

# Crenshaw/LAX Transit Project



Metro<sup>®</sup>

# **CRENSHAW/LAX TRANSIT PROJECT**

## **MONTHLY PROJECT STATUS REPORT**

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

**FEBRUARY 2017**


## TABLE OF CONTENTS

	Page No.
Project Summary.....	1
Project Overview & Status.....	2-4
Management Issues.....	5
Project Alignment.....	6
Project Scope.....	7-8
Project Status	
• Project Schedule	
○ Key Milestones Six-Month Look Ahead.....	9
○ Project Summary Schedule.....	10
○ Schedule Measurements.....	11
○ Overall Construction Progress Curve.....	12
○ Major Equipment Delivery .....	13
○ Design-Builder’s (C0988) Long Lead Item List.....	14-15
○ Critical Path Narrative.....	16
○ Project Schedule Contingency Drawdown.....	17
○ Project Schedule Contingency Drawdown Analysis.....	17
• Project Cost	
○ Project Cost .....	18
○ Project Cost Analysis.....	18-20
○ Project Cost Contingency Drawdown.....	21
○ Project Cost Contingency Drawdown Analysis.....	21-22
○ Disadvantaged Business Enterprise (DBE).....	23-24
○ Project Labor Agreements (PLA) Status.....	23-24
○ Summary of Contract Modifications.....	25-27
• Financial/Grant	
○ Financial/Grant .....	28
○ Status of Funds Anticipated.....	29
• Staffing	
○ Total Project Staffing.....	30
○ Metro Staffing.....	31
○ Construction Management Support Services Consultant.....	31
○ Engineering Services Consultant.....	32

**TABLE OF CONTENTS (Continued)**

	Page No.
• Real Estate.....	33
• Quality Assurance.....	34
• Environmental.....	35
• Construction Relations.....	36
• Systemwide Design and Art Program.....	36
• Safety and Security.....	37
• Third Party Agreement .....	38
• CPUC Crossing Summary Status.....	38
• Traffic Closure Key Map.....	39
• Chronology of Events.....	40-43
• Construction Contracts	
o Contract C0988 .....	44
o Contract C0990. ....	45
o Contract C0991 .....	46
o Contract C0992.....	47
o Contract C0992A.....	48
• Construction Photographs.....	49-55
Appendices	
• Project Cost Status – Southwestern Yard.....	56-57
• Cost and Budget Terminology.....	58

**PROJECT SUMMARY**

<b>LOCATION:</b> Crenshaw Blvd at Exposition to Green Line <b>DESIGN/CONSULTANT:</b> Mott MacDonald				<b>CONSTRUCTION MANAGEMENT CONSULTANT:</b> Stantec <b>CONTRACTORS:</b> Walsh-Shea Corridor Constructors (Alignment) and Hensel Phelps / Herzog (Southwestern Yard)			
<b>PROJECT PHOTO:</b> Completed wall sections of tunnel near LAX airport runways.				<b>WORK COMPLETED PAST MONTH:</b>			
				<ul style="list-style-type: none"> <li>o North bound tunnel TBM holed thru at MLK Jr. Station and then after setup commenced mining to Leimert Park Station.</li> <li>o Continued concrete placement for south bound tunnel invert and walkway.</li> <li>o Commenced concourse slab preparation at Expo Station.</li> <li>o Continued concrete placement for walls at MLK Jr. Station.</li> <li>o Continued concrete placement for walls at Leimert Park Station.</li> <li>o Continued street work at Park Mesa area.</li> <li>o Continued concrete placement at underground structure #3.</li> <li>o Continued invert concrete placement at underground structure #4.</li> <li>o Continued forming of I-405 bridge structure.</li> <li>o Continued accommodations for future 96th Street Station.</li> <li>o Continued concrete placement for Greenline bridge tie-in structure.</li> <li>o Continued main shop pits and foundation construction.</li> </ul>			
<b>EXPENDITURE STATUS</b> (\$ In Millions)				<b>SCHEDULE ASSESSMENT</b>			
ACTIVITIES	4/9/2018 BUDGET	EXPENDED AMOUNT	PERCENT EXPENDED	MAJOR SCHEDULE ACTIVITIES	PRIOR PLAN	CURRENT PLAN	VARIANCE WEEKS
<b>DESIGN</b>	\$ 136.7	\$ 126.5	92.6%	<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	\$ 121.7	95.5%	<b>Design</b>			
				Preliminary Engineering	Nov-11	Nov-11	Complete
<b>CONSTRUCTION</b>	\$ 1,353.1	\$ 749.4	55.4%	Final Design	Sep-15	Sep-17	23.6 months behind
<b>OTHER</b>	\$ 440.8	\$ 183.6	41.6%	<b>Right-of-Way</b>			
<b>TOTAL</b>	\$ 2,058.0	\$ 1,181.1	57.4%	Full-take parcels available	Jan-15	Jan-15	Complete (base scope)
Note: Cost expended as of Mar. 03, 2017.				Part-take and TCE parcels	Sep-15	Apr-16	Complete (base scope)
<b>AREAS OF CONCERN</b>				<b>Construction</b>			
<ul style="list-style-type: none"> <li>o Design-builder's ability to mitigate schedule delays.</li> <li>o Timely submission of remaining WSCC's design submittals and review by City of Los Angeles.</li> <li>o Ability of north bound TBM to meet production rate forecasted in design-builder's Completion Schedule.</li> <li>o Substantial rain in January and February 2017 impacted construction progress.</li> </ul>				D-B Notice to Proceed	Sep-13	Sep-13	Complete
				D-B Substantial Complete	May-19	Jun-19	1.3 months behind
				Revenue Service Date	Oct-19	Dec-19	1.3 months behind
				Notes on Schedule: <ul style="list-style-type: none"> <li>o Agreement approved for cost and schedule impacts revised the D-B Contractor's Substantial Completion Milestone to May 1, 2019.</li> <li>o Revenue Service Date includes no schedule contingency.</li> </ul>			
<b>ROW ACQUISITION</b>	PLAN	ACQUIRED	REMAINING	<b>CRITICAL ACTIVITIES / 3 MONTH LOOK AHEAD</b>			
FULL TAKES	37	36	1	o North bound TBM hole thru at Leimert Park Station.			
PARTIAL TAKES	27	26	1				
TEMPORARY EASEMENTS	15	14	1				
<b>TOTAL PARCELS</b>	79	76	3				

## **PROJECT OVERVIEW**

### **Contract Closeout**

**Contract C0990** - The advanced utility relocations contract with Metro Builders and Engineers Group, LTD was substantially completed on August 21, 2014. The Metro Board authorized a final settlement in March 2016 on all remaining issues. A final payment was issued to the contractor in April 2016. The contract is closed out.

**Contract C0992** – The concrete ties contract with Rocla Concrete Tie Inc., was substantially completed on August 15, 2014. The contractor was paid in full and the contract was closed out.

**Contract C0992A** – The running rail and bumping posts contract with LB Foster Rail Technology Corp was substantially completed on May 8, 2015. The contractor was paid in full and the contract was closed out.

**Design- Build Contract C0988 (Alignment)** – The design-builder, Walsh-Shea Corridor Constructors (WSCC) continues remaining base final design and change work. Construction efforts by the design-builder continued along all major areas. *The contractor progress was impacted in January and February due to heavy rains. Along the critical path, construction of 96<sup>th</sup> Street area infrastructure, work was impacted. Contractor was able to work in other areas of the project including mining the north bound tunnel, underground stations, aerial, and at-grade stations*

**Design- Build Contract C0991 Southwestern Yard (Division 16)** – The design-builder, Hensel Phelps / Herzog JV substantially completed final design and submission of submittals required for construction on October 26, 2016 and continue reconciliation of remaining design for future expansion of main shop design, Arbor Vitae street widening and lighting design. *The contractor continues critical path work such as structural excavation and concrete placement of main shop building service and inspection pits, deep foundations and blow down pits including electrical conduits. Contractor also continued with work on underground storm drain and sewer lines.*

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

Metro added in January 2016, two full takes and five part-takes/TCE's required for the construction of the Project. There are now a total of 79 parcels (eight have been decertified). There are 37 full takes, 27 partial takes and 15 temporary construction easements (TCE's). *There have been 76 parcels acquired through February 2017. Thirty-six full takes, 26 part-takes and 14 TCE's have been provided to the design-builder WSCC.*

### **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 course of action is to expand the existing functional operations at the ROC to support the new five new

## **PROJECT OVERVIEW (Continued)**

rail lines and extensions including Foothill Ext., Expo II, Crenshaw/LAX, Regional Connector and Purple Extension Projects. The existing ROC service control and closed circuit television monitoring areas are being expanded and reconfigured for each new rail line extension. The supporting facilities and electrical\communication systems are also expanded and upgraded accordingly to suit the needs of the growing Metro operations. The ROC Reconfiguration Plan will be updated to suit the central control needs of each upcoming new rail line extension. Metro will prepare a design update for the Crenshaw/LAX Project. All work for the ROC is planned to be completed concurrently with the C0988 design-builder scope work to ensure continuity of the systems effort.

### **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 2013.

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 Board approved on May 28, 2015 an increase in the amount of funding that the Crenshaw/LAX Project is contributing toward the total cost of the Southwestern Yard Project. An additional \$10.8 million is required to be funded by drawdown from the Unallocated Contingency Current Budget SCC 90 and added to the Southwestern Yard Current Budget SCC 30. 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 revised to \$150.2 million out of a new total of \$307.2 million adopted by the Board.

The amount of funding available for the Crenshaw/LAX Transit Corridor Project, excluding the Southwestern Yard \$150.2 million allocation and Environmental/Planning budget of \$26.0 million is \$1,881.8 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 and state funding 91.3%, (includes Measure R TIFIA Loan), and federal funding is 8.7%.

## **PROJECT OVERVIEW (Continued)**

*The project commitments thru February 2017 are \$1,897.7 million or 92.2% of the Current Budget. The project expenditures thru February 2017 are \$1,181.1 million or 57.4% of the Current Budget.*

The current period expenditures are for Contract C0988 design-builders monthly construction costs and professional services costs such as construction management and administrative staffing. The expenditures to date also include the Southwestern Yard expenditures that are part of the 49% cost allocation share that the Project is responsible for paying for. The 51% cost allocation is reported within another Metro internal project number. The total costs for the Southwestern Yard project is included in the Appendix.

In December 2016, the C0988 design-builder submitted a "Completion Schedule" which was subsequently reviewed and approved by Metro on December 16, 2016. This schedule represents a re-baseline of WSCC's Contract Schedule which reflects their means and methods for completing construction and testing during the next three years with a commitment to complete on time to support Metro's planned revenue operations in the fall of 2019. The approved Completion Schedule resets WSCC's Contract Milestone #1 Substantial Completion to May 1, 2019.

*This month the project schedule reflects an additional 14-calendar day delay to the design-builder's substantial completion milestone date of May 1, 2019. Since there is no schedule contingency this impacts the projected forecast date of October 2019 for commencing revenue operations by 41-calendar days. The design-builder and metro are in the process of developing and then implementing mitigation measures to eliminate the projected delay by May 2017.*

## **MANAGEMENT ISSUES**

**Concern No. 1:** Timely future reviews of WSCC final design submittals by City of Los Angeles.

**Status/Action** There are a few remaining final design submittals that are required to be submitted by the Contractor for City of Los Angeles review. Metro will continue to take action and strictly monitor the review comments from the agencies and work with the contractor to ensure submittals are coordinated, quality checked and submitted within necessary timeline for reviews.

**Concern No. 2:** Design-builders construction schedule

**Status/Action** WSCC submitted a "Completion Schedule" which was subsequently reviewed and approved by Metro on December 16, 2016. This schedule represents a re-baselining of WSCC's Contract schedule which reflects their means and methods for completing construction and testing during the next three years with a commitment to complete on time to support Metro's planned revenue operations in the fall of 2019. The approved Completion Schedule resets WSCC's Contract Milestone #1 Substantial Completion to May 1, 2019. *This month the design-builder's schedule reflects a 41 calendar day delay to the May 1, 2019 substantial completion milestone. The design-builder and Metro are in the process of developing and then implementing mitigation measures to eliminate the projected delay by May 2017.*

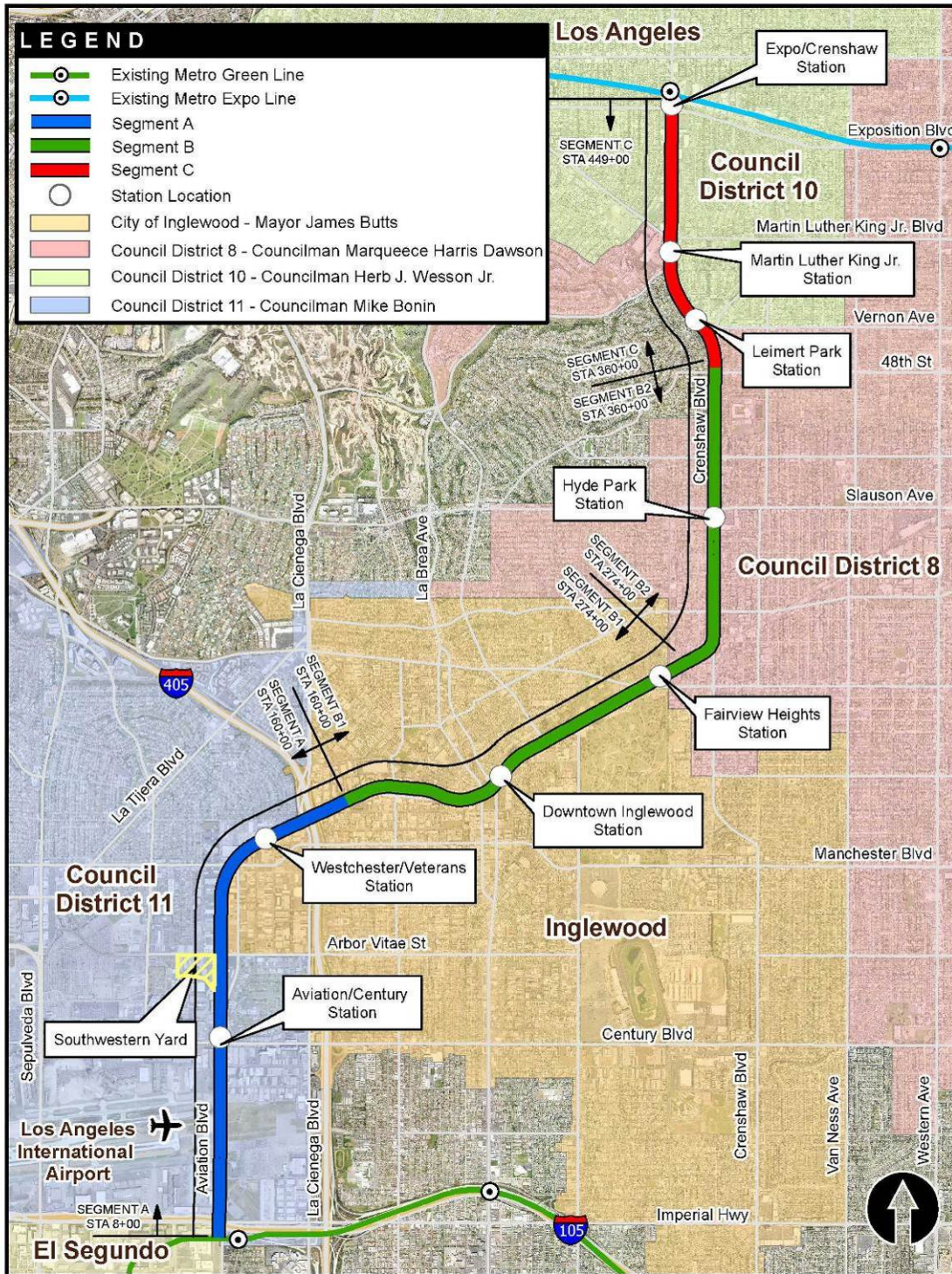
**Concern No. 3:** Design-builder's ability to meet their planned tunneling productivity rate.

**Status/Action** The contractor commenced mining the north bound tunnel on November 29, 2016. *Through February 2017, WSCC has achieved an average of 63 feet per work day (three shifts). Metro anticipates that WSCC will achieve the hole through at the Leimert Park Station on or before April 10, 2017.*

**Concern No. 4:** *Substantial rain in February 2017 impacted construction progress.*

**Status/Action** Substantial heavy rain impacted the construction progress for the remaining at-grade excavation along the alignment. Metro and WSCC are exploring mitigation measures that can be implemented to mitigate the impact to the critical path activities.

**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 was 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.

### **Start Up**

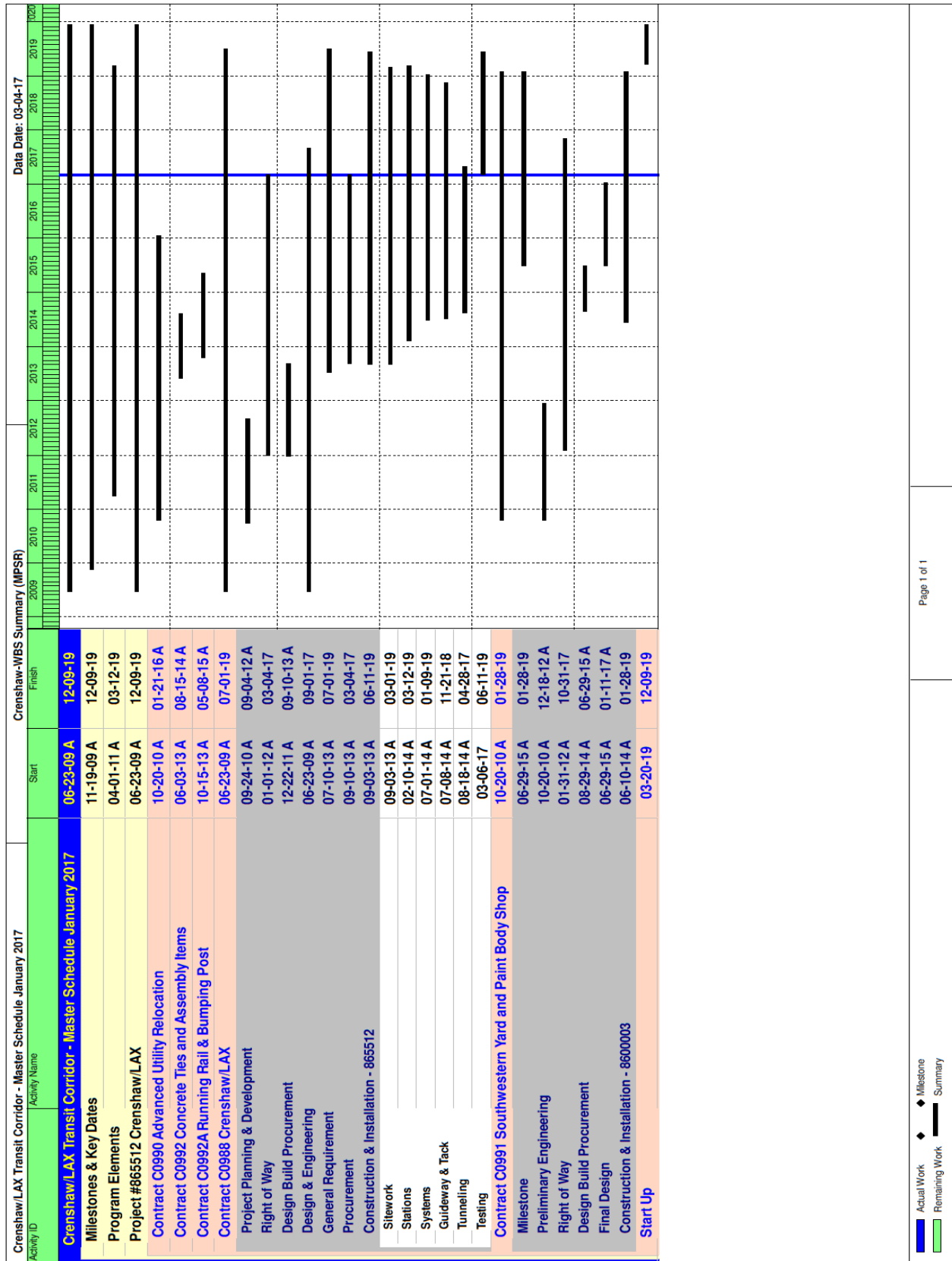
The commencement of pre-revenue operations will be determined by Metro Operations. The design-builder will have completed Phase I systems integration testing (SIT) and Metro will have subsequently completed and passed Phase II SIT. Metro may conduct some Phase II SIT efforts concurrently with the start of pre-revenue operations at the discretion of Metro Operations. All testing will be required to include and pass a "stress test" of maximum operational service levels to be acceptable. Pre-revenue operations includes: 1) train runs, especially those involving multiple trains, on the integrated and fully operational extension; 2) rehearsal of expected revenue operations scenarios; 3) as well as abnormal and emergency scenarios in which random combinations of system interactions are tested; 4) equipment "burned-in"; and 5) training of metro personnel who will eventually operate and maintain the extension and for emergency services personnel. Activities occurring during pre-revenue operations are carried out by a designated Metro Project Rail Activation Group.

**KEY MILESTONES SIX- MONTH LOOK AHEAD**

		Milestone Date	Feb-17	Mar-17	Apr-17	May-17	Jun-17	Jul-17
988-CT-4759	TBM Breakthru @ MLK Station - NB	02-14-17 A						
988-CT-11115	OCS Foundations - I-405 to La Brea	02-20-17 A						
988-CT-1500	F/R/P OCS Foundations - UG #1	06-Mar-17						
988-CT-41579	Turnover to Track - STA 225+00 to 274+25 At Grade (Centinela to Brynhurst)	06-Mar-17						
988-CT-99058	Demo Sidewalk/Curb & Gutter and Excavate Grade (21 Day Closure) (Block 7B)	06-Mar-17						
988-CT-13495	Ballast Wall - Rebar Walls - I-405 to La Brea	07-Mar-17						
988-CT-84935	F/R/P OCS Foundation - Bridge - Aviation / Century Bridge	14-Mar-17						
988-CT-84975	Bridge Emergency Walkway - Aviation / Century Bridge	17-Mar-17						
988-CT-79176	EL - OCS Foundation - Aerial Structure #1	17-Mar-17						
988-CT-94888	Turnover to Track - RW 11 (RW218)	20-Mar-17						
988-SCE-T1050	TPSS-01 Permanent Power Drop - SCE - Procurement of Cable and Equipment	23-Mar-17						
988-MOD-3180	Deluge System at Expo Crossover	31-Mar-17						
988-MOD-2780	TPSS No.2 Upgrade from 1.5 MW to 2.0 MW	31-Mar-17						
988-CT-1172020	F/R/P Invert Slab - Section 9 - STA 312+32 to 312+80 - UG # 3	04-Apr-17						
988-CT-1169663	Excavate Stair & Ramp Footings - SB Platform - Westchester/Veterans Station	12-Apr-17						
991-PR-01380	Fab/Deliver Structural Steel	13-Apr-17			△			
988-CT-92538	TBM Mining Complete - NB Tunnel	28-Apr-17						
988-CT-1171737	Frame 3: Pour Deck - I-405 Bridge	10-May-17						
988-CT-86095	Post-Tension - I-405 Bridge	02-Jun-17						
991-CON-LAWA	Start Construction of LAWA-APM	07-Jun-17					△	
988-CT-19115	Construct Tunnel Drainage & Utilities - U Section #4	12-Jun-17						
988-CT-1168723	Station Ready for Art Work Installation - Downtown Inglewood Station (Porcelain Enamel Steel)	14-Jun-17						
988-CT-5870	Exc/Lag/Brace Phase 2 Entrance Structure to Concourse Level - Leimert Park Station	15-Jun-17						
988-CT-50800	Construct TC&C #3 Walls (Services Building Room) - Aviation / Century	16-Jun-17						
988-CT-23700	Turnover to Track - 111th St Bridge	11-Jul-17						
988-CT-36200	Turnover to Track (Manchester Bridge - STA 118+70 to 121+31) - Manchester Bridge	25-Jul-17						
988-CT-36200	Turnover to Track (Manchester Bridge - STA 118+70 to 121+31) - Manchester Bridge	25-Jul-17						
988-CT-54100	Demo IPMO - SW-0001 - SW Yard	28-Jul-17						

 MTA Staff 
  MTA Board Action 
  Walsh Shea Corridor Constructors 
  Hensel Phelps 
 \*A\* following date is actual and completed

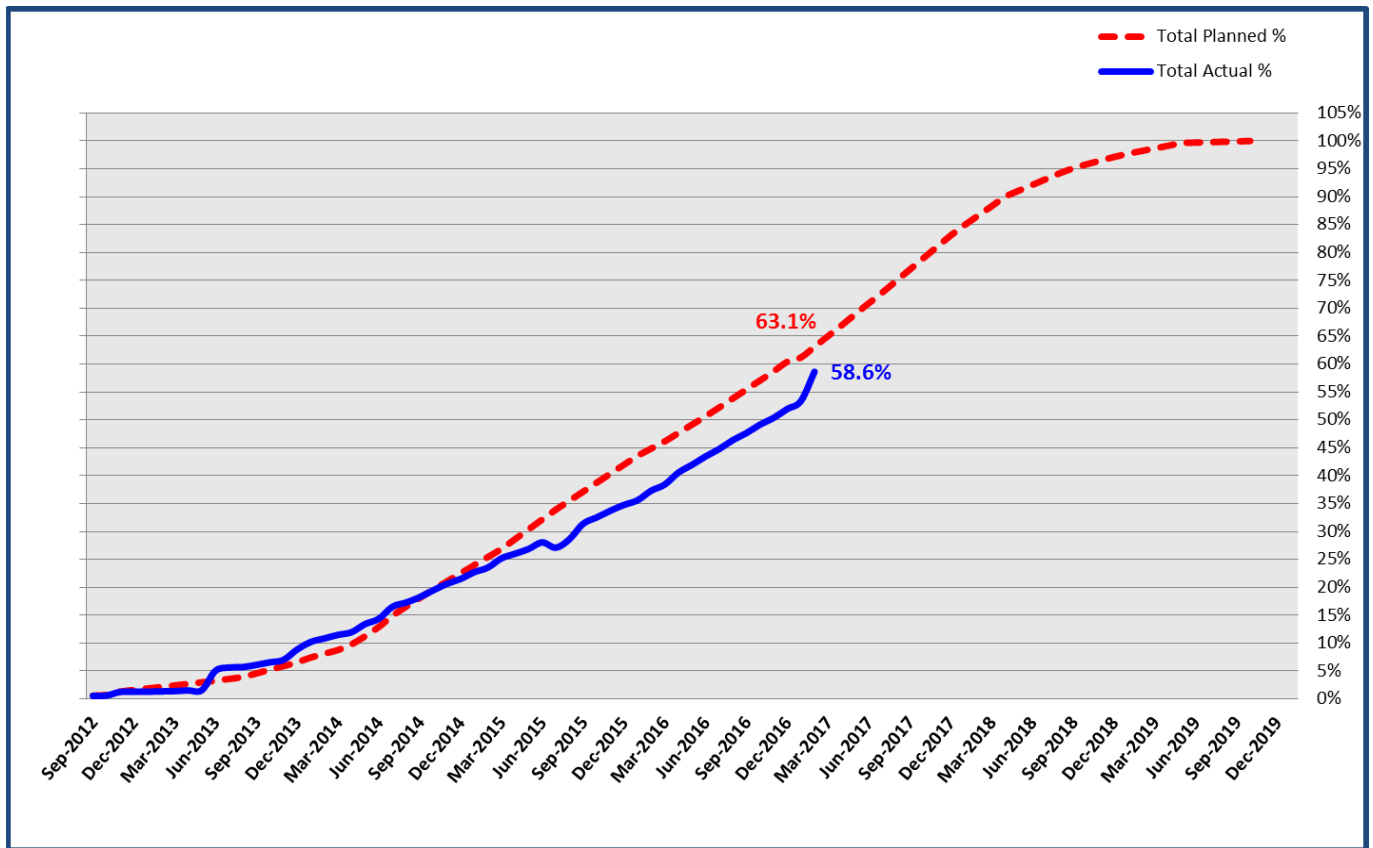
## PROJECT SUMMARY SCHEDULE



**SCHEDULE MEASUREMENTS**

	Status	Change from Last Period	Comment
Current Revenue Service:	10/30/2019	0	
Forecast Revenue Service:	12/09/2019	-14	Delay due to heavy rain. Mitigation measures being developed.
TIFIA Revenue Service:	10/30/2019	0	
<b>Final Design Progress:</b>			
Contract C0988	98.0%	0.0%	Behind Schedule
Contract C0990	100%	None	Design Completed
Contract C0991	77.5%	0.9%	On Schedule
Contract C0992	100%	None	Design Completed
Contract C0992A	100%	None	Design Completed
<b>Construction Contracts Progress:</b>			
Contract C0988	53.4%	1.7%	Revised Milestones - Behind Schedule
Contract C0990	100%	None	Substantially Completed
Contract C0991	5.5%	0.6%	On Schedule
Contract C0992	100%	None	Substantially Completed
Contract C0992A	100%	None	Substantially Completed

## OVERALL CONSTRUCTION PROGRESS CURVE STATUS



The actual overall construction progress is 58.6% (includes approximately \$30 million lump sum payment to settle claims) versus a planned progress of 63.1% through February 2017 (based on rebaseline schedule which is also part of claim settlement). The progress curves represent a composite percentage for the physical progress of work performed to complete the project’s construction contracts, including, but not limited to the alignment design-build (C0988), advance utility relocation (C0990), Southwestern Yard design-build (C0991), and two equipment procurement contracts-concrete ties (C0992) and running rail (C0992A).

The physical progress percentage excludes non-construction items such as construction mobilization costs and all general requirement costs not tied specifically to a construction work effort.

The progress curve includes forecast for the alignment design-builder and also includes the Southwestern Yard Project’s design-builder progress effort.

**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:

	Baseline	Jan-17	Feb-17	Monthly Variance
Submit Final Design Details for TBM	01/03/14	04/01/15A	04/01/15A	
Fabricate & Deliver TBM	09/22/14	11/21/14A	11/21/14A	
Procure & Deliver TBM Rolling Stock & Accessories	06/23/14	03/02/15A	03/02/15A	
TBM SB Tunnel Launch at Expo	04/28/15	04/27/16A	04/27/16A	
TBM SB Break through at Leimert Park	09/17/15	10/17/16	10/20/16A	
TBM NB Tunnel Launch at Expo	10/29/15	12/06/16	11/29/16A	
TBM NB Break through at Leimert Park	03/21/16	04/05/17	03/31/17	-5

**Light Rail Vehicles**

The Board approved exercising Option 1 of Contract P3010 with Kinki Sharyo International to provide light rail vehicles (LRV) for the Crenshaw/LAX project. 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.

Mobilization of Option 1 will commence after completion of the initial order. The delivery date of the first option 1 cars is under review.

**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. Initiated change notice to the existing TVM contractor in December with a planned notice to proceed by August 2017.

**Concrete Ties and Assembly Items**

All 19,936 concrete ties have been delivered to the job.

**Running Rail & Bumping Post**

All required running rail & bumping post have been delivered to the job site.

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

Activity ID	Activity Name	Start	Finish
988-PR-3034	Fabricate & Deliver HCR / Sheet Waterproofing (X Passage) - UG #4	12-28-15 A	04-07-17
988-PR-30731	P/S R/A Shop Dwgs Restraining Rail 132 lbs & Fasteners for Green Line	11-16-16 A	03-08-17
988-PRC-T0030	TPSS: Procure/Deliver BLS Equipment & Devices	10-28-16 A	05-22-17
988-PRC-T0010	TPSS: Procure/Deliver DC Feeder Cable	09-28-16 A	05-18-17
988-PRC-A0010	Procure/Deliver ATC Wire & Cable - Wayside	09-23-16 A	05-25-17
988-PR-4300	Fabricate & Delivery of Special Trackwork	09-22-15 A	03-21-17
988-PR-7065	P/S R/A Shop Dwgs and Procure Precast Panels for Street Crossings	07-02-15 A	05-14-17
988-PRC-X3110	ATC: Procure & Deliver Crossing Equipment @ A03 "Arbor" (93+00)	05-27-16 A	03-17-17
988-PRC-X5550	ATC: Procure & Deliver Crossing Equipment @ A04 "Downtown Inglewood"	05-27-16 A	03-31-17
988-PRC-X5210	ATC: Procure & Deliver Crossing Equipment @ A05 "High" (256+00)	05-27-16 A	03-31-17
988-PRC-X5510	ATC: Procure & Deliver Crossing Equipment @ A05 "Brynhurst" (273+20)	05-27-16 A	04-28-17
988-PRC-X5410	ATC: Procure & Deliver Crossing Equipment @ A05 "West Blvd" (268+70)	05-27-16 A	04-28-17
988-PRC-X5310	ATC: Procure & Deliver Ped Crossing Equipment @ A05 "Fairview Heights" (264+00)	05-27-16 A	04-28-17
988-PRC-X5110	ATC: Procure & Deliver Crossing Equipment @ A05 "Centinella" (225+00)	05-27-16 A	04-28-17
988-PRC-X4510	ATC: Procure & Deliver Crossing Equipment @ A04 "Ivy" (189+38)	05-27-16 A	04-28-17
988-PRC-X4410	ATC: Procure & Deliver Crossing Equipment @ A04 "Eucalyptus" (182+40)	05-27-16 A	04-28-17
988-PRC-X4310	ATC: Procure & Deliver Crossing Equipment @ A04 "Cedar" (167+10)	05-27-16 A	04-28-17
988-PRC-X4210	ATC: Procure & Deliver Crossing Equipment @ A04 "Oak" (161+00)	05-27-16 A	04-28-17
988-PRC-X4110	ATC: Procure & Deliver Crossing Equipment @ A04 "Hindry" (135+30)	05-27-16 A	04-28-17
988-PR-6915	Fab/Procure & Deliver Electrical Manholes, Vaults, Pads - TPSS	03-14-16 A	04-07-17
988-PR-7035	P/S R/A Shop Drawings, Fabricate & Deliver Street Light Poles Seg B	03-09-16 A	06-01-17
988-PRC-O0020	OCS: Manufacture / Deliver Poles	02-17-17 A	05-26-17

**Crenshaw/LAX Transit Project  
Monthly Project Status Report**

**February 2017**

988-PR-6505	Fabricate & Deliver Dry Type Transformers - TPSS	02-16-17 A	03-31-17
988-PR-6495	Fabricate & Deliver Panelboards - Underground Stations	02-16-17 A	03-31-17
988-PR-6925	Fabricate & Deliver Panelboards - TPSS	02-16-17 A	03-31-17
988-PR-6865	Fabricate & Deliver Electrical Switchboards - Aerial & At-grade Stations	02-16-17 A	05-29-17
988-PR-6705	Fabricate & Deliver Dry Type Transformers - Century	02-04-17 A	03-31-17
988-PR-6715	Fabricate & Deliver Dry Type Transformers - Vernon	02-04-17 A	03-31-17
988-PR-6725	Fabricate & Deliver Dry Type Transformers - MLK	02-04-17 A	03-31-17
988-PR-6735	Fabricate & Deliver Dry Type Transformers - Expo	02-04-17 A	03-31-17
988-PRC-A2100	ATC: Manufacture Racks @ Century TC&C #3 (43+50 to 85+90)	02-02-17 A	03-30-17
988-PR-6965	Fab/Procure & Deliver Electrical Manholes, Vaults, Pads - Tunnel	02-01-17 A	05-26-17
988-PR-6575	Fabricate & Deliver Interior Light Fixtures - Project Wide	01-27-17 A	04-07-17
988-PR-6585	Fabricate & Deliver Exterior Light Fixtures - Project Wide	01-27-17 A	04-21-17
988-PRC-A5110	ATC: Factory Acceptance Test @ Fairview Heights TC&C #8 (219+00 to 294+20)	01-26-17 A	03-08-17
988-PR-30521	Fabricate & Deliver Structural Steel Canopy for Westchester/Veterans Station	01-26-17 A	05-01-17
988-PR-7235	Fabricate & Deliver Structural Steel Canopy for Downtown Inglewood Station	01-10-17 A	04-12-17
988-PRC-O0060	OCS: Purchase/Deliver Hardware & Insulators	01-04-17 A	04-28-17
988-PR-30531	Fabricate & Deliver Structural Steel Canopy for Fairview Heights Station	03-04-17	04-12-17
988-PR-30611	Fabricate & Deliver Metal Railings - Fairview Heights Station	03-04-17	05-22-17
988-PR-30621	Fabricate & Deliver Metal Railings - Downtown Inglewood Station	03-04-17	05-22-17
988-PR-30631	Fabricate & Deliver Metal Railings - Westchester/ Veterans Station	03-04-17	05-22-17
988-PR-30661	Fabricate & Deliver Metal Railings - Embeds - MLK Station	03-04-17	05-22-17
988-PR-30671	Fabricate & Deliver Metal Railings - Embeds - Leimert Park Station	03-04-17	05-22-17

## **CRITICAL PATH NARRATIVE**

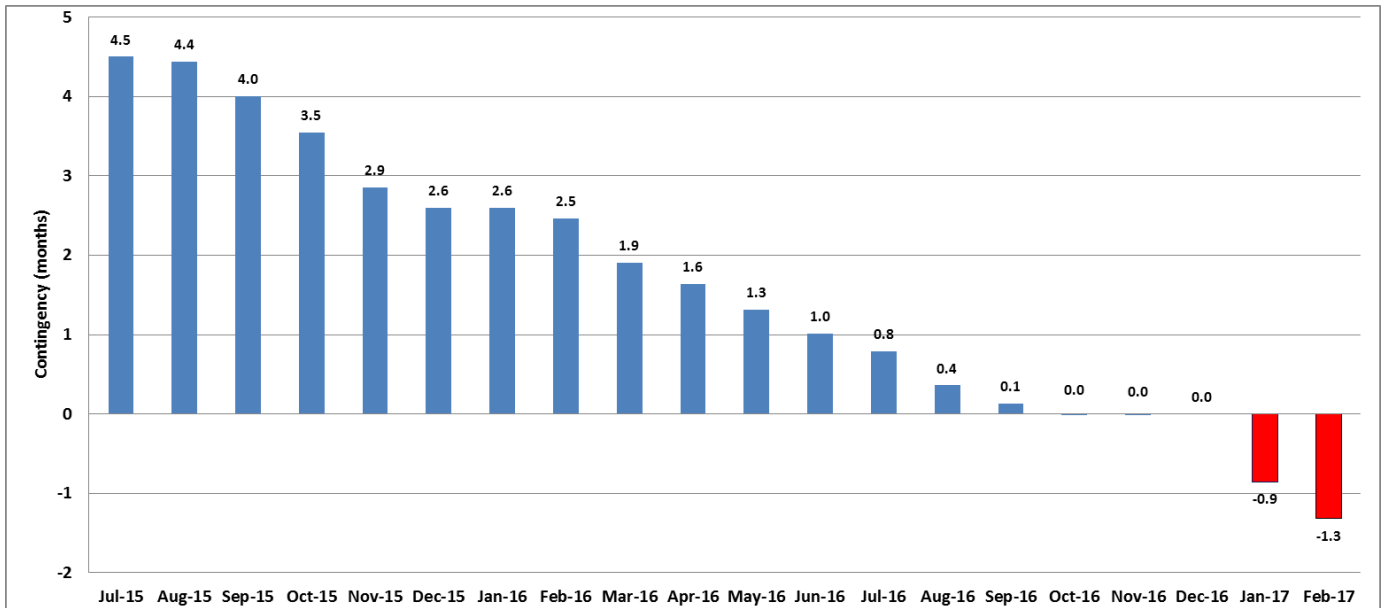
### **Critical Path:**

With the addition of construction activities for the accommodations to support a future LRT station at 96th Street in the approved Completion Schedule the project's critical path changed in December 2016. The critical path for the project as shown in the design-builder's Completion Schedule has shifted from the tunnel boring machine mining operations and tunnel concreting activities to the accommodations construction activities to support a future LRT station at 96th Street.

The revised critical path activities include the construction of 96th Street infrastructure, all ballasted walls and operator relief platform in Segment A, trackwork, systems work, and automatic train control (ATC) field acceptance testing at train control and communication (TC&C) room No. 3. The ATC field acceptance testing then continues for Segments B and C. The critical path continues with design-builder's systems integration testing, phase 1, leading to the design-builder's substantial completion milestone.

The critical path continues with Metro's systems integration testing, phase 2 and Metro's pre-revenue operations. The critical path completes with the commencement of revenue operations.

**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.

Metro received and approved a revised baseline schedule (Completion Schedule) from the C0988 design-builder in December 2016. With the extension of time for the design-builders Substantial Completion Milestone to May 1, 2019 and a Metro/design-builder commitment to achieving an October 30, 2019 revenue operations date, no planned schedule contingency exists in the revised baseline schedule.

Due to heavy rain in January/February 2017, the design-builder submitted a schedule update that forecast a 41- day delay to their substantial completion milestone date of May 1, 2019. The design-builder and Metro are in the process of developing and then implementing mitigation measures to eliminate the projected delay.

**PROJECT COST STATUS**

SCC CODE	DESCRIPTION	ORIGINAL BUDGET	CURRENT BUDGET		COMMITMENTS		EXPENDITURES		CURRENT FORECAST		CURRENT BUDGET/ FORECAST VARIANCE
			PERIOD	TO DATE	PERIOD	TO DATE	PERIOD	TO DATE	PERIOD	TO DATE	
10	GUIDEWAYS	471,335,000	-	452,500,001	-	443,119,255	11,974,735	287,985,070	-	450,354,375	(2,145,626)
20	STATIONS, STOPS, TERMINALS, INTERMODAL	153,906,000	-	316,050,000	-	304,257,429	1,295,860	141,370,445	-	315,050,000	(1,000,000)
30	SUPPORT FACILITIES (SOUTHWEST YARD)	66,673,000	-	73,245,544	-	71,053,330	1,311,039	22,795,093	-	71,164,000	(2,081,544)
40	SITWORK/SPECIAL CONDITIONS	235,576,000	-	348,565,999	158,967	376,618,338	2,452,172	277,237,022	9,805,722	395,798,361	47,232,362
50	SYSTEMS	125,132,000	-	169,311,000	-	152,772,828	4,467,052	20,008,501	(0)	169,436,000	125,000
	<b>CONSTRUCTION SUBTOTAL (10-50)</b>	<b>1,052,622,000</b>	<b>-</b>	<b>1,359,672,544</b>	<b>158,967</b>	<b>1,347,821,180</b>	<b>21,500,858</b>	<b>749,396,131</b>	<b>9,805,722</b>	<b>1,401,802,736</b>	<b>42,130,192</b>
60	RIGHT-OF-WAY	132,294,000	-	127,400,000	864	123,423,092	85,564	121,662,573	-	127,490,000	90,000
70	VEHICLES / BUSES	87,780,000	-	82,100,000	-	82,050,901	10,194,580	17,413,236	-	83,571,544	1,471,544
80	PROFESSIONAL SERVICES	273,147,000	-	300,093,178	83,771	318,862,417	3,823,746	267,117,882	9,577,350	368,734,466	68,641,288
	<b>SUBTOTAL (10-80)</b>	<b>1,545,843,000</b>	<b>-</b>	<b>1,869,265,722</b>	<b>243,602</b>	<b>1,872,157,590</b>	<b>35,604,749</b>	<b>1,155,589,821</b>	<b>19,383,071</b>	<b>1,981,598,746</b>	<b>112,333,024</b>
90	UNALLOCATED CONTINGENCY	177,157,000	-	162,734,278	-	-	-	-	(19,383,071)	50,401,254	(112,333,024)
	<b>TOTAL PROJECT 865512 (10-100)</b>	<b>1,723,000,000</b>	<b>-</b>	<b>2,032,000,000</b>	<b>243,602</b>	<b>1,872,157,590</b>	<b>35,604,749</b>	<b>1,155,589,821</b>	<b>0</b>	<b>2,032,000,000</b>	<b>(0)</b>
	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	-
	<b>TOTAL PROJECTS 405512 &amp; 465512 (ENV / PLAN'G)</b>	<b>26,000,000</b>	<b>-</b>	<b>26,000,000</b>	<b>-</b>	<b>25,549,388</b>	<b>-</b>	<b>25,549,388</b>	<b>-</b>	<b>26,000,000</b>	<b>-</b>
	<b>TOTAL PROJECTS 405512, 465512 &amp; 865512</b>	<b>1,749,000,000</b>	<b>-</b>	<b>2,058,000,000</b>	<b>243,602</b>	<b>1,897,706,978</b>	<b>35,604,749</b>	<b>1,181,139,209</b>	<b>0</b>	<b>2,058,000,000</b>	<b>(0)</b>

NOTE: EXPENDITURES ARE CUMULATIVE THROUGH MARCH 3, 2017

**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 Board during May approved an increase in the amount of funding that the Crenshaw/LAX project is contributing toward the total cost of the Southwestern Yard Project. An additional \$10.8 million is required to be funded by drawdown from the Unallocated Contingency Current Budget SCC 90 and added to the Southwestern Yard Current Budget SCC 30. 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 revised to

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

\$150.2 million out of a new total of \$307.2 million adopted by the Board. The \$150.2 million is spread among the SCC 30, 40, 60, 80 and 90 in the Cost Report by Element table above.

A project cost status chart depicting the adopted budget for Southwestern Yard Project is included this month in the appendix section of this report.

The amount of funding available for the Crenshaw/LAX Transit Project, excluding the Southwestern Yard Project \$150.2 million 49% allocation and Environmental/Planning budget of \$26.0 million, has been revised to \$1,881.8 million.

### **Current Forecast:**

The total project current forecast is \$2,058 million. Within the SCC codes there was a reallocation of forecast for SCC-30 shifting final design cost for the Southwestern Yard and design-builder cost-to-SCC-80 per FTA guidelines.

### **Commitments:**

The commitments are cumulative through March 3, 2017. The total commitments increased by \$0.2 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 the design-build Contract C0988 Crenshaw/LAX Transit Corridor.
- SCC-80 (Professional Services) has increased of \$0.1 million due to executed modifications associated with the design-build Contract C0988 Crenshaw/LAX Transit Corridor. The total commitment of \$318.9 million includes \$20.0 million for the Southwestern Yard 49% allocation.

The \$1,897.7 million in commitments to date represents 92.2% of the current budget.

### **Expenditures:**

The expenditures are cumulative through March 3, 2017. The total expenditures increased by \$35.6 million this period due to the following:

- SCC-10 (Guideways) has increased by \$11.9 million for costs associated with the design-build Contract C0988 Crenshaw/LAX Transit Corridor.
- SCC-20 (Stations, Stops, Terminals, Intermodal) has increased by \$1.3 million for costs associated with the design-build Contract C0988 Crenshaw/LAX Transit Corridor.
- SCC-30 (Southwestern Yard) has increased by \$1.3 million for costs associated with the design-build Contract C0991 Division 16: Southwestern Yard (Design/Build).
- SCC-40 (Sitework and Special Conditions) has increased by \$2.5 million for costs associated with the design-build Contract C0988 Crenshaw/LAX Transit Corridor, third party utility relocation with Los Angeles Department of Water and Power and QWEST.
- SCC-50 (Systems) has increased \$4.5 million for costs associated with the design-build Contract C0988 Crenshaw/LAX Transit Corridor.

**PROJECT COST ANALYSIS (Continued)**

- SCC-60 (Right-of-Way) has increased \$0.1 million for cost associated with real estate acquisition. The total expenditure of \$121.7 million includes \$53.3 million for the Southwestern Yard 49% allocation.
- SCC-70 (Vehicles) has increased by \$10.2 for costs associated with exercising Option 1 of the P3010 Contract with KINKISHARYO INTERNATIONAL, LLC. to procure 22 light rail vehicles and Metro accounting department adjustments.
- SCC-80 (Professional Services) has increased by \$3.8 million for costs associated with the design-build Contract C0988 Crenshaw/LAX Transit Corridor, Engineering and Design Contract E0117, Contract C0991 Division 16: Southwestern Yard (Design/Build), Metro project administration, IPMO field office lease and utilities, construction management support services, design coordination oversight by Caltrans District 07, third party coordination by Los Angeles City Departments, miscellaneous specialty services, labor compliance monitoring services and environmental consultant services. The total expenditure of \$267.1 million includes \$13.5 million for the Southwestern Yard 49% allocation.

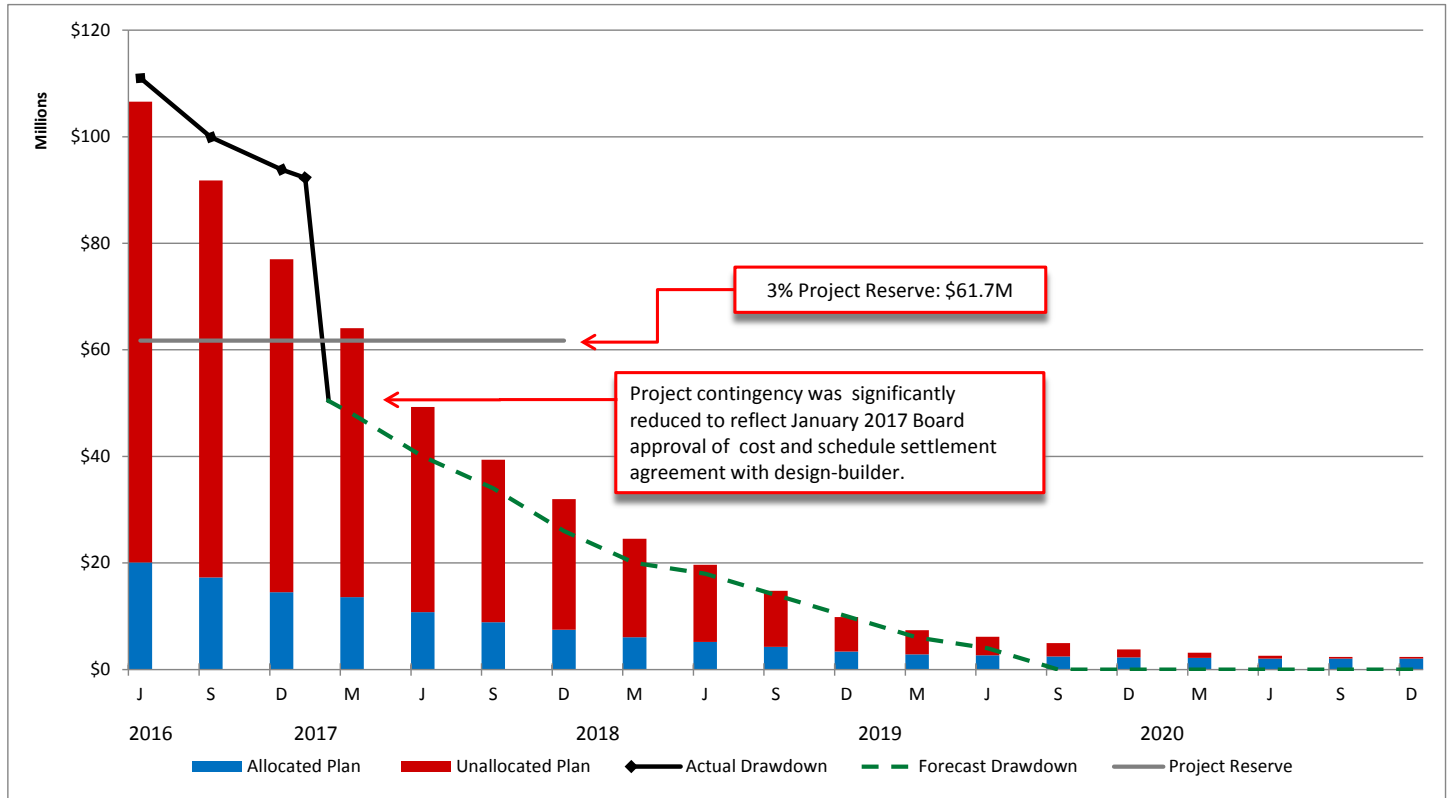
The \$1,181.1 million in expenditures to date represents 57.4% of the current budget.

**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 alignment design-builder (Contract C0988)

C0988 NON-CRENSHAW/LAX TRANSIT PROJECT FUNDED SCOPE OF WORK										
DESCRIPTION	CURRENT BUDGET		COMMITMENTS		EXPENDITURES		CURRENT FORECAST		FORECAST VARIANCE	
	PERIOD	TO DATE	PERIOD	TO DATE	PERIOD	TO DATE	PERIOD	TO DATE		
405556 SYSTEMWIDE TRANSIT PLANNING	-	139,236	-	139,236	-	139,236	-	139,236	-	
210090/93 FARE GATE PROJECT	-	2,482,746	-	2,482,746	-	172,746	-	2,482,746	-	
210152 CRENSHAW/LAX BUS TRANSFER FACILITY	-	2,200,000	-	-	-	-	-	2,200,000	-	
460303 AIRPORT METRO CONNECTOR	25,600,000	29,363,844	25,600,000	29,363,844	-	2,182,405	25,600,000	29,363,844	-	
500013 C/LAXLAWA SCOPE OF WORK	-	1,575,362	-	531,125	-	408,712	-	1,575,362	-	
TOTAL	25,600,000	35,761,188	25,600,000	32,516,950	-	2,903,100	25,600,000	35,761,188	-	

## PROJECT COST CONTINGENCY DRAWDOWN



Through 03-Mar-2017

## PROJECT COST 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 notification request 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 \$163,465,538 or 76.4% for both allocated and unallocated contingency through February 2017.

- The unallocated contingency decreased by \$19,383,071 to reflect January 2017 Board approved cost and schedule settlement agreement and executed modifications for design-build contract C0988 Crenshaw/LAX Transit Corridor.
- The allocated contingency decreased by \$22,457,595 to reflect January 2017 Board approved cost and schedule settlement agreement and executed modifications for design-build contract C0988 Crenshaw/LAX Transit Corridor. These include funds for future modifications for construction management support contract MC069 with STANTEC CONSULTING INC.

<b>PROJECT COST CONTINGENCY (through 03-Mar-2017)</b>					
<b>UNITS IN DOLLARS</b>					
	Original Contingency (Budget)	Previous Period	Current Period	To-Date	Remaining Contingency (Forecast)
Unallocated Contingency	173,500,000	(103,715,675)	(19,383,071)	(123,098,746)	50,401,254
Allocated Contingency	40,366,792	(17,909,197)	(22,457,595)	(40,366,792)	0
<b>Total Contingency</b>	<b>213,866,792</b>	<b>(121,624,871)</b>	<b>(41,840,667)</b>	<b>(163,465,538)</b>	<b>50,401,254</b>

**DISADVANTAGED BUSINESS ENTERPRISE (DBE) STATUS**

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

(Reported Data as of February 27, 2017 for February 2017)

- DBE Goal – Design 20.00%
- Current DBE Commitment \$22,828,902 (20.00%)
- Current DBE Participation \$26,893,551 (26.15%)
- Twenty-one (21) Design subcontractors have been identified to-date
  
- DBE Goal – Construction 20.00%
- DBE Commitment \$239,237,446 (20.00%)
- Current DBE Commitment \$219,472,361 (18.35%)
- Current DBE Participation \$155,399,043 (26.04%)
- One Hundred Forty-Eight (148) Construction subcontractors have been identified to-date.

**PROJECT LABOR AGREEMENTS (PLA) STATUS**

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

(Reported Data as of January 15, 2017 for February 2017)

- Targeted Worker Goal – 40.00%
- Targeted Worker Current Participation - 58.69%
  
- Apprentice Worker Goal - 20.00%
- Apprentice Worker Current Participation - 20.91%
  
- Disadvantaged Worker Goal - 10.00%
- Disadvantaged Worker Current Participation 12.75%

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

### **Contract C0991 Division 16: Southwestern Yard Design-Build**

(Reported for February 2017)

- DBE Goal – Design 20.00%
- Current DBE Commitment \$2,383,718 (20.93%)
- Current DBE Participation \$1,457,680 (18.31%)
- Six (6) Design subcontractors have been identified to-date
  
- DBE Goal – Construction 16.00%
- DBE Commitment \$27,806,897 (16.00%)
- Current DBE Commitment \$12,763,264 ( 7.34%)
- Current DBE Participation \$ 2,322,548 ( 11.85%)
- Thirty-three (33) Construction subcontractors have been identified to-date.

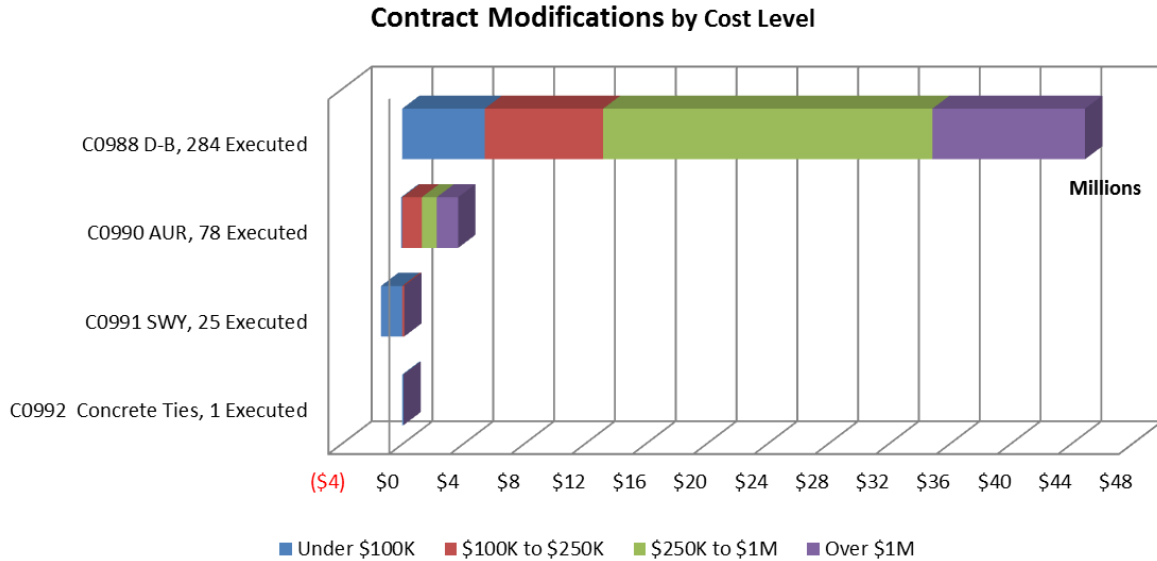
## **PROJECT LABOR AGREEMENTS (PLA) STATUS**

### **Contract C0991 Division 16: Southwestern Yard Design-Build**

(Reported Data as of January 15, 2017 for February 2017 Report)

- Targeted Worker Goal – 40.00%
- Targeted Worker Current Participation - 50.12%
  
- Apprentice Worker Goal - 20.00%
- Apprentice Worker Current Participation - 22.29%
  
- Disadvantaged Worker Goal - 10.00%
- Disadvantaged Worker Current Participation 9.90%

**SUMMARY OF CONTRACT MODIFICATIONS**



	<b>C0988</b>	<b>C0990</b>	<b>C0991</b>	<b>C0992</b>
	<b>284 Executed</b>	<b>78 Executed</b>	<b>25 Executed</b>	<b>1 Executed</b>
<b>Under \$100K</b>	\$5,431,110.92	(\$70,250.91)	(\$1,387,192.50)	\$81,738.00
<b>\$100k to \$250K</b>	\$7,788,416.67	\$1,280,183.74	\$130,000.00	\$0.00
<b>\$250K to \$1M</b>	\$21,661,474.17	\$984,662.39	\$0.00	\$0.00
<b>Over \$1M</b>	\$10,039,555.57	\$1,417,201.61	\$0.00	\$0.00
<b>Total Contract MODs</b>	<b>\$44,920,557.33</b>	<b>\$3,611,796.83</b>	<b>(\$1,257,192.50)</b>	<b>\$81,738.00</b>
<b>% of Contract MODs</b>	<b>3.53%</b>	<b>46.14%</b>	<b>-0.73%</b>	<b>3.78%</b>

Two hundred and eighty four (284) changes with a total value of \$44.92 million have been executed since award of Contract C0988. There are an additional twenty eight (28) changes with a total value of \$69.55 million pending the administrative approval process.

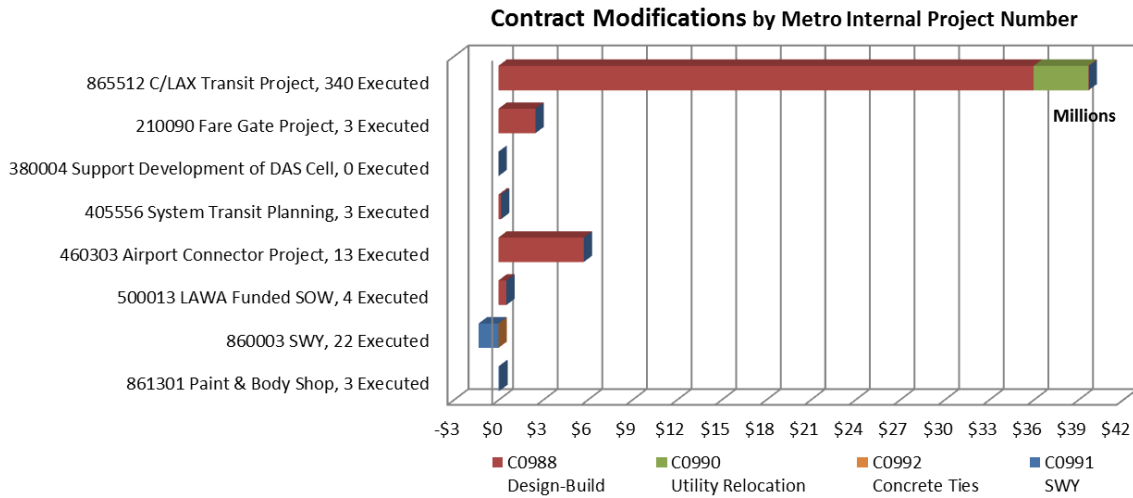
Seventy-eight (78) changes with a total value of \$3.61 million have been executed for completed Contract C0990.

Twenty five (25) changes with a total value of \$1.26 million credits have been executed since award of Contract C0991. There are an additional thirteen (13) changes with a total value of \$3.43 million pending the administrative approval process.

One (1) change with a value of \$81,738 was executed for completed Contract C0992.

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

**SUMMARY OF CONTRACT MODIFICATIONS**



	865512	210090	380004	405556	460303	500013	860003	861301
	Executed	Executed	Executed	Executed	Executed	Executed	Executed	Executed
<b>C0988 - QTY</b>	261	3	0	3	13	4	0	0
<b>C0988 - \$</b>	\$35,997,216	\$2,482,746	\$0	\$175,495	\$5,733,883	\$531,215	\$0	\$0
<b>C0990 - QTY</b>	78	0	0	0	0	0	0	0
<b>C0990 - \$</b>	\$3,611,796	\$0	\$0	\$0	\$0	\$0	\$0	\$0
<b>C0991 - QTY</b>	0	0	0	0	0	0	22	3
<b>C0991 - \$</b>	\$0	\$0	\$0	\$0	\$0	\$0	(\$1,324,588)	\$67,396
<b>C0992 - QTY</b>	1	0	0	0	0	0	0	0
<b>C0992 - \$</b>	\$81,738	\$0	\$0	\$0	\$0	\$0	\$0	\$0
<b>Total - QTY</b>	<b>340</b>	<b>3</b>	<b>0</b>	<b>3</b>	<b>13</b>	<b>4</b>	<b>22</b>	<b>3</b>
<b>Total - \$</b>	<b>\$39,690,751</b>	<b>\$2,482,746</b>	<b>\$0</b>	<b>\$175,495</b>	<b>\$5,733,883</b>	<b>\$531,215</b>	<b>(\$1,324,588)</b>	<b>\$67,396</b>

Three hundred forty (340) changes with a total value of \$39.69 million have been executed for Project 865512 Crenshaw/LAX Transit Project. There are an additional twenty three (23) changes with a total value of \$34.79 million pending the administrative approval process.

Three (3) changes with a value of \$2.48 million have been executed for Project 210090 Fare Gate Project. There is an additional one (1) change with a total value of \$0.39 million pending the administrative approval process.

No changes have been executed for Project 380004 Support Development of DAS Cell Project. There is an additional one (1) change with a total value of \$0.35 million pending the administrative approval process.

Three (3) changes with a value of \$0.18 million have been executed for Project 405556 System Transit Planning.

Thirteen (13) changes with a value of \$5.73 million have been executed for Project 460303 Airport Metro Connector Project. There is an additional one (1) change with a total value of \$36.59 million 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.

## **SUMMARY OF CONTRACT MODIFICATIONS (Continued)**

Twenty two (22) changes with a value of \$1.32 million credit have been executed for Project 860003 Southwestern Yard. There are an additional nine (9) changes with a total value of \$0.71 million pending the administrative approval process.

Three (3) changes with a value of \$67,396 have been executed for Project 861301 Southwestern Yard Paint and Body Shop. There are an additional three (3) changes with a total value of \$0.13 million pending the administrative approval process.

**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	54.0	54.0	100%	54.0	100%	54.0	100%
FEDERAL - SECTION 5309 BUS CAPT	8.6	8.6	8.6	8.6	100%	8.6	100%	8.6	100%
FEDERAL - REGIONAL STP	20.0	102.2	73.7	102.2	100%	61.6	60%	44.9	41%
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%
STATE REGIONAL IMPROVEMENT PROG	36.5	36.6	2.2	36.6	100%	2.2	6%	2.2	6%
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%	545.9	100%	545.9	100%
MEASURE R	661.1	529.3	446.7	529.3	100%	285.6	47%	267.2	47%
OTHER FUNDS*	52.4	187.5	19.0	28.8	15%	19.0	10%	19.0	10%
PROP C 25% HIGHWAY	148.9	350.2	6.0	348.6	100%	6.0	2%	3.7	1%
PROP C 40% DISCRETIONARY	0.0	0.0	0.0	0.0	0%	0.0	0%	0.0	0%
PROP A 35% RAIL CAPITAL	4.8	50.4	50.4	50.4	0%	4.9	0%	4.9	10%
<b>TOTAL</b>	<b>1,749.0</b>	<b>2,058.0</b>	<b>1,399.9</b>	<b>1,897.7</b>	<b>92.2%</b>	<b>1,181.1</b>	<b>57.4%</b>	<b>1,143.8</b>	<b>54.5%</b>

NOTE: Expenditures are cumulative through March 3, 2017

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

Total Funds Anticipated based on August 2016 Funding Plan

\* 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. Grant was approved on September 23, 2015. Funds are available for drawdown.

**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 \$545.9M was submitted to the US Department of Transportation (DOT) in November 2011. Loan agreement was executed on September 12, 2012.

**MEASURE R:** \$446.7M has been allocated to the project through FY2017. Funds are available for drawdown.

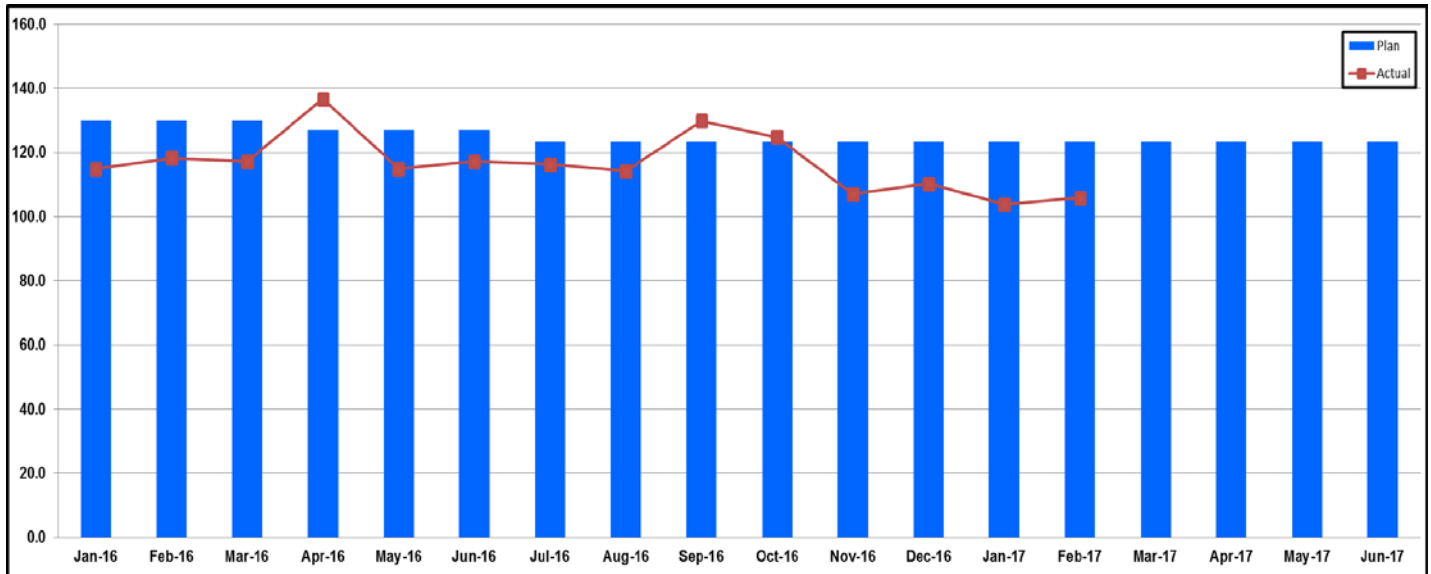
**OTHER FUNDS:** City of LA: Based on the funding agreement between Metro and the City of LA. \$19M is available for drawdown through FY2017.

**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 include the Southwestern Yard Project.
3. Actual staffing levels are cumulative through February 2017.

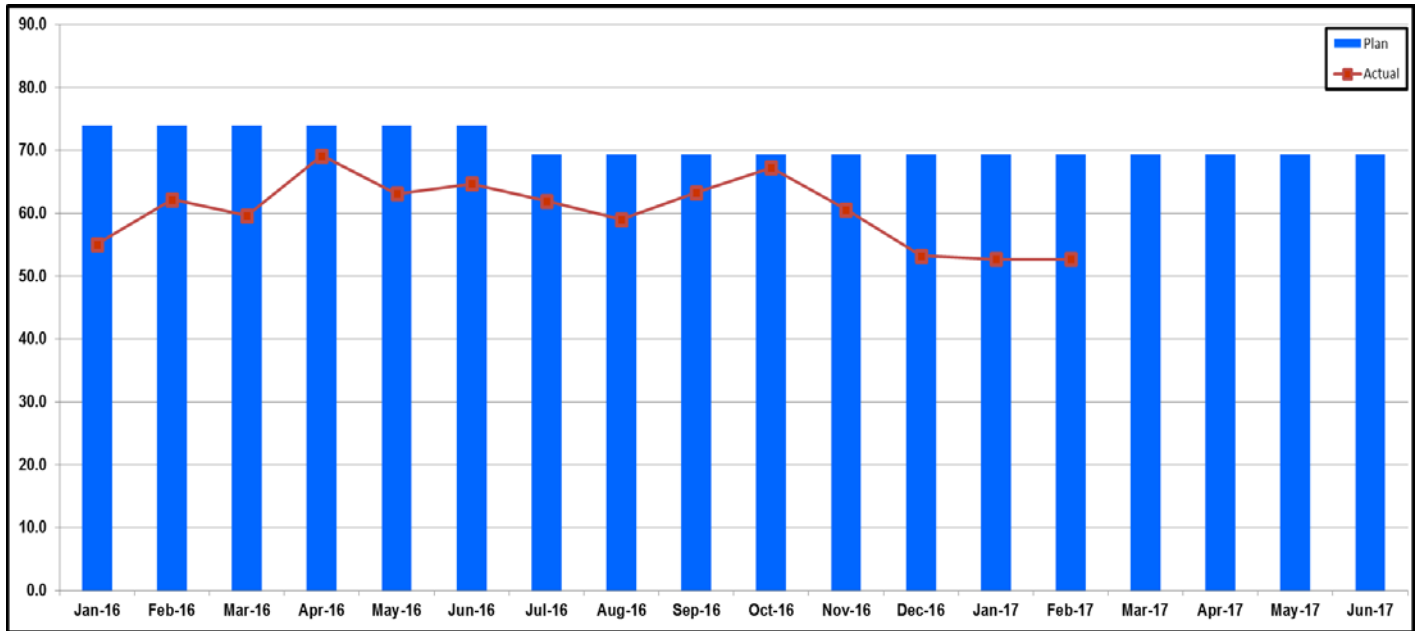
## TOTAL PROJECT STAFFING

The overall FY17 Total Project Staffing Plan averages 123.3 Full Time Equivalent (FTEs) per month consisting of 69.3 for Metro Agency staff, 47.0 for Construction Management Support Services Consultant and 7.0 for Design and Engineering Support Services Consulting staff.

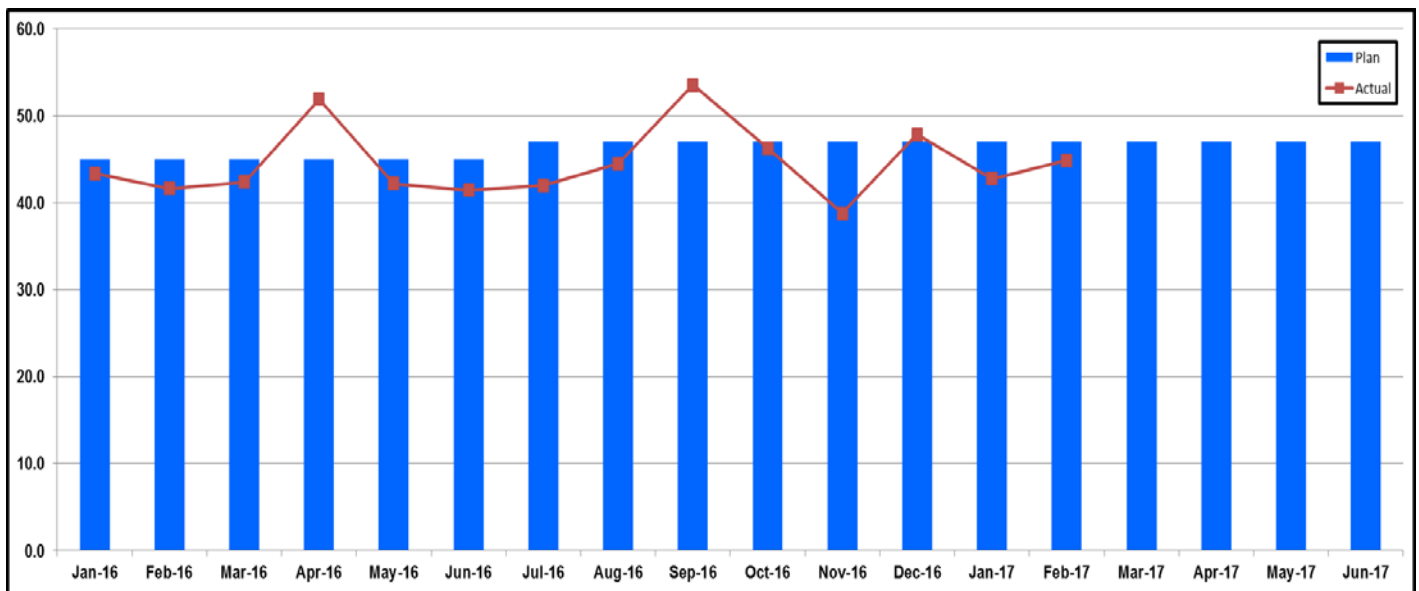
For February 2017, total project staffing were 105.8 FTEs for the month consisting of 52.7 FTEs for Metro’s project administration staff, 44.9 FTEs for Construction Management Support Services Consultant and 8.3 FTEs for Design and Engineering Support Services Consulting staff.

The next three charts show actual staffing versus planned staffing for the three major project participants.

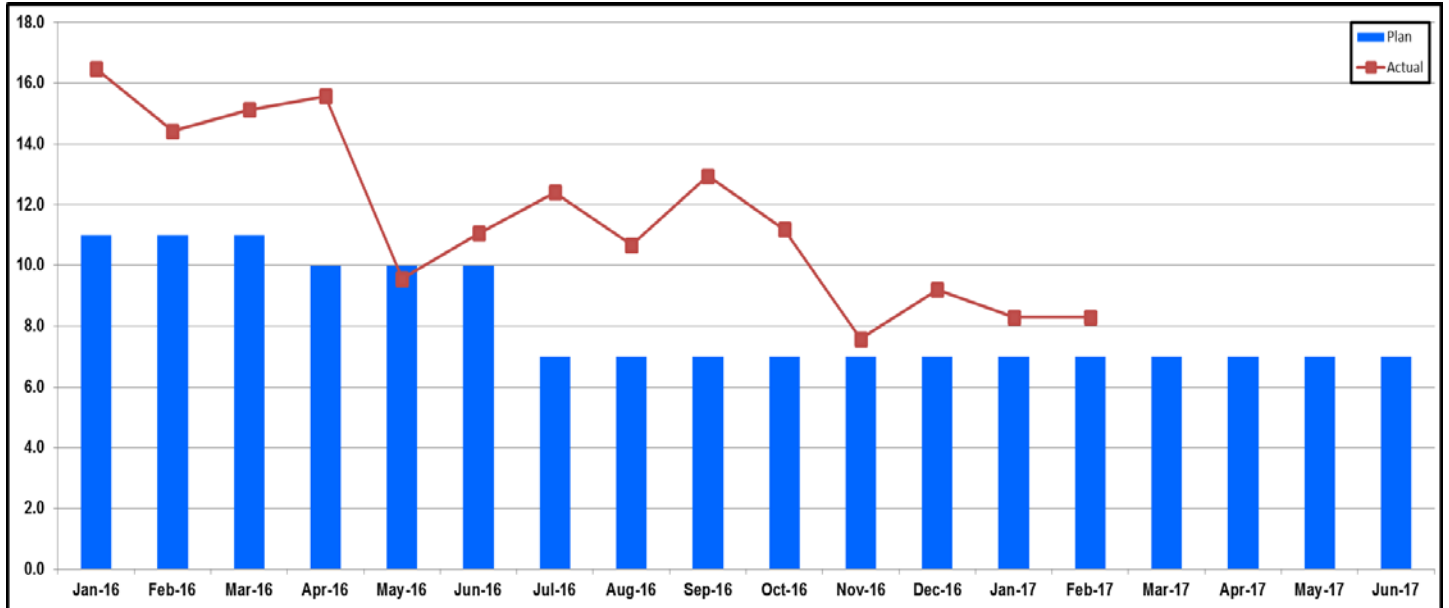
**STAFFING STATUS (Continued)**  
**METRO STAFFING – FTES**



**CONSTRUCTION MANAGEMENT  
 SUPPORT SERVICES CONSULTANT – FTES**



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



**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	7	5	12	12
Part Takes (PT or SE)	10	9	1	9	9	3	6		9
TCE	10	9	1	10	10	1	8		9
<b>Subtotal Parcels</b>	<b>32</b>	<b>30</b>	<b>2</b>	<b>31</b>	<b>31</b>	<b>11</b>	<b>19</b>	<b>12</b>	<b>30</b>
<i>Crenshaw Subdivision Additional Parcels:</i>									
Full Takes									
Part Takes	1	1		1	1	1			
TCE									
<b>Subtotal Parcels:</b>	<b>1</b>	<b>1</b>		<b>1</b>	<b>1</b>	<b>1</b>			
<b>Total Crenshaw Parcels</b>	<b>33</b>	<b>31</b>	<b>2</b>	<b>32</b>	<b>32</b>	<b>12</b>	<b>19</b>	<b>12</b>	<b>30</b>
<i>Harbor Subdivision</i>									
Full Takes	15	15		15	15	8	7	12	15
Part Takes (PT or SE)	18	16	2	18	17	7	10		15
TCE	3	2	1	2	2		2		2
<b>Subtotal Parcels</b>	<b>36</b>	<b>33</b>	<b>3</b>	<b>35</b>	<b>34</b>	<b>15</b>	<b>19</b>	<b>12</b>	<b>32</b>
<i>Harbor Subdivision Additional Parcels:</i>									
Full Takes	3	2	1	2				1	1
Part Takes	4	2	2	2	2	2			2
TCE	3	3		3	3	3			3
<b>Subtotal Parcels:</b>	<b>10</b>	<b>7</b>	<b>3</b>	<b>7</b>	<b>5</b>	<b>5</b>		<b>1</b>	<b>6</b>
<b>Total Harbor Subdivision Parcels</b>	<b>46</b>	<b>40</b>	<b>6</b>	<b>42</b>	<b>39</b>	<b>20</b>	<b>19</b>	<b>13</b>	<b>38</b>
<b>Total CR/HS Parcels:</b>	<b>79</b>	<b>71</b>	<b>8</b>	<b>74</b>	<b>71</b>	<b>32</b>	<b>38</b>	<b>25</b>	<b>68</b>
<i>Southwestern Yard</i>									
Full Takes	8	8		8	8	4	4	7	8
Part Takes									
TCE									
<b>Subtotal Parcels:</b>	<b>8</b>	<b>8</b>		<b>8</b>	<b>8</b>	<b>4</b>	<b>4</b>	<b>7</b>	<b>8</b>
<b>Total SW Parcels:</b>	<b>8</b>	<b>8</b>		<b>8</b>	<b>8</b>	<b>4</b>	<b>4</b>	<b>7</b>	<b>8</b>
<b>Total Project Parcels</b>	<b>87</b>	<b>79</b>	<b>8</b>	<b>82</b>	<b>79</b>	<b>36</b>	<b>42</b>	<b>32</b>	<b>76</b>

- All parcels necessary to construct the guideway have been turned over to the Contractor.
- Work requiring the remaining parcels is not on the critical path and will be used to construct ADA, sidewalk, and other civil improvements.
- Efforts continue to closeout court cases on the various condemned properties.

## **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.
- *WSCC Quality issued five (5) Nonconformance Reports (NCR's) during this month.*
- *WSCC Quality conducted a training session on Materials Receiving/Inspection, training on Buy America and a training session with QC Inspectors on proper documentation/paperwork process for concrete.*
- *HNTB Design Quality Control reviewed eleven (11) NDC's, one (1) Design and two (2) AFC packages.*
- *Metro Independent Testing Lab (ITL) conducted soil sampling and verification testing of material for use on Mechanically Stabilized Earth (MSE) Wall during the month.*
- *Metro Quality participated in Readiness Review meetings for the Tunnel Walkway Concrete, Structural Concrete for Slauson Station and Cross Passage Work Plan for Tunnels.*

## **ENVIRONMENTAL STATUS**

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

- Reviewed and commented on the following Contractor Submittals:
  - Weekly Noise and Vibration Monitoring Data for station and alignment construction
  - Green Construction Policy Monthly Report
  - Sustainability Plan Monthly Reports
  - Weekly Storm Water Pollution Prevent Plan (SWPPP) inspection reports
  - Weekly Fugitive Dust Inspection Reports
  - Various Construction Work Plans and Submittals
  - Quarterly Noise Control Plan updates
  - Waste Management Plan
- Conducted Contractor Cultural Awareness Training.
- Coordinated cultural monitoring (Archaeological, Paleontological and Native American Monitoring).
- *Submitted 4<sup>th</sup> Quarter 2016 Mitigation Measures Status Report to FTA.*
- *Coordinated underground storage tank and potential contaminated soil investigation at Parcel SW-004.*

## **CONSTRUCTION RELATIONS STATUS**

- *Metro and WSCC Construction Relations added new protocols for dissemination of project plans and outreach in Park Mesa Heights.*
- *Contacted key stakeholders by issuing construction notices, notifying local media, changing message signs and establishing online advertising for the five-day closure of Centinela Avenue at Florence Avenue.*
- *Worked closely with Bus Operations to resolve service issues in Park Mesa Heights related to construction.*
- *Worked closely with WSCC to mitigate safety and access concerns from People's Coordinated Services on Crenshaw Boulevard.*
- *Working with Media Relations to plan a retirement party for Harriet in mid-April.*
- *Continued to monitor the utilization of temporary construction parking lots and city-owned parking lots in the Park Mesa Heights area.*
- *A community meeting is planned to review landscaping and fencing plans with residents of La Colina Avenue.*
- *The CLC Special Projects Workgroup sponsored the older Adult Expo featuring a full range of Metro programs.*
- *The CLC sponsored an underground tour of the MLK/Crenshaw underground station.*

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

- Continued to review and respond to submittals.
- Worked with artists to refine designs for submission to fabricators.
- Facilitated coordination between artists and fabrication firms.

## **SAFETY & SECURITY STATUS**

- Participated in weekly progress meetings with WSCC's Management and Construction Management Team to discuss safety/security/quality related issues and the six-week construction schedule.
- *Participated in WSCC's weekly Safety Tool-Box Meetings, Executive Safety and Security Committee Meeting and Metro/WSCC Environmental Management System and Readiness Review Meetings.*
- Monitored construction activities on a daily basis including weekends to ensure compliance with contract specifications.
- *Participated in WSCC/Metro Executive Safety walks.*
- *Monitored TBM, tunnel, underground stations, bridges, excavation and special track-work construction activities along the alignment.*
- *Contract C0990 Metro Builders Advanced Utility Relocation completed 360,287 work hours with four recordable incidents. This contract is closed out.*
- *Contract C0991 Hensel Phelps Project-to-Date completed 26,623 work hours with zero recordable incidents. Hensel Phelps and their subcontractors completed 7,159 work-hours and zero incidents for the month of February 2017.*
- *Contract C0988 (WSCC) reported four first aid cases in January 2017. These cases were carried over and now classified as Recordable Injuries. The Contract completed 122,915 work hours with five recordable incidents for the month of February 2017 and four recordable injuries for the month of January 2017. Total Project-to-Date work hours are 3,947,270 and a total of fifty-five recordable incidents. The project Recordable Rate is 2.7. The Bureau of Labor Statistics (BLS) average recordable rate per 200,000 work-hours is 2.8.*

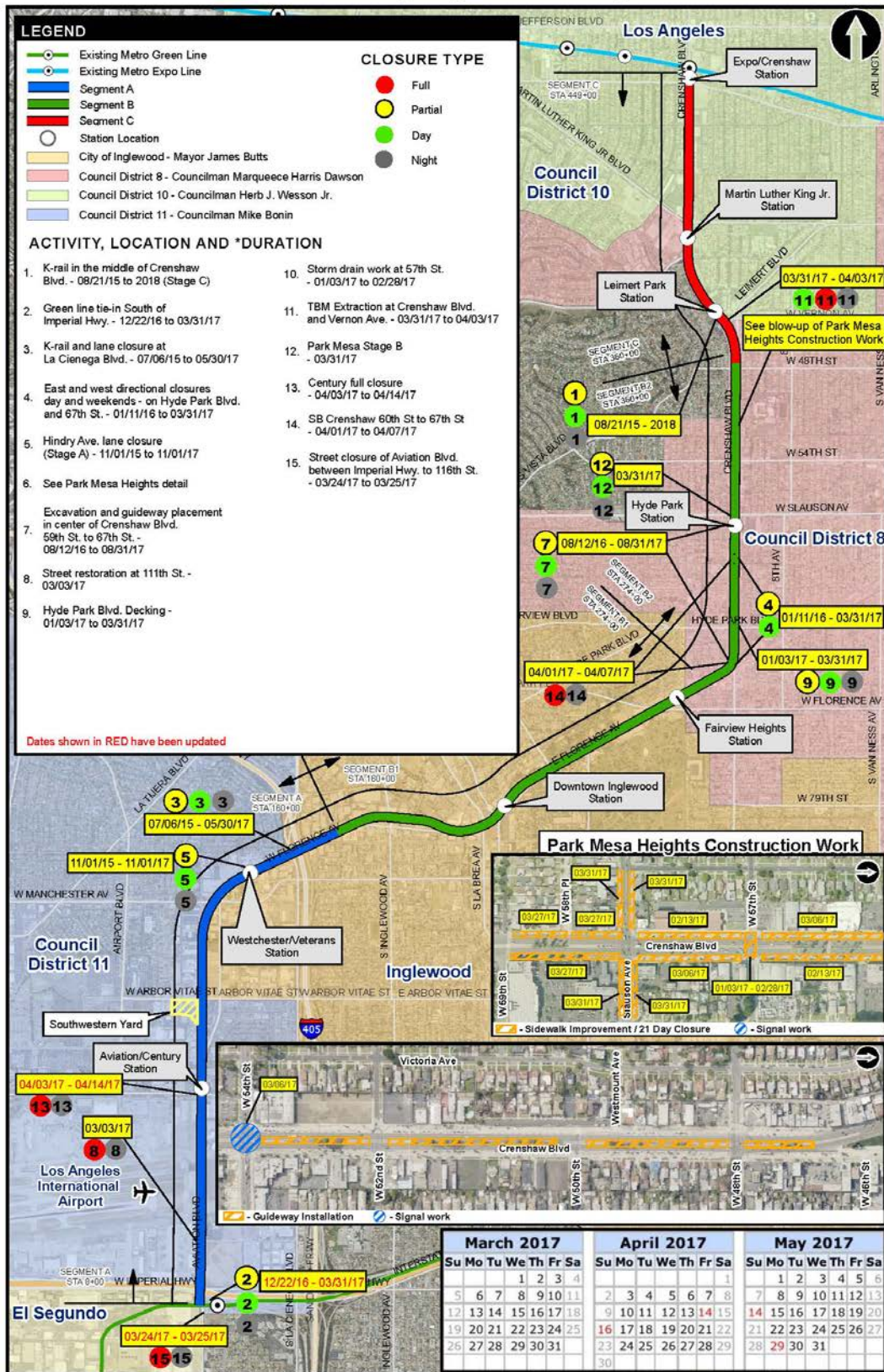
**THIRD PARTY AGREEMENT STATUS**

<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	8/16	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.

**CPUC CROSSING SUMMARY STATUS**

- The CPUC has approved all packages.
- LACMTA filed a response on March 25, 2016 in response to a petition that was filed by a community member, Chandra V. Mosley, to modify the CPUC Decision that approved seven at-grade crossings on Crenshaw Blvd, located from 48<sup>th</sup> St. to 59<sup>th</sup> St.
- Metro attended the Prehearing regarding the petition on May 24, 2016.
- The scoping document (Ruling) was issued on July 1, 2016 by the Administrative Law Judge Scoping which set forth the procedural schedule and address the scope of the proceeding.
- Metro filed a brief on August 5, 2016 and a Reply Brief on August 15, 2016.
- Administrative Law Judge is reviewing the submitted Briefs and will issue a Proposed Decision.

**Crenshaw/LAX Transit Corridor Project  
Traffic Closure Key Map - March - May 2017**



Updated: 02/28/2017

\*Note: Traffic closure dates and durations are subjected to change

## **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.


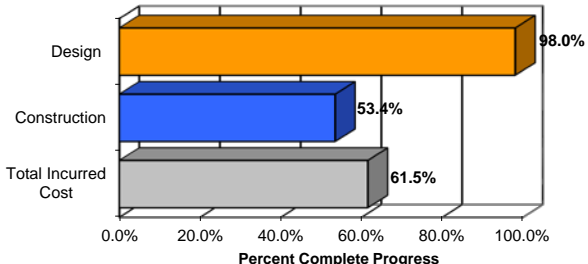
## **CHRONOLOGY OF EVENTS (Continued)**

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.


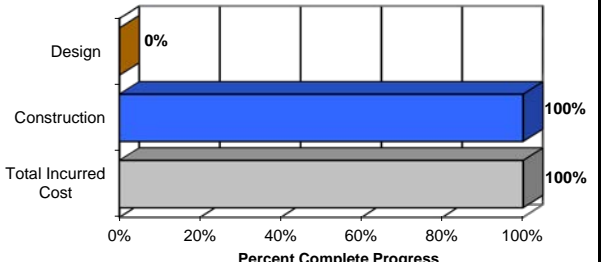
### **CHRONOLOGY OF EVENTS (Continued)**

May 28, 2015	The Board awarded Contract C0991 Division 16: Southwestern Yard to Hensel Phelps/Herzog JV. Also increased by \$22.0 million the Life of Project Budget for the Southwestern Yard Project to a new amount of \$307.2 million.
May 28, 2015	The Board approved Design Option 3 for the track alignment to accommodate the future Metro Connector Transit Station (96 <sup>th</sup> St. Station).
June 29, 2015	Issued Notice to Proceed to Hensel Phelps/Herzog JV, Contract C0991 Division 16: SouthwesternYard.
July 23, 2015	The Board approved the Official and Operational Names of the eight stations.
April 27, 2016	The Tunnel Boring Machine was launched and drilling from north to south of the alignment started.
May 7, 2016	Held Halfway There Community Celebration at Leimert Park marking the halfway point of the project.
May 27, 2016	Held Groundbreaking Ceremony for the Southwestern Yard (Division 16).
October 20,2016	The southbound tunnel boring machine completed mining with the hole thru at Leimert Park Station.


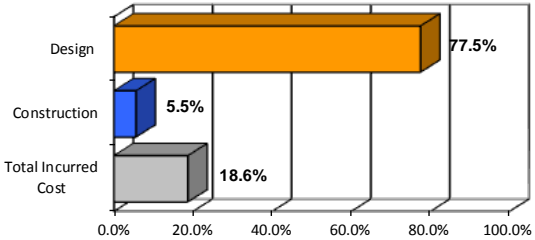
**CONTRACT C0988 STATUS**  
*Crenshaw/LAX Transit Corridor*

<b>PE Design Contractor: Hatch Mott (HM)</b> <b>CM Consultant: Stantec</b> <b>Contractor: - Walsh Shea Corridor Constructors (WSCC)</b>		<b>Contract No.: C0988</b>  <b>Status as of March 04, 2017</b> 																																								
<b>Progress/Work Completed:</b> <b>Construction</b> <ul style="list-style-type: none"> <li>Continued north bound tunnel mining.</li> <li>Continue south bound invert concreting.</li> <li>Continued excavation and lagging at UG #4.</li> <li>Continued Excavation and lagging and decking at UG #3.</li> <li>Continued the construction of Ballast Wall in Seg B1.</li> <li>Continued OCS foundation construction in segment B1.</li> <li>Continued work at the Pedestrian Underpass.</li> <li>Continued erection of I-405 Bridge Falsework</li> <li>Continued construction of the platform deck at La Brea Station</li> <li>Continued waterproofing and U-Walls at UG #1</li> <li>Continued construction of the Cut &amp; Cover Walls &amp; Roof.</li> <li>Continued construction of Green Line Superstructure</li> </ul>		<b>Areas of Concern:</b> <ul style="list-style-type: none"> <li>Design-builder's ability to mitigate schedule delays.</li> <li>Timely submittal of WSCC's design submittals and review by City of Los Angeles.</li> </ul>																																								
<b>Schedule Assessment:</b> <ul style="list-style-type: none"> <li>Design-builder forecast a delay of 14 days due to heavy rains during the month. The contractor's critical path was impacted and they are forecasting a delay to the substantial completion milestone.</li> <li>Metro has requested a mitigation plan from the contractor.</li> </ul>		<b>Cost Assessment:</b> <ul style="list-style-type: none"> <li>The current construction contract cost forecast is \$1,363,719,638.50 and is within the Board authorized budget.</li> <li>The Contractor submitted their 42nd and 43rd payment application in the approved amount of \$76,438,669.65</li> </ul> <p><i>*Please note that not all executed modifications may have been included in the Contractor current payment application.</i></p>																																								
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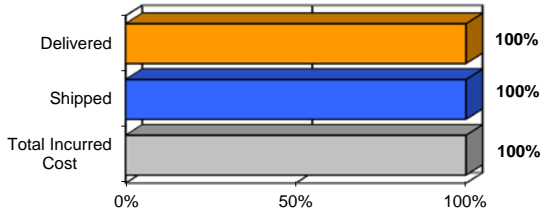
**CONTRACT C0990 STATUS**  
*Crenshaw/LAX Advanced Utility Relocations*

<p><b>PE Design Contractor: Hatch Mott (HM)</b> <b>CM Consultant: Stantec</b> <b>Contractor: - Metro Builders and Engineers Group LTD</b></p>	<p><b>Contract No.: C0990</b> <b>Status: Completed</b></p> 																																			
<p><b>Progress/Work Completed:</b> - The construction was substantially completed on August 21, 2014 - Board authorized in March a settlement with the contractor. - Contract is closed out.</p>	<p><b>Areas of Concern:</b></p>																																			
<p><b>Schedule Assessment:</b> - Metro granted substantial completion to Metro Builders on August 21, 2014, which is 276 calendar days behind. - The settlement with the contractor settled all time issues.</p>	<p><b>Cost Assessment:</b> - The final contract is \$11,316,140.00 and has been completely paid to contractor.  * A modification in process for credit of unused provisional sums in the amount of \$123,156.85.</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">3.49</td> </tr> <tr> <td>3. Approved Change Orders:</td> <td align="right">-</td> </tr> <tr> <td>4. Current Contract Value (1 + 2 + 3):</td> <td align="right">11.32</td> </tr> <tr> <td>5. Incurred Cost:</td> <td align="right">11.32</td> </tr> </table>	1. Award Value:	7.83	2. Executed Modifications:*	3.49	3. Approved Change Orders:	-	4. Current Contract Value (1 + 2 + 3):	11.32	5. Incurred Cost:	11.32															
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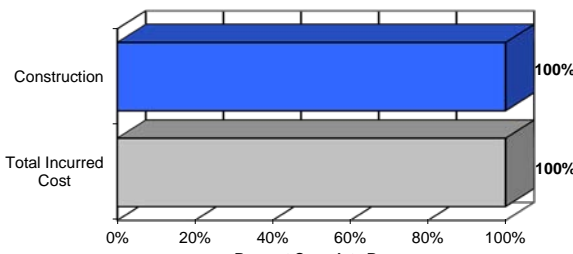
**CONTRACT C0991 STATUS**  
*Southwestern Yard*

<p><b>PE Design Contractor: Hatch Mott (HM)</b> <b>CM Consultant: Stantec</b> <b>Contractor: - Hensel Phelps / Herzog JV</b></p>	<p><b>Contract No.: C0991</b></p> <p><b>Status as of March 04, 2017</b></p> 																									
<p><b>Progress/Work Completed:</b></p> <ul style="list-style-type: none"> <li>Continued main shop pits and foundation construction.</li> <li>Performed rain/flooding clean up on site.</li> <li>Bellanca revocable permit for south section is progressing as planned.</li> </ul>	<p><b>Areas of Concern:</b></p> <ul style="list-style-type: none"> <li>8" water line (Asbestos) under Bellanca is affecting Main Shop foundations construction and needs to be relocated. Design is finalized and field work scheduled to start in March 2017.</li> <li>DWP power relocation started in January and planned to complete in March 2017.</li> </ul>																									
<p><b>Schedule Assessment:</b></p> <ul style="list-style-type: none"> <li>Schedule Assessment:</li> <li>MOD #02 was executed extending milestones 2, 3, 4 by 90 calendar days as shown on the schedule milestone section below.</li> <li>MOD #06 was also executed to adjust the contract rain days allowance measurement.</li> <li>C0991 contract critical path runs through construction for the main shop facility to milestone 2 and 3.</li> <li>Interface coordination between HPH, WSCC, City, 3rd Parties are being managed proactively to address and to minimize any impact on the project cost and Schedule.</li> <li>Risk Register for SWY was expanded as part of the overall Crenshaw/LAX project risk process.</li> <li>Assessment, no delay to the milestones is expected.</li> <li>Metro is working on potential early site access for the remaining sites.</li> </ul>	<p><b>Cost Assessment:</b></p> <ul style="list-style-type: none"> <li>The current construction contract cost forecast is \$171,055,502.50 is within the Board authorized budget.</li> <li>The Contractor submitted their 19th payment application in the approved amount of \$1,152,539.46</li> <li>*Please note that not all executed modifications may have been included in the Contractor current payment application.</li> </ul>																									
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**CONTRACT C0992 STATUS**  
*Concrete Ties*

<b>PE Design Contractor: Hatch Mott (HM)</b> <b>CM Consultant: Stantec</b> <b>Contractor: Rocla Concrete Tie Inc.</b>		<b>Contract No.: C0992</b>  <b>Status: Completed</b>																																									
<b>Progress/Work Completed:</b> - All 19,936 concrete ties have been received onsite by the design-builder (Contract C0988). - Contract is closed out.		<b>Areas of Concern:</b>																																									
<b>Schedule Assessment:</b> All concrete ties were delivered to job site by August 15, 2014.		<b>Cost Assessment:</b> The final contract cost is \$2.25 million and has been completely paid to contractor.																																									
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**CONTRACT C0992A STATUS**  
*Running Rail and Bumping Posts*

<p><b>PE Design Contractor: Hatch Mott (HM)</b> <b>CM Consultant: Stantec</b> <b>Contractor: LB Foster Rail Technology Corp</b></p>	<p><b>Contract No.: C0992A</b></p> <p><b>Status: Completed</b></p> 																																			
<p><b>Progress/Work Completed:</b></p> <ul style="list-style-type: none"> <li>- All 115RE SS Blank Stick Rails have been delivered to the job site.</li> <li>- All 115RE HH rail have been delivered to job site.</li> <li>- All Bumping Posts have been delivered to job site on 5/8/2015.</li> <li>- Contract is closed out.</li> </ul>	<p><b>Areas of Concern:</b></p> <p>.</p>																																			
<p><b>Schedule Assessment:</b></p> <p>All running rails and bumping posts were delivered ahead of the schedule.</p>	<p><b>Cost Assessment:</b></p> <p>The final contract cost is \$5,2 million and has been completely paid to contractor.</p>																																			
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## CONSTRUCTION PHOTOGRAPHS



**UG1** - Concrete finish work underway along the cut & cover tunnel segments.



**96<sup>th</sup> STATION Accommodations** – Crews continued constructing ballast retainer walls.

## CONSTRUCTION PHOTOGRAPHS (Continued)



**(AG-5) I-405 BRIDGE**-Integrity rebar placers continued installing superstructure reinforcement and continued installing post tensioning ducts. Crews began installing girder stem formwork.



**(AG-7) FCBC Pedestrian underpass**- Finish work ongoing. South Access Ramp and Stairs.

## CONSTRUCTION PHOTOGRAPHS (Continued)



**(AG-6) LA BREA BRIDGE** – Reinforcement and formwork installations complete for the second pour plinth pads.



**FAIRVIEW HEIGHTS STATION**- Crews began backfilling and compaction testing along the outside perimeter of the TC&C room retaining walls.

**CONSTRUCTION PHOTOGRAPHS (Continued)**



**UG#3** – Installation of struts near 60th St.



**PARK MESA** – Removal of east sidewalk north of 57th St.

**CONSTRUCTION PHOTOGRAPHS (Continued)**



**UG#4 – Waterproofing near Leimert Park Station.**



**LEIMERT PARK STATION – Preparing lower wall for concrete placement.**

**CONSTRUCTION PHOTOGRAPHS (Continued)**



**MARTIN LUTHER KING JR. STATION** – Installation of formwork for lower interior walls.



**TUNNELING** – Placement of SB Tunnel Invert section 11.

### CONSTRUCTION PHOTOGRAPHS (Continued)



**TUNNELING** –TBM holed into MLK Station at 6:40 PM on Tuesday, 2/14/17.



**TUNNELING** –TBM trailing gear being pulled thru MLK Jr. Station.

**APPENDIX**

**PROJECT COST STATUS – SOUTHWESTERN YARD**

SCC CODE	DESCRIPTION	ORIGINAL BUDGET	CURRENT BUDGET		COMMITMENTS		EXPENDITURES		CURRENT FORECAST		FORECAST VARIANCE
			PERIOD	TO DATE	PERIOD	TO DATE	PERIOD	TO DATE	PERIOD	TO DATE	
10	GUIDEWAYS	0	0	0	0	0	0	0	0	0	0
20	STATIONS	0	0	0	0	0	0	0	0	0	0
30	SUPPORT FACILITIES (Y & S)	85,546,835	0	85,189,999	0	86,532,695	180,250	2,125,670	(1,563,787)	85,325,744	135,745
40	SITWORK/SPECIAL CONDITIONS	35,932,000	0	38,273,000	0	38,781,286	1,084,289	22,280,218	166,781	38,439,781	166,781
50	SYSTEMS	25,784,616	0	32,991,000	0	32,991,000	226,750	656,500	0	32,991,000	0
	(10-50) CONSTRUCTION	147,263,451	0	156,453,999	0	158,304,981	1,491,289	25,062,388	(1,397,006)	156,756,525	302,526
60	RIGHT-OF-WAY	99,910,000	0	100,000,000	864	103,451,478	(1,417)	103,360,747	3,362,761	103,362,761	3,362,761
70	VEHICLES	0	0	0	0	0	0	0	0	0	0
80	PROFESSIONAL SERVICES	35,601,095	0	33,639,631	91,894	28,616,416	542,806	21,357,915	2,178,471	33,993,670	354,039
90	PROJECT CONTINGENCY	13,659,732	0	17,106,370	0	0	0	0	(4,144,226)	13,087,044	(4,019,326)
	<b>TOTAL</b>	<b>296,434,278</b>	<b>0</b>	<b>307,200,000</b>	<b>92,758</b>	<b>290,372,874</b>	<b>2,032,679</b>	<b>149,781,049</b>	<b>(0)</b>	<b>307,200,000</b>	<b>(0)</b>

**C0991 PAINT & BODY SHOP PROJECT**

DESCRIPTION	ORIGINAL BUDGET	CURRENT BUDGET		COMMITMENTS		EXPENDITURES		CURRENT FORECAST		FORECAST VARIANCE
		PERIOD	TO DATE	PERIOD	TO DATE	PERIOD	TO DATE	PERIOD	TO DATE	
861301 DIV 22 PAINT & BODY SHOP	11,000,000	0	11,000,000	17,148	9,373,069	17,148	2,593,945	0	11,000,000	0

<b>GRAND TOTAL</b>	<b>307,434,278</b>	<b>0</b>	<b>318,200,000</b>	<b>109,906</b>	<b>299,745,944</b>	<b>2,049,827</b>	<b>152,374,994</b>	<b>(0)</b>	<b>318,200,000</b>	<b>(0)</b>
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**PROJECT COST ANALYSIS**

The project number 865512, 860003 and 861301 are internal to Metro and are used to differentiate between various components of the project.

**Original Budget:**

The Board in May 2015 established the Life-of-Project (LOP) budget of \$307.2 million for the Southwestern Yard Project.

**Current Budget:**

The Board in May 2015 approved an increase for the funding for the Southwestern Yard by \$22.0 million to increase the LOP budget to \$307.2 million to allow for the award of design-build Contract C0991 Southwestern Yard Project. Of the total \$307.2 million, \$150.2 million is funded in the Crenshaw/LAX Transit Project LOP budget which includes the original 49% allocation amount of \$139.4 million plus a new \$10.8 million reduction from the Crenshaw/LAX Transit Project contingency line item in the budget. There is no increase in the LOP for the Crenshaw/LAX Transit Project. The original 51% share associated with future Green Line related extensions in an amount of \$145.8 million was increased by \$11.2 million for a new total of \$157.0 million.

In addition to the \$307.2 million there is another \$11.0 million that is the budget for the paint and body shop, under another Metro internal cost project number, which funding was approved by a prior agreement for a paint and body shop to support the Green Line shops and was required for the award of the design-build Contract C0991 Southwestern Yard Project.

The grand total of the combined budget is \$318.2 million.

**APPENDIX  
PROJECT COST ANALYSIS (Continued)**

**Current Forecast:** The forecast is under review.

**Commitments:**

The commitments are cumulative through March 04, 2017.

Total commitments increased by \$0.11 million for this period due to the following:

- SCC-40
  - No change for February.
- SCC-50
  - No change for February
- SCC-60
  - No change for February.
- SCC-80
  - Professional services such as legal, construction management, and labor increased \$0.11 million for February.

The \$299.75 million in commitments to date represents 94.20% of the current budget.

**Expenditures:**

The expenditures are cumulative through March 04, 2017.

The total expenditures increased by \$2.05 million for this period due to the following:

- SCC-30
  - Hensel Phelps/Herzog JV expenditure increase by \$0.18 million for February.
- SCC-40
  - Hensel Phelps/Herzog JV expenditure increase by \$1.08 million for February.
- SCC-50
  - Hensel Phelps/Herzog JV expenditure increase by \$0.23 million for February
- SCC-60
  - No change for February.
- SCC-80
  - Hensel Phelps/Herzog JV, agency expenditure and professional services expenditure increase by \$0.56 million for February.

The \$152.37 million in expenditures to date represents 47.89% of the current budget.

**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.