

Los Angeles County  
Metropolitan Transportation Authority

# Crenshaw/LAX Transit Project



Metro<sup>®</sup>

# **CRENSHAW/LAX TRANSIT PROJECT**

## **QUARTERLY PROJECT STATUS REPORT**

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

**MARCH 2015**


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**PROJECT SUMMARY**

<b>LOCATION:</b> Crenshaw Blvd at Exposition to Green Line <b>DESIGN/CONSULTANT:</b> Hatch Mott MacDonald				<b>CONSTRUCTION MANAGEMENT CONSULTANT:</b> Stantec <b>CONTRACTOR:</b> Walsh-Shea Corridor Constructors (WSCC)			
<b>PROJECT PHOTO:</b> MLK Station decking operations				<b>WORK COMPLETED PAST MONTH:</b>			
				<ul style="list-style-type: none"> <li>o WSCC continued final design.</li> <li>o WSCC continued pile installation for UG#1 near LAX airport runways.</li> <li>o WSCC commence abutment piles at Century Station Bridge.</li> <li>o WSCC continued pile installation at Vernon Station.</li> <li>o WSCC commenced and completed street decking at MLK Station.</li> <li>o WSCC continued utility support in place under street decking at Expo Station.</li> <li>o Metro continued real estate acquisitions with focus on partial-takes and temporary construction easements.</li> <li>o Metro opened proposer's bids for Division 16: Southwestern Yard, IFB C0991.</li> <li>o WSCC continues installation of 66" Hobas sewer.</li> </ul>			
<b>EXPENDITURE STATUS (\$ In Millions)</b>				<b>SCHEDULE ASSESSMENT</b>			
<b>ACTIVITIES</b>	<b>CURRENT BUDGET</b>	<b>EXPENDED AMOUNT</b>	<b>PERCENT EXPENDED</b>	<b>MAJOR SCHEDULE ACTIVITIES</b>	<b>PRIOR PLAN</b>	<b>CURRENT PLAN</b>	<b>VARIANCE WEEKS</b>
<b>DESIGN</b>	\$ 136.7	\$ 102.8	75.2%	<b>Environmental</b>			
				FEIS/FEIR	Sep-11	Sep-11	Complete
				Record of Decision	Dec-11	Dec-11	Complete
<b>RIGHT-OF-WAY</b>	\$ 127.4	\$ 108.0	84.8%	<b>Design</b>			
<b>CONSTRUCTION</b>	\$ 1,353.1	\$ 307.1	22.7%	Preliminary Engineering	Nov-11	Nov-11	Complete
				Final Design	Sep-15	Sep-15	On Schedule
<b>OTHER</b>	\$ 440.8	\$ 98.1	22.25%	<b>Right-of-Way</b>			
<b>TOTAL</b>	\$ 2,058.0	\$ 616.0	29.9%	Full-take parcels available	Aug-14	Jan-15	Complete
Note: cost expended as of March 2015.				Part-take and TCE parcels	Sep-15	Sep-15	On schedule
<b>AREAS OF CONCERN</b>				<b>CONSTRUCTION</b>			
<ul style="list-style-type: none"> <li>o Timely reviews of WSCC's design submittals by City of Los Angeles, City of Inglewood, Caltrans, FAA and LAWA.</li> <li>o Third party relocations prior to design-builder's construction .</li> <li>o Mitigation of design-builder's schedule delays.</li> <li>o LAWA's work windows for design-builder near LAX.</li> <li>o New proposed 96th street station cost/schedule impacts.</li> <li>o Hobas sewer pipe support from deck beams at Expo Station.</li> <li>o Execution of Agreement with City of Inglewood.</li> <li>o Contractor schedule does not accurately forecast its work efforts..</li> </ul>				D-B Notice to Proceed	Sep-13	Sep-13	Complete
				D-B Substantial Complete	Oct-18	Jan-19	3.6 months behind
				Revenue Service Date	Oct-19	Oct-19	On schedule*
				The D-B Substantial Complete prior plan was modified by a 35 day concurrent delay contract modification in March 2015.			
				*Note: Current Revenue Service Date includes a reduction in contingency.			
<b>ROW ACQUISITION</b>	<b>PLAN</b>	<b>ACQUIRED</b>	<b>REMAINING</b>	<b>CRITICAL ACTIVITIES / 3 MONTH LOOK AHEAD</b>			
FULL TAKES	35	35	0	o WSCC complete utility support in place and commence excavation beyond depth of 21 feet at Expo Station.			
PARTIAL TAKES	27	9	18	o WSCC commence utility support and excavation at MLK Station			
TEMPORARY EASEMENTS	12	6	6	o WSCC complete pile installation and decking operation at Vernon Station.			
<b>TOTAL PARCELS</b>	<b>74</b>	<b>50</b>	<b>24</b>	o WSCC complete pile installation for UG#1 near airport runway.			
				o WSCC commence Park Mesa Heights at-grade section road widening.			
				o WSCC commence falsework at Century Station Bridge.			
				o Metro award Division 16: Southwestern Yard, IFB C0991.			

## **PROJECT OVERVIEW**

### **Major Contract Procurement**

Metro advertised the Southwestern Yard (Division 16) design-build contract on August 29, 2014. For this two-step procurement, both Step One Technical Bid and Step Two Price Bid were received on January 22, 2015. *The price bids were opened on March 25, 2015. Metro is evaluating the price bids. The award is scheduled for May 2015 with subsequent notice-to-proceed to follow in June 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. *Metro continues to meet with the contractor to resolve outstanding issues including resolution of claims that have been submitted by contractor.*

**Design- Build Contract C0988** – The design-builder, Walsh-Shea Corridor Constructors (WSCC) continues final design with preparation of required contract submittals. The designer is completing design for the most critical items that support the commencement of construction in the various areas of the project. Status of major components of design is as follows:

- Support of Excavation – the invert plug has been approved as noted for Expo Station. Partial excavation to 25 feet has been approved for MLK Station. The Vernon Station is under review. Underground Guideway No. 3 submittal is anticipated to be submitted in April.
- Stations – Aviation/Century is at the 85% phase (Request for Construction). Hindry is at 100% phase.
- Bridge Submittals – 111<sup>th</sup> and Manchester Early Foundation AFC are under review by Metro. La Brea was Approved As Noted for construction.
- Guideway Design – Segment A, B1, B2 and C will be submitted in April and May.
- Systems Design – Traction Power Approved for Procurement.

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

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

- *Continued piling for underground guideway No. 1.*
- *A total of 10 of 16 columns have been installed for Century/Aviation Bridge. Anticipate false work to commence in April 2015.*
- *Commenced piles for CIDH piles at Green Line Bridge.*

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

- *Completed crushing concrete at recycling facility at the La Brea Station and facility was demobilized.*
- *Pile driving work for bridge abutment west of La Brea will commence in April 2015.*

## **PROJECT OVERVIEW (Continued)**

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

- Crenshaw/Exposition Station area
  - *Excavation of top 21 feet is nearing completion and started tier 1 bracing.*
  - *Removal of contaminated soil in the top 21 feet is completed near northwest section of excavation site.*
  
- Crenshaw/MLK Station area
  - *Commenced and completed deck beam installation. Initiated utility support in place under street decking.*
  
- Crenshaw/Vernon Station area
  - *Commenced east piles installation.*

### **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 50 parcels acquired through March 2015. Thirty-five full takes and 15 part takes/ temporary construction easements have been provided to design-builder WSCC.*

Metro has acquired all full takes required for the construction of the Project. Focus now is on completing the acquisition of part-takes and entering into agreements for temporary construction easements that are required for the Project. *As the design-builder continues design, they have identified some additional TCE's and partial takes that may be required. Metro will work with the design-builder regarding any additional parcel acquisitions that may be required. These additional parcels may be required for street restoration or other non-critical scope of work.*

### **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.

## **PROJECT OVERVIEW (Continued)**

### **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.

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 79.9%, state funding 8.8% and federal funding 11.3%.

*The project commitments thru March 2015 are \$1,674.9 million or 81.4% of the Current Budget. The project expenditures thru March 2015 are \$616.0 million or 30.0% 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 forecast of the available project schedule contingency was reduced this month. *This month the design-builder included in their March 2015 Schedule Update narrative a projected delay of an additional 10 calendar days. Metro is reviewing the schedule update and does not concur with the design-builder's assessment of the potential slippage. However, Metro this month is showing the potential delay as a reduction in the overall schedule contingency which is now a cumulative 109 calendar days. Metro continues to meet with the design-builder to discuss the schedule and review any potential mitigation opportunities available to the design-builder to mitigate a projected schedule slippage.*

## **PROJECT OVERVIEW (Continued)**

*A Risk Management Quarterly Progress Report with a status of December 2014 was issued on March 6, 2015. On a monthly basis, the project's risk manager will advise project management of the risk register items mitigation status. The next major risk workshop is planned for the fall 2015. The prerequisites for holding the workshop are: 1) Contract C0988 design-builder to have substantially complete final design, 2) Contract C0991 Southwestern Yard design-builder to have submitted and Metro approve their baseline schedule, and 3) substantial completion of real estate acquisition of part-takes and temporary construction easements.*

## **MANAGEMENT ISSUES**

**Concern No. 1:** 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. 2:** 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 50 parcels acquired through January 2015. All full takes have been acquired. Metro staff is focusing on the acquisition of the smaller real estate parcels which includes part takes, street easements, temporary construction easements and rights of entry required for construction in advance of the design-builders need date. The design-builder has also identified some additional temporary construction easements and part takes that may be required for street restoration or other non-critical scope of work. (Closed)*

**Concern No. 3:** 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.

**Concern No. 4:** 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.

## **MANAGEMENT ISSUES (Continued)**

**Concern No. 5:** 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. LADWP at Vernon Station is anticipated to be completed earlier than projected and should not impact the design-builder's critical path. This was due to a close working relationship between Metro, WSCC and LADWP to implement a work around to decrease schedule risk.

**Concern No. 6:** Design-builders design submittal schedule

**Status/Action** WSCC continues to submit design submittals later than planned. WSCC is submitting submittals in advance of the construction need date but may potentially be at risk of late design submittals impacting future start of various construction activities. Metro has been working closely with WSCC and the cities to address the submittal schedule changes so as not to impact the project schedule critical path. Metro and the cities have also accelerated submittals specified as critical by WSCC to not impact construction.

**Concern No. 7:** Design-builders construction schedule

**Status/Action** *The forecast of the project schedule contingency was reduced this month. The design-builder included in their March 2015 Schedule Update Narrative a projected delay of an additional 10 calendar days. Metro is reviewing the schedule update and does not concur with the design-builder's assessment of the potential slippage. Metro continues to meet with the design-builder to discuss the schedule and review any potential mitigation opportunities available to the design-builder to mitigate impact of any schedule slippages addressed in their schedule update. Metro is showing the potential delay as a reduction in the overall schedule contingency which is now a cumulative 109 calendar days.*

**Concern No. 8:** Cost and schedule impacts on the Crenshaw/LAX Transit Project for a potential new station at 96<sup>th</sup> Street.

**Status/Action** As Metro explores the possibility of an additional new station at 96<sup>th</sup> Street staff is reviewing the potential impacts on the existing design-builder's scope of work and on the overall project cost and 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	Mar-15	Apr-15	May-15	Jun-15	Jul-15	Aug-15
Contract C0988 Start Aerial Structure #1 - Green Line	03/03/2015A						
Contract C0988 Complete Decking - MLK	03/27/2015A						
Contract C0988 Submit Final Design - Seg B	04/06/15						
Contract C0988 Start La Brea Bridge	04/14/15						
Contract C0988 Start Shoring - Underground Structure #3	04/15/15						
Contract C0988 Start Soldier Piling - U Section #4	04/22/15						
Contract C0988 Start Decking - Vernon	04/25/15						
Contract C0988 Start Manchester Bridge	05/05/15						
Contract C0988 Submit Final Design - TPSS	05/07/15						
Contract C0988 Start Soldier Piling - Cut & Cover #4	05/12/15						
Contract C0988 Start Fabricate Elevators & Escalators	05/18/15						
Contract C0988 Submit Final Design - Seg C	05/18/15						
Contract C0988 Submit Final Design - TPSS Civil	05/27/15						
Contract C0988 Submit Approved for Construction - Seg B	05/27/15						
Contract C0988 Submit Final Design - Seg A	05/28/15						
Contract C0991 Notice of Award	05/28/15						
Contract C0988 Start 111th Street Bridge	06/03/15						
Contract C0988 Submit Final Design - COMM	06/10/15						
Contract C0988 Complete Soldier Piling - U Section #4	06/22/15						
Contract C0991 Notice to Proceed	06/29/15						
Contract C0988 Start I-405 Bridge	07/06/15						
Contract C0988 Start Decking - Cut & Cover #4	07/15/15						
Contract C0988 Submit Final Design - OCS	07/16/15						
Contract C0988 Submit Approved for Construction - Seg C	07/27/15						
Contract C0988 Submit Approved for Construction - TPSS	08/12/15						
Contract C0988 Complete Excavation - MLK	08/20/15						
Contract C0988 Start Excavation - Cut & Cover #3	08/24/15						
Contract C0988 Start Excavation - U Section #4	08/24/15						
Contract C0988 Submit Approved for Construction - COMM	08/26/15						
Contract C0988 Complete Excavation - Expo	08/27/15						
Contract C0988 Submit Approved for Construction - Segment A	08/28/15						

MTA Staff

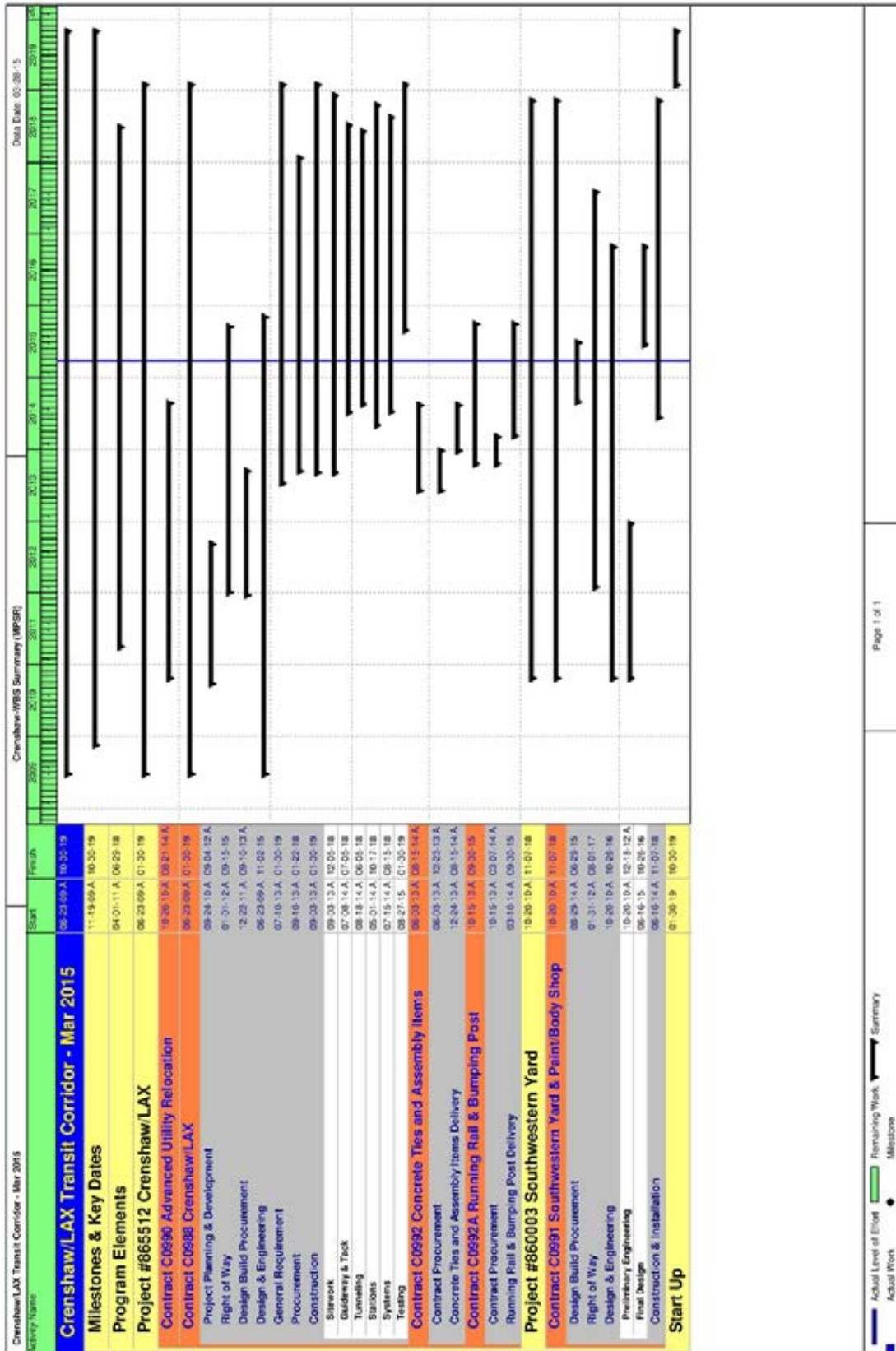
MTA Board Action

Walsh Shea Corridor

"A" following date is actual and completed

Other Contractors

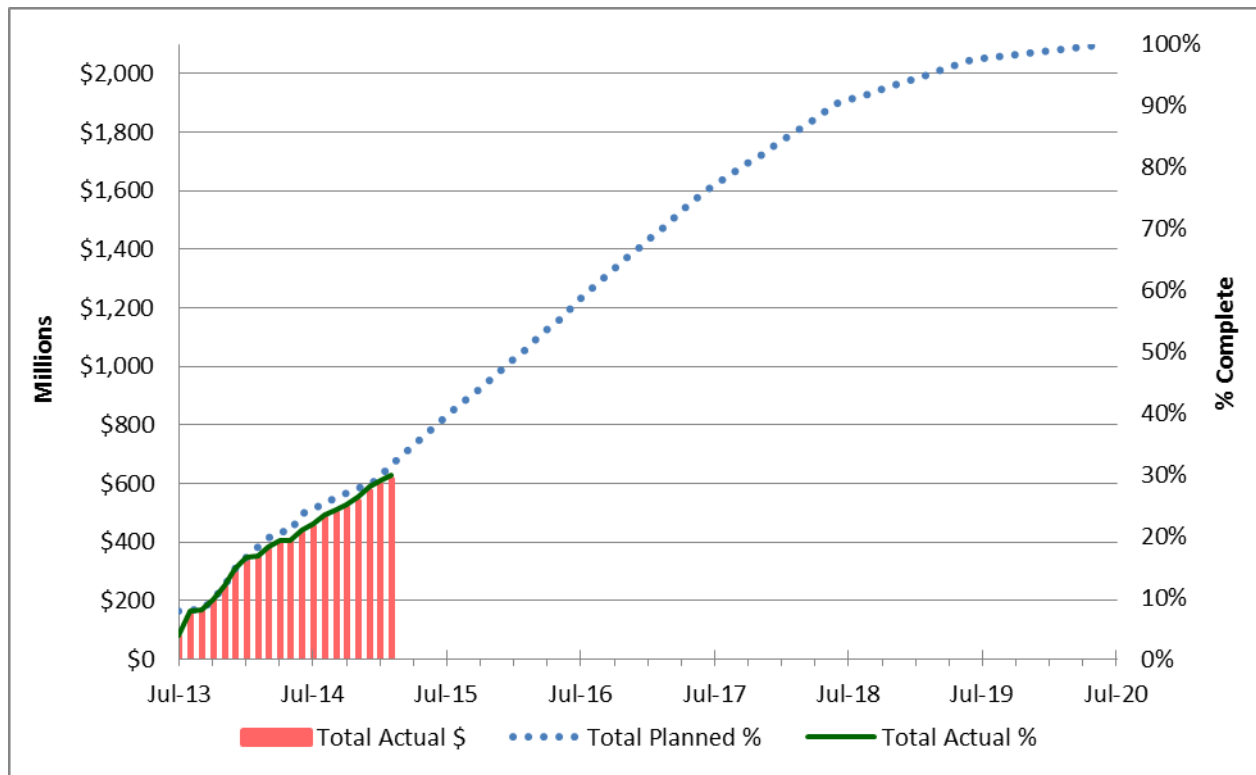
## PROJECT SUMMARY SCHEDULE



**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	87.3%	2.1%	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	14.2%	1.9%	Behind Schedule
Contract C0990	100%	0%	Substantially Completed
Contract C0991	0%	-	Bids Under Review
Contract C0992	100%	0%	Substantially Completed
Contract C0992A	93%	0%	On Schedule
<b>Cumulative To Date Progress:</b>			
	31.1%	3.7%	

**OVERALL CONSTRUCTION PROGRESS CURVE STATUS**



The above planned progress curve is based on planned expenditures by the design-build contractor in the C0988 baseline schedule and planned expenditures projected by all other Crenshaw/LAX contracts. The actual are overall project expenditures cumulative through March 27, 2015.

The cumulative overall project expenditures by March 2015 is \$616 million, which is 30.0% of the total project adopted budget of \$2,058 million, while the planned overall project progress by March 2015 is 31.5%.

**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	Feb-15	Mar-15	Monthly Variance
Submit Final Design Details for TBM	01/03/14	03/03/15	03/31/15	-28
Fabricate & Deliver TBM	09/22/14	11/21/14A	11/21/14A	0
Procure & Deliver TBM Rolling Stock & Accessories	06/23/14	05/01/15	03/02/15A	60
TBM SB Tunnel Launch at Expo	04/28/15	12/14/15	01/05/16	-22
TBM SB Break through at Vernon	09/17/15	05/04/16	05/17/16	-13
TBM NB Tunnel Launch at Expo	10/29/15	06/17/16	07/07/16	-20
TBM NB Break through at Vernon	03/21/16	11/04/16	11/17/16	-13

**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**

Item	Initiate Procurement	Submittal Needed By	Delivery	Installation Date
Tunnel Boring Machine	Executed	Complete	Completed	9/1/2015
Stations- Elevators	Executed	3/25/2015	Pits 10/5/15	Pits 10/5/15
Stations- Escalators	Selected	5/22/2015	7/1/2016	10/5/2016
Track- Special Trackwork	Selected	3/21/2015	10/26/2015	11/12/2015
Track- Restraining Rail and Grade Crossing Ties	4/13/2015	5/1/2015	2/10/2016	4/1/2016
TPSS- Substation 1	4/8/2015	5/23/2015	4/2/2016	6/1/2016
TPSS- Substation 2	6/8/2015	7/23/2015	6/2/2016	8/1/2016
TPSS- Substation 3	8/10/2015	9/24/2015	8/4/2016	10/3/2016
TPSS- Substation 5	10/8/2015	11/22/2015	10/2/2016	12/1/2016
TPSS- Substation 6	1/7/2016	2/21/2016	1/1/2017	3/2/2017
TPSS-Substation 7	3/7/2016	4/21/2016	3/2/2017	5/1/2017
TPSS- Substation 8	1/7/2016	2/21/2016	1/1/2017	3/2/2017
TPSS- Substation 9	12/9/2016	1/23/2016	12/3/2016	2/1/2017
Train Houses	3/1/2015	5/30/2015	3/27/2017	5/1/2017
OCS Poles	3/1/2015	5/30/2015	6/27/2016	8/1/2016
Traffic Signal Poles	3/15/2015	4/15/2015	8/1/2015	6/1/2015
LED Lighting Figures	3/15/2015	4/15/2015	8/1/2015	3/1/2016
Jet Fan- UG3	5/5/2016	4/7/2016	12/31/2016	3/1/2017
Jet Fan- UG4	11/5/2016	1/4/2017	7/3/2017	9/1/2017
Artwork- Century	1/6/2016	3/6/2016	9/2/2016	11/1/2016
Artwork- Hindry	1/6/2016	3/6/2016	9/2/2016	11/1/2016
Artwork- La Brea	11/6/2015	1/5/2016	7/3/2016	9/1/2016
Artwork- West	4/7/2016	6/6/2016	12/3/2016	2/1/2017
Artwork- Slauson	10/5/2016	12/4/2016	6/2/2017	8/1/2017
Artwork-Vernon Concourse	2/4/2017	4/5/2017	10/2/2017	12/1/2017
Artwork- Vernon Plaza	10/5/2016	12/4/2016	6/2/2017	8/1/2017
Artwork- MLK Concourse	2/4/2017	4/5/2017	10/2/2017	12/1/2017
Artwork- MLK Plaza	4/7/2017	6/6/2017	12/3/2017	2/1/2018
Artwork- Expo Concourse	7/5/2017	9/3/2017	3/2/2018	5/1/2018
Artwork- Expo Plaza	7/5/2017	9/3/2017	3/2/2018	5/1/2018
TVM- Century	N/A	7/5/2015	1/1/2016	3/1/2016
TVM- Hindry	N/A	4/5/2016	10/2/2016	12/1/2016
TVM- La Brea	N/A	9/3/2016	3/2/2017	5/1/2017
TVM- West	N/A	7/4/2016	12/31/2016	3/1/2017
TVM-Slauson	N/A	11/3/2016	5/2/2017	7/1/2017
TVM- Vernon	N/A	2/3/2017	8/2/2017	10/1/2017
TVM- MLK	N/A	3/6/2017	9/2/2017	11/1/2017
TVM- Expo	N/A	5/6/2017	11/2/2017	1/1/2018
Trees and Landscaping- La Brea	8/6/2015	10/5/2015	4/2/2016	6/1/2016
Irrigation and Landscape Planting- MLK	2/4/2017	4/5/2017	10/2/2017	12/1/2017
Landscape- West Park and Ride	8/6/2015	10/5/2015	4/2/2016	6/1/2016
Traffic Signal Controllers- Market and Florence	9/3/2014	11/2/2014	5/1/2015	6/30/2015
Traffic Signal Controllers- Locust Bus Bay and Florence	9/10/2014	11/9/2014	5/8/2015	7/7/2015
Traffic Signal Controllers- 111th and Aviation	3/11/2015	5/10/2015	11/6/2015	1/5/2016
Traffic Signal Controllers- Imperial and Aviation	11/26/2015	1/25/2015	7/23/2016	9/21/2016
Traffic Signal Controllers- Florence and High	4/17/2015	6/16/2015	12/13/2015	2/11/2016
Traffic Signal Controllers- Centinela and Florence	5/8/2015	7/7/2015	1/3/2016	3/3/2016
Traffic Signal Controllers- West and 71st	5/8/2015	7/7/2015	1/3/2016	3/3/2016
Traffic Signal Controllers- Hindry and Florence	1/1/2016	3/1/2016	8/28/2016	10/27/2016
Traffic Signal Controllers- La Brea and Florence	2/6/2016	4/6/2016	10/3/2016	12/2/2016
Traffic Signal Controllers- 104th and Aviation	9/30/2015	11/29/2015	5/27/2016	7/26/2016
Traffic Signal Controllers- Oak and Florence	3/5/2015	5/4/2015	10/31/2015	12/30/2015
Traffic Signal Controllers- Cedar and Florence	3/5/2015	5/4/2015	10/31/2015	12/30/2015
Traffic Signal Controllers- Eucalyptus and Florence	3/5/2015	5/4/2015	10/31/2015	12/30/2015
Traffic Signal Controllers- Ivy Florence and Cable	3/5/2015	5/4/2015	10/31/2015	12/30/2015
Traffic Signal Controllers-Century and Aviation	3/5/2015	5/4/2015	10/31/2015	12/30/2015
Traffic Signal Controllers- La Cienega and Florence	8/1/2016	5/4/2015	10/31/2015	12/30/2015
SF6 Gas Insulated Switches * Metro top/bottom	3/13/2015	6/1/2015	8/2/2016	10/1/2016

## **CRITICAL PATH NARRATIVE**

### **Critical Path:**

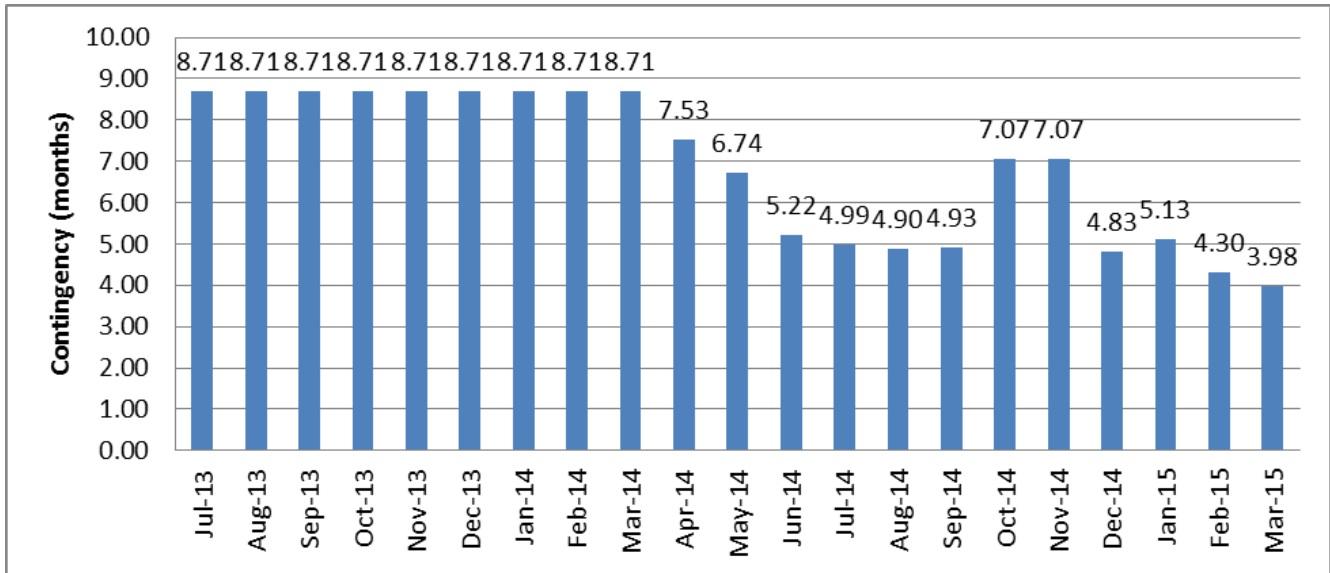
The longest path to project substantial completion begins with final design of the Design/Build Contract #C0988 Crenshaw/LAX Transit Corridor.

The most critical and longest path starts with the Expo Station support of excavation (SOE) and decking, excavation & invert construction; TBM mining operation; cross passage excavation, tunnel invert and walkway construction; track and system installation, while the MLK station SOE and decking, excavation & invert construction, OCS/Traction power and Train Control/Communication System installation 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 Jan 30, 2019, which is 144 calendar days behind the original contract. A 35 calendar day contract extension for a concurrent delay was executed in Mar 2015, which reduces the days behind to 109 calendar days for the current contract.

**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: MARCH 2015  
 UNITS IN DOLLARS

SCC CODE	DESCRIPTION	ORIGINAL BUDGET	CURRENT BUDGET		COMMITMENTS		EXPENDITURES		CURRENT FORECAST		FORECAST
			PERIOD	TO DATE	PERIOD	TO DATE	PERIOD	TO DATE	PERIOD	TO DATE	VARIANCE
10	GUIDEWAYS	471,335,000	-	452,500,001	7,357	442,904,895	5,980,183	50,492,086	-	450,354,375	(2,145,626)
20	STATIONS	153,906,000	-	316,050,000	-	301,441,907	3,161,307	63,171,819	-	315,050,000	(1,000,000)
30	SOUTHWESTERN YARD	66,673,000	-	66,673,000	-	6,549,923	-	-	-	66,673,000	-
40	SITWORK/SPECIAL CONDITIONS	235,576,000	-	348,565,999	26,524	344,044,322	3,966,098	193,241,154	4,705,913	361,476,912	12,910,913
50	SYSTEMS	125,132,000	-	169,311,000	114,425	150,342,667	4,000	187,055	-	169,436,000	125,000
10-50	CONSTRUCTION	1,052,622,000	-	1,353,100,000	148,306	1,245,283,713	13,111,589	307,092,114	4,705,913	1,362,990,287	9,890,287
60	RIGHT-OF-WAY	132,294,000	-	127,400,000	21,364	113,814,684	2,376,229	108,027,440	-	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	348,967	208,172,469	4,014,841	163,878,956	12,435,470	311,806,096	15,906,096
90	UNALLOCATED CONTINGENCY	177,157,000	-	173,500,000	-	-	-	-	(17,141,383)	147,703,617	(25,796,383)
865512 & 860003 - SUBTOTAL		1,723,000,000	-	2,032,000,000	518,636	1,649,321,767	19,502,659	590,450,931	-	2,032,000,000	(0)
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	-	25,549,387	-	26,000,000	-
405512, 465512, 865512 & 860003 - TOTAL		1,749,000,000	-	2,058,000,000	518,636	1,674,871,155	19,502,659	616,000,318	-	2,058,000,000	-

NOTE: EXPENDITURES ARE CUMULATIVE THROUGH 28-MARCH-2015.

SCC-30 budget of \$66,673,000 for the Southwestern Yard includes fundings for SCC-30, SCC-40, SCC-50, and SCC-80 Final Design scope of work.

**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 March 28, 2015. The total commitments increased by \$0.5 million this period primarily due to the following:

- SCC-40 (Sitework and Special Conditions) has increased by \$0.1 million due to executed modifications associated with design-build Contract C0988 Crenshaw/LAX Transit Corridor. The total commitment of \$344.1 includes \$6.5 million for the Southwestern Yard.
- SCC-50 (Systems) has increased by \$0.1 million due to executed modifications associated with design-build Contract C0988 Crenshaw/LAX Transit Corridor.
- SCC-80 (Professional Services) has increased of \$0.3 due to executed modifications associated with the design-build Contract C0988 Crenshaw/LAX Transit Corridor and costs related to miscellaneous specialty services and community relations. The total commitment of \$208.2 million includes \$6.3 million for the Southwestern Yard.

The \$1,674.9 million in commitments to date represents 81.4% of the current budget.

### **Expenditures:**

The expenditures are cumulative through March 28, 2015. The total expenditures increased by \$19.5 million this period due to the following:

- SCC-10 (Guideways) has increased by \$6.0 million for costs associated with the design-build Contract C0988 Crenshaw/LAX Transit Corridor.
- SCC-20 (Stations, Stops, Terminals, Intermodal) has increased by \$3.1 million for costs associated with the design-build Contract C0988 Crenshaw/LAX Transit Corridor.
- SCC-40 (Sitework and Special Conditions) has increased by \$4.0 million for costs associated with the design-build Contract C0988 Crenshaw/LAX Transit Corridor and third party scope of work with QWEST and Los Angeles Department of Water & Power.
- SCC-60 (Right-of-Way) has increased by \$2.4 million for costs associated with real estate appraisal and acquisition. The total expenditure of \$108.0 million includes \$53.3 million for the Southwestern Yard.
- SCC-80 (Professional Services) has increased by \$4.0 million for costs associated with design-build Contract C0988 Crenshaw/LAX Transit Corridor, Metro project administration, IPMO field office lease and utilities, construction management support services, legal services, permit fees, tunnel advisory panel services, third party coordination services by Los Angeles County, project management support, printing services, material lab testing services, miscellaneous specialty services and environmental consultant services. The total expenditure of \$163.9 million includes \$3.0 million for the Southwestern Yard.

**PROJECT COST ANALYSIS (Continued)**

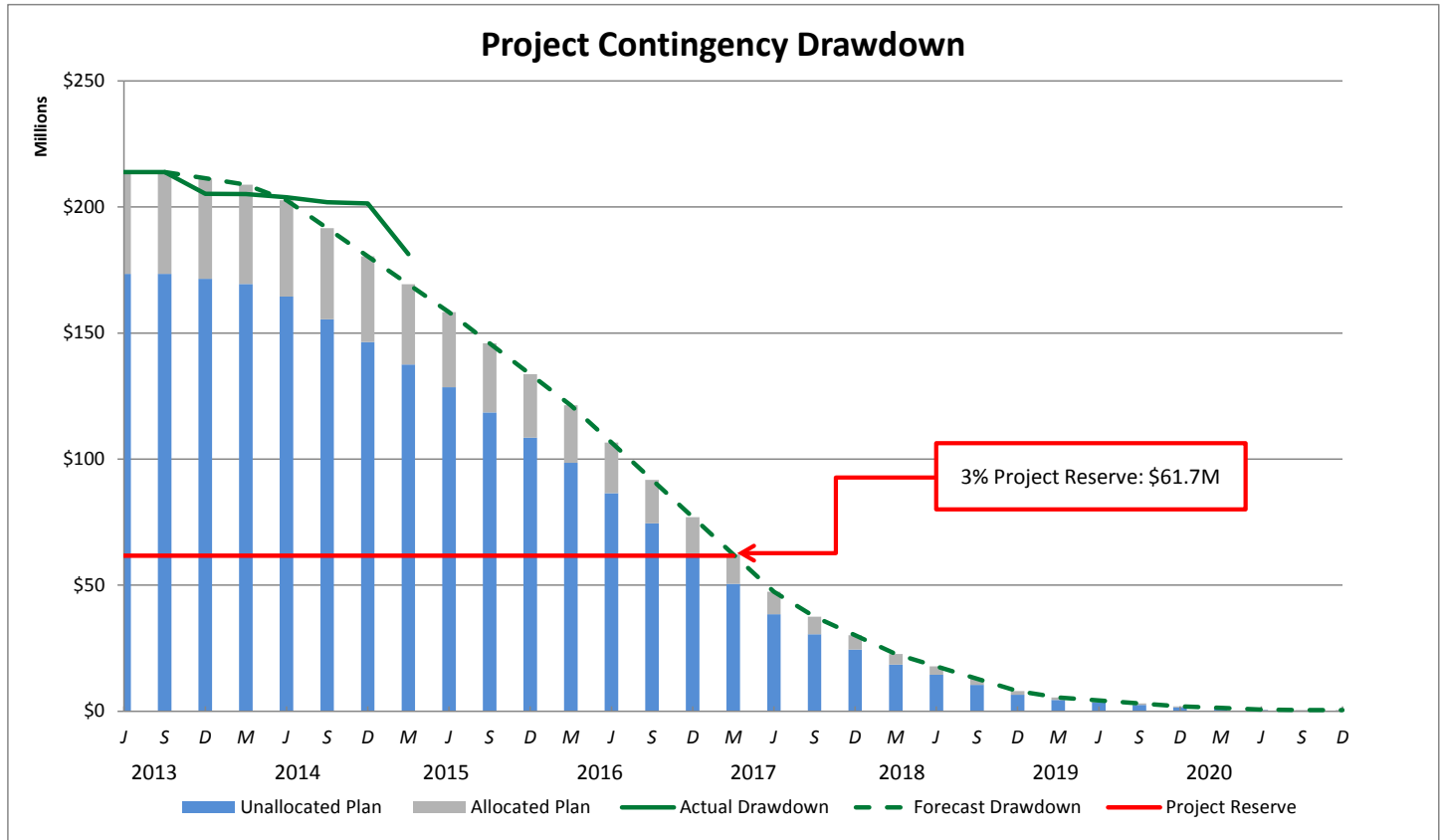
The \$616.0 million in expenditures to date represents 30.0% of the current budget.

**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	-	233,025	-	2,549,000	239,000
460303 AIRPORT METRO CONNECTOR	366,400	-	366,400	-	366,400	-	366,400	-	366,400	-
500013 C/LAX LAWA SCOPE OF WORK	1,575,362	-	1,575,362	-	531,125	-	228,387	-	1,575,362	-
<b>TOTAL</b>	<b>4,251,762</b>	<b>-</b>	<b>4,490,762</b>	<b>-</b>	<b>3,380,271</b>	<b>-</b>	<b>827,812</b>	<b>-</b>	<b>4,490,762</b>	<b>239,000</b>

## PROJECT CONTINGENCY DRAWDOWN



Through 28-Mar-2015

## 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 \$32,566,703 or 15.3% of the contingency included in the Current Budget through March 2015. The cumulative to date contingency drawdown is reported quarterly with the next drawdown to be reported through June 2015. The drawdown of allocated contingency for additional costs associated with the design-builder's (Contract C0988) executed modifications is tracked monthly but is reported quarterly in this report. The cumulative drawdown of contingency is shown in the table below:

<b>PROJECT CONTINGENCY DRAWDOWN (through 28-Mar-2015)</b>					
	Original Contingency	Drawdown previous quarter	Drawdown this quarter	Drawdown To-Date	Remaining Contingency
Unallocated Contingency	173,500,000	(8,655,000)	(17,141,383)	(25,796,383)	147,703,617
Allocated Contingency	40,366,792	(3,794,039)	(2,976,282)	(6,770,321)	33,596,471
<b>Total Contingency</b>	<b>213,866,792</b>	<b>(12,449,039)</b>	<b>(20,117,665)</b>	<b>(32,566,704)</b>	<b>181,300,088</b>

## **DISADVANTAGED BUSINESS ENTERPRISE (DBE) STATUS**

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

- DBE Goal – Design 23.82%
- Current DBE Commitment \$20,232,929 (22.34%)
- Current DBE Participation \$15,217,968 (19.98%)
- Twenty (20) Design subcontractors have been identified to-date
  
- DBE Goal – Construction 20%
- Current DBE Commitment \$236,116,671 (20%)
- Current DBE Participation \$28,858,337 (12.60%)
- Forty Seven (47) Construction subcontractors have been identified to-date.

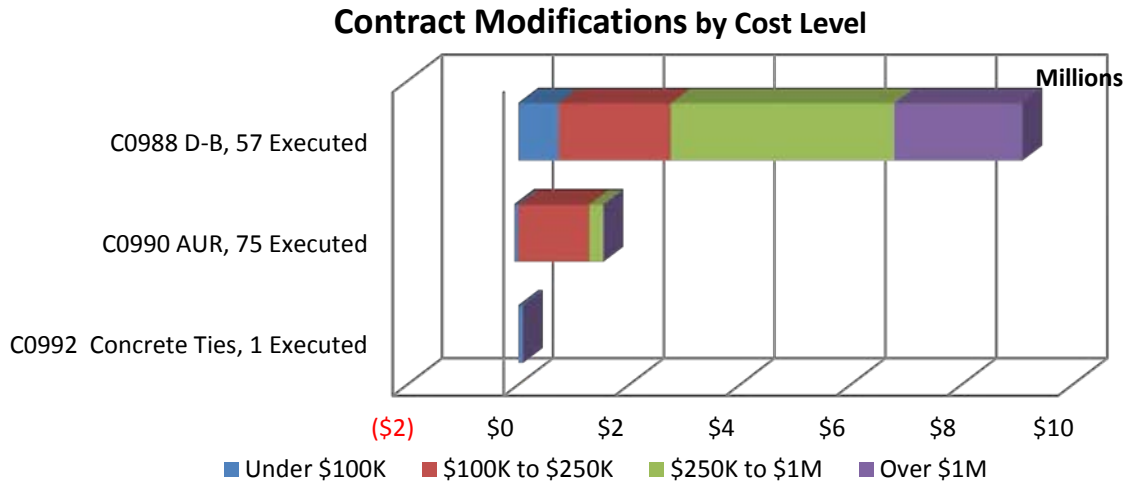
## **PROJECT LABOR AGREEMENTS (PLA) STATUS**

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

(Reporting Data as of February 14, 2015)

- Targeted Worker Goal – 40.00%
- Targeted Worker Current Participation - 59.30%
  
- Apprentice Worker Goal - 20.00%
- Apprentice Worker Current Participation - 13.74%
  
- Disadvantaged Worker Goal - 10.00%
- Disadvantaged Worker Current Participation 11.26%

**SUMMARY OF CONTRACT MODIFICATIONS**



	C0988	C0990	C0992
	57 Executed	75 Executed	1 Executed
Under \$100K	\$ 730,322	\$ (70,251)	\$ 81,738
\$100k to \$250K	\$ 2,016,784	\$ 1,280,184	\$ -
\$250K to \$1M	\$ 4,035,736	\$ 251,864	\$ -
Over \$1M	\$ 2,310,000	\$ -	\$ -
<b>Total</b>	<b>\$ 9,092,842</b>	<b>\$ 1,461,797</b>	<b>\$ 81,738</b>
<b>% of Contract</b>	<b>0.71%</b>	<b>18.68%</b>	<b>3.78%</b>

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

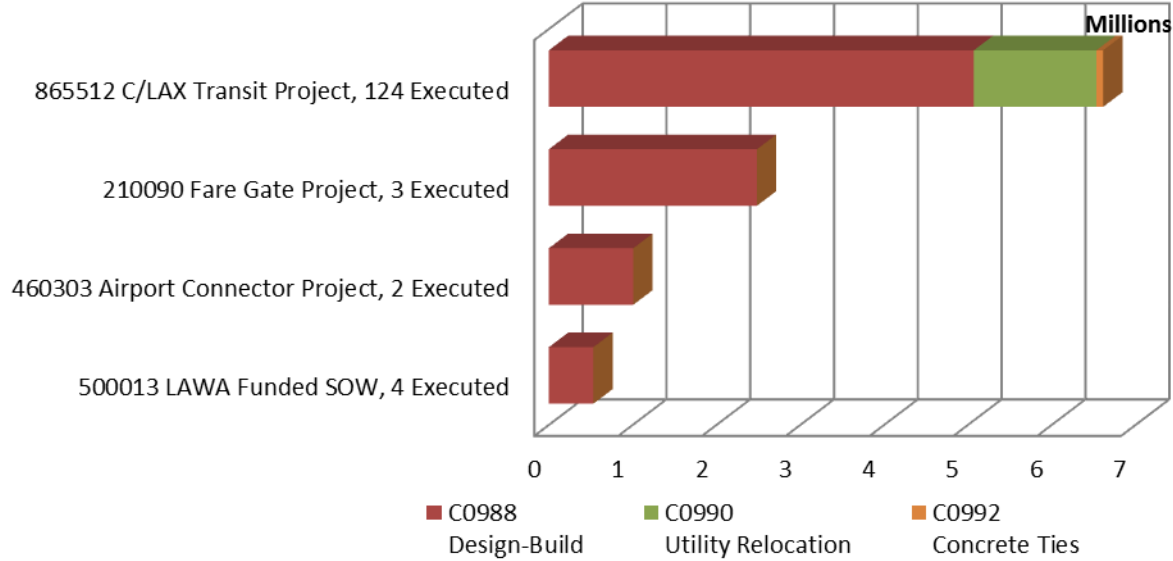
Fifty-seven (57) changes with a total value of 9.09 million have been executed since execution of Contract C0988. There are an additional nine (9) changes with a total value of 0.74 million that are pending the administrative approval process.

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

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

**SUMMARY OF CONTRACT MODIFICATIONS**

**Contract Modifications by Metro Internal Project Number**



	<b>865512</b>	<b>210090</b>	<b>460303</b>	<b>500013</b>
	<b>Executed</b>	<b>Executed</b>	<b>Executed</b>	<b>Executed</b>
<b>C0988</b>	48	3	2	4
<b>C0988 \$</b>	\$ 5,071,102	\$ 2,482,746	\$ 1,007,778	\$ 531,216
<b>C0990</b>	75	0	0	0
<b>C0990 \$</b>	\$ 1,461,797	\$ -	\$ -	\$ -
<b>C0992</b>	1	0	0	0
<b>C0992 \$</b>	\$ 81,738	\$ -	\$ -	\$ -
<b>Total</b>	124	3	2	4
<b>Total \$</b>	\$ 6,614,637	\$ 2,482,746	\$ 1,007,778	\$ 531,216

One hundred and twenty four (124) changes with a total value of \$6.61 million have been executed for Project 865512 Crenshaw/LAX Transit Project. There are an additional eight (8) changes with a total value of 0.64 million that are pending the administrative approval process.

Three (3) changes with a value of 2.48 million have been executed for Project 210090 Fare Gate Project.

Two (2) changes with a value of 1.00 million have been executed for Project 460303 Airport Connector Project. There is an additional one (1) change with a total value of 0.10 million that is pending the administrative approval process.

Four (4) changes with a total value of 0.53 million have been executed for Project 500013 Crenshaw/LAX LAWA Statement of Work.

**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	30.0	54.0	100%	30.0	56%	30.0	56%
FEDERAL - SECTION 5309 BUS CAPT	8.6	8.6	8.6	8.6	100%	8.0	93%	8.0	93%
FEDERAL - REGIONAL STP	20.0	120.9	73.7	73.7	61%	36.6	30%	36.6	30%
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 PPM	0.178	0.178	0.178	0.178	100%	0.178	100%	0.178	100%
STATE PROP 1B PTMISEA	201.2	128.6	128.6	128.6	100%	128.6	100%	128.6	100%
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%	337.4	51%	307.7	47%
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	3.6	51.2	27%	3.6	2%	3.6	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>1,239.7</b>	<b>1,674.9</b>	<b>81.4%</b>	<b>616.0</b>	<b>30.0%</b>	<b>586.2</b>	<b>28.5%</b>

NOTE: Expenditures are cumulative through March 2015.

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), CNG 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 was approved in December 2014. Funds are available for drawdown. Metro submitted to FTA in January 2015 a grant application of \$24M for 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 was approved in December 2014. Funds are available for drawdown.

**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 was approved on February 4, 2015. Funds are available for drawdown.

**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.

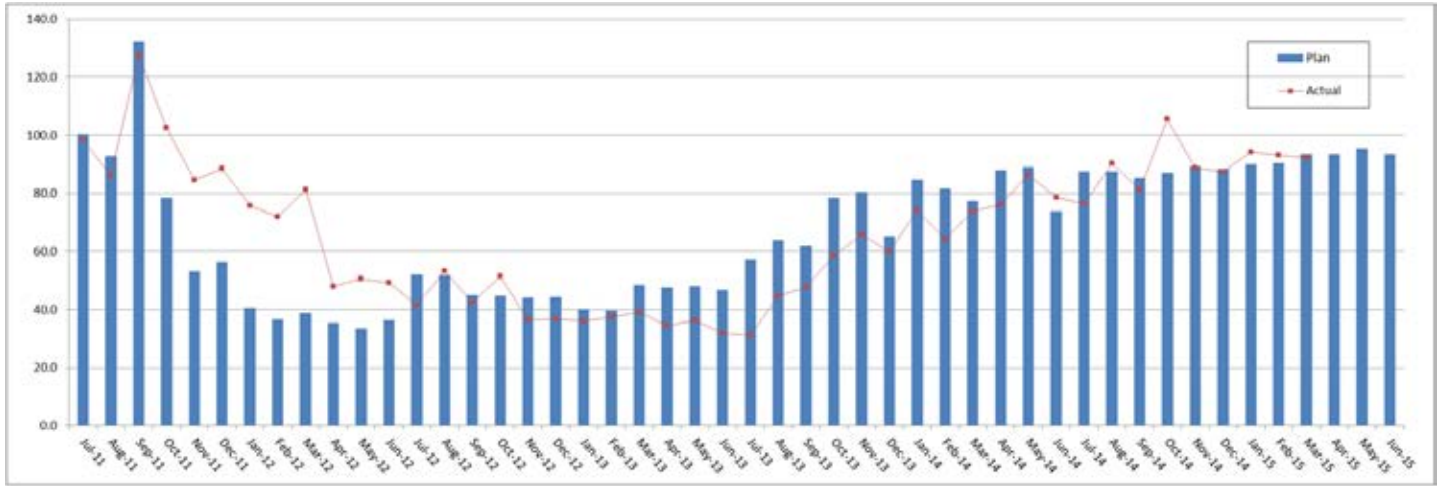
**MEASURE R:** \$377.4M has been allocated to the project through FY2015. Funds are available for drawdown.

**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:**

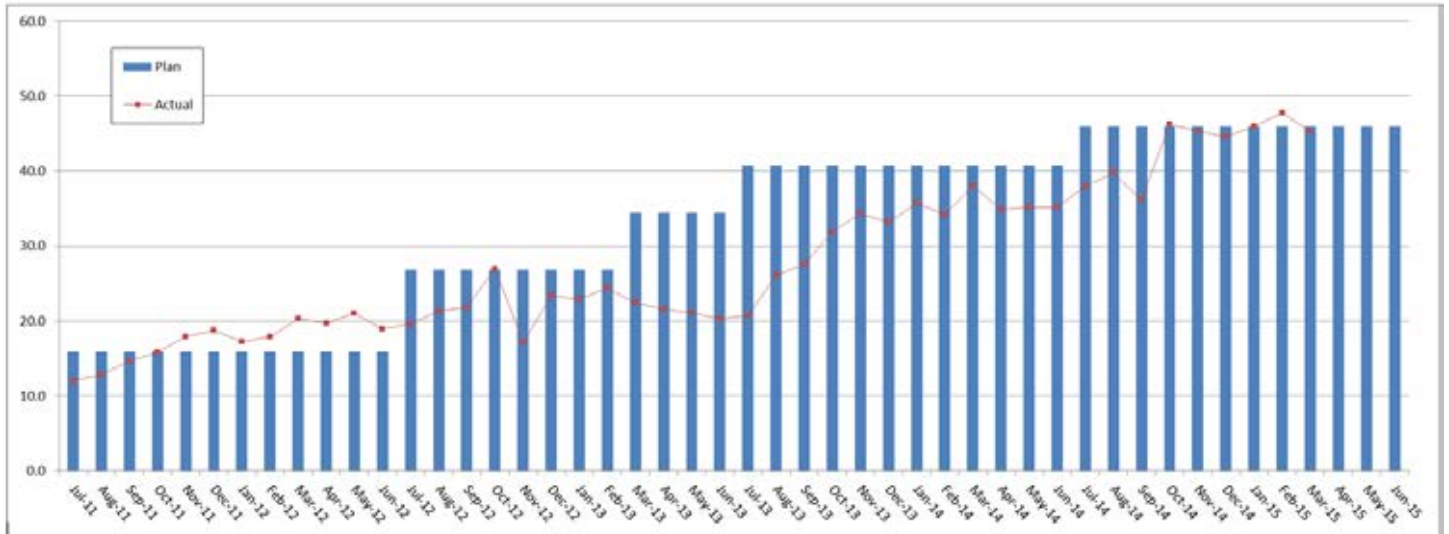
1. FTE = Full Time Equivalent
2. Staffing levels are for project 865512 only.
3. Actual staffing levels are cumulative through March 2015.

## TOTAL PROJECT STAFFING

For February 2015, there were a total of 45.3 FTE's for MTA's Project Administration staff and 47 FTE's for consulting staff. The total project staffing was 92.3 FTE's for March 2015. The overall FY15 Total Project Staffing Plan averages 90.1 FTE's per month.

## STAFFING STATUS (Continued)

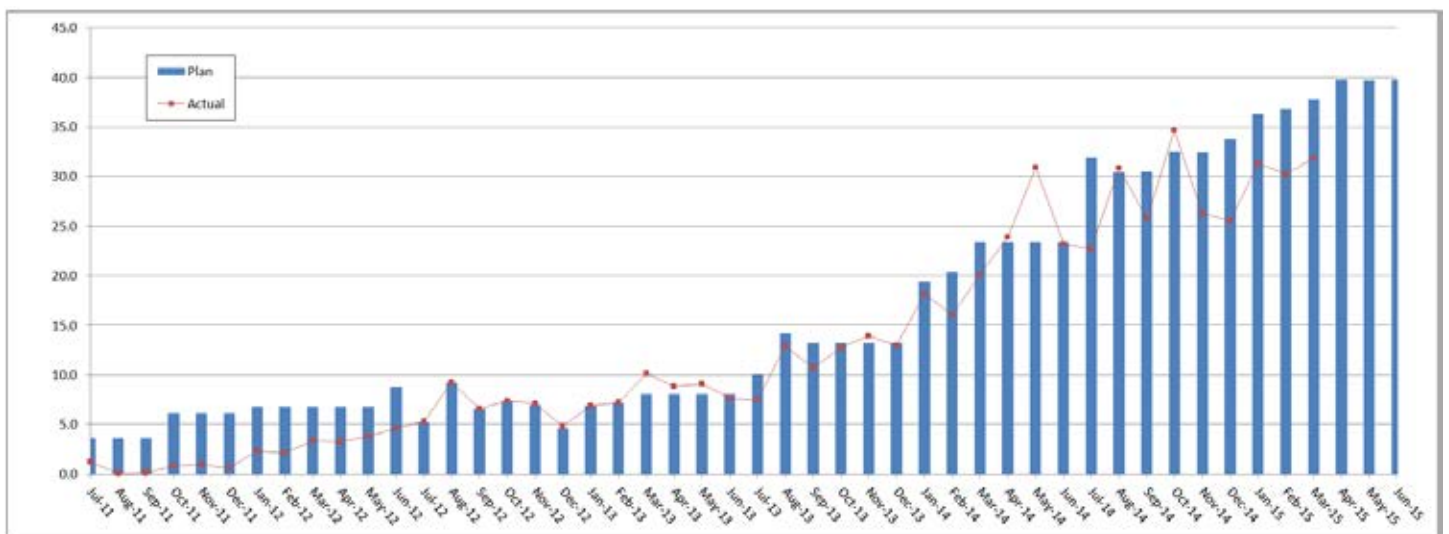
### METRO STAFFING – FTES



**Notes:**

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3. Actual staffing levels are cumulative through March 2015.

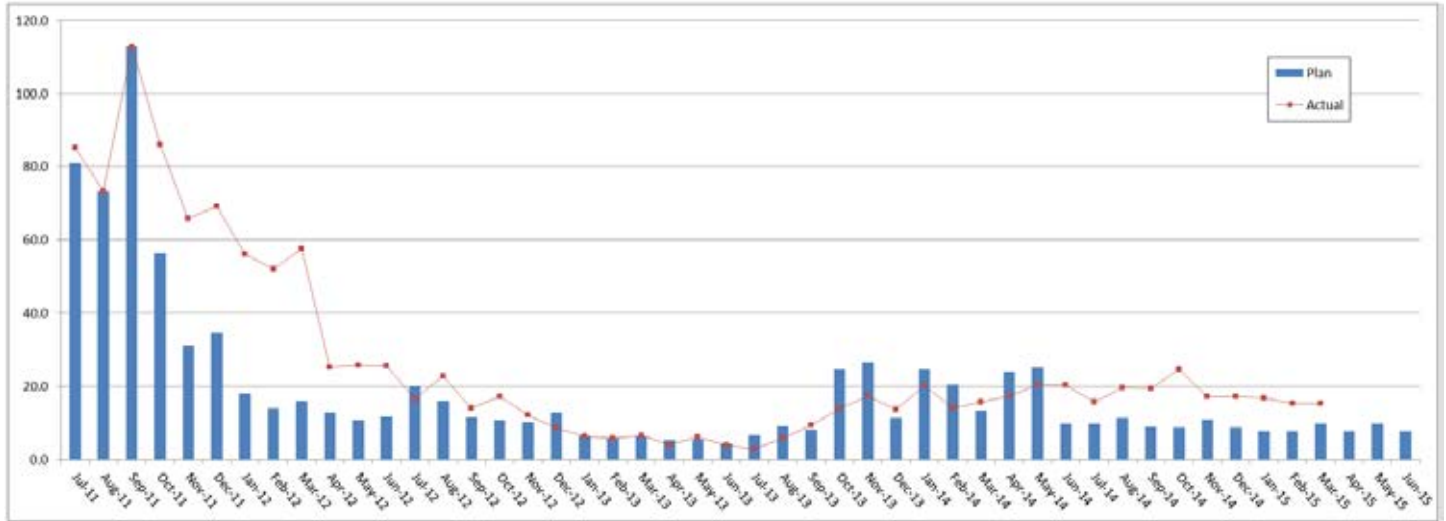
## CONSTRUCTION MANAGEMENT SUPPORT SERVICES CONSULTANT – FTES



**Notes:**

1. FTE = Full Time Equivalent
2. Staffing levels are for project 865512 only.
3. Actual staffing levels are cumulative through March 2015.

## 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 March 2015.

**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>									
<i>Crenshaw Subdivision</i>									
Full Takes	12	12		12	12	12	0	12	12
Part Takes (PT or SE)	10	9	1	9	9	3	5		3
TCE	10	10		10	10	4	5		5
<b>Subtotal Parcels</b>	<b>32</b>	<b>31</b>	<b>1</b>	<b>31</b>	<b>31</b>	<b>19</b>	<b>10</b>	<b>12</b>	<b>20</b>
<i>Harbor Subdivision</i>									
Full Takes	15	14		15	15	15	2	13	15
Part Takes (PT or SE)	19	18	1	18	17	7	7		6
TCE	3	2	1	2	2		2		1
<b>Subtotal Parcels</b>	<b>36</b>	<b>34</b>	<b>2</b>	<b>34</b>	<b>33</b>	<b>22</b>	<b>11</b>	<b>13</b>	<b>22</b>
<b>Total CR/HS Parcels:</b>	<b>69</b>	<b>65</b>	<b>3</b>	<b>65</b>	<b>64</b>	<b>41</b>	<b>21</b>	<b>25</b>	<b>42</b>
<i>Southwestern Yard</i>									
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>
<i>C0990 C/LAX Advance Utility Relocations:</i>									
Total Parcels:	0								
<b>Total Project Parcels</b>	<b>77</b>	<b>*73</b>	<b>3</b>	<b>74</b>	<b>74</b>	<b>48</b>	<b>23</b>	<b>29</b>	<b>50</b>

- **74 acquisitions: \*73 planned for in the environmental report +1 full take for the Harbor Subdivision that was not certified (HS-2706).**
- **74 appraisals completed (including HS-2706).**
- **50 parcels acquired: 35 full takes (including HS-2706) and 15 part takes/Temporary Construction Easement (TCE) provided to WSCC.**
- *HS-1904-1 and 1907-1 (TCEs for the underground pedestrian easement) have been obtained and will be turned over to the contractor by 3/31. The remaining TCE and part takes in these two parcels are anticipated to be turned over in early April.*
- *Parcels HS-2001, 2001-1 and HS-2106 are no longer required by the project and are in the process of being decertified.*
- *Metro has Order of Possession effective 5/1/15 for parcels CR-3201 and CR3206 at which time they will be turned over to the contractor.*
- *Metro has Order of Possession effective 6/1/15 for CR-3704 at which time it will be turned over to the contractor.*
- **1 Parcel in Escrow (HS-1602).**

**Reported as of March 31, 2015**

## **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.
- Participated in several construction Work Package Reviews and related Readiness Review Meetings.
- *WSCC Quality Assurance completed one Vendor Surveillance of Precast Management, the supplier of MSE Wall Panels. There were two observations noted which will be followed up once actual panel fabrication efforts start.*
- *WSCC Quality Assurance began a surveillance of the Hobus Pipe replacement efforts at the EXPO site.*
- *Continue to use Testing Verifications by Independent Testing Laboratories for varying field activities including soil compaction testing, concrete testing, weld testing and CSM core sample testing.*
- *WSCC issued one Nonconformance Report (NCR) on UG-1 Soldier Pile installation issues and documented three conditions that are recorded as Potential Nonconformance Reports (PNCR's).*
- *MTA Quality issued five Nonconformance Reports (NCR's) on Noise Complaints, multiple Utility Strikes and Project Document Control issues.*
- *Approved the resume of the WSCC Lead Electrical Inspector.*
- *MTA Quality provided SharePoint Document Control System Training to MTA Quality personnel.*

### **C0992 Concrete Rail Ties**

- *No activities this month. Rail welding of 1,000+ foot long strings will start in mid-April 2015.*

## **ENVIRONMENTAL STATUS**

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

- Reviewed and commented on the following Contractor Submittals:
  - *Weekly Noise Monitoring Data for Expo Station, MLK Station, Vernon Station, La Brea Station and Century Station*
  - Noise Control Plan for Concrete Recycling
  - Green Construction Plan Monthly Reports
  - Sustainability Plan Monthly Reports
  - Weekly Storm Water Pollution Prevent Plan (SWPPP) inspection reports
  - Weekly Fugitive Dust Inspection Reports
  - Various Construction Work Plans
- Continue to document compliance with the Project Mitigation Monitoring and Reporting Plan (MMRP).
- Completed hazardous waste abatement (lead-based paint and asbestos) at parcels SW-0103 Dollar Rental Car.
- *Completed supplemental sampling of lead-based paint and asbestos at Parcels SW-0101 (Avis Rental Car) and CR-3304 (Hi-Tech Cleaners).*
- *Reviewed Closure Report for the Underground Storage Tanks (USTs) at Parcel SW-0103.*
- *Reviewed soil sampling plan to determine the extent of soil contamination associated with the Underground Storage Tanks (USTs) at Parcel CR-3701.*
- *Encountered a third Underground Storage Tank (UST) at Parcel HS-2101.*
- *The cultural monitors at the Crenshaw/MLK Station identified prehistoric archaeological materials in an intact layer of dark brown-black clay,*
- Coordinated the permitting and removal of Underground Storage Tanks (USTs) with the City and County of Los Angeles and the Los Angeles Fire Department.
- Coordinated with property owner's environmental consultant for parcel SW-0104 for installation of soil remediation system.
- 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).
- Delivered tree trunks to "Trees to Drums" in Leimert Park.
- Attended Contractor Weekly Progress meetings, Environmental Task-Force Meetings and various over-the-shoulder submittal meetings with Contractor.
- Attended Construction Update Meeting to answer questions concerning tree removal, parking and haul route.

## **CONSTRUCTION RELATIONS STATUS**

- *Updated local Neighborhood Councils, HOAs and Block Clubs about construction activity (Park Mesa Heights, Baldwin Hills, Fairview Heights, 4<sup>th</sup> Avenue Block Club).*
- *Gave alignment tours to the Black Journalist Association of Southern California and Crenshaw and Inglewood high school students.*
- *Met with the Leimert Park Business Improvement District (BID) on upcoming closures and business assistance efforts.*
- *Hosted Crenshaw area businesses at the Eat, Shop, Play community fest in Leimert Park.*
- *Promoted Metro business assistance efforts at Mayor Garcetti's Business Resource Fair at the Baldwin Hills Crenshaw Mall.*
- *Hosted a Community Construction Update Meeting (bi-monthly).*
- *Briefed local stakeholders: West Angeles Church, Baldwin Hills Crenshaw Mall and LAWA.*
- *Briefed local council offices: CD-8 and CD-10.*
- *Daily emails, phone calls and door-to-door outreach to businesses along the alignment for all construction activity.*

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

- *Responded to RFIs and submittal drawings.*
- *Continued to refine project artwork opportunities.*
- *Facilitated artist procurement process.*
- *Participated in Systemwide Design integration reviews and presentations.*
- *Continued to support visual mitigation efforts.*

### **SIGNAGE**

- *Responded to RFIs and submittals.*

## **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.
- *Conducted bi-weekly Safety Sweeps to enhance overall safety/security. Several hazards were observed and corrected immediately.*
- Reviewed contractor safety submittals and construction work plans to ensure compliance with contract specifications.
- *Participated in Readiness Review Meeting with WSCC/Select Electric for the horizontal directional boring for conduits at the Chris Burger's location.*
- *Walsh/Shea reported 83,869 work hours and one recordable incident for the month of March 2015. Total Project-to-Date work hours are 1,146,919 and eight 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**

- 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 @ 60<sup>th</sup> St. relocation in progress, is complete.*
  - *Crenshaw @ 63<sup>rd</sup> St. relocation in progress, to complete by end of June 2015.*
  - *Crenshaw @ 67<sup>th</sup> St. relocation in progress, to complete by May 2015.*
  - *Crenshaw/Vernon Ave. to complete by end of April 2015.*
  - *Crenshaw @ Hyde Park St. commenced in January 2015 and is scheduled for completion by June 2015.*
- SCE Power – new services and relocations scheduled for completion. The work includes the relocation of underground power line to accommodate new pedestrian undercrossing at Faithful Central Bible Church property. Design is in progress.
- *Tesoro Oil – design in progress for 8” gas line. Construction should commence in June 2015 and complete in November 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.


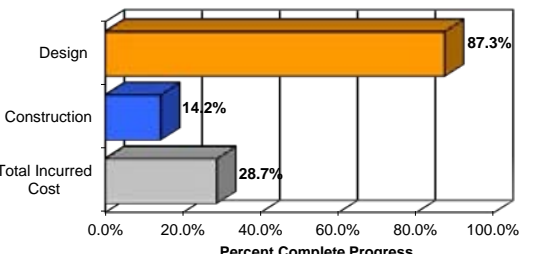
## **CHRONOLOGY OF EVENTS (Continued)**

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.


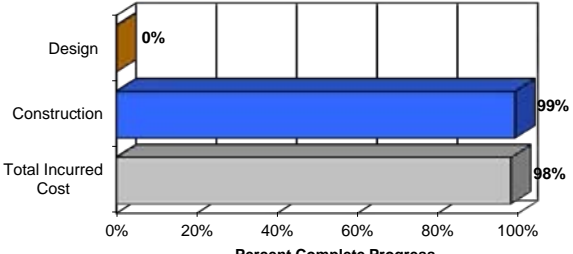
### **CHRONOLOGY OF EVENTS (Continued)**

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.
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	CPUC has approved all five (5) grade crossing applications and no further actions are required.
January 22, 2015	Received Technical and Price Bids for the Southwestern Yard (Division 16) Maintenance Facility.
March 25, 2015	Opened Price Bids for the Southwestern Yard (Division 16) Maintenance Facility.


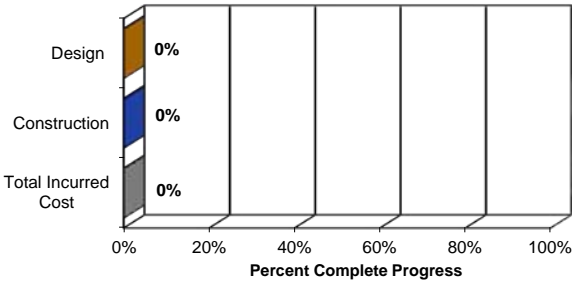
**CONTRACT C0988 STATUS**  
*Crenshaw/LAX Transit Corridor*

<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></p> <p><b>Status as of March 27, 2015</b></p> 																																			
<p><b>Progress/Work Completed:</b></p> <p><b>Design</b></p> <ul style="list-style-type: none"> <li>- Submitted Segment A Final Design on Aerial Guideway Structures and Stations. Continued revised Segment A Final Design on UG1 and Local Streets.</li> <li>- Submitted Segment B Final Design on Guideway Package Walls and Stations. Continued Segment B Final Design on Local Street Harbor North.</li> <li>- Submitted Segment C Readiness for Construction Design on UG Waterproofing and Local Streets. Continued Segment C Final Design on Guideway and UG Station Invert Slabs.</li> <li>- Continued Final Design - Traction Power.</li> <li>- Continued Final Design - Communication Systems.</li> <li>- Continued Final Design - OCS.</li> <li>- Completed review of ATC Specifications.</li> </ul> <p><b>Construction</b></p> <ul style="list-style-type: none"> <li>- Continued potholing in the Vernon, MLK, La Brea, UG #1 &amp; UG #3.</li> <li>- Continued geotechnical monitoring at Vernon, MLK, Expo &amp; UG#1.</li> <li>- Continued with SWPPP Implementation – Segments A, B &amp; C.</li> <li>- Continued installation of soldier piles at Vernon Station.</li> <li>- Completed decking operation at MLK Station.</li> <li>- Continued utility relocation/ support work at Expo Station Area.</li> <li>- Continued excavation at Expo Station</li> <li>- Continued utility protection work at MLK and Vernon Station.</li> <li>- Continued column work at Century Blvd. Bridge.</li> <li>- Commenced Pile driving for the Century Bridge Abutments.</li> <li>- Completed excavation (5 feet depth) at UG #1.</li> <li>- Continued installation of SOE Piles at UG #1.</li> <li>- Commenced CIDH work at Green Line Bridge.</li> </ul>	<p><b>Areas of Concern:</b></p> <ul style="list-style-type: none"> <li>- BOE approval process for SOE design</li> <li>- Possible cobbles and boulders found during excavation at Expo and MLK station.</li> <li>- Relocation of 24' LADWP water line may impact the decking operation at Vernon Station</li> <li>- The work for the 69" Hobas pipe work at Expo Station required by the City may impact the schedule and delay the TBM activities.</li> <li>- Contaminated materials (weathered gasoline with high levels of TPH) discovered at Expo site.</li> <li>- Contractor's schedule does not accurately forecast its work efforts.</li> </ul>																																			
<p><b>Schedule Assessment:</b></p> <p>Metro's assessment of the contractor's schedule update is that they are behind on meeting interim design milestones.</p> <p>Contractor's Mar 2015 schedule update indicates Milestone 1 - Contract Substantial Completion is 144 calendar days behind the original contract. A 35 calendar day contract extension for a concurrent delay was executed which reduces the days behind to 109 calendar days for the current contract.</p>	<p><b>Cost Assessment:</b></p> <p>The current construction contract cost forecast is \$1,281.67 million and is within the Board authorized budget.</p> <p>The Contractor submitted their 19th payment application in the approved amount of \$ 23,042,982.95.</p> <p>*Please note that not all executed modifications may have been included in the Contractor current payment application.</p>																																			
<p><b>Schedule Summary:</b></p> <table border="1"> <tr> <td>1. Date of Award:</td> <td>08/01/13</td> </tr> <tr> <td>2. Notice to Proceed:</td> <td>09/10/13</td> </tr> <tr> <td>3. Original Substantial Completion Duration:</td> <td>1824</td> </tr> <tr> <td>4. Current Substantial Completion Duration:</td> <td>1824</td> </tr> <tr> <td>5. Elapsed Time from NTP:</td> <td>563</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:	563	<p><b>Cost Summary:</b> <span style="float: right;"><b>\$ In millions</b></span></p> <table border="1"> <tr> <td>1. Award Value:</td> <td>1,272.63</td> </tr> <tr> <td>2. Executed Modifications:</td> <td>9.04</td> </tr> <tr> <td>3. Approved Change Orders:</td> <td></td> </tr> <tr> <td>4. Current Contract Value (1 + 2 + 3):</td> <td>1,281.67</td> </tr> <tr> <td>5. Incurred Cost:</td> <td>367.30</td> </tr> </table>	1. Award Value:	1,272.63	2. Executed Modifications:	9.04	3. Approved Change Orders:		4. Current Contract Value (1 + 2 + 3):	1,281.67	5. Incurred Cost:	367.30															
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3. Approved Change Orders:																																				
4. Current Contract Value (1 + 2 + 3):	1,281.67																																			
5. Incurred Cost:	367.30																																			
<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>10/13/18</td> <td>01/30/19</td> <td>-109</td> </tr> <tr> <td>Milestone 2 - UFS Completion</td> <td>03/09/18</td> <td>04/13/18</td> <td>07/24/18</td> <td>-102</td> </tr> <tr> <td>Milestone 3 - Commence SIT Phase I</td> <td>06/09/18</td> <td>07/14/18</td> <td>11/02/18</td> <td>-111</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>03/07/17</td> <td>90</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	10/13/18	01/30/19	-109	Milestone 2 - UFS Completion	03/09/18	04/13/18	07/24/18	-102	Milestone 3 - Commence SIT Phase I	06/09/18	07/14/18	11/02/18	-111	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	03/07/17	90	Milestone 6 - Const./Turnover Parcels SW-0001	08/01/17	08/01/17	06/28/17	34	<p><b>PERCENT COMPLETE</b> from 9/10/13 to 03/27/15</p>  <p>Construction physical percent complete excludes mobilization and general requirements</p>
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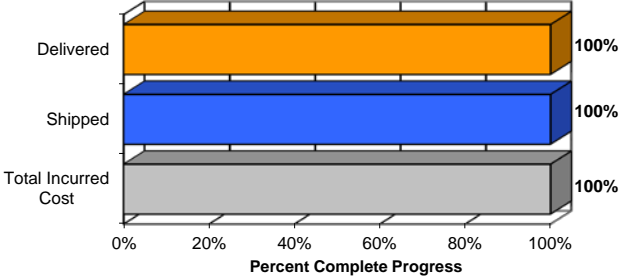
**CONTRACT C0990 STATUS**  
**Crenshaw/LAX Advanced Utility Relocations**

<p><b>PE Design Contractor:</b> Hatch Mott MacDonald (HMM)  <b>CM Consultant:</b> Stantec  <b>Contractor:</b> - Metro Builders and Engineers Group LTD</p>	<p><b>Contract No.:</b> C0990  <b>Status as of March 27, 2015</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 is \$9.29 million and within the Board authorized budget.           The unpaid amount is the scope deletion from the base contract and remaining balance of provisional sums .</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															
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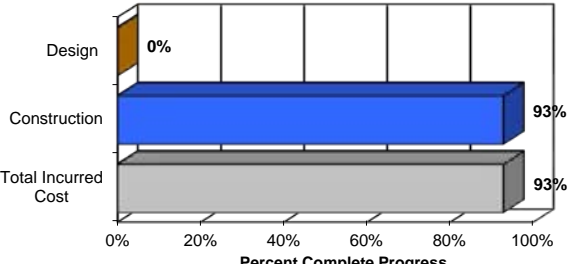
**CONTRACT C0991 STATUS**  
*Southwestern Yard*

<p><b>PE Design Contractor: Hatch Mott MacDonald (HMM)</b> <b>CM Consultant: Stantec</b> <b>Contractor: - TBD</b></p>	<p><b>Contract No.: C0991</b> <b>Status as of March 27, 2015</b></p> 																																								
<p><b>Progress/Work Completed:</b> - Metro advertised the Southwestern Yard (Division 16) design build contract on August 29, 2014. - There were five Amendments issued:   #1 September 19, 2014   #2 October 24, 2014   #3 November 25, 2014   #4 December 18, 2014   #5 January 12, 2015 - Step One Technical Bid and Step Two Price Bid submitted on January 22, 2015. - Metro continues bid evaluation period.</p>	<p><b>Areas of Concern:</b> - None.</p>																																								
<p><b>Schedule Assessment:</b> - Plan is to issue notice to proceed on June 29, 2015.</p>	<p><b>Cost Assessment:</b></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>																																								
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**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></p> <p><b>Status as of March 27, 2015</b></p> 																																								
<p><b>Progress/Work Completed:</b></p> <ul style="list-style-type: none"> <li>- All 19,936 concrete ties have been received onsite by the design-builder (Contract C0988).</li> <li>- Contract is in close-out pending resolution of any Buy America issues.</li> </ul>	<p><b>Areas of Concern:</b></p> <ul style="list-style-type: none"> <li>- Compliance with Buy America requirement under review by FTA.</li> </ul>																																								
<p><b>Schedule Assessment:</b></p> <p>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.</p> <p>All concrete ties have been delivered to job site by August 15, 2014.</p>	<p><b>Cost Assessment:</b></p> <p>The current construction contract cost is \$2.25 million and has been completely paid to contractor.</p>																																								
<p><b>Schedule Summary:</b></p> <table border="0"> <tr> <td>1. Date of Award:</td> <td align="right">12/10/13</td> </tr> <tr> <td>2. Notice to Proceed:</td> <td align="right">12/23/13</td> </tr> <tr> <td>3. Original Substantial Completion Duration:</td> <td align="right">220</td> </tr> <tr> <td>4. Current Substantial Completion Duration:</td> <td align="right">235</td> </tr> <tr> <td>5. Elapsed Time from NTP:</td> <td align="right">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> <span style="float: right;"><b>\$ In millions</b></span></p> <table border="0"> <tr> <td>1. Award Value:</td> <td align="right">2.16</td> </tr> <tr> <td>2. Executed Modifications:</td> <td align="right">0.09</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">2.25</td> </tr> <tr> <td>5. Incurred Cost:</td> <td align="right">2.25</td> </tr> </table>	1. Award Value:	2.16	2. Executed Modifications:	0.09	3. Approved Change Orders:		4. Current Contract Value (1 + 2 + 3):	2.25	5. Incurred Cost:	2.25																				
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**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 March 27, 2015</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 contract 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 March 2015.</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">385</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:	385	<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																				
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## CONSTRUCTION PHOTOGRAPHS



Green Line Bridge Bent 1A CIDH Safety Can Drilling.



Green Line Underpass Drilling for Isolation Casing at Bent 2A.

## CONSTRUCTION PHOTOGRAPHS (Continued)



UG#1 Preliminary Excavation in Zone 3.

### CONSTRUCTION PHOTOGRAPHS (Continued)



Century Aviation Aerial Structure Abutment 1 Excavation for Qwest Line Relocation.



MLK Decking Operations.

## CONSTRUCTION PHOTOGRAPHS (Continued)



Vernon Piling Operation.



Soil Removal at Hobas Pipe at Exposition Station.

## CONSTRUCTION PHOTOGRAPHS (Continued)



DWP Relocation of 24" Waterline at Vernon.

### CONSTRUCTION PHOTOGRAPHS (Continued)



Soil Removal at Beam 32-33 at Exposition Station.



Temporary Support of Storm Drain at Exposition Station.

### CONSTRUCTION PHOTOGRAPHS (Continued)



Soil Grading at -21 Feet Level Prior to Installation of Bracing.



Excavation for Decking at MLK.

**CONSTRUCTION PHOTOGRAPHS (Continued)**



Stock Pile of the Recycled Concrete from the old Century Bridge demolished in July, 2014.

**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
AFC	Approved for Construction
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
BLS	Bureau of Labor Statistics
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
CIDH	Cast in Drilled Hole
CIP	Cast in Place
CLC	Community Leadership Council
CM	Construction Manager
CMAQ	Congestion Mitigation and Air Quality Improvement Program
CMU	Concrete Masonry Unit
CN	Change Notice
CO	Change Order
COI	City of Inglewood
COLA	City of Los Angeles
CPM	Critical Path Method
CPUC	California Public Utilities Commission
CR	Camera Ready
CRMMP	Cultural Resources Monitoring and Mitigation Plan
CSM	Cutter Soil Mixing
CSP	Cost and Schedule Proposal
CSPP	Construction Safety Phasing Plan

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

CTB	Cement Treated Base
CTC	California Transportation Commission
CUD	Contract Unit Description
CWP	Construction Work Plan
DB	Design Build
DBB	Design Bid Build
DBE	Disadvantaged Business Enterprise
DDR	Design Deviation Report
DOT	Department of Transportation
DRB	Dispute Review Board
DWP	Department of Water and Power
E&O	Error and Omission
EEO	Equal Employment Opportunity
EIR	Environmental Impact Report
EIS	Environmental Impact Statement
ENC	Equipment Noise Certification
EPA	Environmental Protection Agency
EPBM	Earth Pressure Balance Machine
ESA	Environmental Site Assessment
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
FIS	Financial Information System
FLSR	Fire Life Safety Report
FONSI	Finding of No Significant Impact
FRA	Federal Railroad Administration
FSEIR	Final Supplemental Environmental Impact Report
FSEIS	Final Supplemental Environmental Impact Statement
FTA	Federal Transit Administration
FTE	Full Time Equivalent
GBR	Geotechnical Baseline Report
GDR	Geotechnical Data Report
GDSR	Geotechnical Design Summary Report
GFE	Good Faith Effort
HDPE	High Density Polyethylene
HMM	Hatch Mott MacDonald
HNTB	Howard, Needles, Tammen and Bergendoff

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

IFB	Invitation for Bid
IFC	Issued for Construction
IPMO	Integrated Project Management Office
ITF	Intermodal Transportation Facility
JHA	Job Hazard Analysis
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
LACO	Los Angeles County
LACFCD	Los Angeles County Flood Control District
LACMTA	Los Angeles County Metropolitan Transportation Authority
LACSD	Los Angeles Sanitation Department
LADOT	Los Angeles Department of Transportation
LADPW	Los Angeles Department of Public Works
LADWP	Los Angeles Department of Water and Power
LAFD	Los Angeles Fire Department
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
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
MGL	Metro Green Line
MIC	Microbiologically Influenced Corrosion Control System
MIS	Major Investment Study
MMRP	Mitigation Monitoring Reporting Plan
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

**APPENDIX  
LIST OF ACRONYMS (Continued)**

N/A	Not Applicable
NAVAIDS	National Aid Systems
NEPA	National Environmental Protection Act
NFPA	National Fire Protection Association
NNC	Notice of Noncompliance
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
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
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
RFI	Request for Information
RFMP	Rail Fleet Management Plan

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

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
ROE	Right of Entry
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
SCADA	Supervisory Control and Data Acquisition
SCAQMD	Southern California Air Quality Management District
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
SOE	Support of Excavation
SOP	Standard Operating Procedure
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
STV	STV Group
SWPP	Storm Water Prevention Plan
SWY	Southwestern Yard (Division 16)
TBD	To Be Determined
TBM	Tunnel Boring Machine
TCC	Train Control/Communications
TCE	Temporary Construction Easement

## **APPENDIX**

### **LIST OF ACRONYMS (Continued)**

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
TSC	Traffic Signal Conduit
TSL	Temporary Street Lighting
TSM	Transportation System Management
TVA	Threat Vulnerability Analysis
TVM	Ticket Vending Machine
UBC	Uniform Building Code
UFS	Universal Fare System
UG	Underground
UOM	Unit of Measure
USDOT	United States Department Of Transportation
UST	Underground Storage Tank
VE	Value Engineering
WBS	Work Breakdown Structure
WP	Work Package
WSCC	Walsh/Shea Corridor Constructor
WTCP	Work Traffic Control Plan
YOE	Year of Expenditure