014  
UNITS IN DOLLARS

SCC CODE	DESCRIPTION	ORIGINAL BUDGET	CURRENT BUDGET		COMMITMENTS		EXPENDITURES		CURRENT FORECAST		FORECAST VARIANCE
			PERIOD	TO DATE	PERIOD	TO DATE	PERIOD	TO DATE	PERIOD	TO DATE	
10	GUIDEWAYS	471,335,000	-	452,500,001	-	442,927,082	2,130,982	28,714,229	-	452,500,001	-
20	STATIONS	153,906,000	-	316,050,000	-	300,744,412	3,294,341	32,936,523	-	315,050,000	(1,000,000)
30	SOUTHWESTERN YARD	66,673,000	-	66,673,000	-	-	-	-	-	66,673,000	-
40	SITWORK/SPECIAL CONDITIONS	235,576,000	-	348,565,999	282,793	340,909,999	3,783,854	174,884,762	-	354,970,999	6,405,000
50	SYSTEMS	125,132,000	-	169,311,000	-	150,228,242	4,000	167,055	-	169,436,000	125,000
10-50	CONSTRUCTION	1,052,622,000	-	1,353,100,000	282,793	1,234,809,735	9,213,177	236,702,569	-	1,358,630,000	5,530,000
60	RIGHT-OF-WAY	132,294,000	-	127,400,000	2,118	113,795,439	669,227	102,560,922	-	127,400,000	-
70	LRT VEHICLES	87,780,000	-	82,100,000	-	82,050,901	-	11,452,422	-	82,100,000	-
80	PROFESSIONAL SERVICES	273,147,000	-	295,900,000	249,727	198,907,247	7,912,728	141,276,806	-	299,025,000	3,125,000
90	UNALLOCATED CONTINGENCY	177,157,000	-	173,500,000	-	-	-	-	-	164,845,000	(8,655,000)
	865512 & 860003 - SUBTOTAL	1,723,000,000	-	2,032,000,000	534,638	1,629,563,322	17,795,132	491,992,719	-	2,032,000,000	-
	ENVIRONMENTAL/PLANNING-405512	5,526,150	-	5,526,150	-	5,526,150	-	5,526,150	-	5,526,150	-
	ENVIRONMENTAL/PLANNING-465512	20,473,850	-	20,473,850	-	20,023,237	-	20,023,237	-	20,473,850	-
	405512 & 465512 - SUBTOTAL	26,000,000	-	26,000,000	-	25,549,388	-	25,549,388	-	26,000,000	-
	405512, 465512, 865512 & 860003 - TOTAL	1,749,000,000	-	2,058,000,000	534,638	1,655,112,710	17,795,132	517,542,107	-	2,058,000,000	-

NOTE: EXPENDITURES ARE CUMULATIVE THROUGH 01-NOV-2014.

**PROJECT COST ANALYSIS**

The project numbers 405512, 465512, 865512, and 860003 are internal to Metro and are used to differentiate between environmental/planning and construction components of the project.

**Original Budget:**

The Board in October 2011 established the Life-of-Project (LOP) budget of \$1,749 million for the Crenshaw/LAX Transit Project.

**Current Budget:**

There have been two increases in the LOP to date:

- The Board in December 2012 approved an increase of \$13.9 million for a new LOP total of \$1,762.9 million. The Unallocated Contingency Standard Cost Category (SCC) 90 budget line item was increased by the \$13.9 million for a new total of \$191.1 million.
- The Board in June 2013 approved an increase of \$295.1 million for a new LOP total of \$2,058.0 million. The total increase was based on two actions:
  - Increase LOP base project scope in the amount of \$160.1 million, and
  - Increase LOP to include the options for Crenshaw/Vernon Station (Leimert Park Village) and Florence/Hindry Station in the amount of \$135.0 million.

The current budget includes the 49% cost allocation share that the project is responsible for paying which includes funding of the design and construction for the Southwestern Yard. This amount is \$139.4 million of the \$285.2 million total project forecast cost for the Southwestern Yard. The \$139.4 million is spread among the SCC categories 30, 40, 60, 80 and 90 in the Cost Report by Element table above.

## **PROJECT COST ANALYSIS (Continued)**

The amount of funding available for the Crenshaw/LAX Transit Project, excluding the Southwestern Yard \$139.4 million allocation and Environmental/Planning budget of \$26.0 million, is \$1,892.6 million.

### **Current Forecast:**

The total project current forecast is \$2,058 million. There is no current forecast variance with the current budget.

### **Commitments:**

The commitments are cumulative through November 1, 2014. The total commitments increased by \$0.5 million this period primarily due to the following:

- SCC-40 (Sitework and Special Conditions) has increased by \$0.3 million for executed modifications associated with the Advanced Utility Relocations Contract C0990.
- SCC-80 (Professional Services) has increased by \$0.2 million for costs associated with project management assistant contract PS2879 with Hill International, Inc., signage and graphics and community relations services. The total commitment of \$198.9 million includes \$3.1 million for the Southwestern Yard.

The \$1,655.1 million in commitments to date represents 80.4% of the current budget.

### **Expenditures:**

The expenditures are cumulative through November 1, 2014. The total expenditures increased by \$17.8 million this period due to the following:

- SCC-10 (Guideways and Track) has increased by \$2.1 million for cost associate with design-build Contract C0988 Crenshaw/LAX Transit Corridor.
- SCC-20 (Stations) has increased by \$3.3 million for cost associated with design-build Contract C0988 Crenshaw/LAX Transit Corridor.
- SCC-40 (Sitework and Special Conditions) has increased by \$3.8 million for costs associated with the design-build Contract C0988 Crenshaw/LAX Transit Corridor and the Advanced Utility Relocations Contract C0990.
- SCC-60 (Right-of-Way) has increased by \$0.7 million for cost associated with real estate acquisition, environmental and relocation. The total expenditure of \$102.6 million includes \$53.3 million for the Southwestern Yard which has been capped at this funding level.
- SCC-80 (Professional Services) has increased by \$7.9 million for costs associated with design-build Contract C0988 Crenshaw/LAX Transit Corridor, Engineering and Design Contract E0117, Metro project administration, IPMO field office utilities, LAWA land space lease; construction management support, legal, permit fees with Caltrans-District 07, third party scope of work with Los Angeles City Departments, project management support, material test laboratory and community relations services. The total expenditure of \$141.3 million includes \$1.6 million for the Southwestern Yard.

The \$517.5 million in expenditures to date represents 25.1% of the current budget.



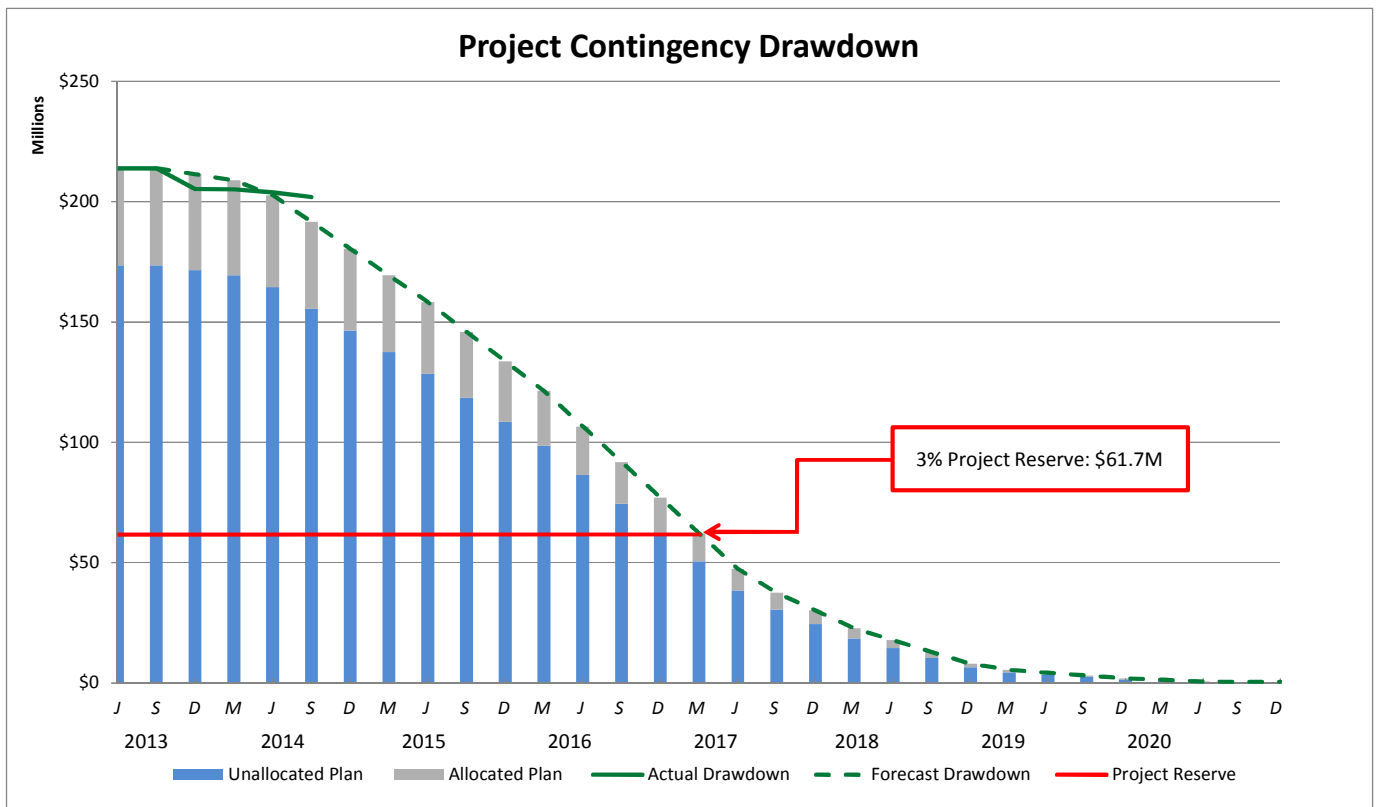
**PROJECT COST ANALYSIS (Continued)**

**Non-Crenshaw/LAX Transit Project Funded Scope of Work**

The costs shown in the table below are not part of Crenshaw/LAX Transit Project costs but are funded by other Metro projects using the services of the design-builder (Contract C0988).

C0988 NON-CRENSHAW/LAX TRANSIT PROJECT FUNDED SCOPE OF WORK										
DESCRIPTION	ORIGINAL BUDGET	CURRENT BUDGET		COMMITMENTS		EXPENDITURES		CURRENT FORECAST		FORECAST VARIANCE
		PERIOD	TO DATE	PERIOD	TO DATE	PERIOD	TO DATE	PERIOD	TO DATE	
210090 FARE GATE PROJECT	2,310,000	-	2,549,000	-	2,482,746	23,900	215,100	-	2,549,000	239,000
460303 AIRPORT METRO CONNECTOR	366,400	-	366,400	-	366,400	219,840	329,760	-	366,400	-
500013 C/LAX LAWA SCOPE OF WORK	1,575,362	-	1,575,362	-	168,278	-	168,278	-	1,575,362	-
TOTAL	4,251,762	-	4,490,762	-	3,017,424	243,740	713,138	-	4,490,762	239,000

## PROJECT CONTINGENCY DRAWDOWN



Through 01-Nov-2014

## PROJECT CONTINGENCY DRAWDOWN ANALYSIS

The project current budget of \$2,058,000,000 includes an “unallocated contingency” amount of \$173,500,000 which is included as a separate Standard Cost Category (SCC) element. Also included within the current budget is an “allocated contingency” of \$40,366,792 which is allocated, where applicable, to specific contracts within each SCC element. The allocated contingency is not broken out separately in the current budget, as this amount covers anticipated but unknown contract modifications issued by Metro. The total project cost contingency is \$213,866,792 or 10.4%.

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

The project contingency drawdown curve is based on an October 2019 revenue service date.

**PROJECT CONTINGENCY DRAWDOWN ANALYSIS (Continued)**

There has been a cumulative drawdown of \$11,949,887 or 5.6% of the original contingency through September 2014. The cumulative to date contingency drawdown is reported quarterly. Next drawdown will be reported in December 2014. The cumulative drawdown of contingency is shown in the table below:

<b>PROJECT CONTINGENCY DRAWDOWN</b>					
	Original Contingency	Drawdown previous quarter	Drawdown this quarter	Drawdown To-Date	Remaining Contingency
Unallocated Contingency	173,500,000	(8,655,000)	-	(8,655,000)	164,845,000
Allocated Contingency	40,366,792	(3,294,887)	-	(3,294,887)	37,071,905
<b>Total Contingency</b>	<b>213,866,792</b>	<b>(11,949,887)</b>	<b>-</b>	<b>(11,949,887)</b>	<b>201,916,905</b>

**DISADVANTAGED BUSINESS ENTERPRISE (DBE) STATUS**

**Contract C0988 Crenshaw/LAX Transit Corridor Design-Build**

- DBE Goal – Design 20.40%
- Current DBE Commitment \$18,727,241 (20.68%)
- Current DBE Participation \$9,583,105 (18.22%)
- Twenty (20) Design subcontractors have been identified to-date
  
- DBE Goal – Construction 20%
- Current DBE Commitment \$82,574,530 (7.04%)
- Current DBE Participation \$20,502,491 (11.54%)
- Thirty seven (37) Construction subcontractors have been identified to-date.

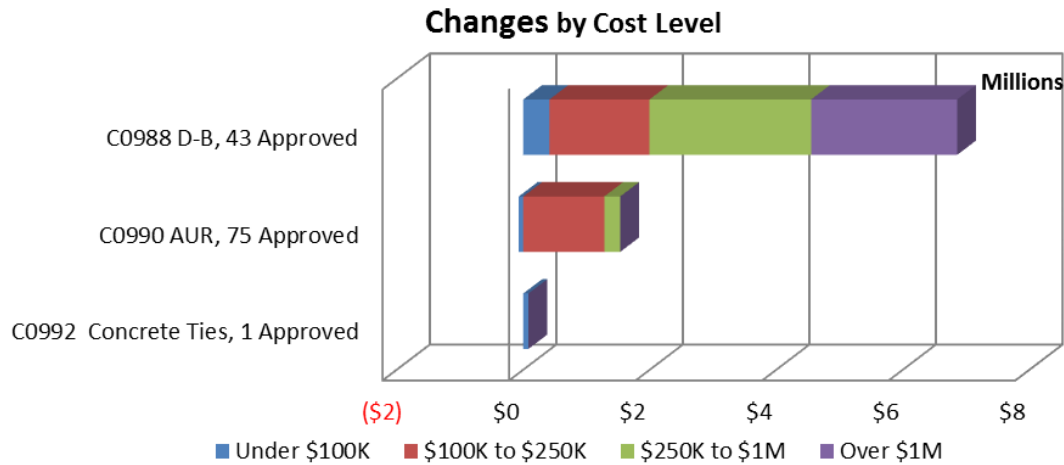
**PROJECT LABOR AGREEMENTS (PLA) STATUS**

**Contract C0988 Crenshaw/LAX Transit Corridor Design-Build**

(Reporting Data as of October 18, 2014)

- Targeted Worker Goal – 40.00%
- Targeted Worker Current Participation - 58.57%
  
- Apprentice Worker Goal - 20.00%
- Apprentice Worker Current Participation - 13.06%
  
- Disadvantaged Worker Goal - 10.00%
- Disadvantaged Worker Current Participation 10.65%

**SUMMARY OF CHANGES**



	C0988 43 Approved	C0990 75 Approved	C0992 1 Approved
Under \$100K	\$ 413,977	\$ (70,179)	\$ 81,738
\$100k to \$250K	\$ 1,580,123	\$ 1,280,184	\$ -
\$250K to \$1M	\$ 2,554,105	\$ 251,864	\$ -
Over \$1M	\$ 2,310,000	\$ -	\$ -
<b>Total</b>	<b>\$ 6,858,205</b>	<b>\$ 1,461,869</b>	<b>\$ 81,738</b>
<b>% of Contract</b>	<b>0.54%</b>	<b>18.68%</b>	<b>3.78%</b>

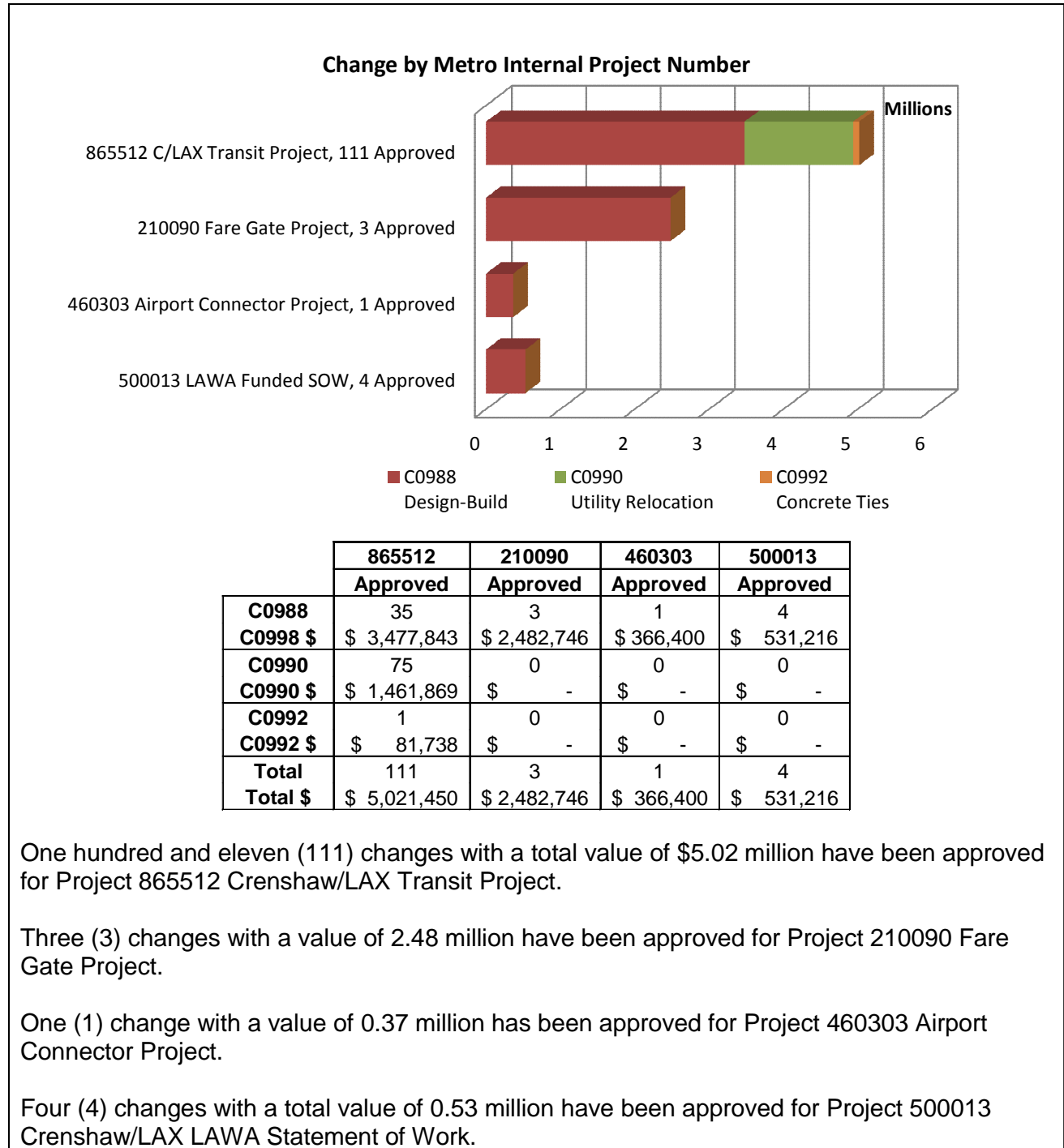
Percent of Contract equals the total Change value divided by the Contract Award amount

Forty-three (43) changes with a total value of 6.86 million have been approved since execution of Contract C0988.

Seventy-five (75) changes with a total value of 1.46 million have been approved since execution of Contract C0990.

One change with a value of \$81,738 has also been approved since execution of Contract C0992.

**SUMMARY OF CHANGES**



**FINANCIAL/GRANT STATUS**

\$ in millions

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 - CMAQ	68.2	54.0	0.0	54.0	100%	0.0	0%	0.0	0%
FEDERAL - SECTION 5309 BUS CAPT	8.6	8.6	8.6	8.6	100%	7.7	90%	7.7	90%
FEDERAL - REGIONAL STP	20.0	120.9	45.4	45.4	38%	10.1	8%	10.1	8%
FEDERAL - ALTERNATIVE ANALYSIS	1.2	1.2	1.2	1.2	100%	1.2	100%	1.2	100%
FEDERAL - TIGER II	0.0	13.9	13.9	13.9	100%	13.9	100%	13.9	100%
FEDERAL REGIONAL IMPROV PROG	34.3	34.4	0.0	34.4	100%	0.0	0%	0.0	0%
STATE REGIONAL IMPROVEMENT PROG	2.2	2.2	2.2	2.2	100%	2.2	100%	2.2	100%
STATE PFM	0.178	0.178	0.178	0.178	100%	0.178	100%	0.178	100%
STATE PROP 1B PTMSEA	201.2	128.6	122.5	128.6	100%	122.3	94%	122.3	94%
STATE PROP 1 B LOCAL PARTNER PROG	0.0	49.5	49.5	49.5	100%	49.5	100%	49.5	100%
MEASURE R - TIFIA LOAN	545.9	545.9	545.9	545.9	100%	0.0	0%	0.0	0%
MEASURE R	661.1	661.1	377.5	661.1	100%	302.1	46%	264.7	40%
OTHER FUNDS*	52.4	187.5	0.0	0.0	0%	0.0	0%	0.0	0%
PROP C 25% HIGHWAY	148.9	189.5	3.3	59.7	31%	3.3	2%	3.3	2%
PROP C 40% DISCRETIONARY	0.0	10.2	0.0	0.0	0%	0.0	0%	0.0	0%
PROP A 35% RAIL CAPITAL	4.8	50.4	4.9	50.4	0%	4.9	0%	4.9	10%
<b>TOTAL</b>	<b>1,749.0</b>	<b>2,058.0</b>	<b>1,175.1</b>	<b>1,655.1</b>	<b>80.4%</b>	<b>517.5</b>	<b>25.1%</b>	<b>480.1</b>	<b>23.3%</b>

NOTE: Expenditures are cumulative through October 2014.

Original Budget based on Board approved October 2011 Funding/Expenditure Plan

Total Funds Anticipated based on Board approved June 2013 Revised Funding

\* Other funds include: Local Agency Funds (\$107.470), ONG Tax Credit (\$54.000) and 3rd Party Lease Contingency (\$26.000)

**STATUS OF FUNDS ANTICIPATED**

**FEDERAL – CMAQ:** Metro submitted to FTA in October 2013 a draft grant application of \$30M for review. FTA has reviewed the application and allowed Metro to formally submit the grant application in July 2014. Grant is pending FTA approval.

**FEDERAL – RSTP:** FTA approved a grant of \$45M in May 2014 to fund the project rail cars. Funds are available for drawdown. Metro submitted to FTA in October 2013 a draft grant application of \$28.2M for review. FTA has reviewed the application and allowed Metro to formally submit the grant application in July 2014. Grant is pending FTA approval.

**STATE PROP 1B – PTMISEA:** An allocation request for \$12M was approved in May 2012 and funds are available for drawdown. In March 2013, allocation requests of \$11.4M and \$98.9M were submitted to Caltrans. The \$11.4M allocation request was approved in June 2013. Funds are available for drawdown. The \$98.9M allocation request was approved on February 6, 2014. Funds are available for drawdown. A new allocation request of \$6.170M was submitted in June 2014 to Caltrans for approval. *The allocation request is expected to be awarded no later than December 2014.*

**STATE PROP 1B LP:** An allocation request of \$49.5M was submitted in April 2013 and approved in July 2013. The allocation request was executed by Caltrans in December 2013. Funds are available for drawdown.

**MEASURE R – TIFIA LOAN (Transportation Infrastructure Finance & Innovation Act):** Application for a loan of \$545.9 M was submitted to the US Department of Transportation (DOT) in November 2011. Loan agreement was executed on September 12, 2012. *The first disbursement of \$337.4M is planned for June 1, 2015.*

**MEASURE R:** *\$377.4M has been allocated to the project through FY2015. Funds are available for drawdown.*

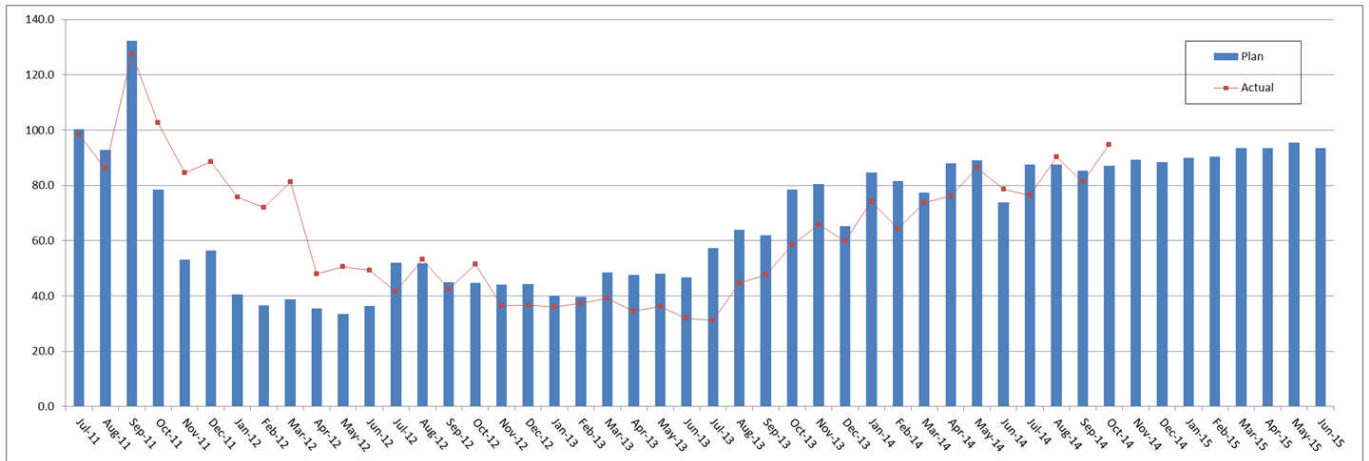
**PROP C 25% HIGHWAY:** *\$3.8M has been allocated to the project based on the June 2014 TIFIA Financial Model Funding Plan. Funds are available for drawdown.*

**PROP A 35% RAIL CAPITAL:** *\$4.8M has been allocated to the project based on the June 2014 TIFIA Financial Model.*



## STAFFING STATUS

### Total Project Staffing – FTES



**Notes:**

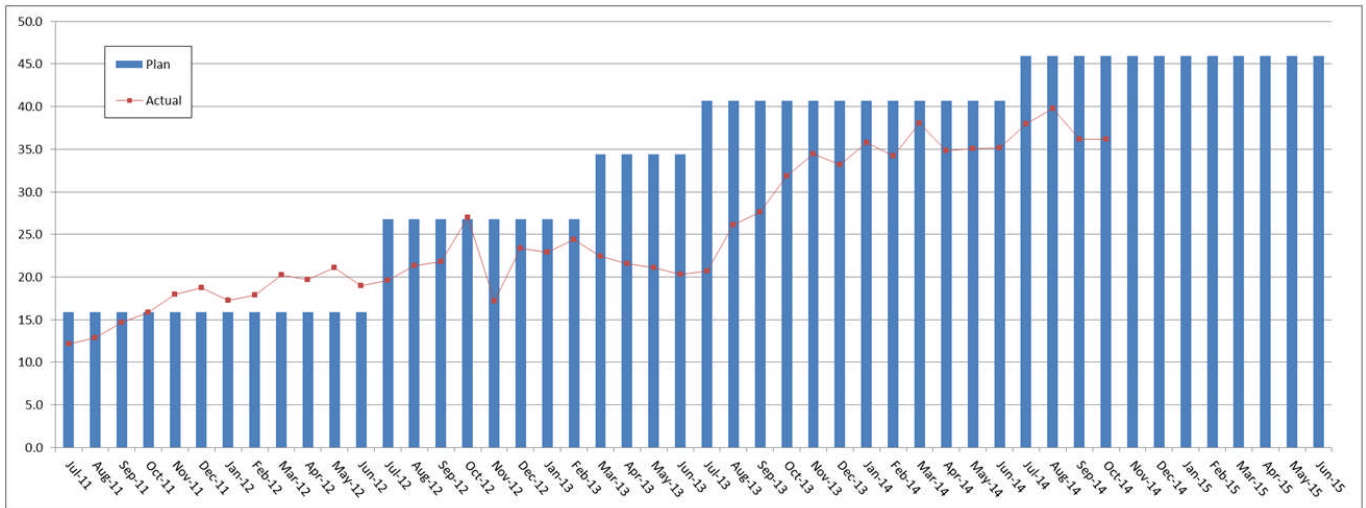
1. FTE = Full Time Equivalent
2. Staffing levels are for project 865512 only.
3. Actual staffing levels are cumulative through October 2014.

## TOTAL PROJECT STAFFING

For October 2014, there were a total of 36.2 FTE's for MTA's Project Administration staff and 58.5 FTE's for consulting staff. The total project staffing was 94.7 FTE's for October 2014. The overall FY15 Total Project Staffing plan averages 90.1 FTE's per month.

**STAFFING STATUS (Continued)**

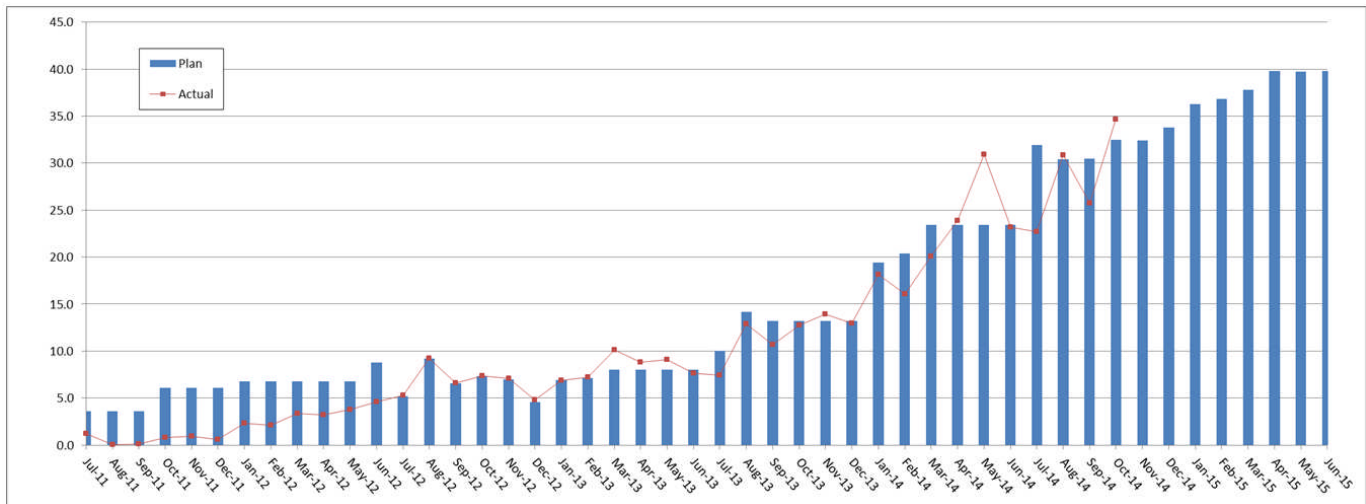
**METRO STAFFING – FTES**



**Notes:**

1. FTE = Full Time Equivalent
2. Staffing levels are for project 865512 only.
3. Actual staffing levels are cumulative through September 2014.

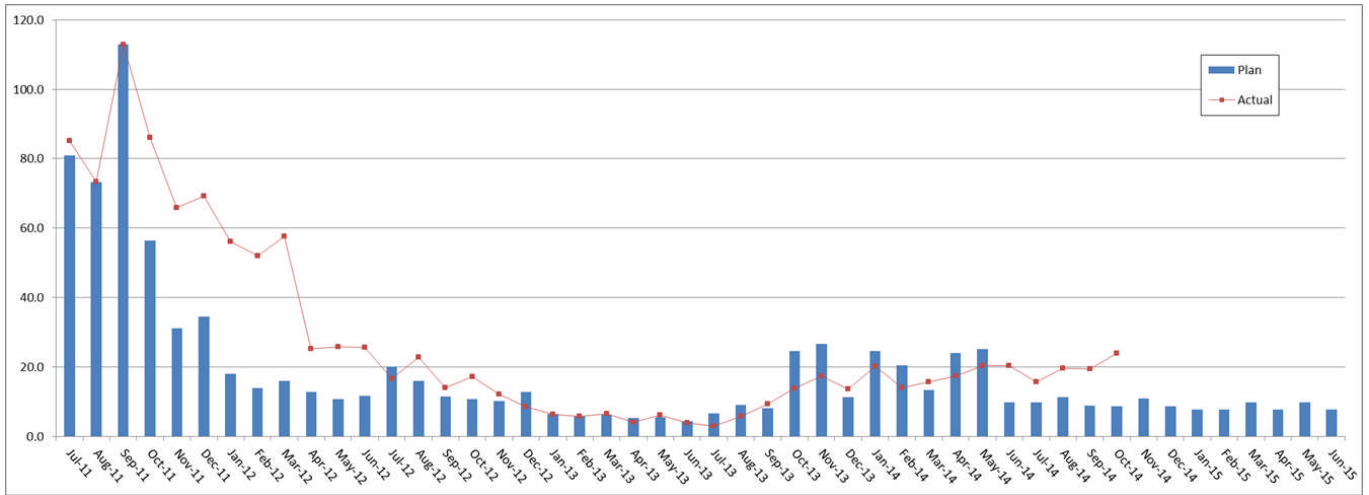
**CONSTRUCTION MANAGEMENT  
SUPPORT SERVICES CONSULTANT – FTES**



**Notes:**

1. FTE = Full Time Equivalent
2. Staffing levels are for project 865512 only.
3. Actual staffing levels are cumulative through September 2014.

**STAFFING STATUS (Continued)  
ENGINEERING SERVICES CONSULTANT – FTES**



**Notes:**

1. FTE = Full Time Equivalent
2. Staffing levels are for project 865512 only.
3. Actual staffing levels are cumulative through September 2014.

**REAL ESTATE STATUS**

Contract No.	Number of Parcels	Certified	Decertified	Appraisals Complete	Offers Made	Agreements Signed	Condemnations Filed	Relocations Complete	Parcels Available to WSCC
<b>C0988 C/LAX Transit Corridor (D-B):</b>									
<b>Crenshaw Subdivision</b>									
Full Takes	12	12		12	12	9	3	11	11
Part Takes (PT or SE)	10	9	1	9	9	3	5		1
TCE	10	10		10	10	1	9		
<b>Subtotal Parcels</b>	<b>32</b>	<b>31</b>	<b>1</b>	<b>31</b>	<b>31</b>	<b>13</b>	<b>17</b>	<b>11</b>	<b>12</b>
<b>Harbor Subdivision</b>									
Full Takes	14	14		14	14	12	2	12	14
Part Takes (PT or SE)	19	18	1	18	17	7	7		4
TCE	3	2	1	2	2		1		
<b>Subtotal Parcels</b>	<b>36</b>	<b>34</b>	<b>2</b>	<b>34</b>	<b>33</b>	<b>19</b>	<b>7</b>	<b>12</b>	<b>18</b>
<b>Total CR/HS Parcels:</b>	<b>68</b>	<b>65</b>	<b>3</b>	<b>65</b>	<b>64</b>	<b>32</b>	<b>24</b>	<b>23</b>	<b>30</b>
<b>Southwestern Yard</b>									
Full Takes	8	8		8	8	6	2	4	8
Part Takes	0								
TCE	0								
<b>Subtotal Parcels:</b>	<b>8</b>	<b>8</b>	<b>0</b>	<b>8</b>	<b>8</b>		<b>2</b>	<b>4</b>	<b>8</b>
<b>Total SW Parcels:</b>	<b>8</b>	<b>8</b>	<b>0</b>	<b>8</b>	<b>8</b>	<b>6</b>	<b>2</b>	<b>4</b>	<b>8</b>
<b>C0990 C/LAX Advance Utility Relocations:</b>									
<b>Total Parcels:</b>	<b>0</b>								
<b>Total Project Parcels</b>	<b>76</b>	<b>*73</b>	<b>3</b>	<b>74</b>	<b>73</b>	<b>38</b>	<b>26</b>	<b>27</b>	<b>38</b>

- **74** acquisitions: **\*73** planned for in the environmental report +**1** full take for the Harbor Subdivision that was not certified.
- **74** appraisals completed.
- **73** offers made to property owners. **1** part take offer in Harbor Subdivision pending (HS-2001).
- **39** parcels acquired (including 1 parcel not certified): **33** full takes, **5** part takes/Temporary Construction Easement (TCE) provided to WSCC; **1** (Crenshaw) of the full takes (CR-2701) has been acquired but is not available for WSCC use until 11/30/14.

**Reported as of October 31, 2014**

## **QUALITY ASSURANCE STATUS**

### **C0988 Crenshaw/LAX Transit Corridor Design-Build Contract**

- *Attended weekly Quality Staff Meetings with City of Los Angeles, Los Angeles Bureau of Contract Administration, HNTB, and WSCC Lead Quality personnel.*
- *Attended bi-weekly Management-Level Meetings with representative from the City of Los Angeles, Metro Engineering and Construction Management.*
- *Participated in Construction Work Plan (CWP) Reviews, Readiness Reviews and Construction Specification Reviews.*
- *Participated in a site review for the Bent #4 and 5 rebar cages, Perris, CA.*
- *Reviewed the installation of EXPO deck beams and concrete deck panels.*
- *Participated in the close-out Audit meeting for a Metro-sponsored audit of WSCC Design and Construction activities. Final report to be issued in November 2014.*
- *Issued a Corrective Action Notice (CAR 001) to WSCC for repetitive nonconformances associated with the CSM work at EXPO.*
- *Issued "Closed Notifications" on five City of Los Angeles Notice of Noncompliance (NNC) Reports.*

### **C0992 Concrete Rail Ties**

- No activities. Ties have been securely stored in various Project locations.

## **ENVIRONMENTAL STATUS**

### **C0988 Crenshaw/LAX Transit Corridor Design Build**

- Reviewed and commented on the following Contractor Submittals:
  - *Noise Monitoring Data for Underground 4*
  - *Noise Monitoring Data for Century Bridge*
  - *Green Construction Plan Monthly Reports*
  - *Sustainability Plan Monthly Reports*
  - *Weekly Storm Water Pollution Prevent Plan (SWPPP) inspection reports,*
  - *Weekly Fugitive Dust Inspection Reports*
  - *Weekly Noise Monitoring Reports, and*
  - *Various Construction Work Plans*
- Continue to document compliance with the Project Mitigation Monitoring and Reporting Plan (MMRP).
- *Completed additional hazardous waste surveys for parcel SW-0103.*
- *Completed hazardous waste abatement for parcel CR-2802.*
- *Identified locations for the relocation of 9 Phase I trees in the City of Los Angeles.*
- *Coordinating tree removal permit applications for the City of Los Angeles for Phase II on Crenshaw Boulevard median trees from 48<sup>th</sup> Street to 67<sup>th</sup> Street.*
- *Received Tree Removal Permits for the City of Inglewood for Phase II (Harbor Subdivision) for City-owned trees (26) and Metro-owned trees (124).*
- Evaluating potential local reuse/recycling opportunities for the tree trunks with World Stage in Leimert Park.
- Evaluating potential local reuse/recycling opportunities for the mulch generated for tree removal activities with Crenshaw High School.
- Continuing remediation of contaminated ballast and underlying soil on former BNSF railroad along Metro ROW.
- Coordinated Archaeological, Paleontological and Native American Monitoring. *State Historic Preservation Officer (SHPO) has approved the Cultural Resources Monitoring and Mitigation Plan (CRMMP) and Paleontological Monitoring and Mitigation Plan (PMMP).*
- *Conducted additional Contractor Cultural Awareness Training.*
- Attended Contractor Weekly Progress meetings, Environmental Task-Force Meetings and various over-the-shoulder submittal meetings with Contractor.
- *Attended CLC Meetings, Neighborhood Council Meetings and Construction Update Meeting to discuss tree removal and other environmental concerns.*

## **CONSTRUCTION RELATIONS STATUS**

- *Conducted outreach via emails and phone calls for CLC Quarterly Meeting 15,000 stakeholders.*
- *Participated in West Area Neighborhood Council Community Meeting, Westchester Neighbors Association, Baldwin Hills Village Green Community Meeting, Art Meeting with CLC Members, Community Meeting with Leimert Park BID, Community Meeting West Adams Neighborhood Council and Chamber of Commerce Meeting.*
- *Coordinated Station Naming Briefing with Westchester Neighbors Association and stakeholders.*
- *Coordinated CLC Quarterly Meeting.*
- *Gave presentation at the Council District 8 staff project briefing.*
- *Extended Crenshaw Closure Outreach to emergency responders including LAPD, LAFD and ambulance services.*
- *Participated in Taste of Soul Media Event.*

## **SYSTEMWIDE DESIGN AND ART PROGRAM STATUS**

- *Responded to RFIs and submittal drawings.*
- *Continued to refine project artwork opportunities.*
- *Continued to facilitate stage one artist selection panel process.*
- *Further development of strategy for construction fence artwork and other mitigation efforts.*

## **SAFETY & SECURITY STATUS**

- Participated in weekly progress meetings with WSCC's Management and Construction Management Team to discuss safety/security related issues and construction schedules.
- Monitored construction activities on a daily basis including nights and weekends to ensure compliance with contract specifications.
- Implemented WSCC's Safety/Security personnel bi-weekly project-site audit reviews to enhance overall safety/security.
- Reviewed contractor safety submittals and construction work plans to ensure compliance with contract specifications.
- *Issued non-compliance letter to WSCC regarding lack of site security personnel.*
- Conducted All-Hands Monthly Safety/Security Meeting with WCC's Construction Safety personnel.
- *Walsh/Shea reported 53,427 work hours and one recordable incident for the month of October 2014. Total Project-to-Date work hours are 720,166 and five recordable incidents. The Project Incident Rate is 1.4. The Bureau of Labor Statistics (BLS) average recordable rate per 200,000 work-hours is 3.8.*



**THIRD PARTY AGREEMENT STATUS**

<b>Third Party</b>	<b>Type of Agreement</b>	<b>Forecast Execution Date</b>	<b>Required Need Date</b>	<b>Status/ Comments</b>
City of Los Angeles	Amendment to Master Cooperative Agreement	N/A	N/A	Parties will work under 2003 MCA.
City of Inglewood	Master Cooperative Agreement	3/15	N/A	Executed Letter of Agreement April 2012. Metro working on outstanding issues.
Los Angeles Department of Water and Power	Amendment to Memorandum of Understanding	N/A	N/A	Metro and LADWP will work under 2002 Utility Cooperative Agreement which remains in effect.
Los Angeles County Public Works	Letter of Agreement	4/11	3/12	Executed
Caltrans	Amendment	8/11	3/12	Executed
Private Utilities	LOA, MOU or UCA	5/11 to 5/13	N/A	Metro is working with affected third party utilities under work orders unless license agreements dictate relocation by utility company. No additional agreements required.

## **ADVANCED UTILITY RELOCATION STATUS**

- Advance relocation of DWP-Power conduits, manholes and conduits completed at MLK and Expo Station sites. Installation of the cable started in August 2013. Work at Crenshaw/Expo Station is complete. Work at Crenshaw/MLK Station has been completed.
- Design completed by DWP-Water for advance relocation of water lines along Crenshaw Boulevard. Start of construction was rescheduled due to impact of Buy America requirements. Relocations of water lines status:
  - *Crenshaw/MLK 24" relocation was completed in September 2014.*
  - *Crenshaw @ 60<sup>th</sup> St. relocation in progress, to complete by end of December 2014.*
  - *Crenshaw @ 63<sup>rd</sup> St. relocation in progress, to complete by end of December 2014.*
  - *Crenshaw @ Hyde Park St. relocation to start November 10<sup>th</sup> and complete by end of December 2014.*
- Design is complete by SCE for advance relocation of fiber crossings and pole supports along the Harbor Subdivision. Construction completed in July 2014.
- Design is complete by SCE for the advance relocation of power crossings and pole supports on Redondo Blvd. at High St. Construction completed in July 2014.
- SCE Power – (10) new services and relocations scheduled for completion from 2014 thru 2017. The near term work would include:
  - Design is complete by SCE for advance relocation of fiber crossings and pole supports along the Harbor Subdivision. Construction completed in July 2014.
  - Design is complete by SCE for the advance relocation of power crossings and pole supports on Redondo Blvd. at High St. Construction completed in July 2014.
  - Relocation of underground power line to accommodate new pedestrian undercrossing at Faithful Central Bible Church property.
- *Tesoro Oil – design in progress for 8" gas line. Construction should commence in January 2015 and complete in summer 2015.*

## Crenshaw/LAX Transit Project Peak Hour & Nighttime Construction Variances for the City of LA

- Metro has permit variances for nighttime and early morning construction for Segments A thru E.
- All permits have to be renewed every six months from date of issuance by the Los Angeles Police Commission.



## CPUC CROSSING SUMMARY

- *The CPUC has approved all packages.*

Application	Location	Type	City
A1211018	Eucalyptus Avenue	Grade Crossing	Inglewood
A1211018	Centinela Avenue	Grade Crossing	Inglewood
A1211018	Pedestrian Crossing	Grade Separated (Underpass)	Inglewood
A1212030	Oak Street	Grade Crossing	Inglewood
A1212030	Cedar Avenue	Grade Crossing	Inglewood
A1212030	Ivy Avenue	Grade Crossing	Inglewood
A1212030	High Street	Grade Crossing	Inglewood
A1212029	Arbor Vitae Street	Grade Crossing	Inglewood
A1212029	Hindry Avenue	Grade Crossing	Inglewood
A1212029	Pedestrian Crossing at Florence/West station	Grade Crossing	Inglewood
A1212029	West Boulevard	Grade Crossing	Los Angeles/Inglewood
A1212029	Brynhurst Avenue	Grade Crossing	Los Angeles
A1301012	West 59th Street	Grade Crossing	Los Angeles
A1301012	Slauson Avenue	Grade Crossing	Los Angeles
A1301012	West 57th Street	Grade Crossing	Los Angeles
A1301012	West 54th Street	Grade Crossing	Los Angeles
A1301012	West 52nd Street	Grade Crossing	Los Angeles
A1301012	West 50th Street	Grade Crossing	Los Angeles
A1301012	West 48th Street	Grade Crossing	Los Angeles
A1302025	Hornet Way	Grade Separation	El Segundo
A1302025	Aviation Boulevard	Grade Separation	Los Angeles
A1302025	I-105 Freeway	Grade Separation	Los Angeles
A1302025	Imperial Highway	Grade Separation	Los Angeles
A1302025	111th Street	Grade Separation	Los Angeles
A1302025	104th Street	Grade Separation	Los Angeles
A1302025	Century Boulevard	Grade Separation	Los Angeles
A1302025	Manchester Avenue	Grade Separation	Inglewood
A1302025	La Cienega Boulevard	Grade Separation	Inglewood
A1302025	I-405 Freeway	Grade Separation	Inglewood
A1302025	Hyde Park Boulevard	Grade Separation	Inglewood
A1302025	La Brea Avenue	Grade Separation	Inglewood
A1302025	Pedestrian Crossing at La Brea-Florence Station (East)	Grade Crossing	Inglewood
A1302025	Pedestrian Crossing at La Brea-Florence Station (West)	Grade Crossing	Inglewood
= Highlighted grade crossing/grade separations have been approved.			

## **CHRONOLOGY OF EVENTS**

2003	Major Investment Study
April 2007	Board authorized the CEO to award Contract PS 4330-1968 to complete environmental clearance and conceptual engineering.
December 2009	Board adopted the LRT Alternative as the Locally preferred Alternative and received and filed the Crenshaw Transit Corridor DEIS/DEIR.
December 2009	Board authorized the CEO to award Contract No. EO117 for Phase I, Advanced Conceptual Engineering.
September 2010	Board authorized the CEO to exercise option with Contract No. EO117 for Phase II Preliminary Engineering.
April 2011	Board adopted the Arbor Vitae/Bellanca (Site 14) LPA for the Maintenance Facility Site
July 2011	Board approved Southwestern Yard cost allocation.
September 2011	Board approved Project Definition and certified Final Environmental Impact Report
October 2011	Board approved the Life-of-Project Budget of \$1.749 billion.
December 15, 2011	CTC reviewed the FEIS/FEIR and adopted the required resolution for future funding consideration.
December 23, 2011	Request for Qualifications for Contract C0988 C/LAX Transit Corridor was released to Industry.
December 30, 2011	Received Record of Decision from FTA.
February 10, 2012	Released Invitation for Bid for Contract C0990 Crenshaw/LAX Advanced Utility Relocations.
March 12, 2012	Received Statement of Qualifications for Contract C0988 C/LAX Transit Corridor.


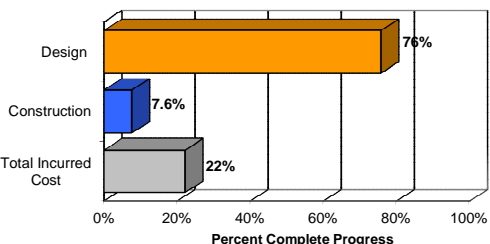
### **CHRONOLOGY OF EVENTS (Continued)**

May 16, 2012	Notification of pre-qualified proposers for Contract C0988 C/LAX Transit Corridor.
May 30, 2012	Awarded Contract No. C0990 C/LAX Advanced Utility Relocations to Metro Builders and Engineers Group LTD.
June 22, 2012	Released Request for Proposals for Contract C0988 C/LAX Transit Corridor.
August 24, 2012	Received approval from the Surface Transportation Board regarding BNSF Railway Company abandonment along five-mile Crenshaw Segment of the Harbor Branch ROW.
September 4, 2012	Preparation of a FONSI for Supplemental Environmental Assessment to the FEIS was approved by FTA.
September 28, 2012	Completed abandonment process with BNSF.
September 28, 2012	TIFIA and TIGER II Grants approved.
December 6, 2012	Received proposals for Contract C0988 C/LAX Transit Corridor.
February 22, 2013	Issued Amendment No. 8 requesting Best and Final Offers (BAFO) for Contract C0988 C/LAX Transit Corridor.
March 15, 2013	Received BAFO's for Contract C0988 C/LA Transit Corridor.
May 23, 2013	Board amended the Agency's FY14 Proposed Budget to include funding of \$80 million for an underground station at Leimert Park Village as part of the baseline project.
June 27, 2013	The Board awarded Contract C0988 Crenshaw/LAX Transit Corridor to Walsh-Shea Corridor Constructors.
July 10, 2013	Issued notice of award to Walsh-Shea Corridor Constructors, Contract C0988 Crenshaw/LAX Transit Corridor.

**CHRONOLOGY OF EVENTS (Continued)**


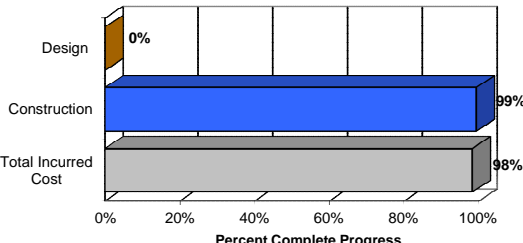
August 1, 2013	United States Department of Transportation approves Metro's request to increase the Crenshaw/LAX Project Budget to \$2,058 million.
August 8, 2013	Issued notice of execution of the contract was issued to Walsh-Shea Corridor Constructors, Contract C0988 Crenshaw/LAX Transit Corridor.
September 10, 2013	Issued Notice to Proceed to Walsh-Shea Corridor Constructors, Contract C0988 Crenshaw/LAX Transit Project.
December 5, 2013	The Board approved Memorandum of Understanding with the Los Angeles World Airports for a parallel design and possible construction modifications near Aviation/Century Station to accommodate elements of LAWA's SPAS.
December 5, 2013	The Board awarded Contract C0992 with Rocla Concrete Tie, Inc; for the procurement of concrete ties and assembly items.
January 21, 2014	A Groundbreaking Ceremony was held at the Crenshaw/Exposition Station.
January 23, 2014	The Board awarded Contract C0992A Rail and Bumping Posts to LB Foster Rail Technologies Corp.
March 7, 2014	Issued Notice to Proceed to LB Foster Rail Technology Corp., Contract C0992A Rail and Bumping Posts.
July 25, 2014	"Century Crunch" – weekend demolition of the defunct Century railroad bridge at the intersection of Century Blvd. and Aviation.
August 21, 2014	Substantial Completion issued for Advanced Utility Relocations Contract C0990.
August 29, 2014	Released Invitation for Bid for Contract C0991 Crenshaw/LAX Southwestern Yard (Division 16) Maintenance Facility.
September 19, 2014	<i>CPUC has approved all five (5) grade crossing applications and no further actions are required.</i>

**CONTRACT C0988 STATUS**  
*Crenshaw/LAX Transit Corridor*

<p><b>PE Design Contractor: Hatch Mott MacDonald (HMM)</b> <b>CM Consultant: Stantec</b> <b>Contractor: - Walsh Shea Corridor Constructors (WSCC)</b></p>	<p><b>Contract No.: C0988</b> <b>Status as of October 31, 2014</b></p> 																																			
<p><b>Progress/Work Completed:</b> <b>Design</b> - Submitted Final UG Geotechnical Design &amp; Data Reports for Segment C - Submitted Final AG Geotechnical Data Reports - Continued Interim Design on COLA Streetscape and station Landscape - Submitted Segment A Readiness For Construction Design on Aerial Guideway Structures &amp; UG #1; Continued Segment B Readiness For Construction Design on Stations; . - Submitted Segment B Readiness For Construction Design on Local Streets; Continued Segment B Readiness For Construction Design on Stations; Start Final Design on Guideway. - Submitted Segment C Readiness For Construction Design on Underground Structures; Continued Segment C Readiness For Construction Design on Guideway, Stations, &amp; Local Street. - Submitted Readiness For Construction Design - OCS. - Continued Readiness For Construction Design - TPSS &amp; Communication. <b>Construction</b> - Main TBM components arrived at the Port of Long Beach - Continued potholing in the Vernon &amp; MLK Station. - Continued Geotechnical Monitoring at Vernon, MLK &amp; Expo Station. - Continued with SWPPP Implementation – Segments A, B &amp; C. - Continued Construction for CSM in Expo. - Commenced 14 day continuous Rodeo Road Closure. - Continued Cap Beam and Waler construction in Expo - Continued Utility Relocation/ protection work at Expo Station Area - Continued Utility Relocation/ protection work at MLK, Vernon &amp; Century. - Continued Survey of Existing Monuments - Completed Hazmat Abatement/ Demo of Gourmet Trading Co. - Commenced delivery of foundation material for the Century Blvd. Bridge. - Commenced mobilization for CIDH work at Century Blvd. Bridge. .</p>	<p><b>Areas of Concern:</b></p>																																			
<p><b>Schedule Assessment:</b> Metro's assessment of the contractor's schedule update is that they are behind on meeting interim design milestones.  Contractor's Oct 2014 schedule update indicates Milestone 1 - Contract Substantial Completion is 50 calendar days behind.</p>	<p><b>Cost Assessment:</b> The current construction contract cost forecast is \$1,278.39 million and is within the Board authorized budget.  The Contractor submitted their 14th payment application in the approved amount of \$17,094,877.01.</p>																																			
<p><b>Schedule Summary:</b></p> <table border="0"> <tr> <td>1. Date of Award:</td> <td align="right">08/01/13</td> </tr> <tr> <td>2. Notice to Proceed:</td> <td align="right">09/10/13</td> </tr> <tr> <td>3. Original Substantial Completion Duration:</td> <td align="right">1824</td> </tr> <tr> <td>4. Current Substantial Completion Duration:</td> <td align="right">1824</td> </tr> <tr> <td>5. Elapsed Time from NTP:</td> <td align="right">416</td> </tr> </table>	1. Date of Award:	08/01/13	2. Notice to Proceed:	09/10/13	3. Original Substantial Completion Duration:	1824	4. Current Substantial Completion Duration:	1824	5. Elapsed Time from NTP:	416	<p><b>Cost Summary:</b> <span style="float:right"><b>\$ In millions</b></span></p> <table border="0"> <tr> <td>1. Award Value:</td> <td align="right">1,272.63</td> </tr> <tr> <td>2. Executed Modifications:</td> <td align="right">5.76</td> </tr> <tr> <td>3. Approved Change Orders:</td> <td></td> </tr> <tr> <td>4. Current Contract Value (1 + 2 + 3):</td> <td align="right">1,278.39</td> </tr> <tr> <td>5. Incurred Cost:</td> <td align="right">283.08</td> </tr> </table>	1. Award Value:	1,272.63	2. Executed Modifications:	5.76	3. Approved Change Orders:		4. Current Contract Value (1 + 2 + 3):	1,278.39	5. Incurred Cost:	283.08															
1. Date of Award:	08/01/13																																			
2. Notice to Proceed:	09/10/13																																			
3. Original Substantial Completion Duration:	1824																																			
4. Current Substantial Completion Duration:	1824																																			
5. Elapsed Time from NTP:	416																																			
1. Award Value:	1,272.63																																			
2. Executed Modifications:	5.76																																			
3. Approved Change Orders:																																				
4. Current Contract Value (1 + 2 + 3):	1,278.39																																			
5. Incurred Cost:	283.08																																			
<table border="1"> <thead> <tr> <th>Milestones</th> <th>Original Contract</th> <th>Current Contract</th> <th>Forecast</th> <th>Calendar Day Variance</th> </tr> </thead> <tbody> <tr> <td>Milestone 1 - Contract Substantial Completion</td> <td>09/08/18</td> <td>09/08/18</td> <td>10/28/18</td> <td>-50</td> </tr> <tr> <td>Milestone 2 - UFS Completion</td> <td>03/09/18</td> <td>03/09/18</td> <td>04/19/18</td> <td>-41</td> </tr> <tr> <td>Milestone 3 - Commence SIT Phase I</td> <td>06/09/18</td> <td>06/09/18</td> <td>05/01/18</td> <td>39</td> </tr> <tr> <td>Milestone 4 - Const./Turnover Parcels SW-0101, 0102, 0103</td> <td>12/04/15</td> <td>12/04/15</td> <td>11/03/15</td> <td>31</td> </tr> <tr> <td>Milestone 5 - Const./Turnover Parcels SW-0002, 0003, 0004, 0104</td> <td>06/05/17</td> <td>06/05/17</td> <td>05/07/17</td> <td>29</td> </tr> <tr> <td>Milestone 6 - Const./Turnover Parcels SW-0001</td> <td>08/01/17</td> <td>08/01/17</td> <td>06/28/17</td> <td>34</td> </tr> </tbody> </table>	Milestones	Original Contract	Current Contract	Forecast	Calendar Day Variance	Milestone 1 - Contract Substantial Completion	09/08/18	09/08/18	10/28/18	-50	Milestone 2 - UFS Completion	03/09/18	03/09/18	04/19/18	-41	Milestone 3 - Commence SIT Phase I	06/09/18	06/09/18	05/01/18	39	Milestone 4 - Const./Turnover Parcels SW-0101, 0102, 0103	12/04/15	12/04/15	11/03/15	31	Milestone 5 - Const./Turnover Parcels SW-0002, 0003, 0004, 0104	06/05/17	06/05/17	05/07/17	29	Milestone 6 - Const./Turnover Parcels SW-0001	08/01/17	08/01/17	06/28/17	34	<p align="center"><b>PERCENT COMPLETE</b></p>  <p align="center">Construction physical percent complete excludes mobilization and general requirements</p>
Milestones	Original Contract	Current Contract	Forecast	Calendar Day Variance																																
Milestone 1 - Contract Substantial Completion	09/08/18	09/08/18	10/28/18	-50																																
Milestone 2 - UFS Completion	03/09/18	03/09/18	04/19/18	-41																																
Milestone 3 - Commence SIT Phase I	06/09/18	06/09/18	05/01/18	39																																
Milestone 4 - Const./Turnover Parcels SW-0101, 0102, 0103	12/04/15	12/04/15	11/03/15	31																																
Milestone 5 - Const./Turnover Parcels SW-0002, 0003, 0004, 0104	06/05/17	06/05/17	05/07/17	29																																
Milestone 6 - Const./Turnover Parcels SW-0001	08/01/17	08/01/17	06/28/17	34																																




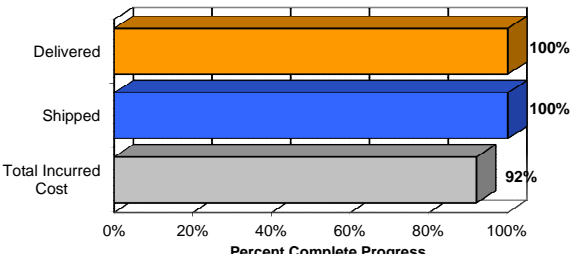
**CONTRACT C0990 STATUS**  
*Crenshaw/LAX Advanced Utility Relocations*

<p><b>PE Design Contractor: Hatch Mott MacDonald (HMM)</b> <b>CM Consultant: Stantec</b> <b>Contractor: - Metro Builders and Engineers Group LTD</b></p>	<p><b>Contract No.: C0990</b> <b>Status as of October 31, 2014</b></p> 																																			
<p><b>Progress/Work Completed:</b> - The construction was substantially completed on Aug 21, 2014</p>	<p><b>Areas of Concern:</b></p>																																			
<p><b>Schedule Assessment:</b> Metro has agreed to grant a total of 124 calendar day time extension as a result of lost production due to sandy soil conditions and revised installation methodology for sewer line work at 59th &amp; Crenshaw, and traffic control and work hour restriction to 67th &amp; Crenshaw. .  Metro granted substantial completion to Metro Builders, the Advanced Utility Contractor on August 21, 2014, which is 276 calendar days behind.</p>	<p><b>Cost Assessment:</b> The current construction contract cost forecast is \$9.29 million and within the Board authorized budget. The forecast has increased from the previous reporting period primarily due to approved change orders.  The Contractor submitted their 23rd payment application in the approved amount of 62,512.</p>																																			
<p><b>Schedule Summary:</b></p> <table border="0"> <tr> <td>1. Date of Award:</td> <td align="right">05/30/12</td> </tr> <tr> <td>2. Notice to Proceed:</td> <td align="right">07/17/12</td> </tr> <tr> <td>3. Original Substantial Completion Duration:</td> <td align="right">365</td> </tr> <tr> <td>4. Current Substantial Completion Duration:</td> <td align="right">468</td> </tr> <tr> <td>5. Elapsed Time from NTP:</td> <td align="right">753</td> </tr> </table>	1. Date of Award:	05/30/12	2. Notice to Proceed:	07/17/12	3. Original Substantial Completion Duration:	365	4. Current Substantial Completion Duration:	468	5. Elapsed Time from NTP:	753	<p><b>Cost Summary:</b> <span style="float: right;"><b>\$ In millions</b></span></p> <table border="0"> <tr> <td>1. Award Value:</td> <td align="right">7.83</td> </tr> <tr> <td>2. Executed Modifications:</td> <td align="right">0.97</td> </tr> <tr> <td>3. Approved Change Orders:</td> <td align="right">0.49</td> </tr> <tr> <td>4. Current Contract Value (1 + 2 + 3):</td> <td align="right">9.29</td> </tr> <tr> <td>5. Incurred Cost:</td> <td align="right">9.12</td> </tr> </table>	1. Award Value:	7.83	2. Executed Modifications:	0.97	3. Approved Change Orders:	0.49	4. Current Contract Value (1 + 2 + 3):	9.29	5. Incurred Cost:	9.12															
1. Date of Award:	05/30/12																																			
2. Notice to Proceed:	07/17/12																																			
3. Original Substantial Completion Duration:	365																																			
4. Current Substantial Completion Duration:	468																																			
5. Elapsed Time from NTP:	753																																			
1. Award Value:	7.83																																			
2. Executed Modifications:	0.97																																			
3. Approved Change Orders:	0.49																																			
4. Current Contract Value (1 + 2 + 3):	9.29																																			
5. Incurred Cost:	9.12																																			
<table border="1"> <thead> <tr> <th>Milestones</th> <th>Original Contract</th> <th>Current Contract</th> <th>Forecast</th> <th>Calendar Day Variance</th> </tr> </thead> <tbody> <tr> <td>Milestone 1 - Contract Substantial Completion</td> <td align="center">07/17/13</td> <td align="center">11/18/13</td> <td align="center">08/21/14</td> <td align="center">-276</td> </tr> <tr> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> </tr> </tbody> </table>	Milestones	Original Contract	Current Contract	Forecast	Calendar Day Variance	Milestone 1 - Contract Substantial Completion	07/17/13	11/18/13	08/21/14	-276																										<p align="center"><b>PERCENT COMPLETE</b></p>  <p align="center">Construction physical percent complete excludes mobilization and general requirements</p>
Milestones	Original Contract	Current Contract	Forecast	Calendar Day Variance																																
Milestone 1 - Contract Substantial Completion	07/17/13	11/18/13	08/21/14	-276																																


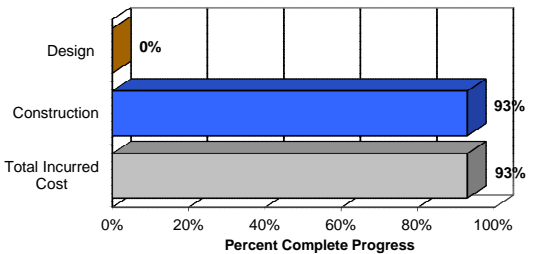
**CONTRACT C0991 STATUS**  
*Southwestern Yard*

<p><b>PE Design Contractor:</b> Hatch Mott MacDonald (HMM) <b>CM Consultant:</b> Stantec <b>Contractor:</b> - TBD</p>	<p><b>Contract No.:</b> C0991 <b>Status as of October 31, 2014</b></p>																																								
<p><b>Progress/Work Completed:</b> - Metro advertised the Southwestern Yard (Division 16) design build contract on August 29, 2014. - Amendment issued on September 19, 2014.</p>	<p><b>Areas of Concern:</b> - None.</p>																																								
<p><b>Schedule Assessment:</b> - Pre-bid conference scheduled for October 1, 2014. - Step One Technical Bid and Step Two Price bid submittal required on December 11, 2014.</p>																																									
<p><b>Schedule Summary:</b></p> <ol style="list-style-type: none"> <li>Date of Award:</li> <li>Notice to Proceed:</li> <li>Original Substantial Completion Duration:</li> <li>Current Substantial Completion Duration:</li> <li>Elapsed Time from NTP:</li> </ol>	<p><b>Cost Summary:</b> <span style="float:right"><b>\$ In millions</b></span></p> <ol style="list-style-type: none"> <li>Award Value:</li> <li>Executed Modifications:</li> <li>Approved Change Orders:</li> <li>Current Contract Value (1 + 2 + 3): -</li> <li>Incurred Cost:</li> </ol>																																								
<table border="1"> <thead> <tr> <th>Milestones</th> <th>Original Contract</th> <th>Current Contract</th> <th>Forecast</th> <th>Calendar Day Variance</th> </tr> </thead> <tbody> <tr> <td>MS#1 Yard and Main Shop Design Complete</td> <td></td> <td></td> <td></td> <td>0</td> </tr> <tr> <td>MS#2 Main Shop Communication Room Completion</td> <td></td> <td></td> <td></td> <td>0</td> </tr> <tr> <td>MS#3 Main Shop Completion</td> <td></td> <td></td> <td></td> <td>0</td> </tr> <tr> <td>MS#4 Southwestern Yard Substantial Completion</td> <td></td> <td></td> <td></td> <td>0</td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td>0</td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td>0</td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </tbody> </table>	Milestones	Original Contract	Current Contract	Forecast	Calendar Day Variance	MS#1 Yard and Main Shop Design Complete				0	MS#2 Main Shop Communication Room Completion				0	MS#3 Main Shop Completion				0	MS#4 Southwestern Yard Substantial Completion				0					0					0						<p align="center"><b>PERCENT COMPLETE</b> from ____ to ____</p> <p>Design 0% Construction 0% Total Incurred Cost 0%</p> <p align="center">0% 20% 40% 60% 80% 100% <b>Percent Complete Progress</b></p> <p><i>Construction physical percent complete excludes mobilization and general requirements</i></p>
Milestones	Original Contract	Current Contract	Forecast	Calendar Day Variance																																					
MS#1 Yard and Main Shop Design Complete				0																																					
MS#2 Main Shop Communication Room Completion				0																																					
MS#3 Main Shop Completion				0																																					
MS#4 Southwestern Yard Substantial Completion				0																																					
				0																																					
				0																																					

**CONTRACT C0992 STATUS**  
*Concrete Ties*

<p><b>PE Design Contractor: Hatch Mott MacDonald (HMM)</b> <b>CM Consultant: Stantec</b> <b>Contractor: Rocla Concrete Tie Inc.</b></p>	<p><b>Contract No.: C0992</b> <b>Status as of October 31, 2014</b></p> 																																								
<p><b>Progress/Work Completed:</b> - All 19,936 concrete ties have been received onsite by the design-builder (Contract C0988). - Contract is in close-out pending resolution of any Buy America issues.</p>	<p><b>Areas of Concern:</b> - Compliance with Buy America requirement under review by FTA.</p>																																								
<p><b>Schedule Assessment:</b> Metro has agreed to grant a 15 calendar day time extension as a result of limited access to the yard due to the operation of Burlington Northern Santa Fe (BNSF), which was beyond the reasonable control of RCTI. All concrete ties have been delivered to job site by August 15, 2014.</p>	<p><b>Cost Assessment:</b> The current contract cost forecast is \$2,243,035 The unpaid balance of \$178,454.29 is the tax amount of the base contract.</p>																																								
<p><b>Schedule Summary:</b></p> <table border="0"> <tr> <td>1. Date of Award:</td> <td>12/10/13</td> </tr> <tr> <td>2. Notice to Proceed:</td> <td>12/23/13</td> </tr> <tr> <td>3. Original Substantial Completion Duration:</td> <td>220</td> </tr> <tr> <td>4. Current Substantial Completion Duration:</td> <td>235</td> </tr> <tr> <td>5. Elapsed Time from NTP:</td> <td>235</td> </tr> </table>	1. Date of Award:	12/10/13	2. Notice to Proceed:	12/23/13	3. Original Substantial Completion Duration:	220	4. Current Substantial Completion Duration:	235	5. Elapsed Time from NTP:	235	<p><b>Cost Summary:</b> <b>\$ In millions</b></p> <table border="0"> <tr> <td>1. Award Value:</td> <td>2.16</td> </tr> <tr> <td>2. Executed Modifications:</td> <td>0.08</td> </tr> <tr> <td>3. Approved Change Orders:</td> <td></td> </tr> <tr> <td>4. Current Contract Value (1 + 2 + 3):</td> <td>2.24</td> </tr> <tr> <td>5. Incurred Cost:</td> <td>2.06</td> </tr> </table>	1. Award Value:	2.16	2. Executed Modifications:	0.08	3. Approved Change Orders:		4. Current Contract Value (1 + 2 + 3):	2.24	5. Incurred Cost:	2.06																				
1. Date of Award:	12/10/13																																								
2. Notice to Proceed:	12/23/13																																								
3. Original Substantial Completion Duration:	220																																								
4. Current Substantial Completion Duration:	235																																								
5. Elapsed Time from NTP:	235																																								
1. Award Value:	2.16																																								
2. Executed Modifications:	0.08																																								
3. Approved Change Orders:																																									
4. Current Contract Value (1 + 2 + 3):	2.24																																								
5. Incurred Cost:	2.06																																								
<table border="1"> <thead> <tr> <th>Milestones</th> <th>Original Contract</th> <th>Current Contract</th> <th>Forecast</th> <th>Calendar Day Variance</th> </tr> </thead> <tbody> <tr> <td>Milestone 1 - Contract Substantial Completion</td> <td>07/31/14</td> <td>08/15/14</td> <td>08/15/14</td> <td>0</td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td>0</td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td>0</td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td>0</td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td>0</td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td>0</td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </tbody> </table>	Milestones	Original Contract	Current Contract	Forecast	Calendar Day Variance	Milestone 1 - Contract Substantial Completion	07/31/14	08/15/14	08/15/14	0					0					0					0					0					0						<p><b>PERCENT COMPLETE</b></p>  <p><i>Construction physical percent complete excludes mobilization and general requirements</i></p>
Milestones	Original Contract	Current Contract	Forecast	Calendar Day Variance																																					
Milestone 1 - Contract Substantial Completion	07/31/14	08/15/14	08/15/14	0																																					
				0																																					
				0																																					
				0																																					
				0																																					
				0																																					

**CONTRACT C0992A STATUS**  
*Running Rail and Bumping Posts*

<p><b>PE Design Contractor: Hatch Mott MacDonald (HMM)</b> <b>CM Consultant: Stantec</b> <b>Contractor: LB Foster Rail Technology Corp</b></p>	<p><b>Contract No.: C0992A</b> <b>Status as of October 31, 2014</b></p> 																																								
<p><b>Progress/Work Completed:</b> - All 115RE SS Blank Stick Rails have been delivered to the job site. - All 115RE HH rail have been delivered to job site.</p>	<p><b>Areas of Concern:</b> .</p>																																								
<p><b>Schedule Assessment:</b> All running rails have been delivered.  Both Metro and LB Foster agreed to a time extension change for the delivery of the bumping post. The new delivery date has been changed from 12/31/2014 to 9/30/2015.</p>	<p><b>Cost Assessment:</b> The current contract cost forecast is \$5,184,044.79. No invoice was received in October 2014.</p>																																								
<p><b>Schedule Summary:</b></p> <table border="0"> <tr> <td>1. Date of Award:</td> <td align="right">01/23/14</td> </tr> <tr> <td>2. Notice to Proceed:</td> <td align="right">03/07/14</td> </tr> <tr> <td>3. Original Substantial Completion Duration:</td> <td align="right">300</td> </tr> <tr> <td>4. Current Substantial Completion Duration:</td> <td align="right">558</td> </tr> <tr> <td>5. Elapsed Time from NTP:</td> <td align="right">238</td> </tr> </table>	1. Date of Award:	01/23/14	2. Notice to Proceed:	03/07/14	3. Original Substantial Completion Duration:	300	4. Current Substantial Completion Duration:	558	5. Elapsed Time from NTP:	238	<p><b>Cost Summary:</b> <span style="float:right"><b>\$ In millions</b></span></p> <table border="0"> <tr> <td>1. Award Value:</td> <td align="right">5.2</td> </tr> <tr> <td>2. Executed Modifications:</td> <td></td> </tr> <tr> <td>3. Approved Change Orders:</td> <td></td> </tr> <tr> <td>4. Current Contract Value (1 + 2 + 3):</td> <td align="right">- 5.2</td> </tr> <tr> <td>5. Incurred Cost:</td> <td align="right">4.8</td> </tr> </table>	1. Award Value:	5.2	2. Executed Modifications:		3. Approved Change Orders:		4. Current Contract Value (1 + 2 + 3):	- 5.2	5. Incurred Cost:	4.8																				
1. Date of Award:	01/23/14																																								
2. Notice to Proceed:	03/07/14																																								
3. Original Substantial Completion Duration:	300																																								
4. Current Substantial Completion Duration:	558																																								
5. Elapsed Time from NTP:	238																																								
1. Award Value:	5.2																																								
2. Executed Modifications:																																									
3. Approved Change Orders:																																									
4. Current Contract Value (1 + 2 + 3):	- 5.2																																								
5. Incurred Cost:	4.8																																								
<table border="1"> <thead> <tr> <th>Milestones</th> <th>Original Contract</th> <th>Current Contract</th> <th>Forecast</th> <th>Calendar Day Variance</th> </tr> </thead> <tbody> <tr> <td>Milestone 1 - Contract Substantial Completion</td> <td align="center">12/31/14</td> <td align="center">09/30/15</td> <td align="center">09/30/15</td> <td align="center">0</td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td align="center">0</td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td align="center">0</td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td align="center">0</td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td align="center">0</td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td align="center">0</td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td align="center">0</td> </tr> </tbody> </table>	Milestones	Original Contract	Current Contract	Forecast	Calendar Day Variance	Milestone 1 - Contract Substantial Completion	12/31/14	09/30/15	09/30/15	0					0					0					0					0					0					0	<p align="center"><b>PERCENT COMPLETE</b></p>  <p align="center"><i>Construction physical percent complete excludes mobilization and general requirements</i></p>
Milestones	Original Contract	Current Contract	Forecast	Calendar Day Variance																																					
Milestone 1 - Contract Substantial Completion	12/31/14	09/30/15	09/30/15	0																																					
				0																																					
				0																																					
				0																																					
				0																																					
				0																																					
				0																																					

## **CONSTRUCTION PHOTOGRAPHS**



Delivery of rebar cages for the Aviation Century Aerial Structure.



Qwest Fiber Optic Line Potholing.

**CONSTRUCTION PHOTOGRAPHS (Continued)**



Rodeo/Crenshaw Storm Drain Squash Box.



Cutting piles for cap walers.

**CONSTRUCTION PHOTOGRAPHS (Continued)**



Welding Panel Support Beams in Storm Drain Squash Box.



West Wall Cap Waler at Expo Station.

### CONSTRUCTION PHOTOGRAPHS (Continued)



Shoring Top Panels at the Rodeo/Crenshaw Squash Box.



Tunnel Boring Machine Erector Main Beam.



**APPENDIX  
COST AND BUDGET TERMINOLOGY**

**Project Cost  
Descriptions -**

ORIGINAL BUDGET	The Original Project Budget as established by the Metropolitan Transportation Authority (Metro) Board on October 27, 2011.
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, 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 invoices, third party invoices, 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 LRT 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 receivable to the Metro as a direct result of project activities. This includes cost sharing construction items, insurance premium rebates, and the like.

**APPENDIX**  
**LIST OF ACRONYMS**

ACE	Advanced Conceptual Engineering
ADA	Americans with Disabilities Act
ADR	Alternative Dispute Resolution
ALJ	Administrative Law Judge
AMC	Airport Metro Connector
APM	Automated People Mover
ATC	Alternative Technical Concept
ATC	Automatic Train Control
ATSAC	Automated Traffic Surveillance and Control
BAFO	Best and Final Offer
BID	Business Improvement Development
BIM	Building Information Modeling
BNSF	Burlington Northern Santa Fe Railway Company
BOC	Bus Operations Control
CADD	Computer Aided Drafting and Design
CALTRANS	California Department of Transportation
CARB	California Air Resources Control Board
CCTV	Closed Circuit Television
CD	Calendar Day
CD	Council District
CDRL	Contract Data Requirement List
CE	Categorical Exemption
CEQA	California Environmental Quality Act
CFR	Code of Federal Regulations
CM	Construction Manager
CMAQ	Congestion Mitigation and Air Quality Improvement Program
CN	Change Notice
CO	Change Order
CPM	Critical Path Method
CPUC	California Public Utilities Commission
CR	Camera Ready
CRMMP	Cultural Resources Monitoring and Mitigation Plan
CSM	Cutter Soil Mixing
CSP	Construction Safety Phasing Plan
CTC	California Transportation Commission
CUD	Contract Unit Description
CWP	Construction Work Plan
DB	Design Build
DBB	Design Bid Build
DBE	Disadvantaged Business Enterprise
DOT	Department of Transportation
DRB	Dispute Review Board
DWP	Department of Water and Power

**APPENDIX  
LIST OF ACRONYMS (Continued)**

EEO	Equal Employment Opportunity
EIR	Environmental Impact Report
EIS	Environmental Impact Statement
EPBM	Earth Pressure Balance Machine
FAA	Federal Aviation Administration
FAR	Federal Acquisition Regulation
FAT	Factory Acceptance Testing
FCBC	Faith Central Bible Church
FD	Final Design
FEIR	Final Environmental Impact Report
FEIS	Final Environmental Impact Statement
FEMA	Federal Emergency Management Agency
FFGA	Full Funding Grant Agreement
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
FTA	Federal Transit Administration
FTE	Full Time Equivalent
GBR	Geotechnical Baseline Report
GDSR	Geotechnical Design Summary Report
GFE	Good Faith Effort
HMM	Hatch Mott MacDonald
IFB	Invitation for Bid
IPMO	Integrated Project Management Office
ITF	Intermodal Transportation Facility
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
LOA	Letter of Agreement
LONP	Letter Of No Prejudice
LOP	Life-of-Project

**APPENDIX**  
**LIST OF ACRONYMS (Continued)**

LPA	Locally Preferred Alternative
LRT	Light Rail Transit
L RTP	Long Range Transportation Plan
LRV	Light Rail Vehicle
MBE	Metro Builders and Engineers Group, Ltd
MCA	Master Cooperative Agreement
MIC	Microbiologically Influenced Corrosion Control System
MIS	Major Investment Study
MOA	Memorandum of Agreement
MOS	Minimum Operating Segment
MOU	Memorandum of Understanding
MPS	Master Program Schedule
MPSR	Monthly Project Status Report
MSDS	Material Safety Data Sheet
MSF	Maintenance & Storage Facility
N/A	Not Applicable
NEPA	National Environmental Protection Act
NFPA	National Fire Protection Association
NOD	Notice of Determination
NPDES	National Pollution Discharge Elimination System
NTE	Not to Exceed
NTP	Notice To Proceed
OCC	Operations Control Center
OCS	Overhead Catenary System
OSHA	Occupational Health and Safety Administration
OTS	Over the Shoulder
PA/VMS	Public Address/Visual Messaging Sign
PDQM	Project Design Quality Manual
PE	Preliminary Engineering
PEER	Permit Engineering Evaluation Report
PID	Photo Ionization Detector
PIP	Project Implementation Plan
PLA	Project Labor Agreement
PM	Project Manager
PMIP	Project Management Implementation Plan
PMMP	Paleontological Monitoring and Mitigation Plan
PMOC	Project Management Oversight Consultant
PMP	Project Management Plan
P&P	Policies & Procedures
POD	Project Oriented Discussions
PQPM	Project Quality Program Manual
PR	Project Report
PSR	Project Study Report

**APPENDIX  
LIST OF ACRONYMS (Continued)**

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
REAP	Rain Event Action Plans
RFC	Request For Change
RFMP	Rail Fleet Management Plan
RFP	Request For Proposals
RFQ	Request For Qualifications
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
RTIP	Regional Transportation Improvement Program
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
SP	Special Provision
SPAS	Specific Plan Amendment Study
SPP	Special Permitting Process
SSMP	Safety and Security Management Plan
STB	Surface Transportation Board
STIP	State Transportation Improvement Program
STP	Surface Transportation Program

**APPENDIX  
LIST OF ACRONYMS (Continued)**

STV	STV Group
SWPP	Storm Water Prevention Plan
SWY	Southwestern Yard (Division 16)
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
TOD	Transit Oriented Development
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
WSCC	Walsh/Shea Corridor Constructor
YOE	Year of Expenditure