# Crenshaw/LAX Transit Project



# **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).

**AUGUST 2016** 

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### **PROJECT SUMMARY**

LOCATION: Crenshaw Blvd at Exposition to Green Line DESIGN/CONSULTANT: Hatch Mott					CONSTRUCTION MANAGE CONTRACTORS: Walsh-S Hensel Phelps / Herzog (S	hea Corrido	r Construe			
PROJECT PHOTO: Cond	crete place	ment	for the cut	and cover	WORK COMPLETED PAST MONTH:					
utilizing compression forms. Wooden block out to the right is for the fan niche.					o Continued tunnel segment production. o Commenced installation of Tier 2 and Tier 3 Bracing at UG #4 o Completed TBM Mining SB tunnel from Expo to MLK o Continued construction of the lower walls at Expo Station					
					<ul> <li>c Continued construction of the lower walls at Expo Station.</li> <li>c Continued installing plumbing and conduit in the lower walls at Expo Station.</li> <li>c Completed construction of the Protective slab at Vernon Station.</li> <li>c Commenced construction of the Invert slab at Vernon Station.</li> <li>c Continued storm drain installation at Park Mesa</li> <li>c Continued Demolish &amp; replace Curb, Gutter, Sidewalks and Driveways at Part</li> <li>c Completed the installation of soldier piles along the east and west line of UG is</li> <li>c Completed the installation of soldier piles along the east and west line of UG is</li> <li>c Completed DCS foundation construction in segment B1.</li> <li>c Completed backfiling at the Pedestrian Underpass</li> <li>c Completed Station Walls at La Brea Station</li> <li>c Completed Station Walls at La Brea Station</li> <li>c Completed Construction of the 104th St Tunnel and 111th St Bridge</li> <li>c Continued construction of Green Line Superstructure</li> </ul>					
EXPENDITURE STATUS					SCHEDULE ASSESSMENT	-				
(\$ In Millions)	CURRE		EXPENDED	PERCENT	MAJOR SCHEDULE	PRIOR	CURRENT			
ACTIVITIES	BUDGE		AMOUNT	EXPENDED		VARIANCE WEEKS				
AGIIIIIEG	DODOL		AMOUNT		ACTIVITIES PLAN PLAN VARIANCE W					
DESIGN	\$ 13	. 7 0	\$ 122.0	89.3%						
DESIGN	φ 15		¢ 122.0	09.376	Record of Decision	Dec-11		Complete		
RIGHT-OF-WAY	\$ 12	7.4	\$ 120.3	94.4%		Complete				
					Design					
CONSTRUCTION	\$ 1,35	3.1	\$ 620.1	45.8%	, , ,	Nov-11		Complete		
					Final Design	Sep-15	Aug-16	11.3 months behind		
OTHER	\$ 44	).8	\$ 155.4	35.3%						
TOTAL	\$ 2,05	3.0 5	\$ 1,017.9	49.5%	Right-of-Way	Jan-15	lan-15	Complete		
-	• ,		¥ 1,017.9	+3.370	Full-take parcels available			Complete (here even)		
Note: Cost expended as c	л Sep. 2, 2	J16.			Part-take and TCE parcels	Sep-15	Apr-16			
					Construction	<u> </u>				
AREAS OF CONCERN					D-B Notice to Proceed	Sep-13		Complete		
o Design-builder's ability to	o mitiaate s	ched	ule delavs.		D-B Substantial Complete	Oct-18		6.2 months behind		
o Timely submittal of WSC				view by City	Revenue Service Date	Oct-19	Oct-19	On schedule*		
of Los Angeles. o 96th street station accor o Ability of TBM to meet p					The D-B Substantial Complete p contract modification in March 20		odified by a	35-day concurrent delay		
					*Note: Revenue Service Date inc	cludes a signific	ant reduction	n in contingency.		
ROW ACQUISITION	PLAN		ACQUIRED	REMAINING	CRITICAL ACTIVITIES / 3 M	IONTH LOO	K AHEAD			
FULL TAKES	37		35	2	o Complete TBM Mining SB tunnel from MLK to Leimert Station o Complete Tunnel segment production. o Complete construction of the lower walls at MLK station. o Complete decking intersections at UG #3					
PARTIAL TAKES	27		24	3	o Complete construction of o Complete installing plumb	the Platform	n Deck at V			
TEMPORARY EASEMENTS	15		13	2	Station.			iower wans at Expo		
TOTAL PARCELS			72	7						
	· · · · · · · · · · · · · · · · · · ·			· ·						

### **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 and the contract is being 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 major construction activity this month on the Project's critical path is the continuing of mining operations. *The contractor continued tunnel boring of the south bound tunnel from Expo/Crenshaw Station and holed through at MLK Station on August 22, 2016. The contractor started moving the tunnel boring machine and support equipment across the floor of the station to the other side and in early September mining will recommence from MLK Station to Leimert Park Station.* 

**Design- Build Contract C0991 Southwestern Yard (Division 16)** – The design-builder, Hensel Phelps / Herzog JV was issued a notice-to-proceed on June 29, 2015. The designbuilder continues final design and submission of required submittals. Design activities continued including reconciliation of various design packages. Contractor commenced construction activities in May 2106. Completed temporary fence, cutting and capping utilities, demolition of slabs and other underground structures including abatement of hazardous material within Phase 1 right-of-way area. *The contractor started site mass excavation for the main shop building footprint and in the process exported over 6,000 cubic yards of excess soil.* 

#### **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 (four have been decertified). There are 37 full takes, 27 partial takes and 15 temporary construction easements (TCE's). There have been 72 parcels acquired through August 2016. Thirty-five full takes, 24 part-takes and 13 TCE's have been provided to the design-builder WSCC.

#### <u>Systems</u>

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

### **PROJECT OVERVIEW (Continued)**

ROC will be expanded and will reconfigure the existing ROC service control and closed circuit television monitoring areas to increase overall space requirements by approximately 22 percent. A full build-out of a combined BOC/ROC is also being planned under a Phase 2 approach on land to be acquired by Metro as a separate Capital Improvement Project near Division 20.

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

#### Program Management

In May 2013, the Board approved a Motion that amended the fiscal year 2014 Proposed Metro Budget to include funding for an underground station at Leimert Park Village and an at-grade station at Hindry as part of the baseline project. This Motion added \$135 million to the LOP budget which included \$80 million in uncommitted fiscal year 2014 funding and \$55 million from the City of Los Angeles. Metro reached agreement with the City of Los Angeles to cover the incremental cost of the stations above the \$80 million identified in fiscal year 2014 funding which the Metro Board approved in May 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 funding 79.9%, (includes Measure R TIFIA Loan), state funding 10.5% and federal funding 9.6%.

### **PROJECT OVERVIEW (Continued)**

The project commitments thru August 2016 are \$1,880.4 million or 91.3 % of the Current Budget. The project expenditures thru August 2016 are \$1,017.9 million or 49.5% of the Current Budget.

The current period expenditures are for design-builders monthly design and 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 internal project number and the total costs for the Southwestern Yard project is included in the Appendix.

This month the project schedule reflects a thirteen (13) calendar day delay in project status. Metro is reporting a projected 219 calendar day delay to the design-builder's contract substantial completion milestone (forecast 2019).

### **MANAGEMENT ISSUES**

**Concern No. 1:** Execution of 3% Local Match funding agreement with the City of Inglewood.

**<u>Status/Action</u>** Metro and the City of Inglewood are finalizing an agreement which is anticipated to be executed in the near future.

**Concern No. 2:** Timely future reviews of WSCC final design submittals by City of Los Angeles.

<u>Status/Action</u> 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. Ensure WSCC submittals are coordinated, quality checked and submitted within necessary timeline for reviews.

**Concern No. 3:** Design-builders construction schedule

**Status/Action** This month the project schedule reflects a thirteen (13) calendar day delay in project status. Metro is reporting a projected 219 calendar day delay to the design-builder's contract substantial completion milestone (forecast 2019).

**Concern No. 4:** Cost and schedule impacts on the Crenshaw/LAX Transit Project to accommodate the future Airport Metro Connector Transit Station at 96<sup>th</sup> Street.

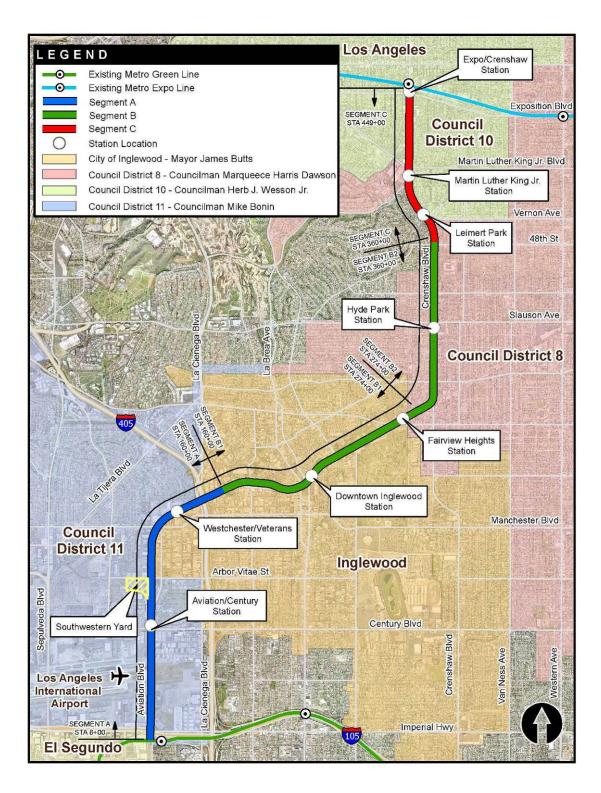
**Status/Action** In May 2015, the Metro Board approved Design Option 3 implementing changes required to the design-builder's design to accommodate the ultimate track configuration required for the future Airport Metro Connector Transit Station. The Metro Board approved \$7,400,000 for the direct construction costs for FY17, which was required to commence construction to prevent any additional schedule delay impact to the Project. The design submittal milestones to date have been completed earlier than planned. Metro continues to work with the design-builder to minimize impacts to construction. Metro is continuing to negotiate with the design-builder on the total time the work will take to accommodate the future Airport Metro Connector Transit Station. Any modifications to WSCC for this scope of work are not funded by the Crenshaw/LAX Transit Project but are funded by other funding sources.

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

**Concern No. 5:** Design-builder's ability to meet their planned tunneling productivity rate.

**Status/Action** After an initial learning curve the contractor plans to achieve a rate of 74 feet per work day tunneling toward MLK Station and 93 feet per work day tunneling from MLK Station to Leimert Park Station. *Thru the end of August 2016, the contractor is achieving an average of 40 feet per work day. Metro is closely monitoring the daily production rate and is concerned about the ability of TBM to meet production rate forecasted on 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 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.

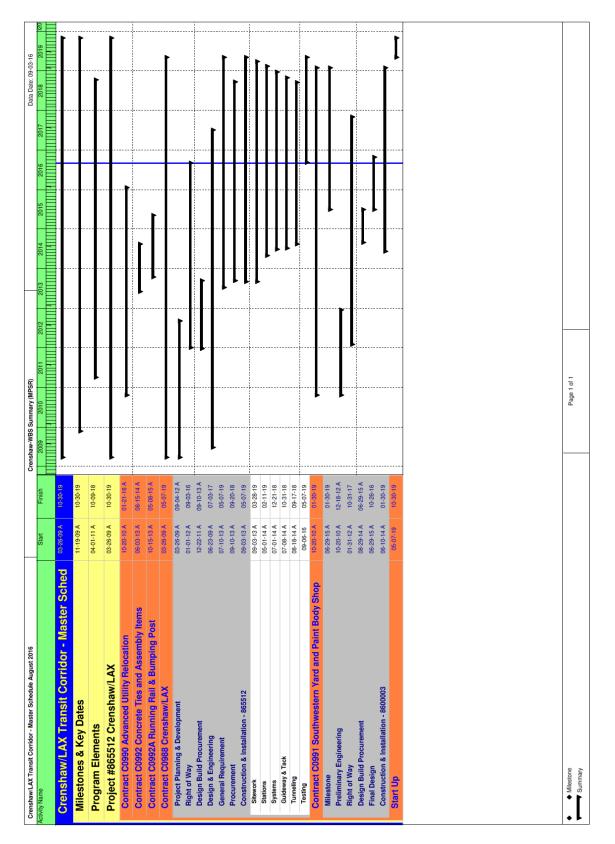
The project delivery method for this contract was bid-build IFB approach.

#### 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**

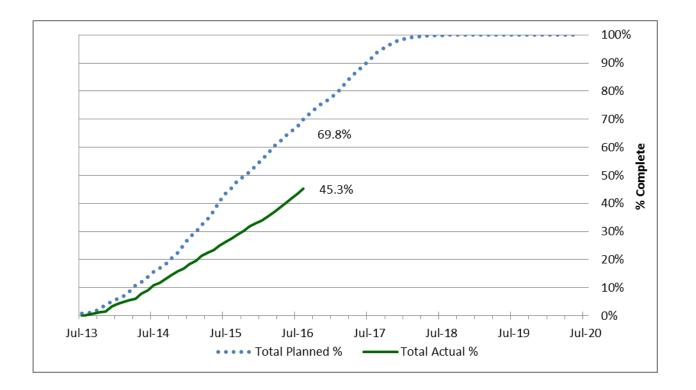
	Milestone Date	Sep-16	Oct-16	Nov 16	Dec-16	lon 17	Feb-17
			001-10	100-10	Dec-10	Jan-17	Feb-17
C0988 - WSCC Submits to Metro - 100% Design Landscape- COLA	26 - Sep - 16						
C0991 - Main Shop Building Construction Begins	26 - Sep - 16	$\triangle$					
C0988 - FRP Signal House Foundation for Spl Track I-405 to La Brea	03 - Oct - 16						
C0991 - Completion of Design	26 - Oct - 16		$\triangle$				
C0988 - Frame A: F/R/P Superstructure - Aerial Structure #1	27 - Oct - 16						
C0988 - Ductbank - Manhole / Vault / Pad / Pull Box - Aviation & Century Bridge	27 - Oct - 16						
C0988 - Set-up Form System & Pour Track Foundation - 111th St Bridge	31 - Oct - 16		4				
C0988 - Ductbank - Place Conduit - RW #5	02 - Nov - 16			4			
C0988 - Ductbank - Manhole / Vault / Pad / Pull Box - TPSS-02	04 - Nov - 16						
C0988 - Elevator Sump Pump - Aviation / Century	15 - Nov - 16			NUMBER OF STREET			
C0988 - Pour Foundations & Slabs - TC&C #7	28 - Nov - 16			4			
C0988 - ATC: Procure & Deliver Crossing Equipment	29 - Nov - 16			4			
C0988 - OCS Foundations - RW2 MSE Section	30 - Nov - 16			4			
C0988 - Turnover to Track - Sta. 130+00 - 138+00 At Grade Manchester to I-405	07 - Dec - 16						
C0988 - Mfgr/Test/Ship Complete Comm Racks - MGL TCCB & ROC	14 - Dec - 16						
C0988 - Fabricate & Deliver Dry Type Transformers - Expo, MLK and Vernon	16 - Dec - 16						
C0988 - Bridge F/R/P OCS Foundation - Manchester Bridge	21 - Dec - 16						
C0988 - CPUC Approval - Hindry & Florence	28 - Dec - 16				Â		
C0988 - OCS Foundations - RW6 MSE Section	05 - Jan - 17						
C0988 - F/R/P OCS Foundations - UG #1	09 - Jan - 17						
C0988 - Form Foundations & Slabs - TPSS-03	12 - Jan - 17						
C0988 - Pull Ductbank Wire - Medium Voltage Cable - Arbor Vitae to Manchester	18 - Jan - 17						
C0988 - Escalator Steel Framing - Aviation / Century	25 - Jan - 17					4	
C0988 - Traffic Signal Pull Boxes & Terminations - 111th & Aviation	08 - Feb - 17						
C0988 - F/R/P Foundation TC&C #3 Room, Mech Room, Elect Room - Aviation / Century	09 - Feb - 17						4
C0988 - Pour Foundations & Slab - TPSS-01	15 - Feb - 17						Ð
C0988 - Fabricate & Deliver MCC - Expo, MLK, Vernon and TPSS	17 - Feb - 17						4
C0988 - Open 104th St. to Traffic - UG #1	24 - Feb - 17						



### **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	
	10/00/2010		
Final Design Progress:			
Contract C0988	97.5%	0.2%	Behind Schedule
Contract C0990	100%	None	Design Completed
Contract C0991	67.5%	3.5%	On Schedule
Contract C0992	100%	None	Design Completed
Contract C0992A	100%	None	Design Completed
Construction Contracts			
Progress:			
Contract C0988	39.6%	2.1%	Behind Schedule
Contract C0990	100%	None	Substantially Completed
Contract C0991	1.7%	0.9%	Construction Started May 2016
Contract C0992	100%	None	Substantially Completed
Contract C0992A	100%	None	Substantially Completed



### **OVERALL CONSTRUCTION PROGRESS CURVE STATUS**

The actual overall construction progress is 45.3% versus a planned progress of 69.8% through August 2016. The progress curves represent a composite percentage for the physical progress of work performed to complete the project's construction contracts, including the major design-build (C0988), advance utility relocation (C0990), and two equipment procurement contracts-concrete ties (C0992) and running rail (C0992A).

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

### MAJOR EQUIPMENT DELIVERY STATUS

#### Tunnel Boring Machine

WSCC, the design-builder for Contract C0988, will procure the tunnel boring machine (TBM) and equipment. Following are the major milestone dates for TBM:

	Baseline	Jul-16	Aug-16	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 Vernon	09/17/15	09/28/16	10/10/16	-12
TBM NB Tunnel Launch at Expo	10/29/15	11/14/16	11/25/16	-11
TBM NB Break through at Vernon	03/21/16	03/16/17	03/28/17	-12

#### 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.

The first two pilot cars for the initial order of cars (non-option) were ready on July 7, 2015; then four cars were planned to be delivered every month starting from Aug 2015 with the last group of cars to be delivered in Jan 2017. However, the production rate of four cars per month has only recently been achieved. The contractor has to achieve a higher production rate to complete production of base work by January 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. Plan is to initiate change notice to the existing TVM contractor by November 2016 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

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	3/1/2015
Jet Fan- UG3	5/5/2015	4/15/2015		3/1/2017
Jet Fan- UG3 Jet Fan- UG4			12/31/2016	
	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- Locast Bus Bay and Hotence	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		6/16/2015	12/13/2015	2/11/2016
	4/17/2015			
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**

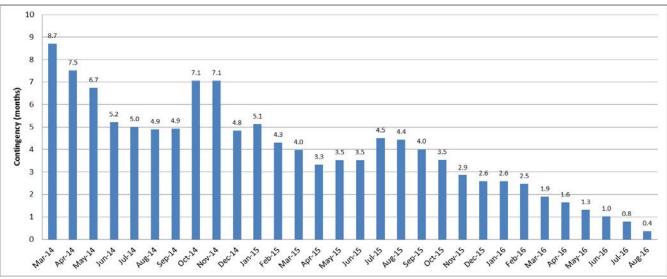
#### **Critical Path:**

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 May 20, 2019, which is 219 calendar days behind the current contract date.



### **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 re-forecast of their substantial completion milestone.

Metro this month reduced the forecast of the available project contingency by thirteen (13) calendar days. The thirteen (13) calendar days is the delay in the contractor's schedule for the longer period of time required for mining South bound tunnel from Expo/Crenshaw Station to MLK Station.

The total contingency remaining is 0.4 months.

SCC	DESCRIPTION	ORIGINAL	CURREN	IT BUDGET	COMM	ITMENTS	EXPEN	DITURES	CURREN	FORECAST	CURRENT BUDGET/
CODE	DESCRIPTION	BUDGET	PERIOD	TO DATE	PERIOD	TO DATE	PERIOD	TO DATE	PERIOD	TO DATE	FORECAST VARIANCE
10	GUIDEWAYS	471,335,000	-	452,500,001	-	443,578,773	15,150,020	207,537,209	-	450,354,375	(2,145,626)
20	STATIONS	153,906,000	-	316,050,000	-	303,573,366	1,177,084	130,108,773	-	315,050,000	(1,000,000)
30	SUPPORT FACILITIES SOUTHWEST YARD	66,673,000	-	73,245,544	-	71,053,330	1,079,829	16,741,496	-	71,164,000	(2,081,544)
40	SITEWORK\SPECIAL CONDITIONS	235,576,000	-	348,565,999	(8,934)	373, 198, 383	1,869,728	258,012,782	180,991	383,049,543	34,483,544
50	SYSTEMS	125,132,000	-	169,311,000	-	152,363,920	1,348,023	7,733,690	-	169,436,000	125,000
	CONSTRUCTION SUBTOTAL (10-50)	1,052,622,000	-	1,359,672,544	(8,934)	1,343,767,772	20,624,685	620,133,951	180,991	1,389,053,918	29,381,374
60	RIGHT-OF-WAY	132,294,000	-	127,400,000	(214)	123,482,370	9,439	120,263,084	-	127,490,000	90,000.00
70	LRT VEHICLES	87,780,000	-	82,100,000	-	82,050,901	(2,640,820)	9,015,878	-	83,571,544	1,471,544
80	PROFESSIONAL SERVICES	273,147,000	-	300,093,178	18,619,203	305,518,337	1,256,703	242,894,048	-	345,921,710	45,828,532
	SUBTOTAL (10-80)	1,545,843,000	-	1,869,265,722	18,610,054	1,854,819,380	19,250,007	992,306,960	180,991	1,946,037,171	76,771,449
90	UNALLOCATED CONTINGENCY	177,157,000	-	162,734,278	-	-	-	-	(180,991)	85,962,829	(76,771,449)
	TOTAL PROJECT 865512 (10-100)	1,723,000,000	-	2,032,000,000	18,610,054	1,854,819,380	19,250,007	992,306,960	-	2,032,000,000	-
	ENVIRONMENTAL/PLANNING - 405512	5,526,150	-	5,526,150	-	5,526,150	-	5,526,150	-	5,526,150	-
	ENVIRONMENTAL/PLANNING - 465512	20,473,850	-	20,473,850	-	20,023,237	-	20,023,237	-	20,473,850	-
TOTAL	PROJECTS 405512 & 465512 (ENV / PLAN'G)	26,000,000	-	26,000,000	-	25,549,388	-	25,549,388	-	26,000,000	-
	TOTAL PROJECTS 405512, 465512 & 865512	1,749,000,000	-	2,058,000,000	18,610,054	1,880,368,768	19,250,007	1,017,856,347	-	2,058,000,000	-

### **PROJECT COST STATUS**

NOTE: EXPENDITURES ARE CUMULATIVE THROUGH 02-SEP-2016.

### **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 September 2, 2016. The total commitments increased by \$18.6 million this period primarily due to the following:

• SCC-80 (Professional Services) has increased of \$18.6 million due legal services, labor compliance services and fiscal year 2017 budget allocation for project administration. The total commitment of \$305.5 million includes \$21.2 million for the Southwestern Yard 49% allocation.

The \$1,880.4 million in commitments to date represents 91.3% of the current budget.

#### Expenditures:

The expenditures are cumulative through September 2, 2016. The total expenditures increased by \$19.3 million this period due to the following:

- SCC-10 (Guideways) has increased by \$15.2 million for costs associated with the design-build Contract C0988 Crenshaw/LAX Transit Corridor.
- SCC-20 (Stations, Stops, Terminals, Intermodal) has increased by \$1.2 million for costs associated with the design-build Contract C0988 Crenshaw/LAX Transit Corridor.
- SCC-30 (Southwestern Yard) has increased by \$1.0 million for costs associated with Contract C0991 Division 16: Southwestern Yard (Design/Build).
- SCC-40 (Sitework and Special Conditions) has increased by \$1.9 million for costs associated with the design-build Contract C0988 Crenshaw/LAX Transit Corridor.
- SCC-50 (Systems) has increased \$1.3 million for costs associated with the design-build Contract C0988 Crenshaw/LAX Transit Corridor.
- SCC-70 (Vehicles) has decreased by \$2.6 million due to accounting adjustments.

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

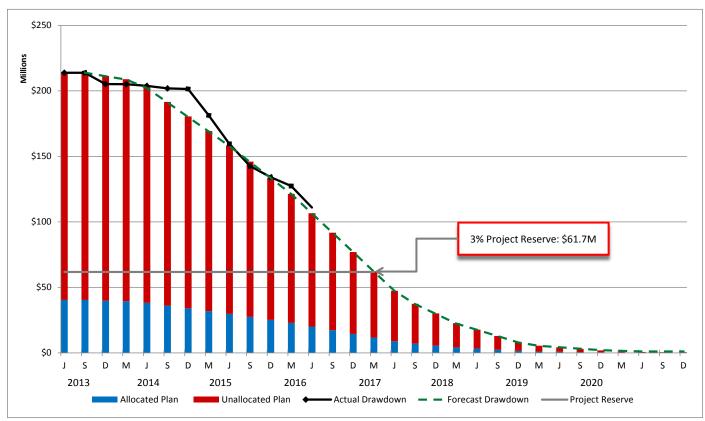
 SCC-80 (Professional Services) has increased by \$1.3 million for costs associated with for costs associated with the design-build Contract C0988 Crenshaw/LAX Transit Corridor, Contract C0991 Division 16: Southwestern Yard (Design/Build), Engineering and Design Contract E0117, Metro project administration, IPMO field office lease and utilities, construction management support services, labor compliance monitoring, accounting adjustments for legal services and third party coordination by Los Angeles City departments. The total expenditure of \$242.9 million includes \$10.9 million for the Southwestern Yard 49% allocation.

The \$1,017.9 million in expenditures to date represents 49.5% 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).

DESCRIPTION	ORIGINAL	CURRENT BUDGET		COMMITMENTS		EXPEN	DITURES	CUR	CURRENT	
DESCRIPTION	BUDGET	PERIOD	TO DATE	PERIOD	TO DATE	PERIOD	TO DATE	PERIOD	TO DATE	VARIANCE
405556 SYSTEMWIDE TRANSIT PLANNING	139,236	-	139,236	-	139,236	-	139,236	-	139,236	-
210090 FARE GATE PROJECT	2,310,000	-	2,482,746	-	2,482,746	-	172,746	-	2,482,746	-
460303 AIRPORT METRO CONNECTOR	366,400	-	3,001,555	-	2,311,024		2,182,405	-	3,001,555	-
500013 C/LAX LAWA SCOPE OF WORK	1,575,362	-	1,575,362	-	531,125		408,712	-	1,575,362	-
TOTAL	4,390,998	-	7,198,899	-	5,464,131	-	2,903,100	-	7,198,899	-



### **PROJECT COST CONTINGENCY DRAWDOWN**

Through 30-Jul-2016

### 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 \$104,048,534 or 48.7% for both allocated and unallocated contingency through July 2016.

- The unallocated contingency decreased by \$1,148,567 due to executed modifications for project management support services contract PS2879 Hill International, third party utility relocation scope of work with The Gas Company and Los Angeles Department of Water and Power and annual work order authorization with Caltrans District 6 and City of Inglewood.
- There was no drawdown of allocated contingency this reporting period.

PROJECT COST CONTINGENCY (through 30-July-2016) UNITS IN DOLLARS												
	Original				Remaining							
	Contingency	Previous	Current	To-Date	Contingency							
	(Budget)	Period	Period		(Forecast)							
Unallocated Contingency	173,500,000	(86,207,614)	(1,148,567)	(87,356,181)	86,143,819							
Allocated Contingency	40,366,792	(16,692,353)	-	(16,692,353)	23,674,439							
Total Contingency	213,866,792	(102,899,967)	(1,148,567)	(104,048,534)	109,818,258							

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

Contract C0988 Crenshaw/LAX Transit Corridor Design-Build

(Reported Data as of August 15, 2016)

- DBE Goal Design 20%
- Current DBE Commitment \$18,952,889 (20.59%)
- Current DBE Participation \$24,925,748 (25.32%)
- Twenty-one (21) Design subcontractors have been identified to-date
- DBE Goal Construction 20%
  DBE Commitment \$236,116,671 (20.00%)
  Current DBE Commitment \$157,209,085 (13.40%)
  Current DBE Participation \$128,656,429 (26.56%)
- Sixty (60) Construction subcontractors have been identified to-date.

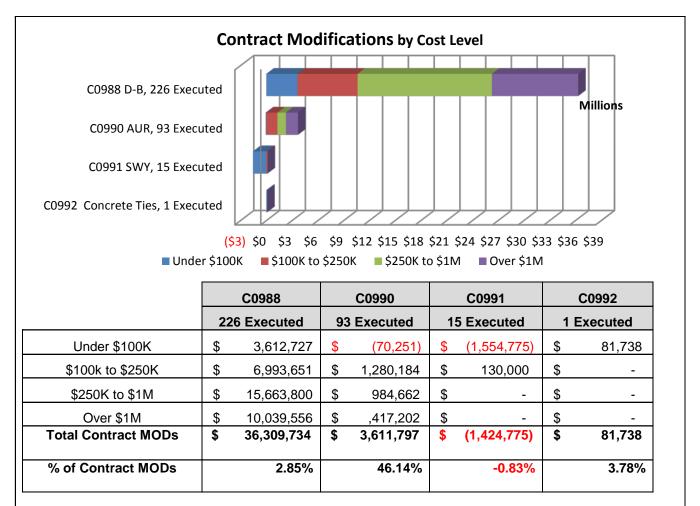
### **PROJECT LABOR AGREEMENTS (PLA) STATUS**

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

(Reported Data as of August, 2016)

Targeted Worker Goal –	40.00%
Targeted Worker Current Participation -	58.84%
Apprentice Worker Goal -	20.00%
Apprentice Worker Current Participation -	19.85%
Disadvantaged Worker Goal -	10.00%
Disadvantaged Worker Current Participation	12.52%

### SUMMARY OF CONTRACT MODIFICATIONS



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

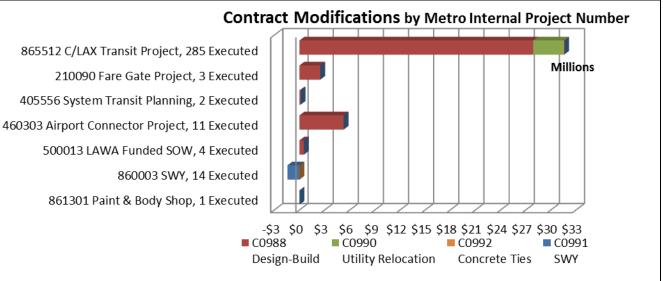
Two hundred and twenty six (226) changes with a total value of \$36.31 million have been executed since award of Contract C0988. There are an additional thirty-seven (37) changes with a total value of \$0.07 million pending the administrative approval process.

Ninety-three (93) changes with a total value of \$3.61 million have been executed for completed Contract C0990.

Fifteen (15) changes with a total value of (\$1.42) million credits have been executed since award of Contract C0991. There are an additional three (3) changes with a total value of \$0.16 million pending the administrative approval process.

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

### SUMMARY OF CONTRACT MODIFICATIONS



	865512	210090	405556	460303	500013	860003	861301
	Executed	Executed	Executed	Executed	Executed	Executed	Executed
C0988 - QTY	206	3	2	11	4	0	0
C0998 - \$	\$ 27,892,693	\$ 2,482,746	\$ 139,236	\$ 5,263,844	\$ 531,216	\$ -	\$-
C0990 - QTY	78	0	0	0	0	0	0
C0990 - \$	\$ 3,611,797	\$ -	\$-	\$-	\$-	\$ -	\$-
C0991 - QTY	0	0	0	0	0	14	1
C0991 - \$	\$ -	\$ -	\$ -	\$-	\$-	\$(1,432,775)	\$ 8,000
C0992 - QTY	1	0	0	0	0	0	0
C0992 - \$	\$ 81,738	\$ -	\$ -	\$-	\$-	\$-	\$-
Total - QTY	285	3	2	11	4	14	1
Total - \$	\$ 31,586,228	\$ 2,482,746	\$ 139,236	\$ 5,263,844	\$ 531,216	\$(1,432,775)	\$ 8,000

Two hundred and eighty five (285) changes with a total value of \$31.59 million have been executed for Project 865512 Crenshaw/LAX Transit Project. There are an additional thirty-seven (37) changes with a total value of \$0.07 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.

Two (2) changes with a value of \$0.14 million have been executed for Project 405556 System Transit Planning.

Eleven (11) changes with a value of \$5.26 million have been executed for Project 460303 Airport Metro Connector Project.

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

Fourteen (14) changes with a value of \$1.43 million credit have been executed for Project 860003 Southwestern Yard. There are an additional one (1) change with a total value of \$0.17 million pending approval.

One (1) change with a value of \$8,000 has been executed for Project 861301 Southwestern Yard Paint and Body Shop.

### **FINANCIAL/GRANT STATUS**

\$ in millions									
	(A) ORIGINAL	(B) TOTAL FUNDS	(C) TOTAL FUNDS	(D) (D/B) COMMITMENTS		(E) (E/B) EXPENDITURES		(F) (F/B) BILLED to FUNDING	
SOURCE	BUDGET					EXIENDITORES		SOURCE	
		ANTICIPATED	AVAILABLE	\$	%	\$	%	\$	%
FEDERAL - CMAQ	68.2	152.9	54.0	54.0	35%	54.0	35%	54.0	35%
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	120.9	118%	47.5	46%	47.3	46%
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%	480.1	88%	480.1	88%
MEASURE R	661.1	529.3	446.7	661.1	125%	210.7	40%	167.7	32%
OTHER FUNDS*	52.4	187.5	19.0	13.0	7%	13.0	7%	13.0	7%
PROP C 25% HIGHWAY	148.9	241.1	3.7	196.5	82%	3.7	2%	3.7	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	50.4	50.4	0%	4.9	0%	4.9	10%
TOTAL	1,749.0	2,058.0	1,397.5	1,880.4	91.4%	1,018.0	49.5%	974.9	47.4%

NOTE: Expenditures are cumulative through August 2016.

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. Metro will apply to FTA for a grant application of \$20.0 M during the second quarter of FY17.

**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.

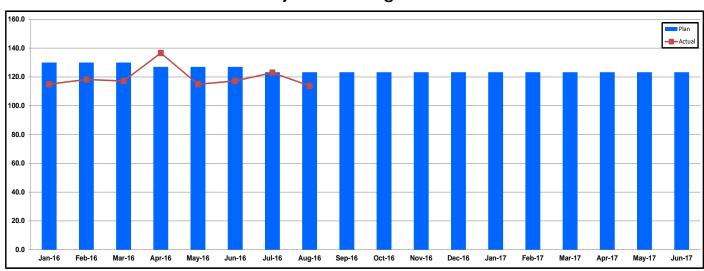
**MEASURE R:** \$446.7M has been allocated to the project through FY2017. Funds are available for drawdown.

**OTHER FUNDS:** City of LA: Based on the funding agreement between Metro and the City of LA. \$13M is available for drawdown through FY2016.

**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 July 2016.

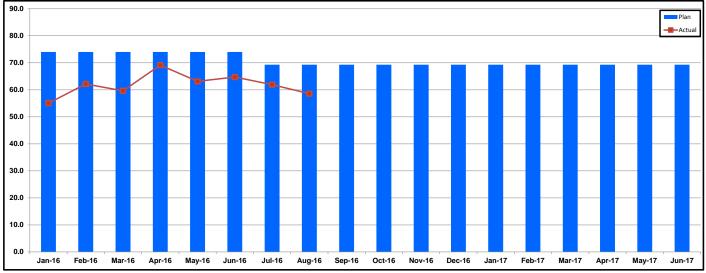
### TOTAL PROJECT STAFFING

With the start of the 2016 fiscal year in July; the staffing for the Southwestern Yard Project is also included along with the Crenshaw/LAX Project for Metro and the Construction Management and Engineering Services consultants.

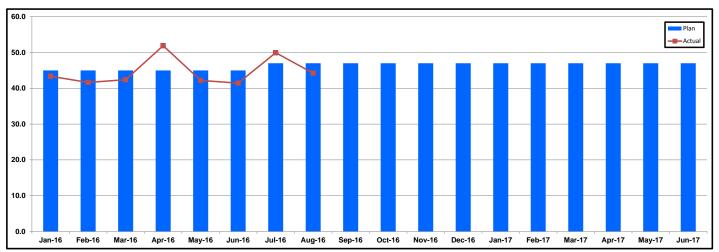
For August 2016, there were a total of 58.6 FTEs for Metro's project administration staff, 44.2 FTEs for Construction Management Support Services Consultant and 11.1 FTEs for Design and Engineering Support Services Consulting staff.

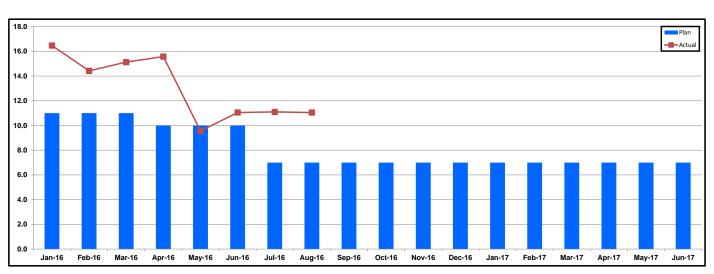
The next three charts show actual staffing versus planned staffing for the three major project participants.

## 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
C0988 C/LAX Transit Cor	ridor (D-B):								
Crenshaw Subdivision									
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
Subtotal Parcels	32	30	2	31	31	11	19	12	30
Crenshaw Subdivision A	dditional Parcel	s:	•			•			•
Full Takes									
Part Takes	1	1		1	1				
TCE									
Subtotal Parcels:	1	1		1	1				
Total Crenshaw	33	31	2	32	32	11	19	12	30
Parcels	33	31	2	JZ	JZ	11	17	12	50
Harbor Subdivision			1			1			1
Full Takes	15	15		15	15	8	7	12	15
Part Takes (PT or SE)	18	16	2	18	17	6	10		14
TCE	3	2	1	2	2		2		2
Subtotal Parcels	36	33	3	35	34	14	19	12	31
Harbor Subdivision Add	itional Parcels:								
Full Takes	3	2	1	1					
Part Takes	4	2	2	2	2	2			1
TCE	3	3		3	3	2			2
Subtotal Parcels:	10	7	3	6	5	4			3
Total Harbor Subdivision Parcels	46	40	6	41	39	18	19	12	34
Total CR/HS Parcels:	79	71	8	73	71	29	38	24	64
Southwestern Yard									
Full Takes	8	8		8	8	4	4	7	8
Part Takes									
TCE									
Subtotal Parcels:	8	8		8	8	4	4	7	8
Total SW Parcels:	8	8		8	8	4	4	7	8
Total Project Parcels	87	79	8	81	79	33	42	31	72

- All critical parcels have been turned over to the Contractor.
- Only two of the original 76 acquisitions remain to be turned over to the Contractor. Anticipate having possession of these parcels by the end of the year.
- The project has added eight parcels to the list of required properties. Three of these acquisitions are complete.

### **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.
- Metro Quality Assurance closed two (2) NCR's this month including utility striker and deviation from approved CWP for Vernon mud slab excavation.
- WSCC Quality Control issued six (6) Nonconformance Reports (NCR's) during this month including exceeding 30 min to place fresh concrete, incorrect ramp layout at La Brea Station, deficiencies in soffit concrete at Aviation/Century Bridge (AG3, cold joint in deck slab at UG1cut and cover, installed street light poles without approval and incorrect alignment of a 12" SD line.
- WSCC Quality Control closed three (3) Nonconformance Reports (NCR's).
- WSCC Quality Control issued four (4) Potential Nonconformance Reports (PNCR's) including damaged sewer manhole at 67<sup>th</sup> street, refurbishment of existing street light poles, damaged electrical conduits in invert at emergency walkway and concrete slump exceeding design maximum by 1".
- WSCC Quality Control closed two (2) Potential Nonconformance Reports (PNCR's).
- WSCC Quality continued their Intern Summer Spec Series program where interns research and present a topic on issues related to the project.
- HNTB Design Quality Control reviewed twenty-seven (27) NDC's, four RFI's, one NCR, five AFC and six design packages.
- Metro Independent Testing Lab conducted split sample for verification testing of MSE Wall 202 soil and provided soil test analysis of material MSE Wall 1, stockpile at 120<sup>th</sup>/Aviation, verification review of radiographic films for repair welds on rebar and sampled, tested and prepared cylinders/specimens for compressive strength test for ballast wall concrete pour..
- Metro Quality participated in Readiness Review Meetings for the installation of sub/bottom ballast, installation of decking for UG #3, placement of lightweight cellular concrete (LCC) as a MSC wall backfill material and the relocation of LAWA-LADWP water line.

#### **ENVIRONMENTAL STATUS**

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

- Reviewed and commented on the following Contractor Submittals:
  - o Weekly Noise Monitoring Data for station and alignment construction
  - o Green Construction Plan Monthly Report
  - o Sustainability Plan Monthly Reports
  - Weekly Storm Water Pollution Prevent Plan (SWPPP) inspection reports
  - Weekly Fugitive Dust Inspection Reports
  - o Various Construction Work Plans and Submittals
- Monitoring groundwater dewatering activities at the Expo and MLK Station excavations.
- Conducted Contractor Cultural Awareness Training.
- Coordinated cultural monitoring (Archaeological, Paleontological and Native American Monitoring).
- Conducted contaminated soil removal at Victoria Yard and 96<sup>th</sup> Street.
- Conducted noise and vibration monitoring for weekend and night decking operations at UG3.

#### **CONSTRUCTION RELATIONS STATUS**

- Continue to work with businesses and residents interested in the Park Mesa At-Grade segment including the Baldwin Hills Estates HOA and Dulan's Restaurant.
- Continue to work with Metro Bus Operations to ensure that bus stops between 60<sup>th</sup> and 67<sup>th</sup> Street are operational during construction.
- Metro Construction Relations and WSCC held a monthly Construction Update Meeting focused on the Park Mesa Heights area.
- Conducted an underground tour on August 15<sup>th</sup> with CEO Phil Washington for Bishop Blake from West Angeles COGIC.
- Assisted Metro Government Relations with an alignment tour on August 17<sup>th</sup> or staff from the US Senate Appropriations Committee and Housing Committee.
- Assisted Metro Media Relations and Government Relations with a press conference and walking tour on August 24<sup>th</sup> for Senator Barbara Boxer.
- Began CD10 planning meetings for the 2016 Taste of Soul on Crenshaw Blvd.
- Publicized the August 22<sup>nd</sup> TBM break through the northern wall of the MLK/Crenshaw Station on social media channels.
- Working with Media Relations on a media event in October for the completion of the first bored tunnel at the Leimert Park Station.
- Metro CEO Phil Washington performed a community walk in the Park Mesa Heights area to meet with key stakeholders and business owners impacted by construction.
- Held a Construction Update Community Meeting in downtown Inglewood.
- Media Relations is working on a media event for the completion of the first bored tunnel at Leimert Park Station anticipated for September 2016.
- The CLC Community Engagement Workgroup Meeting was held on August 22<sup>nd</sup>.
- The CLC Special Projects Workgroup sponsored an Artist Talk Event and tour of LAUS on August 25<sup>th</sup>.
- The CLC Quality of Life Workgroup held a hard hat construction tour of the Crenshaw/Expo Station on August 29<sup>th</sup>.

## SYSTEMWIDE DESIGN AND ART PROGRAM STATUS

- Responded to RFIs and submittal drawings.
- Worked with Design Builder to refine artwork technical requirements, schedule and budget.
- Participated in Systemwide Design integration reviews and presentations.
- Provided art program update to community stakeholders.
- Worked with artists to refine designs for submission to fabricators.
- Conducted outreach activities to present station artwork to the community.
- Facilitated community update meeting for art program.
- Gave a project update and tour of the Makers exhibition to the Crenshaw Leadership Council.

# SAFETY & SECURITY STATUS

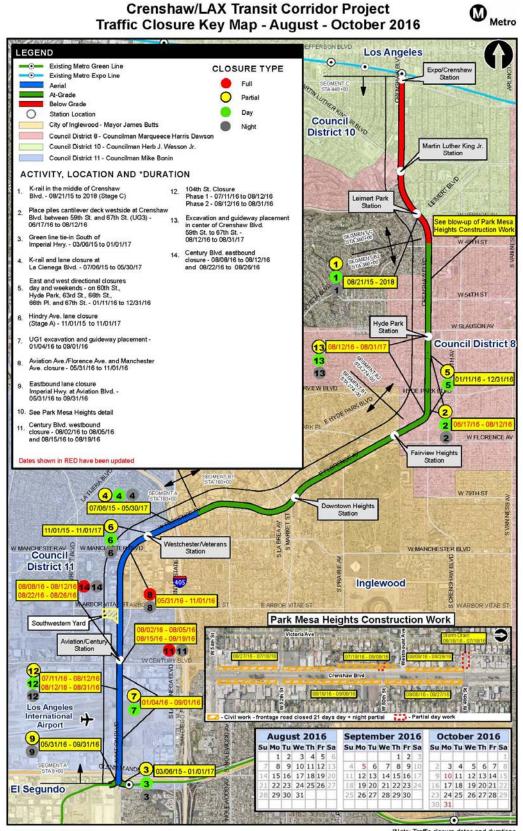
- Participated in weekly progress meetings with WSCC's Management and Construction Management Team to discuss safety/security/quality related issues and construction schedules.
- Conducted bi-weekly Site Safety Walks with WSCC's Safety personnel to enhance overall safety awareness. Minor safety hazards observed and corrected during safety monitoring.
- Participated in WSCC's weekly Safety Tool-Box Meetings, Executive and Sub-Contractor Safety Committee Meetings and monthly Supervisors Safety Meeting.
- Conducted monthly All Hands Safety and Security Meeting.
- Participated in WSCC's Readiness Review for UG#3 intersection decking activity.
- Walsh/Shea reported 127,197 work hours and five recordable incidents for the month of August 2016. Total Project-to-Date work hours are 2,957,395 and a total of thirty-four recordable incidents. The Project Incident Rate is 2.2. The Bureau of Labor Statistics (BLS) average recordable rate per 200,000 work-hours is 3.0.

THIRD PARTY AGREEMENT STATUS	
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Third Party	Type of Agreement	Forecast Execution Date	Required Need Date	Status/ Comments
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 <b>/</b> 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.



Updated: 08/04/2016

"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).

#### **CONTRACT C0988 STATUS**

Crenshaw/LAX Transit Corridor

CM Concultant, Stantas	ott (HM)				Contract No.: C0988	A And		
CM Consultant: Stantec Contractor: - Walsh Shea Corrie	dor Const	ructors (V	NSCC)		Status as of September 2, 2016			
Progress/Work Completed: Construction - Continued tunnel segment productio - Completed TBM Mining SB tunnel fr - Completed waterproofing installation Station. - Continued construction of the lower - Completed waterproofing installation - Completed installation of Tier 2 & 3 - Continued demolition and replacem driveways at Park Mesa Heights. - Continued demolition and replacem driveways at Park Mesa Heights. - Continued setting the precast panel - Continued construction of Green Lir - Completed construction of the SOE - Commenced decking intersections a - Continued the construction of Ballas - Continued CS foundation construct - Continued CS foundation construct - Completed construction of the T&& Walls at La Brea Station. - Commenced construction of the plat	rom Expo to n for the low walls at Ex n for the low bracing at I ent of curb, s for the ca ne superstru Cantilever at UG #3. st Wall in Se SE Wall 202 ction in segme C room Wal	ver walls ph po station. Ver walls at JG #4. gutter, side ntilevers at Jcture. at UG #3 eg B1.  ment B1. ent B1. lls at West	Areas of Concern: - Design-builder's ability to mitigate schedul - Timely submittal of WSCC's design submi Los Angeles. - 96th street station accomodations cost/scf - Ability of TBM to meet production rate fore	ittals and review by City of hedule impacts.				
Schedule Assessment: - Contractor's August 2016 schedule	update ind	icates "Mile	estone 1 - C	Contract	Cost Assessment:			
Contractor's August 2016 schedule Substantial Completion" is 219 calen - Contractor submitted a revised sche	idår days be edule and is	ehind the ci s under rev	urrent conti iew by Met	ract date. tro.	The current construction contract cost fore and is within the Board authorized budget. The Contractor submitted their 36th payme approved amount of \$23,218,271.71 *Please note that not all executed modifica included in the Contractor current payment	ent application in the		
Substantial Completion" is 219 calen - Contractor submitted a revised sch	dàr days be edule and is	ehind the cr	urrent conti	ract date. tro.	The Contractor submitted their 36th payme approved amount of \$23,218,271.71	ent application in the		
	dàr days be edule and is	ehind the cr s under rev 08/01/13	urrent cont iew by Met	ract date. tro.	The Contractor submitted their 36th payme approved amount of \$23,218,271.71 *Please note that not all executed modifica included in the Contractor current payment	ent application in the ations may have been t application.		
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Schedule Summary: 1. Date of Award: 2. Notice to Proceed:	Duration:	08/01/13 09/10/13	urrent cont iew by Met	ract date. tro.	The Contractor submitted their 36th payme approved amount of \$23,218,271.71 *Please note that not all executed modifica included in the Contractor current payment Cost Summary: 1. Award Value: 2. Executed Modifications:	ent application in the ations may have been t application. <b>\$ In millions</b> 1,272.63 30.53		
Schedule Summary: 1. Date of Award: 2. Notice to Proceed: 3. Original Substantial Completion D	Duration:	08/01/13 09/10/13 1824	urrent cont iew by Met	ract date. tro.	The Contractor submitted their 36th payme approved amount of \$23,218,271.71 *Please note that not all executed modifica included in the Contractor current payment Cost Summary: 1. Award Value: 2. Executed Modifications: 3. Approved Change Orders:	ent application in the ations may have been application. <b>\$ In millions</b> 1,272.63 30.53 5.78		
<ol> <li>Schedule Summary:</li> <li>Date of Award:</li> <li>Notice to Proceed:</li> <li>Original Substantial Completion D</li> <li>Current Substantial Completion D</li> </ol>	Duration:	08/01/13 09/10/13 1824 1859		Calendar Day	The Contractor submitted their 36th payme approved amount of \$23,218,271.71 *Please note that not all executed modifica included in the Contractor current payment Cost Summary: 1. Award Value: 2. Executed Modifications: 3. Approved Change Orders: 4. Current Contract Value (1 + 2 + 3):	ent application in the ations may have been t application. <b>\$ In millions</b> 1,272.63 30.53 5.78 1,308.94 660.54 IPLETE		
Schedule Summary: 1. Date of Award: 2. Notice to Proceed: 3. Original Substantial Completion D 4. Current Substantial Completion D 5. Elapsed Time from NTP: <u>Milestones</u> Milestones	Duration: Duration: Original	08/01/13 09/10/13 1824 1859 1089 Current	58.6%	Calendar Day	The Contractor submitted their 36th payme approved amount of \$23,218,271.71 *Please note that not all executed modifica included in the Contractor current payment <b>Cost Summary:</b> 1. Award Value: 2. Executed Modifications: 3. Approved Change Orders: 4. Current Contract Value (1 + 2 + 3): 5. Incurred Cost: PERCENT COM <i>from 09/10/13 to 05</i>	ent application in the ations may have been t application. \$ In millions 1,272.63 30.53 5.78 1,308.94 660.54 PPLETE 9/02/16		
Schedule Summary: 1. Date of Award: 2. Notice to Proceed: 3. Original Substantial Completion D 4. Current Substantial Completion D 5. Elapsed Time from NTP: Milestones	Duration: Duration: Original Contract	08/01/13 09/10/13 1824 1859 1089 Current Contract	58.6% Forecast	Calendar Day Variance	The Contractor submitted their 36th payme approved amount of \$23,218,271.71 *Please note that not all executed modificationcluded in the Contractor current payment <b>Cost Summary:</b> 1. Award Value: 2. Executed Modifications: 3. Approved Change Orders: 4. Current Contract Value (1 + 2 + 3): 5. Incurred Cost: Design	ent application in the ations may have been t application. \$ In millions 1,272.63 30.53 5.78 1,308.94 660.54 PPLETE 9/02/16		
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Schedule Summary: 1. Date of Award: 2. Notice to Proceed: 3. Original Substantial Completion D 4. Current Substantial Completion D 5. Elapsed Time from NTP:	Duration: Duration: Original Contract 09/08/18 03/09/18	08/01/13 09/10/13 1824 1859 1089 Current Contract 10/13/18 04/13/18	58.6% Forecast 05/20/19 11/13/18	Calendar Day Variance -219 -214 -221	The Contractor submitted their 36th payme approved amount of \$23,218,271.71 *Please note that not all executed modifica included in the Contractor current payment <b>Cost Summary:</b> 1. Award Value: 2. Executed Modifications: 3. Approved Change Orders: 4. Current Contract Value (1 + 2 + 3): 5. Incurred Cost:	ent application in the ations may have been t application. \$ In millions 1,272.63 30.53 5.78 1,308.94 660.54 PPLETE 9/02/16		
Schedule Summary: 1. Date of Award: 2. Notice to Proceed: 3. Original Substantial Completion D 4. Current Substantial Completion D 5. Elapsed Time from NTP:	Duration: Duration: Original Contract 09/08/18 03/09/18 06/09/18	08/01/13 09/10/13 1824 1859 1089 Current Contract 10/13/18 04/13/18 04/13/18	58.6% Forecast 05/20/19 11/13/18 02/20/19 5/01/2016	Calendar Day Variance -219 -214 -221	The Contractor submitted their 36th payme approved amount of \$23,218,271.71 *Please note that not all executed modifica included in the Contractor current payment <b>Cost Summary:</b> 1. Award Value: 2. Executed Modifications: 3. Approved Change Orders: 4. Current Contract Value (1 + 2 + 3): 5. Incurred Cost:	sent application in the ations may have been t application. \$ In millions 1,272.63 30.53 5.78 1,308.94 660.54 IPLETE 9/02/16 97.5%		
Schedule Summary: 1. Date of Award: 2. Notice to Proceed: 3. Original Substantial Completion D 4. Current Substantial Completion D 5. Elapsed Time from NTP: <u>Milestones</u> Milestone 1 - Contract Substantial Completion Milestone 2 - UFS Completion Milestone 3 - Commence SIT Phase I Milestone 4 - Const./Turnover Parcels SW-0101, 0102, 0103	Duration: Duration: Original Contract 09/08/18 03/09/18 06/09/18 12/04/15	08/01/13 09/10/13 1824 1859 1089 Current Contract 10/13/18 04/13/18 04/13/18 07/14/18	58.6% Forecast 05/20/19 11/13/18 02/20/19 5/01/2016 A	Calendar Day Variance -219 -214 -221 -58	The Contractor submitted their 36th payme approved amount of \$23,218,271.71 *Please note that not all executed modifica included in the Contractor current payment <b>Cost Summary:</b> 1. Award Value: 2. Executed Modifications: 3. Approved Change Orders: 4. Current Contract Value (1 + 2 + 3): 5. Incurred Cost:	ent application in the ations may have been t application. \$ In millions 1,272.63 30.53 5.78 1,308.94 660.54 IPLETE 9/02/16 9/02/16 9/02/16 9/02/16 9/02/16 9/02/16		

#### **CONTRACT C0990 STATUS**

Crenshaw/LAX Advanced Utility Relocations

PE Design Contractor: Hat CM Consultant: Stantec					Contract No		- And	
Contractor: - Metro Builde	rs and Engin	eers G	roup LTD		Status as of September 2, 2016			
Progress/Work Completed - The construction was substar - Board authorized in March a - Contract in close out.	ntially complete	ed on Au	igust 21, 20 <sup>.</sup>	14	Areas of Co	ncern:		
Schedule Assessment: - Metro granted substantial cor	mpletion to Met	ro Build	ers on Augu	let 21	Cost Asses	sment: ntract is \$11,316,140.00 and ha	as been completely paid	
2014, which is 276 calender da	ays behind.			151 2 1,	to contractor.			
- The settlement with the contr	actor settled all	l time is:	sues.			on in process for credit of unus f \$123,156.85.	ed provisional sums in	
Schedule Summary:					Cost Summa	ıry:	\$ In millions	
1. Date of Award:	05	5/30/12			1. Award Va	lue:	7.83	
2. Notice to Proceed:	07	7/17/12			2. Executed	Modifications:*	3.49	
3. Original Substantial Comple		365				Change Orders:	-	
4. Current Substantial Comple		468				contract Value (1 + 2 + 3):	11.32	
5. Elapsed Time from NTP:	-	753			5. Incurred (	Cost:	11.32	
	Original C	urront		Calendar		PERCENT COMP		
Milestones	0	Current ontract	Forecast	Day Variance		from 7/17/12 to 8/21	//14	
Milestone 1 - Contract Substantial Completion	07/17/13 11	1/18/13	08/21/14A	-276	Design	0%		
					Construction		100%	
					Total Incurred Cost		100%	
					ſ	20% 40% 60%	80% 100%	
						Percent Complete		
						Construction physical percent com	plete excludes	
						nobilization and general requireme		

# CONTRACT C0991 STATUS

Southwestern Yard

	lott (HM)				Contract No.: C0991	
CM Consultant: Stantec Contractor: - Hensel Phelps / H	erzog JV				Status as of September 2, 2016	
Progress/Work Completed: - Design submittal 100% of APDU-1 reconciled by August 8, 2016. - Design Submittal 100% of APDU-2, on August 17, 2016. - Design submittal 85% of ADPU-2B - Design submittal 85% of ADPU-2C rejected on July 26, 2016. - Phase I, right of way was turned ov - Bellanca Revocable Permit was iss - Temporary Access Road (TAR) was - DWP installed new poles and wiring - AT&T completed installation of und TAR. - Traffic Control Plans were approved	A was result was result for future M rer to HPH c ued in June s approved g east of TA erground co	nitted AAN nitted AAN)( lain Shop E n May 2, 20 2016. for construc R. nduits to th	<ul> <li>Areas of Concern:</li> <li>DWP utility line relocation design is continuing and anticipated to be complete and approved by BOE. Design approval process is taking much longer than anticipated.</li> <li>Metro 3rd party is working on an interim plan to remove the interfearing power pole.</li> <li>AT&amp;Tis planning to complete the fiber and copper lines relocation and removal of existing communication poles from east side of Bellanca.</li> </ul>			
<ul> <li>Schedule Assessment:</li> <li>MOD #02 was executed extending shown on the schedule milestone see - MOD #06 was also executed to ad measurement.</li> <li>C0991 contract critical path runs the Main Shop Facility.</li> <li>Interface coordination between HP managed proactively to address and and Schedule.</li> <li>Risk Register for SWY was expand project risk process.</li> <li>Assessment, no delay to the milester has been obsorbed.</li> </ul>	ection below ljust the con nrough desig PH, WSCC, to minimiz ded as part	r. tract rain da gn and start City, 3rd Pa e any impa of the overa	Cost Assessment: - The current construction contract cost forecast of \$170,887,919.82 is within the Board authorized budget. - The Contractor submitted their 13th payment application in the approved amount of \$2,253,361.90. - Trends are being prepared for major changes . - Separate cash flow and contingency draw down curves are being prepared and will be included in a future report. *Please note that not all executed modifications may have been included in the Contractor current payment application.			
Schedule Summary:					Cost Summary:	\$ In millions
					,	
1. Date of Award:		28-May-15		1. Award Value:	172.31	
•		28-May-15 29-Jun-15			<ol> <li>Award Value:</li> <li>Executed Modifications:</li> </ol>	172.31 (1.46)
1. Date of Award:	Duration:					
<ol> <li>Date of Award:</li> <li>Notice to Proceed:</li> </ol>		29-Jun-15			2. Executed Modifications:	(1.46) 0.03
<ol> <li>Date of Award:</li> <li>Notice to Proceed:</li> <li>Original Substantial Completion E</li> </ol>		29-Jun-15 1,220	33.0%		<ol> <li>Executed Modifications:</li> <li>Approved Change Orders:</li> </ol>	(1.46) 0.03
<ol> <li>Date of Award:</li> <li>Notice to Proceed:</li> <li>Original Substantial Completion E</li> <li>Current Substantial Completion E</li> <li>Elapsed Time from NTP:</li> </ol> Milestones		29-Jun-15 1,220 1,311	33.0% Forecast	Calendar Day Variance	<ol> <li>Executed Modifications:</li> <li>Approved Change Orders:</li> <li>Current Contract Value (1 + 2 + 3):</li> </ol>	(1.46) 0.03 170.88 22.77 DMPLETE
<ol> <li>Date of Award:</li> <li>Notice to Proceed:</li> <li>Original Substantial Completion E</li> <li>Current Substantial Completion E</li> <li>Elapsed Time from NTP:</li> </ol>	Ouration:	29-Jun-15 1,220 1,311 432 Current		Day	<ol> <li>Executed Modifications:</li> <li>Approved Change Orders:</li> <li>Current Contract Value (1 + 2 + 3):</li> <li>Incurred Cost (thru August 2016):</li> </ol> PERCENT CO from 06/29/15	(1.46) 0.03 170.88 22.77 <b>DMPLETE</b> to 09/02/16
1. Date of Award:     2. Notice to Proceed:     3. Original Substantial Completion D     4. Current Substantial Completion D     5. Elapsed Time from NTP: <u>Milestones     MS#1 Yard and Main Shop Design     Completion     MS#2 Main Shop Communication Room     Completion </u>	Original Contract 26-Oct-16	29-Jun-15 1,220 1,311 432 Current Contract	Forecast	Day Variance	<ol> <li>Executed Modifications:</li> <li>Approved Change Orders:</li> <li>Current Contract Value (1 + 2 + 3):</li> <li>Incurred Cost (thru August 2016):</li> </ol> PERCENT CC from 06/29/15 Design	(1.46) 0.03 170.88 22.77 DMPLETE
1. Date of Award:     2. Notice to Proceed:     3. Original Substantial Completion E     4. Current Substantial Completion E     5. Elapsed Time from NTP: <u>Milestones     MS#1 Yard and Main Shop Design     Completion     MS#3 Main Shop Communication Room     Completion     MS#3 Main Shop Substantial     Completion </u>	Original Contract 26-Oct-16	29-Jun-15 1,220 1,311 432 Current Contract 26-Oct-16	Forecast 26-Oct-16	Day Variance 0	<ol> <li>Executed Modifications:</li> <li>Approved Change Orders:</li> <li>Current Contract Value (1 + 2 + 3):</li> <li>Incurred Cost (thru August 2016):</li> </ol> PERCENT CO from 06/29/15	(1.46) 0.03 170.88 22.77
1. Date of Award:     2. Notice to Proceed:     3. Original Substantial Completion D     4. Current Substantial Completion D     5. Elapsed Time from NTP: <u>Milestones     MS#1 Yard and Main Shop Design     Completion     MS#2 Main Shop Communication Room     Completion     MS#3 Main Shop Substantial </u>	Original Contract 26-Oct-16 15-Jan-18	29-Jun-15 1,220 1,311 432 Current Contract 26-Oct-16 16-Apr-18	Forecast 26-Oct-16 20-Mar-18	Day Variance 0 27	<ol> <li>Executed Modifications:</li> <li>Approved Change Orders:</li> <li>Current Contract Value (1 + 2 + 3):</li> <li>Incurred Cost (thru August 2016):</li> </ol> PERCENT CC from 06/29/15 Design	(1.46) 0.03 170.88 22.77
1. Date of Award:     2. Notice to Proceed:     3. Original Substantial Completion E     4. Current Substantial Completion E     5. Elapsed Time from NTP: <u>Milestones     MS#1 Yard and Main Shop Design     Completion     MS#3 Main Shop Communication Room     Completion     MS#3 Main Shop Substantial     Completion     MS#4 Southwestern Yard Substantial </u>	Original Contract 26-Oct-16 15-Jan-18 30-Apr-18	29-Jun-15 1,220 1,311 432 Current Contract 26-Oct-16 16-Apr-18 30-Jul-18	Forecast 26-Oct-16 20-Mar-18 24-Jul-18	Day Variance 0 27 6	<ol> <li>Executed Modifications:</li> <li>Approved Change Orders:</li> <li>Current Contract Value (1 + 2 + 3):</li> <li>Incurred Cost (thru August 2016):</li> </ol> PERCENT CC from 06/29/15 Design Construction Total Incurred 11.7% 13.3%	(1.46) 0.03 170.88 22.77 <b>DMPLETE</b> to 09/02/16 <b>67.5%</b> <b>67.5%</b> <b>67.5%</b> <b>67.5%</b> <b>67.5%</b> <b>67.5%</b> <b>67.5%</b> <b>67.5%</b> <b>67.5%</b> <b>67.5%</b> <b>67.5%</b> <b>67.5%</b> <b>60.0%</b> <b>100.0%</b>

## **CONTRACT C0992 STATUS**

Concrete Ties

PE Design Contractor: Hatch I CM Consultant: Stantec Contractor: Rocla Concrete Ti			Contract No.: C0992 Status as of September 2, 2016						
Progress/Work Completed: - All 19,936 concrete ties have beer (Contract C0988). - Contract is closed out.		site by the	design-buil	lder	Areas of Concern:				
Schedule Assessment: All concrete ties were delivered to jo	ob site by Au	gust 15, 20	014.		Cost Assessment: The final contract cost is \$2.25 million and has been completely paid to contractor.				
<ol> <li>Schedule Summary:</li> <li>1. Date of Award:</li> <li>2. Notice to Proceed:</li> <li>3. Original Substantial Completion</li> <li>4. Current Substantial Completion</li> <li>5. Elapsed Time from NTP:</li> </ol>			12/10/13 12/23/13 220 235 235	5 ) ;	Cost Summary:\$ In millions1. Award Value:2.162. Executed Modifications:0.093. Approved Change Orders:4.4. Current Contract Value (1 + 2 + 3):-2.255.5. Incurred Cost:2.25				
Milestones Milestone 1 - Contract Substantial Completion	Original Contract 07/31/14	Current Contract 08/15/14	Forecast 08/15/14A	Calendar Day Variance 0 0 0 0 0 0	PERCENT COMPLETE from 12/23/2013 to 8/15/14 Delivered Shipped Total Incurred Cost 0% 20% 40% 60% 80% 100% Percent Complete Progress				
				0	Construction physical percent complete excludes mobilization and general requirements				

#### **CONTRACT C0992A STATUS**

Running Rail and Bumping Posts

PE Design Contractor: Hatch M CM Consultant: Stantec Contractor: LB Foster Rail Tecl		orp			Contract No.: C0992A Status as of September 2, 2016			
Progress/Work Completed: - All 115RE SS Blank Stick Rails har - All 115RE HH rail have been delive - All Bumping Posts have been delive - Contract is closed out.	ered to job s	site.	-		Areas of Concern:			
Schedule Assessment:					Cost Assessment:			
All running rails and bumping posts v	vere deliver	ed ahead c	f the schedu	ıle.	The final contract cost is \$5,2 million an to contractor.	d has been completely paid		
Schedule Summary:					Cost Summary:	\$ In millions		
1. Date of Award:			01/23/14		1. Award Value:	5.2		
2. Notice to Proceed:			03/07/14		2. Executed Modifications:			
3. Original Substantial Completion			300		3. Approved Change Orders:	5.0		
4. Current Substantial Completion	Ouration:		558		4. Current Contract Value (1 + 2 + 3):	- 5.2 5.2		
5. Elapsed Time from NTP:			448	•	5. Incurred Cost:	5.2		
Milestones Milestone 1 - Contract Substantial	Original Contract	Current Contract	Forecast	Calendar Day Variance	PERCENT CO from 3/7/2014 t			
Completion	12/31/14	09/30/15	05/08/15A	145				
				0	Construction	100%		
				0				
				0	Total Incurred Cost	100%		
				0	0% 20% 40%	60% 80% 100%		
				0	Percent Com	plete Progress		
					Construction physical percent mobilization and general requ			

# **CONSTRUCTION PHOTOGRAPHS**



GREENLINE UNDERPASS - Frame 2 first pour of soffit and stems.



GREENLINE UNDERPASS – Frame 2 pour looking down at station.



111<sup>th</sup> STREET UNDERPASS - Panoramic view looking east.



**UG#1** – Invert concrete placement continues.



96<sup>th</sup> STREET STATION ACCOMMODATIONS - Continued work on HDPE storm drain installations.



**FAITHFUL CENTRAL BIBLE CHURCH PEDESTRIAN UNDERPASS** – Backfilling and compaction testing between exterior ramps.



LA BREA BRIDGE – Worked on forming and concrete placement for the bridge deck parapet walls.



FAIRVIEW HEIGHTS STATION - Formwork installation and concrete placement for the subterranean TC&C room retaining walls.



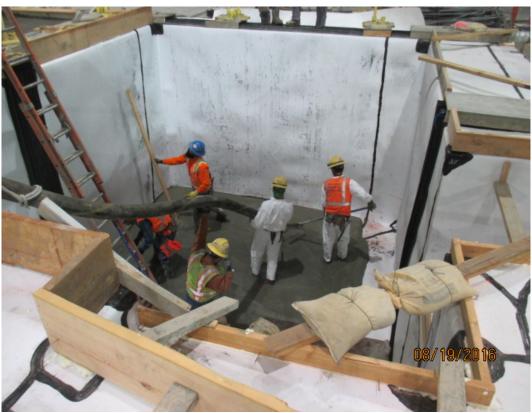
**UG#3** – Backfilling and setting deck panels along the west pile line.



PARK MESA – Back fill activities behind installed curb and gutter at mural walls.



UG#4 - Excavation and lagging along west wall.



**LEIMERT PARK STATION** – Placement of protection slab at sump pit.



MARTIN LUTHER KING JR. STATION – Backfill and compaction activities at the south west bump out wall.



**EXPOSITION/CRENSHAW STATION** – Placement of lower invert columns at the north end of station box.



TUNNELING – Advancing TBM and hauling out muck cars.



### APPENDIX

#### **PROJECT COST STATUS – SOUTHWESTERN YARD**

	IN DOLLARS	ODICINAL			COMMI					FORECAST	FODECACT
SCC	DESCRIPTION	ORIGINAL		T BUDGET		MENTS		DITURES		FORECAST	
CODE		BUDGET	PERIOD	TO DATE	PERIOD	TO DATE	PERIOD	TO DATE	PERIOD	TO DATE	VARIANCE
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	0	0	0	86,889,531	1,699,532
40	SITEWORK\SPECIAL CONDITIONS	35,932,000	0	38,273,000	0	38,658,086	1,079,829	16,767,456	0	38,273,000	0
50	SYSTEMS	25,784,616	0	32,991,000	0	32,991,000	0	0	0	32,991,000	0
	(10-50) CONSTRUCTION	147,263,451	0	156,453,999	0	158,181,781	1,079,829	16,767,456	0	158,153,531	1,699,532
60	RIGHT-OF-WAY	99,910,000	0	100,000,000	0	106,286,238	0	105,580,096	0	100,000,000	(0)
70	VEHICLES	0	0	0	0	0	0	0	0	0	0
80	PROFESSIONAL SERVICES	35,601,095	0	33,639,631	1,093,920	29,427,828	479,718	17,174,743	0	31,815,199	(1,824,432)
90	PROJECT CONTINGENCY	13,659,732	0	17,106,370	0	0	0	0	0	17,231,270	124,900
TOTAL	-	296,434,278	0	307,200,000	1,093,920	293,895,847	1,559,547	139,522,295	0	307,200,000	(0)
C0991	PAINT & BODY SHOP PROJECT										
DESC	RIPTION	ORIGINAL	CURREN	T BUDGET	COMMI	IMENTS	EXPEN	DITURES	CURRENT	FORECAST	FORECAST
DESC	RIFTION	BUDGET	PERIOD	TO DATE	PERIOD	TO DATE	PERIOD	TO DATE	PERIOD	TO DATE	VARIANCE
86130	1 DIV 22 PAINT & BODY SHOP	11,000,000	0	11,000,000	84	6,916,448	84	194,164	0	11,000,000	0
GRAN	D TOTAL	307,434,278	0	318,200,000	1,094,004	300,812,295	1,559,631	139,716,459	0	318,200,000	(0)

# **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 designbuild 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 September 2, 2016. Total commitments increased by \$1.09 million for this period due to the following:

- SCC-40
  - o No Change.
- SCC-60
  - Right-of-Way (ROW) no change.
- SCC-80
  - Other professional services such as legal, construction management and labor increased by \$1.09 for July/August.

The \$300.81 million in commitments to date represents 94.54% of the current budget.

#### **Expenditures:**

The expenditures are cumulative through September 2, 2016. The total expenditures increased by \$1.56 million for this period due to the following:

- SCC-40
  - Sitework and special conditions increased by \$1.08 million for July/August.
- SCC-60
  - o No Cost to Report.
- SCC-80
  - Agency expenditure and professional services expenditure increase by \$0.48 million for July/August.

The \$139.72 million in expenditures to date represents 43.91% 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.