

Crenshaw/LAX Transit Project



Metro[®]

CRENSHAW/LAX TRANSIT PROJECT

MONTHLY PROJECT STATUS REPORT

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

OCTOBER 2016


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PROJECT SUMMARY

LOCATION: Crenshaw Blvd at Exposition to Green Line DESIGN/CONSULTANT: Hatch Mott				CONSTRUCTION MANAGEMENT CONSULTANT: Stantec CONTRACTORS: Walsh-Shea Corridor Constructors (Alignment) and Hensel Phelps / Herzog (Southwestern Yard)			
PROJECT PHOTO: Removed temporary rail and vent lines to prepare for invert concrete placement in mined tunnel.				WORK COMPLETED PAST MONTH:			
				<ul style="list-style-type: none"> o Completed tunnel segment production and continued delivery to job site. o Completed mining of SB tunnel to Leimert Park. o Completed construction of the invert columns and commenced interior walls at Expo Structure. o Continued street work at Park Mesa area. o Continued decking intersections at Underground structure #3. o Continued construction of Green Line superstructure. o Continued erection of falsework for construction of I-405 bridge. o Continued construction of Manchester bridge superstructure. o Completed erection of falsework and started walls for Century Station. o Completed invert construction at underground structure #1. 			
EXPENDITURE STATUS (\$ In Millions)				SCHEDULE ASSESSMENT			
ACTIVITIES	CURRENT BUDGET	EXPENDED AMOUNT	PERCENT EXPENDED	MAJOR SCHEDULE ACTIVITIES	PRIOR PLAN	CURRENT PLAN	VARIANCE WEEKS
DESIGN	\$ 136.7	\$ 126.5	92.6%	Environmental			
				FEIS/FEIR	Sep-11	Sep-11	Complete
				Record of Decision	Dec-11	Dec-11	Complete
RIGHT-OF-WAY	\$ 127.4	\$ 120.7	94.7%	Design			
CONSTRUCTION	\$ 1,353.1	\$ 662.0	48.9%	Preliminary Engineering	Nov-11	Nov-11	Complete
				Final Design	Sep-15	May-17	20.5 months behind
OTHER	\$ 440.8	\$ 159.2	36.1%	Right-of-Way			
TOTAL	\$ 2,058.0	\$ 1,068.4	51.9%	Full-take parcels available	Jan-15	Jan-15	Complete (base scope)
				Part-take and TCE parcels	Sep-15	Apr-16	Complete (base scope)
Note: Cost expended as of Oct. 28, 2016.				Construction			
AREAS OF CONCERN <ul style="list-style-type: none"> o Design-builder's ability to mitigate schedule delays. o Timely submittal of WSCC's design submittals and review by City of Los Angeles. o 96th street station accomodations cost/schedule impacts. o Ability of TBM to meet production rate forecasted on schedule. 				D-B Notice to Proceed	Sep-13	Sep-13	Complete
				D-B Substantial Complete	Oct-18	May-19	7.2 months behind
				Revenue Service Date	Oct-19	Oct-19	On schedule
				The D-B Substantial Complete prior plan has been modified by a 35-day concurrent delay contract modification in March 2015 and a six-day modification in September 2016.			
				*Note: Revenue Service Date includes a significant reduction in contingency.			
ROW ACQUISITION	PLAN	ACQUIRED	REMAINING	CRITICAL ACTIVITIES / 3 MONTH LOOK AHEAD			
FULL TAKES	37	36	1	<ul style="list-style-type: none"> o Commence mining <u>NB</u> tunnel from Expo to MLK Station. o Complete Green Line superstructure. o Complete Manchester Bridge superstructure. o Complete invert slab at Underground Structure #4. o Commence trackwork in Segment B1. 			
PARTIAL TAKES	27	25	2				
TEMPORARY EASEMENTS	15	13	2				
TOTAL PARCELS	79	74	5				

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 was closed out on October 7, 2016.*

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 was the completion of mining the south bound tunnel. The contractor holed thru at the north end of Leimert Park Station on October 20, 2016. The contractor has begun the process of removing the TBM and equipment from the site and repositioning the TBM and equipment back at the Exposition/Crenshaw Station. Mining will commence on the north bound tunnel in December 2016.*

Design- Build Contract C0991 Southwestern Yard (Division 16) – *The design-builder, Hensel Phelps / Herzog JV substantially completed final design and submission of submittals required for construction on October 26, 2016. The contractor continues critical field work such as structural excavation and concrete placement of main shop building service and inspection pits, deep foundations, grade beams, loading dock footings and blow down pits. Contractor also continued with work on sanitary sewer lines and fire water service lines.*

Right-of-Way

Metro added in January 2016, two full takes and five part-takes/TCE's required for the construction of the Project. *There are now a total of 79 parcels (eight have been decertified). There are 37 full takes, 27 partial takes and 15 temporary construction easements (TCE's). There have been 74 parcels acquired through October 28, 2016. Thirty-six full takes, 25 part-takes and 13 TCE's have been provided to the design-builder WSCC.*

Systems

Metro staff initiated a study to explore possible alternative layouts to accommodate the central control functions associated with new project needs, such as Crenshaw/LAX project, within the existing ROC facility as an interim measure. Metro has determined that the best course of action is to expand the existing functional operations at the ROC to support the new five new rail lines and extensions including Foothill Ext., Expo II, Crenshaw/LAX, Regional Connector and Purple Extension Projects. The existing ROC service control and closed circuit television monitoring areas are being expanded and reconfigured for each new rail line extension. The

PROJECT OVERVIEW (Continued)

supporting facilities and electrical/communication systems are also expanded and upgraded accordingly to suit the needs of the growing Metro operations. The ROC Reconfiguration Plan will be updated to suit the central control needs of each upcoming new rail line extension. Metro will prepare a design update for the Crenshaw/LAX Project. All work for the ROC is planned to be completed concurrently with the C0988 design-builder scope work to ensure continuity of the systems effort.

Program Management

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

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

The Board approved on May 28, 2015 an increase in the amount of funding that the Crenshaw/LAX Project is contributing toward the total cost of the Southwestern Yard Project. An additional \$10.8 million is required to be funded by drawdown from the Unallocated Contingency Current Budget SCC 90 and added to the Southwestern Yard Current Budget SCC 30. The current budget includes the 49% cost allocation share that the project is responsible for paying which includes funding of the design and construction for the Southwestern Yard. This amount is revised to \$150.2 million out of a new total of \$307.2 million adopted by the Board.

The amount of funding available for the Crenshaw/LAX Transit Corridor Project, excluding the Southwestern Yard \$150.2 million allocation and Environmental/Planning budget of \$26.0 million is \$1,881.8 million.

The LOP budget is funded by various sources of funds which include local, state and federal funding. The TIFIA Loan is categorized under local funds as the loan is secured by a pledge of Measure R local sales tax funds. The funding percentages are as follows: local funding 79.9%, (includes Measure R TIFIA Loan), state funding 10.5% and federal funding 9.6%.

PROJECT OVERVIEW (Continued)

The project commitments thru October 2016 are \$1,891.6 million or 91.9 % of the Current Budget. The project expenditures thru October 2016 are \$1,068.4 million or 51.9% 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 two (2) calendar day delay in project status. Metro is reporting a projected 222 calendar day delay to the design-builder's contract substantial completion milestone (forecast 2019).

MANAGEMENT ISSUES

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

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

Concern No. 2: Design-builders construction schedule

Status/Action *This month the project schedule reflects a two (2) calendar day delay in project status. Metro is reporting a projected 222 calendar day delay to the design-builder's contract substantial completion milestone (forecast 2019).*

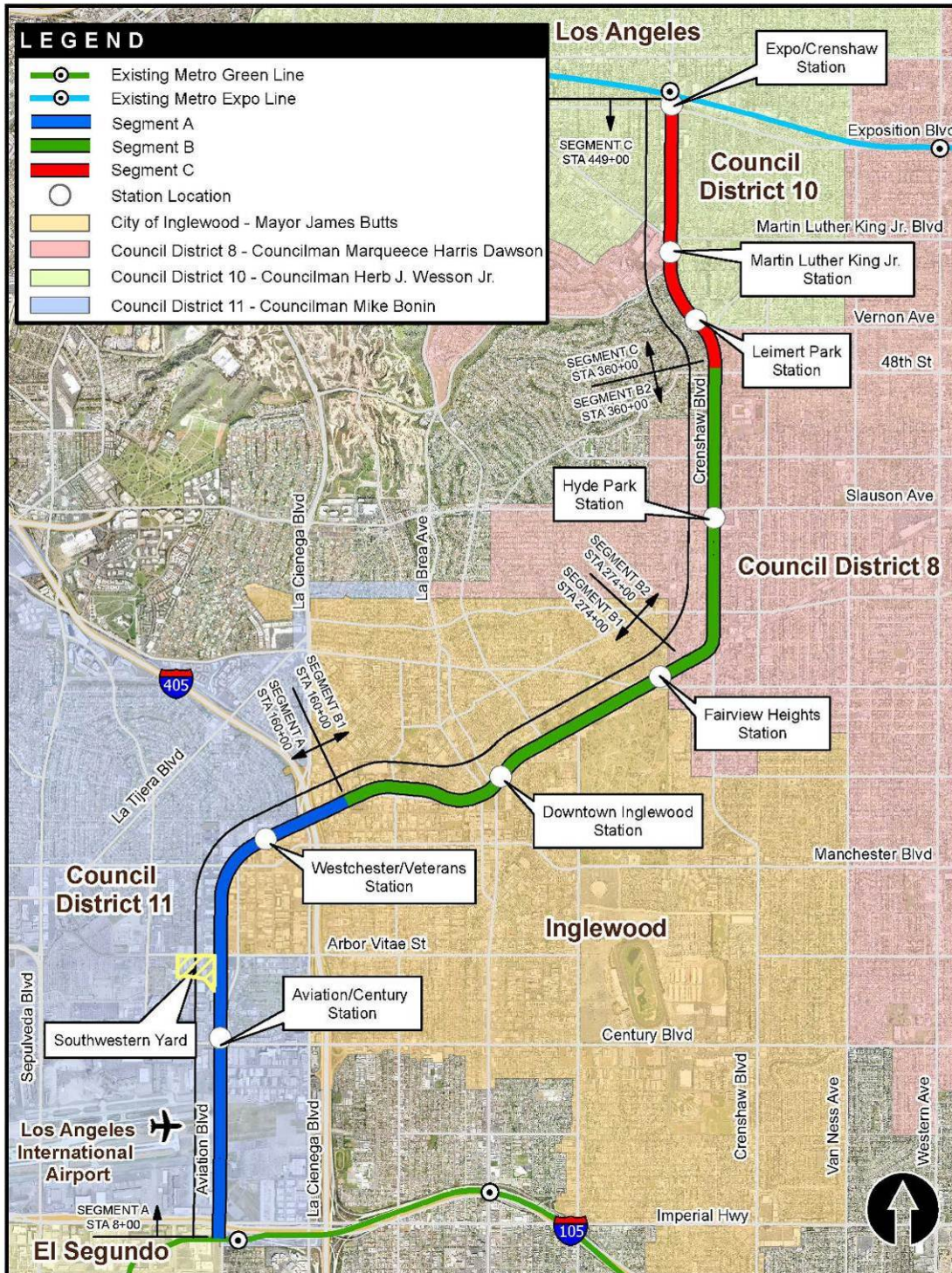
Concern No. 3: Cost and schedule impacts on the Crenshaw/LAX Transit Project to accommodate the future Airport Metro Connector Transit Station at 96th Street.

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. *Metro has completed preliminary negotiations with the contractor for the delay impacts associated with the total time it will take to accommodate the future Airport Metro Connector Transit Station. Any modifications to the contractor for this scope of work are not funded by the Crenshaw/LAX Transit Project but are funded by other funding sources.*

Concern No. 4: Design-builder's ability to meet their planned tunneling productivity rate.

Status/Action *The contractor completed mining the south bound tunnel on October 20, 2016. The achieved mining rate was 45 feet per day. The contractor will reposition the TBM back to the Expo/Crenshaw Station to commence the mining of the north bound tunnel. It is anticipated that based on the experience with mining the south bound tunnel, the contractor will exceed the 45 feet per day performance mining the north bound tunnel. Metro will be closely monitoring the daily production rate.*

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.

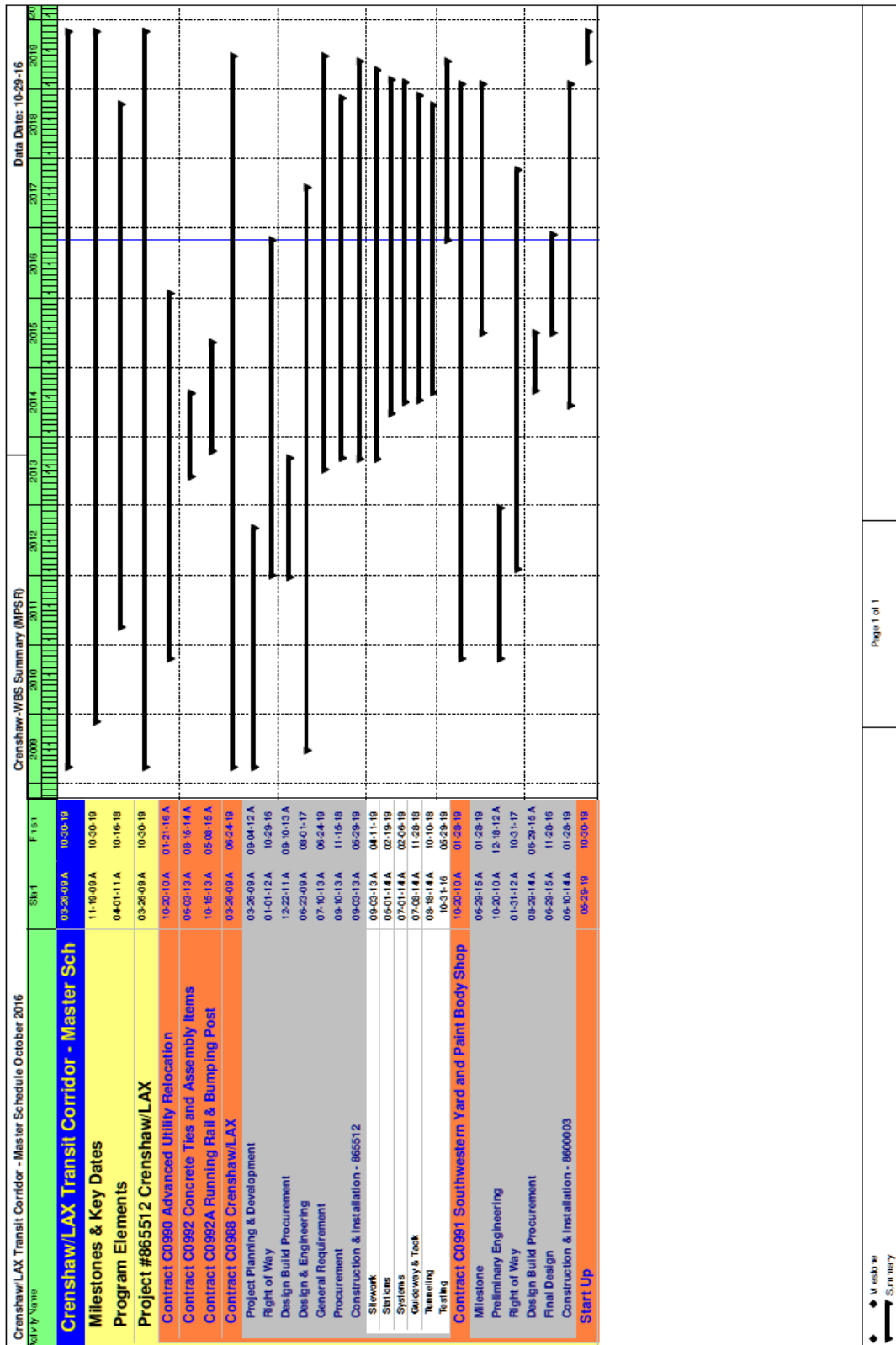
Start Up

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	Oct-16	Nov-16	Dec-16	Jan-17	Feb-17	Mar-17
C0991	Completion of Design	26-OCT-16 A	△					
C0988-CT-85425	Post-Tension - Manchester Bridge	01-Nov-16						
C0988-UT-1160	SIP - 21" RCP Storm Drain 6' N CL of 63rd St [63rd St] - UT# 1316	08-Nov-16						
C0988-UT-1390	R&R - 18" RCP Storm Drain Lateral [btw 48th St & Brynhurst Ave] - UT# 1361	11-Nov-16						
C0988-SCE-T1050	TPSS-01 Permanent Power Drop - SCE - Procurement of Cable and Equipment	17-Nov-16						
C0988-CT-14400	Drill/ Install Casing, Excavate & FRP Elevator Pit Station Platform - Aviation / Century	29-Nov-16						
C0988-CT-13495	Ballast Wall - Rebar Walls - I-405 to La Brea	21-Nov-16						
C0988-CT-3460	Connect TBM with Trailing Gear, Test & Setup for Launching - NB	05-Dec-16						
C0988-CT-79096	Frame 1: F/R/P Superstructure - Aerial Structure #1	06-Dec-16						
C0988-CT-39675	Pave SB Service Road - 59th to 48th	19-Dec-16						
C0988-CT-3820	TBM Mining & Segment Installation - 440+25.5 to 438+25.5 - NB	20-Dec-16						
C0988-CT-84975	Bridge Emergency Walkway - Aviation / Century Bridge	29-Dec-16						
C0988-CT-63925	Ductbank/ Walkway - U-Wall #1 - STA 32+17 to 37+00 / 50+00 to 54+50 & 55+45 to 59+93 - UG #1	03-Jan-17						
C0988-CT-64035	Pour Footing Inverts - STA 274+25 to 282+90 - U-Trench #3 - South Portal	05-Jan-17						
C0988-CT-82735	MSE RW 7 (RW 140) - Type A Backfill	09-Jan-17						
C0988-CT-65325	HCR Membrane - 297+80 to 312+60 - UG #3	12-Jan-17						
C0988-CT-86005	Span 1: F/R/P Superstructure - I-405 Bridge	17-Jan-17						
C0988-CT-65495	Pour Base Slab Invert - STA 307+50 to 312+60 - UG #3	07-Feb-17						
C0988-CT-85665	Bridge Emergency Walkway - Manchester Bridge	08-Feb-17						
C0988-CT-33300	Underdrain System & Cleanouts - Arbor Vitae to Manchester	09-Feb-17						
C0988-CT-34082	Erect Station Structural Steel/ Canopy framework - Downtown Inglewood	20-Feb-17						
C0988-CT-4005	TBM Mining & Segment Installation - 438+25 to 405+78 - NB	22-Feb-17						
C0988-CT-4760	Walkthru TBM & Trailing Gear across MLK Station & Prepare for Break-out (NB)	06-Mar-17						
C0988-TW-9460	Install Rail - STA 201+33 to 274+25 - Seg. B1	14-Mar-17						
C0988-CT-41200	Elevator Enclosures/ Framing - Aviation / Century	20-Mar-17						
C0988-CT-38485	Excavate SB Service Roadway - 59th to 48th	22-Mar-17						
C0988-CT-57764	Erect Station Structural Steel & Canopy Framing - Fairview Heights Station	27-Mar-17						
C0988-CT-39199	Excavate NB Service Roadway - 59th to 48th	28-Mar-17						
◆	MTA Staff	Ⓜ	MTA Board Action		Walsh Shea Corridor Constructors	△	Hensel Phelps	"A" following date is actual and completed

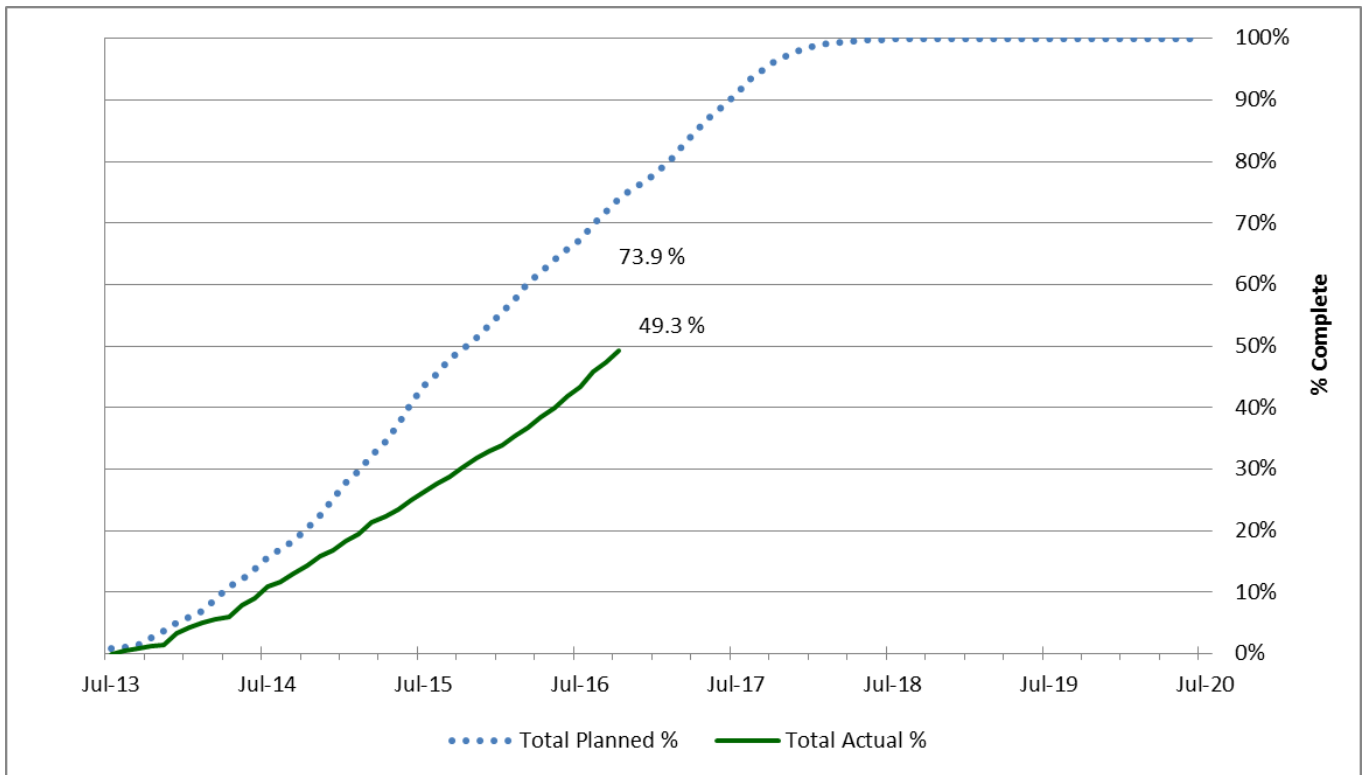
PROJECT SUMMARY SCHEDULE



SCHEDULE MEASUREMENTS

	Status	Change from Last Period	Comment
Current Revenue Service:	10/30/2019	None	
Forecast Revenue Service:	10/30/2019	None	
TIFIA Revenue Service:	10/30/2019	None	
Final Design Progress:			
Contract C0988	97.7%	0.1%	Behind Schedule
Contract C0990	100%	None	Design Completed
Contract C0991	72.5%	2.0%	On Schedule
Contract C0992	100%	None	Design Completed
Contract C0992A	100%	None	Design Completed
Construction Contracts Progress:			
Contract C0988	43.3%	2.0%	Behind Schedule
Contract C0990	100%	None	Substantially Completed
Contract C0991	3.0%	0.6%	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 49.3% versus a planned progress of 73.9% through October 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

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

	Baseline	Sep-16	Oct-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 Leimert Park	09/17/15	10/17/16	10/20/16A	
TBM NB Tunnel Launch at Expo (3820)	10/29/15	12/02/16	12/06/16	-4
TBM NB Break through at Leimert Park (5580)	03/21/16	04/04/17	04/05/17	-1

Light Rail Vehicles

The Board approved exercising Option 1 of Contract P3010 with Kinki Sharyo International (KI) 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. KI monthly schedule update indicated a two month slip in the forecast for completing delivery of base case. A mitigation plan has been requested by Metro.

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

Ticket Vending Machines

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

Activity ID	Activity Name	Start	Finish
988-PR-6945	Fab/Procure & Deliver Electrical Manholes, Vaults, Pads - At-Grade Guideway	09-18-15 A	10-31-16
988-PRC-A0020	Procure/Deliver ATC Enclosures & Components	05-27-16 A	11-02-16
988-PRC-A1130	ATC: Pack & Ship Train Control & Comm Bungalow @ A01 (6+00 to 43+50)	10-28-16 A	11-10-16
988-PR-7185	Fabricate & Deliver MSE Wall Panels MSE RW 7 (RW 140)	08-24-16 A	11-11-16
988-PRC-A4110	ATC: Factory Acceptance Test @ A04 (130+00 to 219+00)	10-18-16 A	11-11-16
988-PR-6465	Fab/Procure & Deliver Electrical Manholes, Vaults, Pads - Project Wide	09-18-15 A	11-18-16
988-PR-6915	Fab/Procure & Deliver Electrical Manholes, Vaults, Pads - TPSS	03-14-16 A	12-02-16
988-PR-6935	Fab/Procure & Deliver Electrical Manholes, Vaults, Pads - Aerial	03-14-16 A	12-09-16
988-PRC-X3110	ATC: Procure & Deliver Crossing Equipment @ A03 "Arbor" (93+00)	05-27-16 A	01-25-17
988-PRC-X4110	ATC: Procure & Deliver Crossing Equipment @ A04 "Hindry" (135+30)	05-27-16 A	01-25-17
988-PRC-X4210	ATC: Procure & Deliver Crossing Equipment @ A04 "Oak" (161+00)	05-27-16 A	01-25-17
988-PRC-X4310	ATC: Procure & Deliver Crossing Equipment @ A04 "Cedar" (167+10)	05-27-16 A	01-25-17
988-PRC-X4410	ATC: Procure & Deliver Crossing Equipment @ A04 "Eucalyptus" (182+40)	05-27-16 A	01-25-17
988-PRC-X4510	ATC: Procure & Deliver Crossing Equipment @ A04 "Ivy" (189+38)	05-27-16 A	01-25-17
988-PRC-X5110	ATC: Procure & Deliver Crossing Equipment @ A05 "Centinella" (225+00)	05-27-16 A	01-25-17
988-PRC-X5310	ATC: Procure & Deliver Crossing Equipment @ A05 "Florence" (264+00)	05-27-16 A	01-25-17
988-PRC-X5410	ATC: Procure & Deliver Crossing Equipment @ A05 "West" (268+70)	05-27-16 A	01-25-17
988-PRC-X5510	ATC: Procure & Deliver Crossing Equipment @ A05 "Brynhurst" (273+20)	05-27-16 A	01-25-17
988-PRC-X5210	ATC: Procure & Deliver Crossing Equipment @ A05 "High" (256+00)	05-27-16 A	01-30-17
988-PRC-T0030	TPSS: Procure/Deliver BLS Equipment & Devices	10-28-16 A	02-22-17
988-PR-4300	Fabricate & Delivery of Special Trackwork	09-22-15 A	03-24-17
988-PRC-A0010	Procure/Deliver ATC Wire & Cable	09-23-16 A	05-09-17
988-PRC-T0010	TPSS: Procure/Deliver DC Feeder Cable	09-28-16 A	05-12-17
988-PR-4700	Fabricate & Deliver Elevators	04-04-16 A	10-28-17
988-PR-4800	Fabricate & Deliver Escalators	05-02-16 A	10-28-17
988-PRC-A1500	ATC: Submit Location Verification Summary & FAT Report @ A01 (6+00 to 43+50)	10-31-16	11-02-16
988-PRC-X4120	ATC: Assemble Crossing house @ A04 "Hindry" (135+30)	10-31-16	11-11-16
988-PRC-X4130	ATC: Factory Acceptance Test Crossing house @ A04 "Hindry" (135+30)	11-14-16	11-18-16

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

October 2016

988-PRC-X4220	ATC: Assemble Crossing house @ A04 "Oak" (161+00)	11-14-16	11-28-16
988-PRC-X4140	ATC: Pack & Ship Crossing house @ A04 "Hindry" (135+30)	11-21-16	11-29-16
988-PRC-A4120	ATC: Develop Factory Acceptance Test Report @ A04 (130+00 to 219+00)	11-14-16	12-05-16
988-PRC-X4230	ATC: Factory Acceptance Test Crossing house @ A04 "Oak" (161+00)	11-29-16	12-05-16
988-PRC-A4500	ATC: Submit Location Verification Summary & FAT Report @ A04 (130+00 to 219+00)	12-06-16	12-08-16
988-PR-6965	Fab/Procure & Deliver Electrical Manholes, Vaults, Pads - Tunnel	10-31-16	12-09-16
988-PRC-X4320	ATC: Assemble Crossing house @ A04 "Cedar" (167+10)	11-29-16	12-12-16
988-PRC-X5120	ATC: Assemble Crossing house @ A05 "Centinella" (225+00)	11-29-16	12-12-16
988-PRC-X4240	ATC: Pack & Ship Crossing house @ A04 "Oak" (161+00)	12-06-16	12-13-16
988-PRC-A4130	ATC: Pack & Ship Train Control Bungalow @ A04 (130+00 to 219+00)	12-06-16	12-19-16
988-PRC-A4140	ATC: Pack & Ship Racks & Equipment @ Cedar	12-06-16	12-19-16
988-PRC-X4330	ATC: Factory Acceptance Test Crossing house @ A04 "Cedar" (167+10)	12-13-16	12-19-16
988-PRC-X5130	ATC: Factory Acceptance Test Crossing house @ A05 "Centinella" (225+00)	12-13-16	12-19-16
988-PR-6505	Fabricate & Deliver Dry Type Transformers - TPSS	10-31-16	12-23-16
988-PR-6925	Fabricate & Deliver Panelboards - TPSS	10-31-16	12-23-16
988-PRC-X4420	ATC: Assemble Crossing house @ A04 "Eucalyptus" (182+40)	12-13-16	12-27-16
988-PRC-X5220	ATC: Assemble Crossing house @ A05 "High" (256+00)	12-13-16	12-27-16
988-PRC-X4340	ATC: Pack & Ship Crossing house @ A04 "Cedar" (167+10)	12-20-16	12-28-16
988-PRC-X5140	ATC: Pack & Ship Crossing house @ A05 "Centinella" (225+00)	12-20-16	12-28-16
988-PRC-X4430	ATC: Factory Acceptance Test Crossing house @ A04 "Eucalyptus" (182+40)	12-28-16	01-04-17
988-PRC-X5230	ATC: Factory Acceptance Test Crossing house @ A05 "High" (256+00)	12-28-16	01-04-17
988-PRC-C0050	Mfgr/Test/Ship Complete Comm Racks - MGL TCCB & ROC	10-31-16	01-11-17
988-PRC-X4520	ATC: Assemble Crossing house @ A04 "Ivy" (189+38)	12-28-16	01-11-17
988-PRC-X5320	ATC: Assemble Crossing house @ A05 "Florence" (264+00)	12-28-16	01-11-17

Note: Design – Builder is currently revising the long lead items list and next month's report will include revised dates.

CRITICAL PATH NARRATIVE

Critical Path:

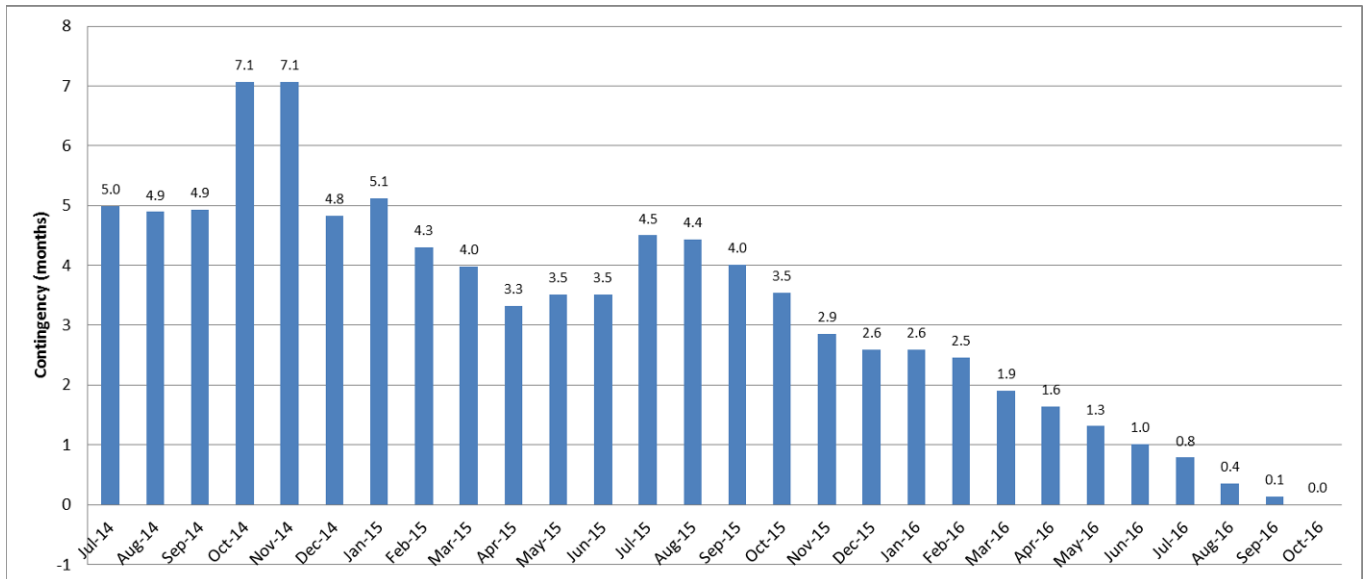
The longest path to project substantial completion begins with final design of the Design/Build Contract #C0988 Crenshaw/LAX Transit Corridor.

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 29, 2019, which is 222 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 two (2) calendar days. The two (2) calendar day delay is due to removing the TBM & retrieving trailing gear to Expo Station. As a result, this translated into a slight impact of two (2) calendar days on the Milestone # 01 completion date.

The total contingency remaining is zero.

PROJECT COST STATUS

SCC CODE	DESCRIPTION	ORIGINAL BUDGET	CURRENT BUDGET		COMMITMENTS		EXPENDITURES		CURRENT FORECAST		CURRENT BUDGET/ FORECAST VARIANCE
			PERIOD	TO DATE	PERIOD	TO DATE	PERIOD	TO DATE	PERIOD	TO DATE	
10	GUIDEWAYS	471,335,000	-	452,500,001	-	443,578,773	11,702,037	236,979,375	-	450,354,375	(2,145,626)
20	STATIONS	153,906,000	-	316,050,000	-	303,697,278	1,782,761	133,132,609	-	315,050,000	(1,000,000)
30	SUPPORT FACILITIES SOUTHWEST YARD	66,673,000	-	73,245,544	-	71,053,330	-	18,401,408	-	71,164,000	(2,081,544)
40	SITWORK/SPECIAL CONDITIONS	235,576,000	-	348,565,999	785,457	373,906,633	2,972,499	263,667,951	785,456	383,727,999	35,162,000
50	SYSTEMS	125,132,000	-	169,311,000	-	152,608,855	926,102	9,778,814	-	169,436,000	125,000
CONSTRUCTION SUBTOTAL (10-50)		1,052,622,000	-	1,359,672,544	785,457	1,344,844,869	17,383,401	661,960,156	785,456	1,389,732,374	30,059,830
60	RIGHT-OF-WAY	132,294,000	-	127,400,000	(89,942)	123,380,294	84,908	120,664,037	-	127,490,000	90,000.00
70	LRT VEHICLES	87,780,000	-	82,100,000	-	82,050,901	-	9,015,878	-	83,571,544	1,471,544
80	PROFESSIONAL SERVICES	273,147,000	-	300,093,178	545,921	315,805,019	2,802,310	251,182,335	707,938	356,146,548	56,053,370
SUBTOTAL (10-80)		1,545,843,000	-	1,869,265,722	1,241,436	1,866,081,083	20,270,618	1,042,822,405	1,493,394	1,956,940,466	87,674,744
90	UNALLOCATED CONTINGENCY	177,157,000	-	162,734,278	-	-	-	-	(1,493,395)	75,059,534	(87,674,744)
TOTAL PROJECT 865512 (10-100)		1,723,000,000	-	2,032,000,000	1,241,436	1,866,081,083	20,270,618	1,042,822,405	-	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	1,241,436	1,891,630,470	20,270,618	1,068,371,793	-	2,058,000,000	-

NOTE: EXPENDITURES ARE CUMULATIVE THROUGH 28-OCT-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 October 28, 2016. The total commitments increased by \$1.2 million this period primarily due to the following:

- SCC-40 (Sitework and Special Conditions) has increased by \$0.8 million due to executed modifications associated with the design-build Contract C0988 Crenshaw/LAX Transit Corridor and third party scope of work with The Gas Company.
- SCC-60 (Right-of-Way) has decreased \$0.1 million due to purchase order close-out and de-commitments of funds. The total commitment of \$123.4 million includes \$53.2 million for the Southwestern Yard 49% allocation
- SCC-80 (Professional Services) has increased of \$0.5 million due to executed modifications associated with the design-build Contract C0988 Crenshaw/LAX Transit Corridor, underground service alert and environmental consultant services. The total commitment of \$315.8 million includes \$21.2 million for the Southwestern Yard 49% allocation.

The \$1,891.6 million in commitments to date represents 91.9% of the current budget.

Expenditures:

The expenditures are cumulative through October 28, 2016. The total expenditures increased by \$20.3 million this period due to the following:

- SCC-10 (Guideways) has increased by \$11.7 million for costs associated with the design-build Contract C0988 Crenshaw/LAX Transit Corridor.
- SCC-20 (Stations, Stops, Terminals, Intermodal) has increased by \$1.8 million for costs associated with the design-build Contract C0988 Crenshaw/LAX Transit Corridor.
- SCC-40 (Sitework and Special Conditions) has increased by \$3.0 million for costs associated with the design-build Contract C0988 Crenshaw/LAX Transit Corridor.
- SCC-50 (Systems) has increased \$0.9 million for costs associated with the design-build Contract C0988 Crenshaw/LAX Transit Corridor.

PROJECT COST ANALYSIS (Continued)

- SCC-60 (Right-of-Way) has increased \$0.1 million for cost associated with real estate relocation. The total expenditure of \$120.7 million includes \$52.6 million for the Southwestern Yard 49% allocation
- SCC-80 (Professional Services) has increased by \$2.8 million for costs associated with the design-build Contract C0988 Crenshaw/LAX Transit Corridor, Engineering and Design Contract E0117, Metro project administration, IPMO field office lease and utilities, construction management support services, legal services, third party coordination by Los Angeles City Departments, environmental consultant services, project management assistance support and labor compliance monitoring services. The total expenditure of \$251.2 million includes \$11.6 million for the Southwestern Yard 49% allocation.

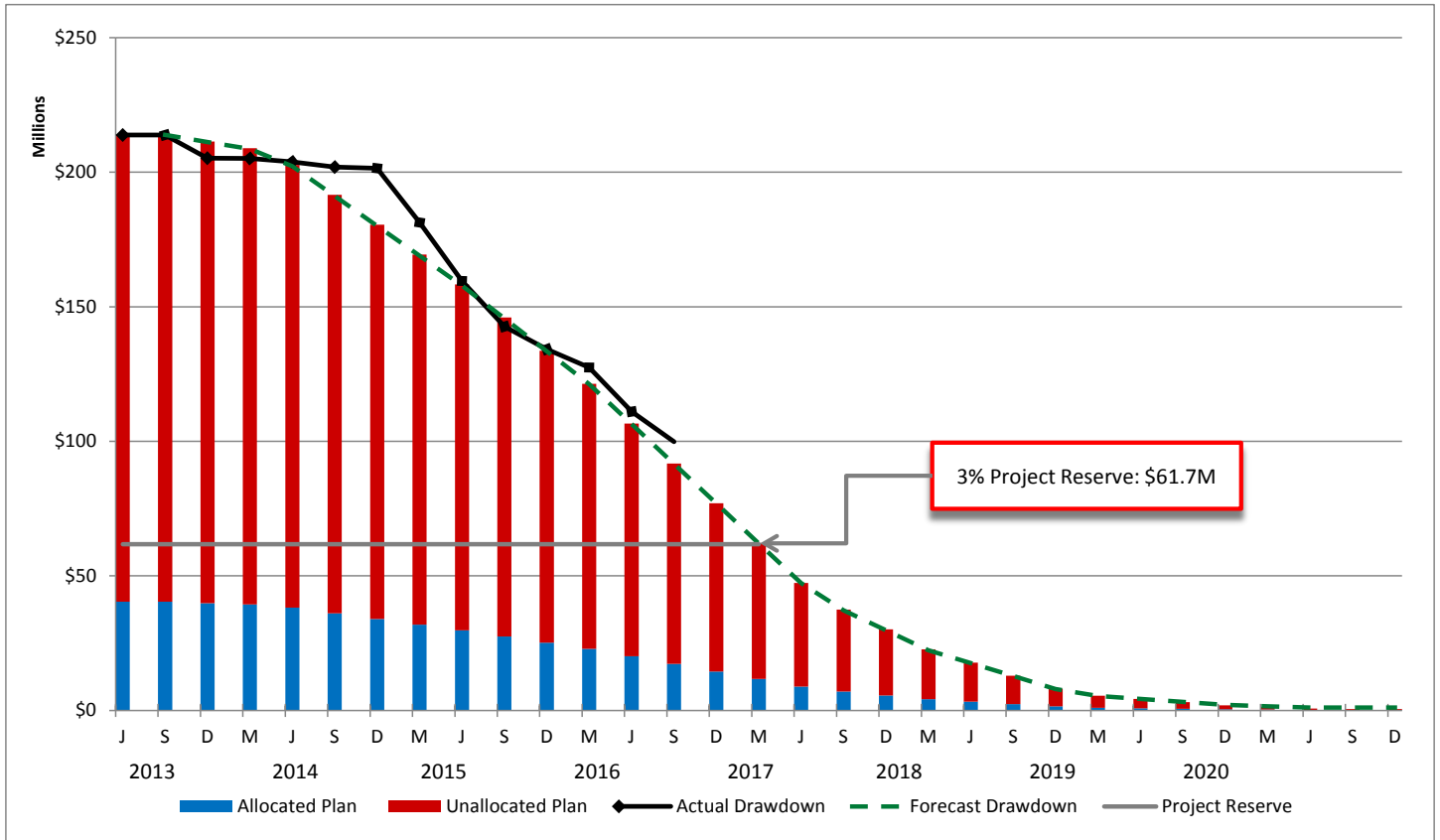
The \$1,068.4 million in expenditures to date represents 51.9% of the current budget

Non-Crenshaw/LAX Transit Project Funded Scope of Work

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

C0988 NON-CRENSHAW/LAX TRANSIT PROJECT FUNDED SCOPE OF WORK										
DESCRIPTION	ORIGINAL BUDGET	CURRENT BUDGET		COMMITMENTS		EXPENDITURES		CURRENT		FORECAST
		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	-	3,763,844	-	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	-	6,916,950	-	2,903,100	-	7,198,899	-

PROJECT COST CONTINGENCY DRAWDOWN



Through 28-Oct-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 \$115,501,665 or 54.0% for both allocated and unallocated contingency through October 2016.

- The unallocated contingency decreased by \$1,493,395 for executed modifications for the design-build contract C0988 Crenshaw/LAX Transit Corridor, contract EN078 environmental consultant services with AECOM Technical Services, Inc., annual work order authorization with The Gas Company and Underground Service Alert.
- There was no drawdown of allocated contingency this reporting period.

PROJECT COST CONTINGENCY (through 28-Oct-2016)					
UNITS IN DOLLARS					
	Original Contingency (Budget)	Previous Period	Current Period	To-Date	Remaining Contingency (Forecast)
Unallocated Contingency	173,500,000	(96,947,071)	(1,493,395)	(98,440,466)	75,059,534
Allocated Contingency	40,366,792	(17,061,200)	-	(17,061,200)	23,305,592
Total Contingency	213,866,792	(114,008,271)	(1,493,395)	(115,501,665)	98,365,127

DISADVANTAGED BUSINESS ENTERPRISE (DBE) STATUS

Contract C0988 Crenshaw/LAX Transit Corridor Design-Build

(Reported Data as of November 14, 2016)

- DBE Goal – Design 20%
- Current DBE Commitment \$20,324,964 (19.42%)
- Current DBE Participation \$25,083,125 (47%)
- Twenty-one (21) Design subcontractors have been identified to-date

- DBE Goal – Construction 20%
- DBE Commitment \$235,351,664 (20.00%)
- Current DBE Commitment \$157,346,166 (14.17%)
- Current DBE Participation \$133,496,386 (24.72%)
- One Hundred Thirty-Nine (139) Construction subcontractors have been identified to-date.

PROJECT LABOR AGREEMENTS (PLA) STATUS

Contract C0988 Crenshaw/LAX Transit Corridor Design-Build

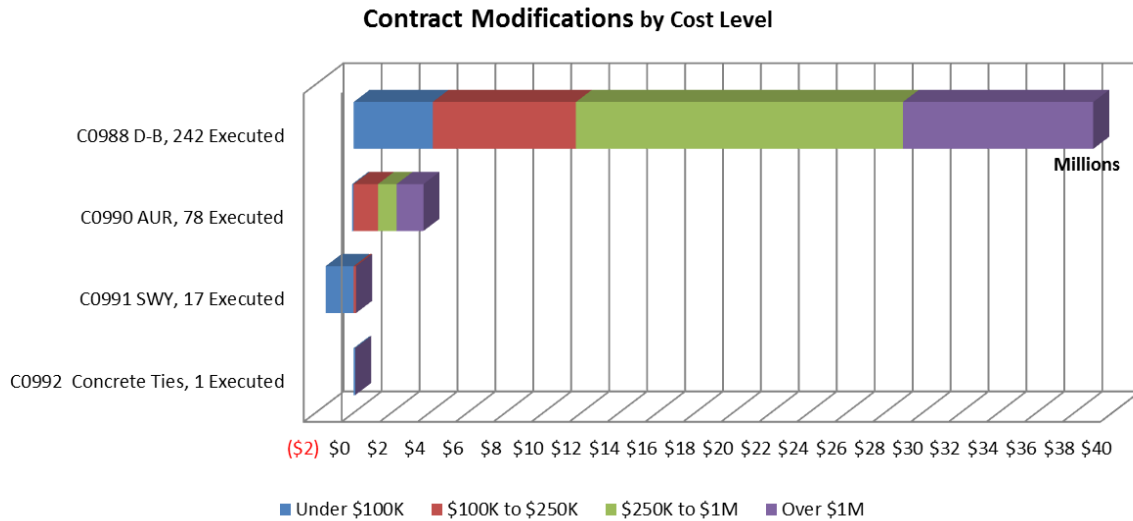
(Reported Data as of October, 2016)

- Targeted Worker Goal – 40.00%
- Targeted Worker Current Participation - 58.80%

- Apprentice Worker Goal - 20.00%
- Apprentice Worker Current Participation - 20.35%

- Disadvantaged Worker Goal - 10.00%
- Disadvantaged Worker Current Participation 12.62%

SUMMARY OF CONTRACT MODIFICATIONS



	C0988	C0990	C0991	C0992
	242 Executed	78 Executed	17 Executed	1 Executed
Under \$100K	\$ 4,165,720	\$ (70,251)	\$ (1,472,575)	\$ 81,738
\$100k to \$250K	\$ 7,552,449	\$ 1,280,184	\$ 130,000	\$ -
\$250K to \$1M	\$ 17,237,451	\$ 984,662	\$ -	\$ -
Over \$1M	\$ 10,039,556	\$ 1,417,202	\$ -	\$ -
Total Contract MODs	\$ 38,995,176	\$ 3,611,797	\$ (1,342,575)	\$ 81,738
% of Contract MODs	3.06%	46.14%	-0.78%	3.78%

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

Two hundred and forty two (242) changes with a total value of \$39.00 million have been executed since award of Contract C0988. There are an additional fifty-six (56) changes with a total value of \$2.36 million pending the administrative approval process.

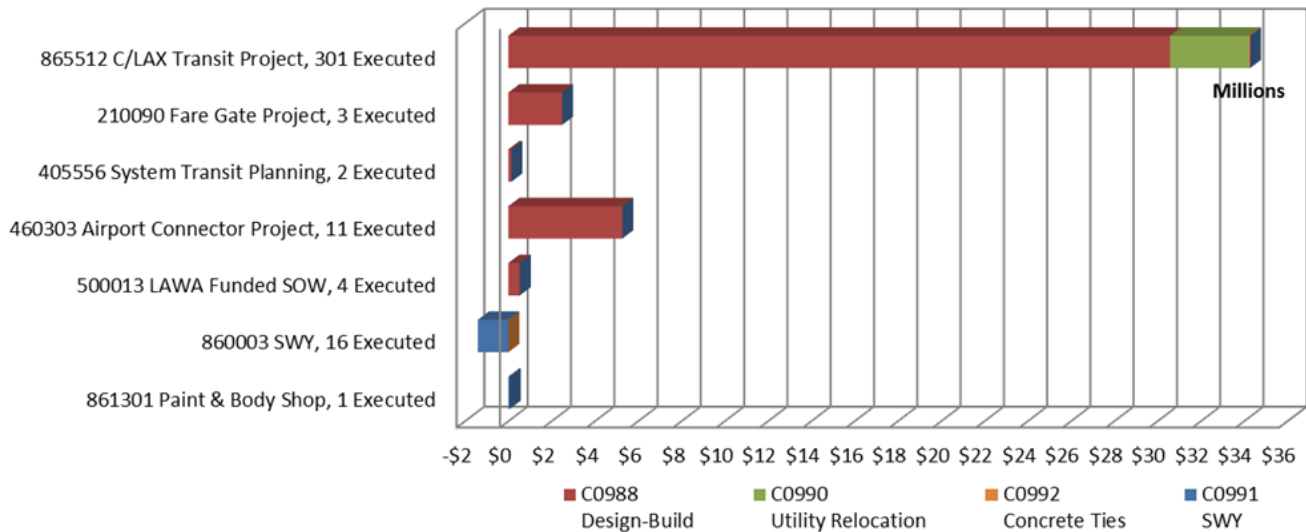
Seventy-eight (78) changes with a total value of \$3.61 million have been executed for completed Contract C0990.

Seventeen (17) changes with a total value of (\$1.34) million credits have been executed since award of Contract C0991. There are an additional eight (8) changes with a total value of \$0.09 million pending the administrative approval process.

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

SUMMARY OF CONTRACT MODIFICATIONS

Contract Modifications by Metro Internal Project Number



	865512	210090	405556	460303	500013	860003	861301
	Executed	Executed	Executed	Executed	Executed	Executed	Executed
C0988 - QTY	222	3	2	11	4	0	0
C0988 - \$	\$ 30,578,134	\$ 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	16	1
C0991 - \$	\$ -	\$ -	\$ -	\$ -	\$ -	\$ (1,399,575)	\$ 57,000
C0992 - QTY	1	0	0	0	0	0	0
C0992 - \$	\$ 81,738	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Total - QTY	301	3	2	11	4	16	1
Total - \$	\$ 34,271,669	\$ 2,482,746	\$ 139,236	\$ 5,263,844	\$ 531,216	\$ (1,399,575)	\$ 57,000

Two hundred and twenty two (222) changes with a total value of \$34.27 million have been executed for Project 865512 Crenshaw/LAX Transit Project. There are an additional fifty-six (56) changes with a total value of \$2.36 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.

Sixteen (16) changes with a value of \$1.40 million credit have been executed for Project 860003 Southwestern Yard. There are an additional six (6) changes with a total value of \$0.04 million credit pending approval.

One (1) change with a value of \$57,000 has been executed for Project 861301 Southwestern Yard Paint and Body Shop. There are an additional two (2) changes with total value of \$0.13 million pending approval.

FINANCIAL/GRANT STATUS

\$ in millions

SOURCE	(A)	(B)	(C)	(D)	(D/B)	(E)	(E/B)	(F)	(F/B)
	ORIGINAL BUDGET	TOTAL FUNDS ANTICIPATED	TOTAL FUNDS AVAILABLE	COMMITMENTS \$	%	EXPENDITURES \$	%	BILLED to FUNDING SOURCE \$	%
FEDERAL - CMAQ	68.2	152.9	54.0	152.9	100%	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	102.2	100%	66.5	65%	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	529.3	100%	242.0	46%	167.7	32%
OTHER FUNDS*	52.4	187.5	19.0	24.2	13%	13.0	7%	13.0	7%
PROP C 25% HIGHWAY	148.9	241.1	3.7	241.1	100%	3.7	2%	3.7	2%
PROP C 40% DISCRETIONARY	0.0	10.2	0.0	7.1	69%	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	1,891.6	91.9%	1,068.4	51.9%	974.9	47.4%

NOTE: Expenditures are cumulative through October 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.

STATE PROP 1B – PTMISEA: An allocation request for \$12M was approved in May 2012 and funds are available for drawdown. In March 2013, allocation requests of \$11.4M and \$98.9M were submitted to Caltrans. The \$11.4M allocation request was approved in June 2013. Funds are available for drawdown. The \$98.9M allocation request was approved on February 6, 2014. Funds are available for drawdown. A new allocation request of \$6.170M was submitted in June 2014 to Caltrans for approval. The allocation request was approved on February 4, 2015. Funds are available for drawdown.

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

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

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

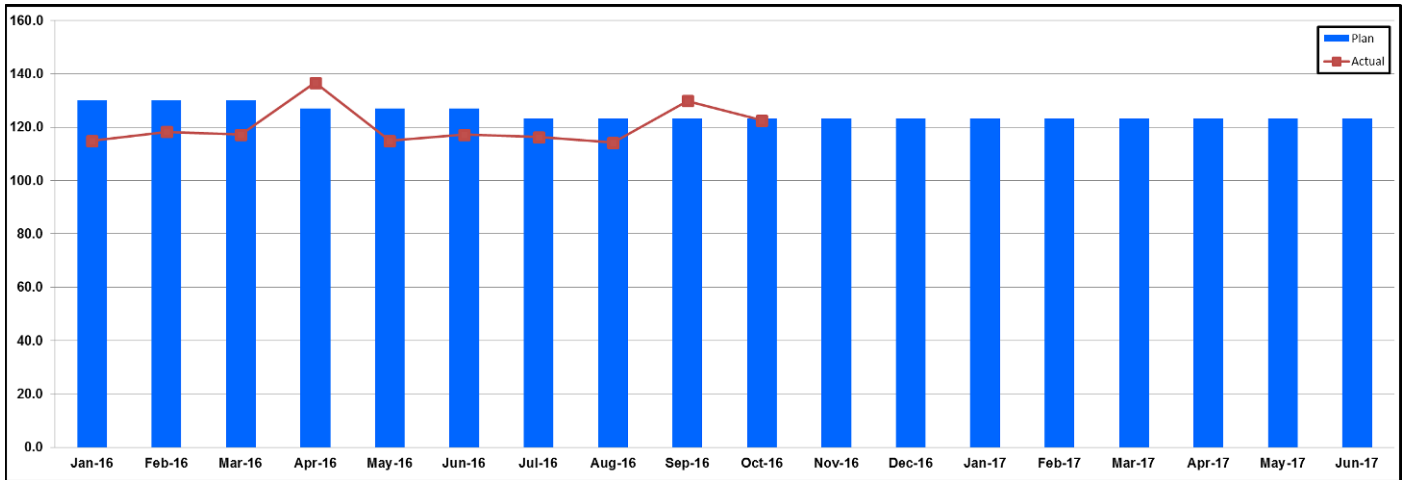
OTHER FUNDS: City of LA: Based on the funding agreement between Metro and the City of LA. \$19M is available for drawdown through FY2017.

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

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

STAFFING STATUS

Total Project Staffing – FTES



Notes:

1. FTE = Full Time Equivalent
2. Staffing levels include the Southwestern Yard Project.
3. Actual staffing levels are cumulative through October 2016.

TOTAL PROJECT STAFFING

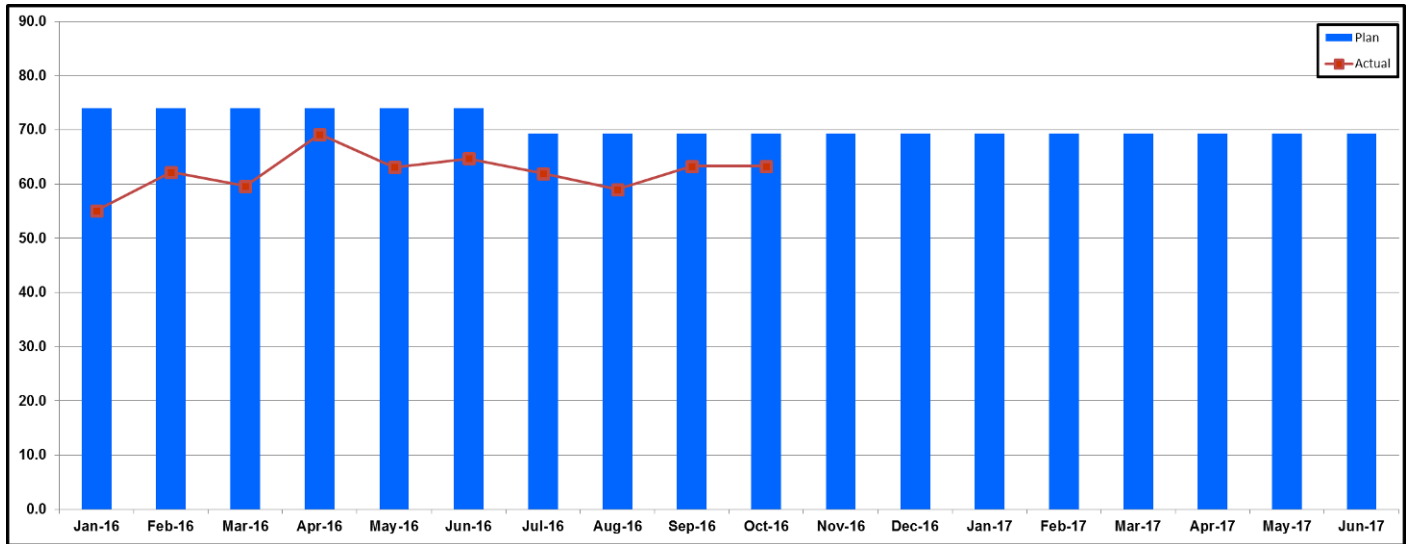
The overall FY17 Total Project Staffing Plan averages 123.3 Full Time Equivalent (FTEs) per month consisting of 69.3 for Metro Agency staff, 47.0 for Construction Management Support Services Consultant and 7.0 for Design and Engineering Support Services Consulting staff.

For October 2016, there were a total of 122.5 Full Time Equivalent (FTE's) consisting of 63.3 FTEs for Metro's project administration staff, 46.3 FTEs for Construction Management Support Services Consultant and 12.9 FTEs for Design and Engineering Support Services Consulting staff.

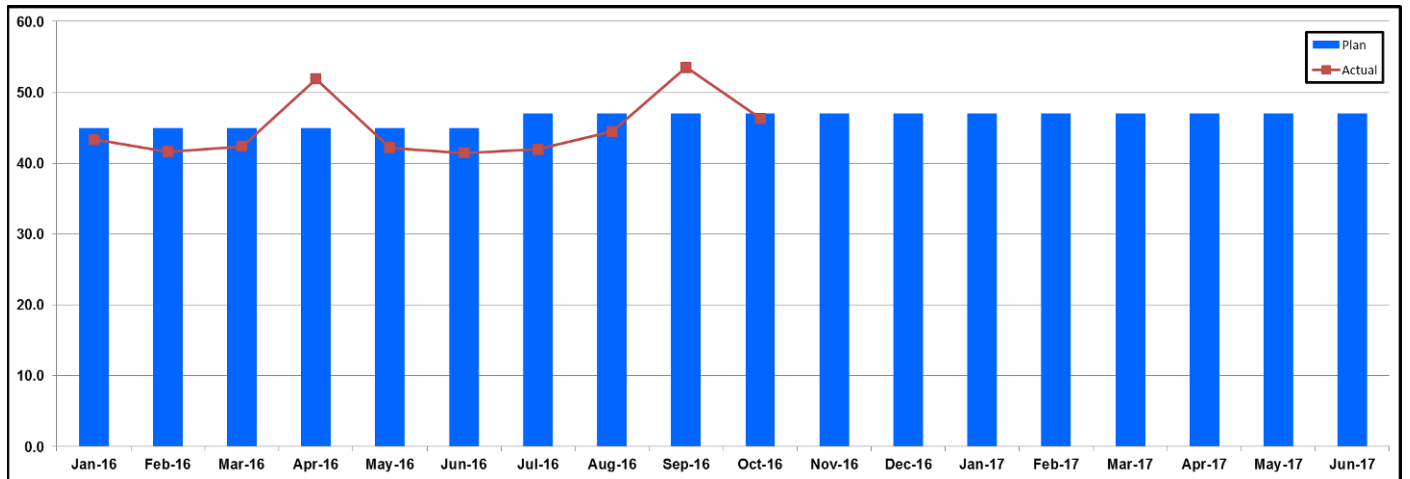
The next three charts show actual staffing versus planned staffing for the three major project participants.

STAFFING STATUS (Continued)

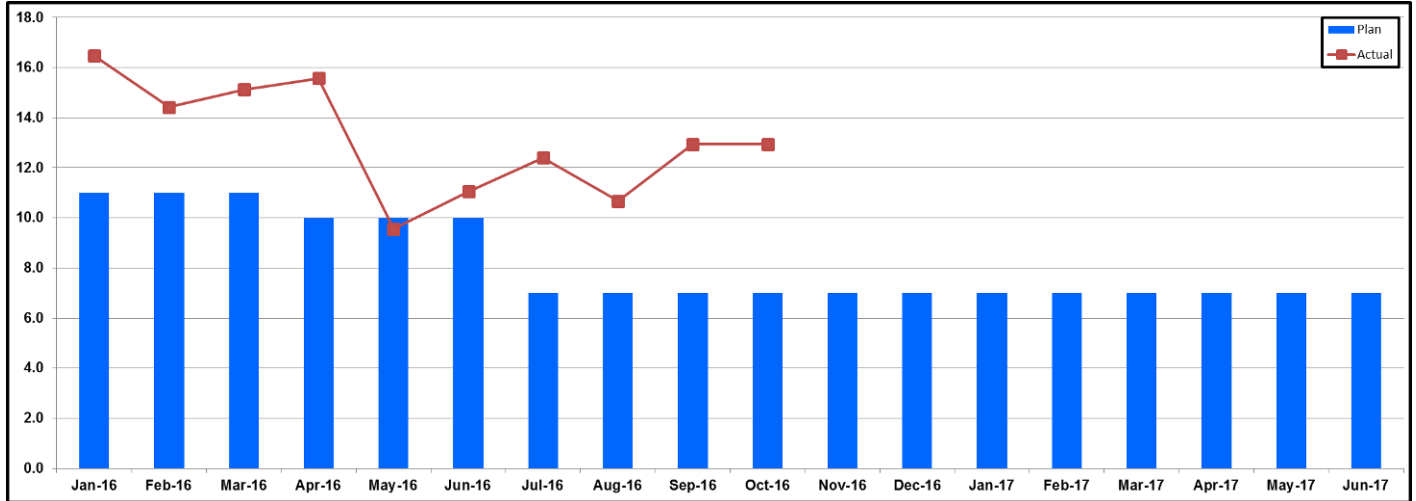
METRO STAFFING – FTES



**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 Corridor (D-B):									
<i>Crenshaw Subdivision</i>									
Full Takes	12	12		12	12	7	5	12	12
Part Takes (PT or SE)	10	9	1	9	9	3	6		9
TCE	10	9	1	10	10	1	8		9
Subtotal Parcels	32	30	2	31	31	11	19	12	30
<i>Crenshaw Subdivision Additional Parcels:</i>									
Full Takes									
Part Takes	1	1		1	1	1			
TCE									
Subtotal Parcels:	1	1		1	1	1			
Total Crenshaw Parcels	33	31	2	32	32	12	19	12	30
<i>Harbor Subdivision</i>									
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
<i>Harbor Subdivision Additional Parcels:</i>									
Full Takes	3	2	1	1				1	1
Part Takes	4	2	2	2	2	2			2
TCE	3	3		3	3	2			2
Subtotal Parcels:	10	7	3	6	5	4		1	5
Total Harbor Subdivision Parcels	46	40	6	41	39	18	19	13	36
Total CR/HS Parcels:	79	71	8	73	71	30	38	25	66
<i>Southwestern Yard</i>									
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	34	42	32	74

- *With one exception, (Enterprise) all parcels necessary to construct the guideway have been turned over to the Contractor.*
- *The agreement for the Enterprise parcels is currently being circulated for signature. Anticipate this parcel will be available for construction in November.*
- *Work requiring the remaining parcels are not on the critical path, and will be used to construct ADA, sidewalk, and other civil improvements.*

QUALITY ASSURANCE STATUS

C0988 Crenshaw/LAX Transit Corridor Design-Build Contract

- Attended weekly Quality Staff Meetings with City of Los Angeles, Los Angeles Bureau of Contract Administration, HNTB, and WSCC Lead Quality personnel.
- *WSCC Quality issued two (2) Nonconformance Reports (NCR's) during this month.*
- *WSCC Quality closed seven (7) NCR's during this month.*
- *WSCC Quality started the "Concrete at Crenshaw Series" Training Program to properly prepare and train the production team for concrete placement due to post pour discrepancies. WSCC Quality performed thorough research and conducted training on concrete placement such as 1) Vibrator do & don't, 2) Formwork effects on concrete, 3) Rebar in concrete, and 4) Control of cracking in concrete.*
- *HNTB Design Quality Control reviewed eighteen (18) NDC's, four (4) RFI's, two (2) AFC and one (1) design package.*
- *Metro Independent Testing Lab (ITL) conducted split sample for verification testing and provided soil test analysis of material for use on Mechanically Stabilized Earth (MSE) Wall 17 and 122 from placed material at MSE Wall 122 and performed Lightweight Cellular Concrete inspection/testing/sampling observations on Class II LCC for MSE Wall 122 backfill.*
- *Metro Quality participated in Readiness Review meetings for the track under drain and storm drain.*
- *Metro Quality, along with WSCC Quality visited subcontractors of Independent Testing Laboratories to conduct a surveillance on soil resistivity testing procedures and performance.*

ENVIRONMENTAL STATUS

C0988 Crenshaw/LAX Transit Corridor Design Build

- Reviewed and commented on the following Contractor Submittals:
 - Weekly Noise and Vibration Monitoring Data for station and alignment construction
 - Green Construction Plan Monthly Report
 - Sustainability Plan Monthly Reports
 - Weekly Storm Water Pollution Prevent Plan (SWPPP) inspection reports
 - Weekly Fugitive Dust Inspection Reports
 - Various Construction Work Plans and Submittals

- Monitoring groundwater dewatering activities at the Expo Station excavations.
- Conducted Contractor Cultural Awareness Training.
- Coordinated cultural monitoring (Archaeological, Paleontological and Native American Monitoring).
- Conducted contaminated soil removal at Victoria Yard and along the right-of-way south of Arbor Vitae Street.
- Conducted noise and vibration monitoring for weekend and night decking operations at UG3.
- Conducted asbestos containing material (transite pipe) removal in the Park Mesa Heights area and along Aviation Blvd. and 111th St.

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 CD 8.
- Continue to work with Metro Bus Operations to ensure that bus stops between 60th and 67th Street are operational during construction.
- Metro Construction Relations and WSCC held a monthly Construction Update Meeting focused on the Park Mesa Heights area.
- *Participated in the 2016 Taste of Soul event sponsored by the LA Sentinel.*
- *Participated in the first annual Older Adult Transportation Expo at LAUS.*
- *The TBM Break Through Event was held on October 20th at Leimert Park Station.*
- *The History Channel will chronicle the TBM as part of a new television series.*
- *Issued a construction notice to residents in the Park Mesa UG3 area concerning materials being stored along the right-of-way.*

SYSTEMWIDE DESIGN AND ART PROGRAM STATUS

- Continued to review and respond to submittals.
- Worked with artists to refine designs for submission to fabricators.
- *Held Meet the Artists Workshops and presentations.*

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.
- *Participated in WSCC's Readiness Review for Hoisting Operation at Vernon/Expo Station.*
- *The Fire Department conducted a walk-thru of UG1 and UG3 and Manchester, La Brea and Imperial bridges.*
- *Contract C0990 Advanced Utility Relocation completed 369,287 manhours and four recordable incidents.*
- *Contract C0988 (WSCC) reported 148,181 work hours, three recordable incidents and one first aid for the month of October 2016. The total work hours are 3,227,243 and a total of thirty-nine (39) recordable incidents.*
- *Total Project-to-Date work hours for Contracts C0990 and C0988 are 3,449,636 and a total of forty-three (43) recordable incidents. The Project Incident Rate is 2.5. The Bureau of Labor Statistics (BLS) average recordable rate per 200,000 work-hours is 3.0.*

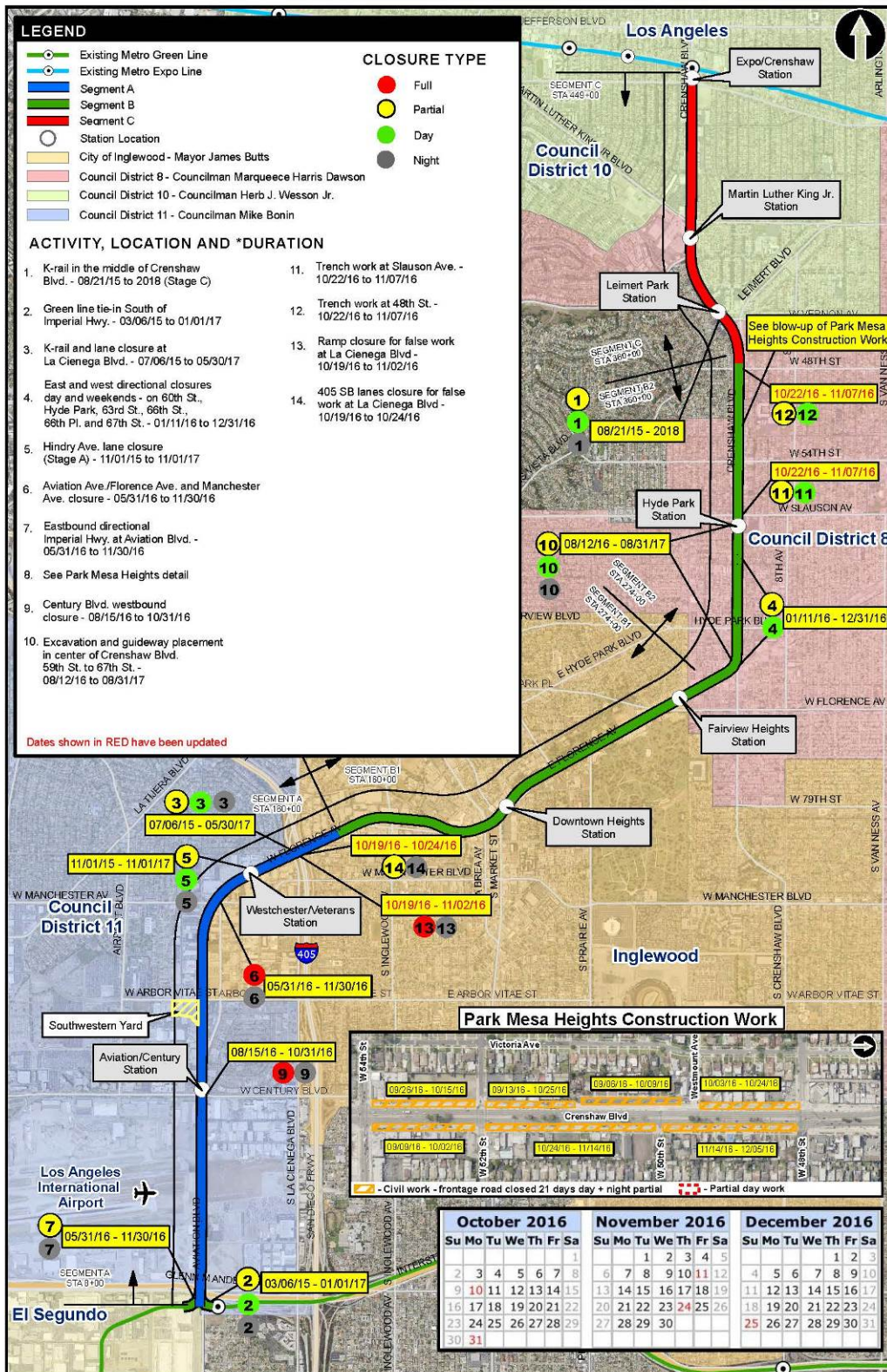
THIRD PARTY AGREEMENT STATUS

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 5/13	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 48th St. to 59th St.
- Metro attended the Prehearing regarding the petition on May 24, 2016.
- The scoping document (Ruling) was issued on July 1, 2016 by the Administrative Law Judge Scoping which set forth the procedural schedule and address the scope of the proceeding.
- Metro filed a brief on August 5, 2016 and a Reply Brief on August 15, 2016.
- Administrative Law Judge is reviewing the submitted Briefs and will issue a Proposed Decision.

**Crenshaw/LAX Transit Corridor Project
Traffic Closure Key Map - October - December 2016**



Updated: 10/21/2016

*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.


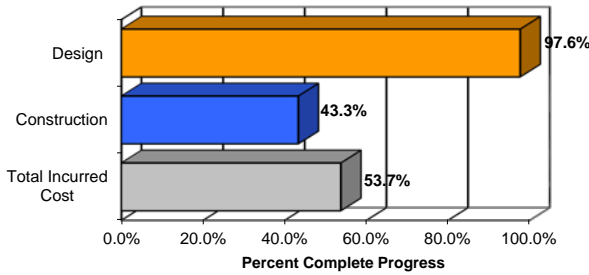
CHRONOLOGY OF EVENTS (Continued)

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.


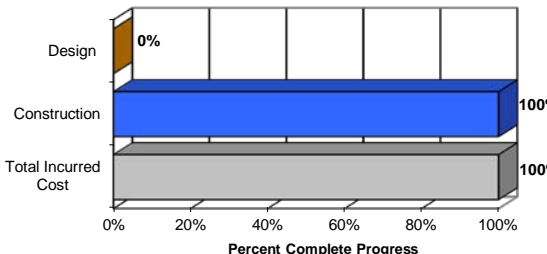
CHRONOLOGY OF EVENTS (Continued)

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 th St. Station).
June 29, 2015	Issued Notice to Proceed to Hensel Phelps/Herzog JV, Contract C0991 Division 16: SouthwesternYard.
July 23, 2015	The Board approved the Official and Operational Names of the eight stations.
April 27, 2016	The Tunnel Boring Machine was launched and drilling from north to south of the alignment started.
May 7, 2016	Held Halfway There Community Celebration at Leimert Park marking the halfway point of the project.
May 27, 2016	Held Groundbreaking Ceremony for the Southwestern Yard (Division 16).
October 20,2016	<i>The southbound tunnel boring machine completed mining with the hole thru at Leimert Park Station.</i>


CONTRACT C0988 STATUS
Crenshaw/LAX Transit Corridor

<p>PE Design Contractor: Hatch Mott (HM) CM Consultant: Stantec Contractor: - Walsh Shea Corridor Constructors (WSCC)</p>	<p>Contract No.: C0988</p> <p>Status as of October 29, 2016</p> 																																								
<p>Progress/Work Completed: Construction</p> <ul style="list-style-type: none"> Completed the TBM Mining SB tunnel from MLK to Vernon Commenced construction of the Interior walls at Expo Station Commenced construction of the Sand Walls at Vernon Station Continued excavation and lagging at UG #4 Continued relocating Fire Hydrants and Water Meters at Park Mesa Continued excavation and lagging and decking at UG #3 Continued the construction of Ballast Wall in Seg B1. Continued OCS foundation construction in segment B1. Continued work at the Pedestrian Underpass. Continued erection of I-405 Bridge Falsework Continued construction of the Platform Deck at West Station Continued construction of the TC&C room Roof at West Station. Continued construction of the platform deck at La Brea Station Continued construction of Manchester bridge Superstructure Continued construction of MSE wall 122 Continued OCS foundation construction in Segment A Commenced Ballast Wall construction in Segment A Completed erection of Falsework for Century Station Commenced Construction of Century Station Walls Completed protective slab and Invert Construction at UG #1 Continued waterproofing and U-Walls at UG #1 Continued construction of the Cut & Cover Walls & Roof. Continued construction of Green Line Superstructure Continued construction of MSE wall 17 	<p>Areas of Concern:</p> <ul style="list-style-type: none"> Design-builder's ability to mitigate schedule delays. Timely submittal of WSCC's design submittals and review by City of Los Angeles. 96th street station accommodations cost/schedule impacts. Ability of TBM to meet production rate forecasted on schedule. 																																								
<p>Schedule Assessment:</p> <ul style="list-style-type: none"> Contractor's October 2016 schedule update indicates "Milestone 1 - Contract Substantial Completion" is 222 calendar days behind the current contract date. Contractor submitted a revised schedule and is under review by Metro. 	<p>Cost Assessment:</p> <ul style="list-style-type: none"> The current construction contract cost forecast is \$1,303,751,097.18 and is within the Board authorized budget. The Contractor submitted their 38th payment application in the approved amount of \$22,288,135.64 <p><i>*Please note that not all executed modifications may have been included in the Contractor current payment application.</i></p>																																								
<p>Schedule Summary:</p> <table border="0"> <tr> <td>1. Date of Award:</td> <td>08/01/13</td> <td></td> </tr> <tr> <td>2. Notice to Proceed:</td> <td>09/10/13</td> <td></td> </tr> <tr> <td>3. Original Substantial Completion Duration:</td> <td>1824</td> <td></td> </tr> <tr> <td>4. Current Substantial Completion Duration:</td> <td>1865</td> <td></td> </tr> <tr> <td>5. Elapsed Time from NTP:</td> <td>1145</td> <td>61.4%</td> </tr> </table>	1. Date of Award:	08/01/13		2. Notice to Proceed:	09/10/13		3. Original Substantial Completion Duration:	1824		4. Current Substantial Completion Duration:	1865		5. Elapsed Time from NTP:	1145	61.4%	<p>Cost Summary: \$ In millions</p> <table border="0"> <tr> <td>1. Award Value:</td> <td style="text-align: right;">1,272.63</td> </tr> <tr> <td>2. Executed Modifications:</td> <td style="text-align: right;">30.21</td> </tr> <tr> <td>3. Approved Change Orders:</td> <td style="text-align: right;">8.78</td> </tr> <tr> <td>4. Current Contract Value (1 + 2 + 3):</td> <td style="text-align: right;">1,311.63</td> </tr> <tr> <td>5. Incurred Cost:</td> <td style="text-align: right;">700.72</td> </tr> </table>	1. Award Value:	1,272.63	2. Executed Modifications:	30.21	3. Approved Change Orders:	8.78	4. Current Contract Value (1 + 2 + 3):	1,311.63	5. Incurred Cost:	700.72															
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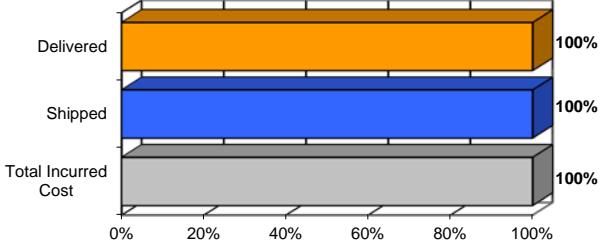
CONTRACT C0990 STATUS
Crenshaw/LAX Advanced Utility Relocations

<p>PE Design Contractor: Hatch Mott (HM) CM Consultant: Stantec Contractor: - Metro Builders and Engineers Group LTD</p>	<p>Contract No.: C0990 Status: Completed</p> 																																								
<p>Progress/Work Completed: - The construction was substantially completed on August 21, 2014 - Board authorized in March a settlement with the contractor. - Contract in close out.</p>	<p>Areas of Concern:</p>																																								
<p>Schedule Assessment: - Metro granted substantial completion to Metro Builders on August 21, 2014, which is 276 calendar days behind. - The settlement with the contractor settled all time issues.</p>	<p>Cost Assessment: - The final contract is \$11,316,140.00 and has been completely paid to contractor. * A modification in process for credit of unused provisional sums in the amount of \$123,156.85.</p>																																								
<p>Schedule Summary:</p> <table border="0"> <tr> <td>1. Date of Award:</td> <td align="right">05/30/12</td> </tr> <tr> <td>2. Notice to Proceed:</td> <td align="right">07/17/12</td> </tr> <tr> <td>3. Original Substantial Completion Durati</td> <td align="right">365</td> </tr> <tr> <td>4. Current Substantial Completion Durati</td> <td align="right">468</td> </tr> <tr> <td>5. Elapsed Time from NTP:</td> <td align="right">753</td> </tr> </table>	1. Date of Award:	05/30/12	2. Notice to Proceed:	07/17/12	3. Original Substantial Completion Durati	365	4. Current Substantial Completion Durati	468	5. Elapsed Time from NTP:	753	<p>Cost Summary: \$ In millions</p> <table border="0"> <tr> <td>1. Award Value:</td> <td align="right">7.83</td> </tr> <tr> <td>2. Executed Modifications:*</td> <td align="right">3.49</td> </tr> <tr> <td>3. Approved Change Orders:</td> <td align="right">-</td> </tr> <tr> <td>4. Current Contract Value (1 + 2 + 3):</td> <td align="right">11.32</td> </tr> <tr> <td>5. Incurred Cost:</td> <td align="right">11.32</td> </tr> </table>	1. Award Value:	7.83	2. Executed Modifications:*	3.49	3. Approved Change Orders:	-	4. Current Contract Value (1 + 2 + 3):	11.32	5. Incurred Cost:	11.32																				
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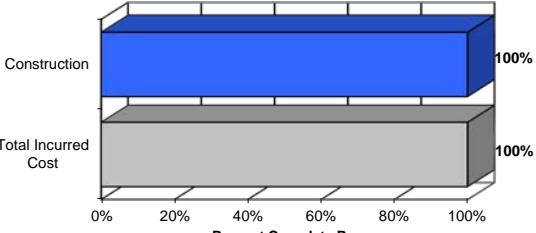
CONTRACT C0991 STATUS
Southwestern Yard

<p>PE Design Contractor: Hatch Mott (HM) CM Consultant: Stantec Contractor: - Hensel Phelps / Herzog JV</p>	<p>Contract No.: C0991</p>  <p>Status as of October 29, 2016</p>																									
<p>Progress/Work Completed:</p> <ul style="list-style-type: none"> • APDU-1 Early Civil Package was issued for Construction on 9/23/16. • APDU-2A Main Shop Building (Foundations, pits, grader beams, anchor bolts, Etc.) Early Civil Package was issued for construction on 9/23/16. • ADPU-2B 100% was submitted for review on 9/14/16 and comment resolution on 10/26/16. • ADFPU-2C 85% Design submittals for future Main Shop Expansion 85% continue. • Phase I, right of way was turned over to HPH on May 2, 2016. • Bellanca North Revocable Permit was issued in June 2016. • Temporary Access Road (TAR) was opened to traffic on 9/12/16 and demolition of Bellanca completed. • DWP installed new poles and wiring east of Temporary Access Road (TAR). Design for UG lines are approved by BOE. • AT&T completed the fiber and copper lines relocation and removal of existing communication poles from east side of Bellanca on 10/20/2016. 	<p>Areas of Concern:</p> <ul style="list-style-type: none"> • DWP utility line relocation design was approved by BOE. Design approval process is taking longer than anticipated. • Metro 3rd party is working on an interim plan to remove the interfering power pole. • 8" water line (Asbestos) under Bellanca is affecting Main Shop foundations construction and needs to be relocated 																									
<p>Schedule Assessment:</p> <ul style="list-style-type: none"> • MOD #02 was executed extending milestones 2, 3, 4 by 90 calendar days as shown on the schedule milestone section below. • MOD #06 was also executed to adjust the contract Rain Days allowance measurement. • C0991 contract critical path runs through design and construction for the Main Shop Facility to milestones 2 & 3. • Project critical path runs through Phase 2, site access. • Interface coordination between HPH, WSCC, City, 3rd Parties are being managed proactively to address and to minimize any impact on the project cost and Schedule. • Risk Register for SWY was expanded as part of the overall Crenshaw/LAX project risk process including FTA/PMOC concerns. • Assessment, no delay to the milestones are expected. 	<p>Cost Assessment:</p> <ul style="list-style-type: none"> • The current construction contract cost forecast is \$170,970,119.82 is within the Board authorized budget. • The Contractor submitted their 15th payment application in the approved amount of \$1,851,154.90. <p>*Please note that not all executed modifications may have been included in the Contractor current payment application.</p>																									
<p>Schedule Summary:</p> <table border="0"> <tr> <td>1. Date of Award:</td> <td>28-May-15</td> </tr> <tr> <td>2. Notice to Proceed:</td> <td>29-Jun-15</td> </tr> <tr> <td>3. Original Substantial Completion Duration:</td> <td>1,220</td> </tr> <tr> <td>4. Current Substantial Completion Duration:</td> <td>1,311</td> </tr> <tr> <td>5. Elapsed Time from NTP:</td> <td>488 37.2%</td> </tr> </table>	1. Date of Award:	28-May-15	2. Notice to Proceed:	29-Jun-15	3. Original Substantial Completion Duration:	1,220	4. Current Substantial Completion Duration:	1,311	5. Elapsed Time from NTP:	488 37.2%	<p>Cost Summary: \$ In millions</p> <table border="0"> <tr> <td>1. Award Value:</td> <td>172.31</td> </tr> <tr> <td>2. Executed Modifications:</td> <td>(1.37)</td> </tr> <tr> <td>3. Approved Change Orders:</td> <td>0.03</td> </tr> <tr> <td>4. Current Contract Value (1 + 2 + 3):</td> <td>170.97</td> </tr> <tr> <td>5. Incurred Cost (thru October 2016):</td> <td>26.82</td> </tr> </table>	1. Award Value:	172.31	2. Executed Modifications:	(1.37)	3. Approved Change Orders:	0.03	4. Current Contract Value (1 + 2 + 3):	170.97	5. Incurred Cost (thru October 2016):	26.82					
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<p>Note: Schedule update as of October 01, 2016</p>																										

CONTRACT C0992 STATUS
Concrete Ties

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

<p>PE Design Contractor: Hatch Mott (HM) CM Consultant: Stantec Contractor: LB Foster Rail Technology Corp</p>	<p>Contract No.: C0992A Status: Completed</p>																																				
<p>Progress/Work Completed: - All 115RE SS Blank Stick Rails have been delivered to the job site. - All 115RE HH rail have been delivered to job site. - All Bumping Posts have been delivered to job site on 5/8/2015. - Contract is closed out.</p>	<p>Areas of Concern: .</p>																																				
<p>Schedule Assessment: All running rails and bumping posts were delivered ahead of the schedule.</p>	<p>Cost Assessment: The final contract cost is \$5,2 million and has been completely paid to contractor.</p>																																				
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CONSTRUCTION PHOTOGRAPHS



GREENLINE UNDERPASS – Deck rebar installation ongoing/girder-stem formwork installation ongoing.



CONSTRUCTION PHOTOGRAPHS (Continued)



UG#1-Invert rebar installations at the north end.



UG#1- Concrete placement for cut-and-cover tunnel segment.

CONSTRUCTION PHOTOGRAPHS (Continued)



WESTCHESTER STATION – Crews cured the recently placed station footing and continued with rebar and formwork installations for the NB and SB station platform stem walls.



I-405 Bridge –. Bridge superstructure falsework erection ongoing.

CONSTRUCTION PHOTOGRAPHS (Continued)



MANCHESTER BRIDGE – Bridge deck concrete placement complete. Subcontractor completed post tensioning stressing operations.



MSE 122 L & R (North of Manchester Blvd.) – Crews continued with sequential construction of the LCC MSE wall erecting precast panels and setting/anchoring the galvanized reinforcement straps.

CONSTRUCTION PHOTOGRAPHS (Continued)



LA BREA BRIDGE -Crews prepped the platform deck and formed bulkheads for the upcoming concrete placements.



FAIRVIEW HEIGHTS STATION – Crews continued with rebar and formwork installations for the platform deck and through-girders as well as deck MEP embeds.

CONSTRUCTION PHOTOGRAPHS (Continued)



UG#3 – Completed placing deck beams and deck panels south of 63rd Street.



PARK MESA – Placing CMB base section north of 54th.

CONSTRUCTION PHOTOGRAPHS (Continued)



LEIMERT PARK STATION – Installation of invert column shear cap.



MARTIN LUTHER KING JR. STATION – Start of excavation for side structure.

CONSTRUCTION PHOTOGRAPHS (Continued)



EXPOSITION/CRENSHAW STATION – Placing concrete for interior wall.



TUNNELING – After TBM breakthrough contractor starting to remove TBM and will reposition back to Exposition/Crenshaw Station for start of 2nd tunnel leg.

CONSTRUCTION PHOTOGRAPHS (Continued)



TUNNELING – Removed temporary rail and vent lines to prepare for invert pour of completed tunnel.

**APPENDIX
PROJECT COST STATUS – SOUTHWESTERN YARD**

UNITS IN DOLLARS

SCC CODE	DESCRIPTION	ORIGINAL BUDGET	CURRENT BUDGET		COMMITMENTS		EXPENDITURES		CURRENT FORECAST		FORECAST VARIANCE
			PERIOD	TO DATE	PERIOD	TO DATE	PERIOD	TO DATE	PERIOD	TO DATE	
10	GUIDEWAYS	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	70,700	0	86,889,531	1,699,532
40	SITWORK/SPECIAL CONDITIONS	35,932,000	0	38,273,000	78,200	38,736,286	0	18,427,368	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	78,200	158,259,981	0	18,498,068	0	158,153,531	1,699,532
60	RIGHT-OF-WAY	99,910,000	0	100,000,000	0	106,286,238	59,115	105,639,211	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	232,175	29,941,737	384,102	18,622,036	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	310,375	294,487,955	443,217	142,759,315	0	307,200,000	(0)

C0991 PAINT & BODY SHOP PROJECT											
DESCRIPTION	ORIGINAL BUDGET	CURRENT BUDGET		COMMITMENTS		EXPENDITURES		CURRENT FORECAST		FORECAST VARIANCE	
		PERIOD	TO DATE	PERIOD	TO DATE	PERIOD	TO DATE	PERIOD	TO DATE		
861301 DIV 22 PAINT & BODY SHOP	11,000,000	0	11,000,000	18,507	6,966,735	18,507	244,610	0	11,000,000	0	
GRAND TOTAL	307,434,278	0	318,200,000	328,882	301,454,690	461,724	143,003,925	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 design-build Contract C0991 Southwestern Yard Project. Of the total \$307.2 million, \$150.2 million is funded in the Crenshaw/LAX Transit Project LOP budget which includes the original 49% allocation amount of \$139.4 million plus a new \$10.8 million reduction from the Crenshaw/LAX Transit Project contingency line item in the budget. There is no increase in the LOP for the Crenshaw/LAX Transit Project. The original 51% share associated with future Green Line related extensions in an amount of \$145.8 million was increased by \$11.2 million for a new total of \$157.0 million.

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

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

APPENDIX PROJECT COST ANALYSIS (Continued)

Current Forecast: The forecast is under review.

Commitments:

The commitments are cumulative through October 29, 2016.

Total commitments increased by \$0.33 million for this period due to the following:

- SCC-40
 - Construction commitments increased by \$0.08 million for this period.
- SCC-60
 - Right-of-Way (ROW) no change.
- SCC-80
 - Other professional services such as legal, construction management and labor increased by \$0.25 for September/October.

The \$301.45 million in commitments to date represents 94.74% of the current budget.

Expenditures:

The expenditures are cumulative through October 29, 2016.

The total expenditures increased by \$0.46 million for this period due to the following:

- SCC-30
 - No cost to report.
- SCC-40
 - No cost to report.
- SCC-60
 - Right-of-Way (ROW) expenditure increase by \$0.06 million for September/October.
- SCC-80
 - Hensel Phelps/Herzog JV, agency expenditure and professional services expenditure increase by \$0.40 million for September/October.

The \$143.00 million in expenditures to date represents 44.94% 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.