

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).

NOVEMBER 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: Crews removing struts at underground guideway No. 1 in front of LAX Airport runways.				WORK COMPLETED PAST MONTH:			
				<ul style="list-style-type: none"> o Commence mining of NB tunnel to MLK Jr. Station o Continued 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	\$ 120.8	94.8%	Design			
				Preliminary Engineering	Nov-11	Nov-11	Complete
				Final Design	Sep-15	May-17	20.5 months behind
CONSTRUCTION	\$ 1,353.1	\$ 686.2	50.7%	Right-of-Way			
				Full-take parcels available	Jan-15	Jan-15	Complete (base scope)
				Part-take and TCE parcels	Sep-15	Apr-16	Complete (base scope)
OTHER	\$ 440.8	\$ 168.0	38.1%	Construction			
				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*
TOTAL	\$ 2,058.0	\$ 1,101.5	53.5%	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.			
Note: Cost expended as of Dec. 02, 2016.							
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 accommodations cost/schedule impacts. o Ability of TBM to meet production rate forecasted on schedule. 							
ROW ACQUISITION	PLAN	ACQUIRED	REMAINING	CRITICAL ACTIVITIES / 3 MONTH LOOK AHEAD			
FULL TAKES	37	36	1	<ul style="list-style-type: none"> o Commence concrete placement for SB tunnel invert. 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	26	1				
TEMPORARY EASEMENTS	15	14	1				
TOTAL PARCELS	79	76	3				

PROJECT OVERVIEW

Contract Closeout

Contract C0990 - The advanced utility relocations contract with Metro Builders and Engineers Group, LTD was substantially completed on August 21, 2014. The Metro Board authorized a final settlement in March 2016 on all remaining issues. A final payment was issued to the contractor in April 2016 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 commencement of mining the north bound tunnel on November 29, 2016. Work continued along the alignment on the underground, aerial and at-grade stations.

Design- Build Contract C0991 Southwestern Yard (Division 16) – The design-builder, Hensel Phelps / Herzog JV substantially completed final design and submission of submittals required for construction on October 26, 2016. *The contractor continues critical path work such as structural excavation and concrete placement of main shop building service and inspection pits, deep foundations, grade beams and blow down pits. Contractor also continued with work on underground 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 76 parcels acquired through November 2016. Thirty-six full takes, 26 part-takes and 14 TCE's have been provided to the design-builder WSCC.*

Systems

Metro staff initiated a study to explore possible alternative layouts to accommodate the central control functions associated with new project needs, such as Crenshaw/LAX project, within the existing ROC facility as an interim measure. Metro has determined that the best course of action is to expand the existing functional operations at the ROC to support the new five new 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 November 2016 are \$1,893.6 million or 92.0 % of the Current Budget. The project expenditures thru November 2016 are \$1,101.5 million or 53.5% 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 no change 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 no change in project status. Metro is reporting a projected 222 calendar day delay to the design-builder's contract substantial completion milestone (forecast 2019).*

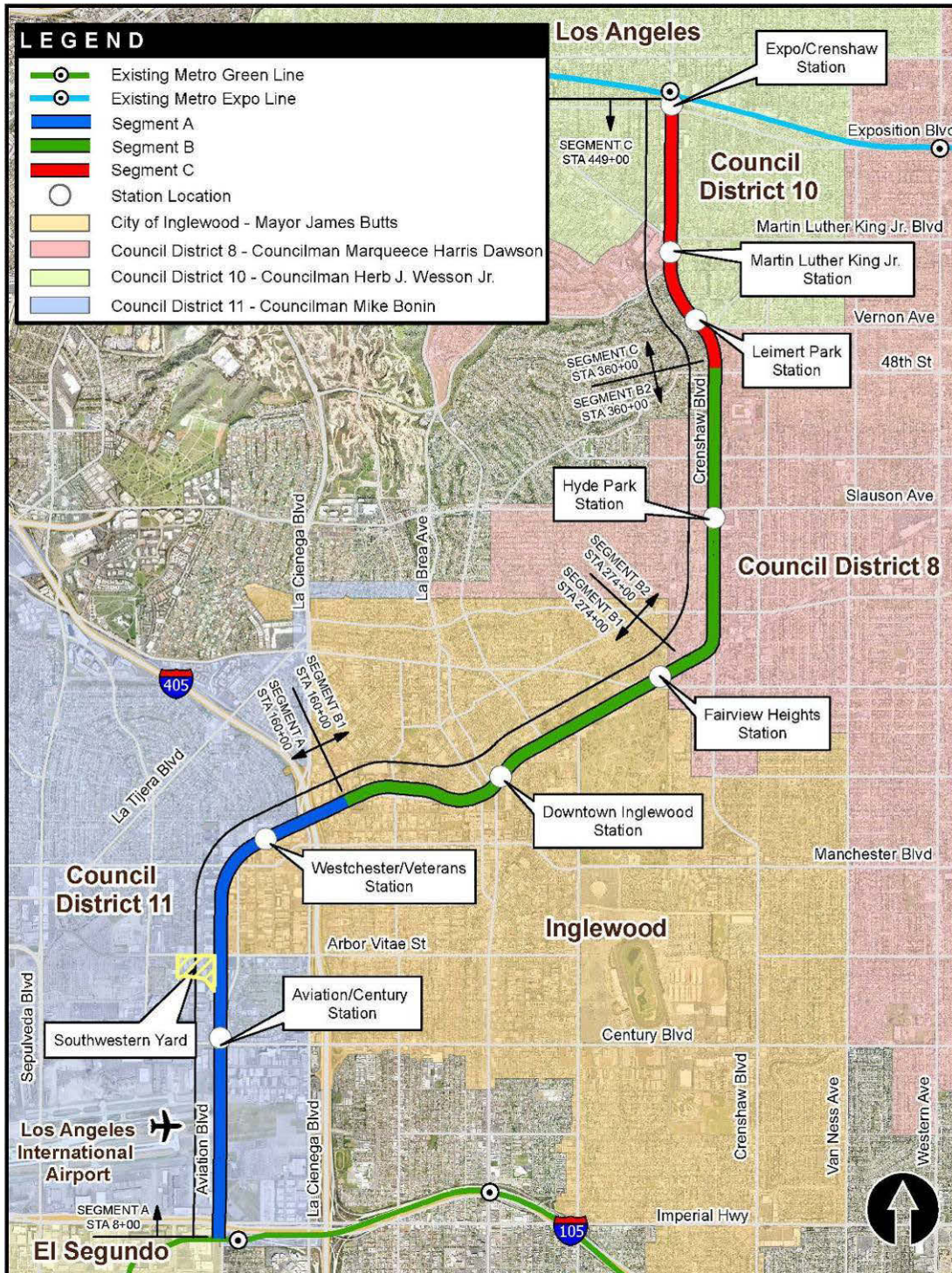
Concern No. 3: Cost and schedule impacts on the Crenshaw/LAX Transit Project to accommodate the future Airport Metro Connector Transit Station at 96th Street.

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 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. Staff is planning on taking a global settlement agreement modification to the Metro Board of Directors meeting in January 2017 for approval. The scope of work associated with the accommodations is not funded by the Crenshaw/LAX Transit Project but is funded by other funding sources.*

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

Status/Action *The contractor commenced mining the south bound tunnel on November 29, 2016. The planned daily rate of production is 61 feet per work day from Expo/Crenshaw Station to MLK Jr. Station and then 59 feet per work day from MLK Jr. Station to Leimert Park Station. Although the contractor only achieved 45 feet per work day mining the south bound tunnel, it is anticipated that the contractor can achieve the planned rate of production. Metro will closely monitor the daily production rate and if the production rate begins to trend less than desired, Metro will request a mitigation plan from the design-builder.*

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.

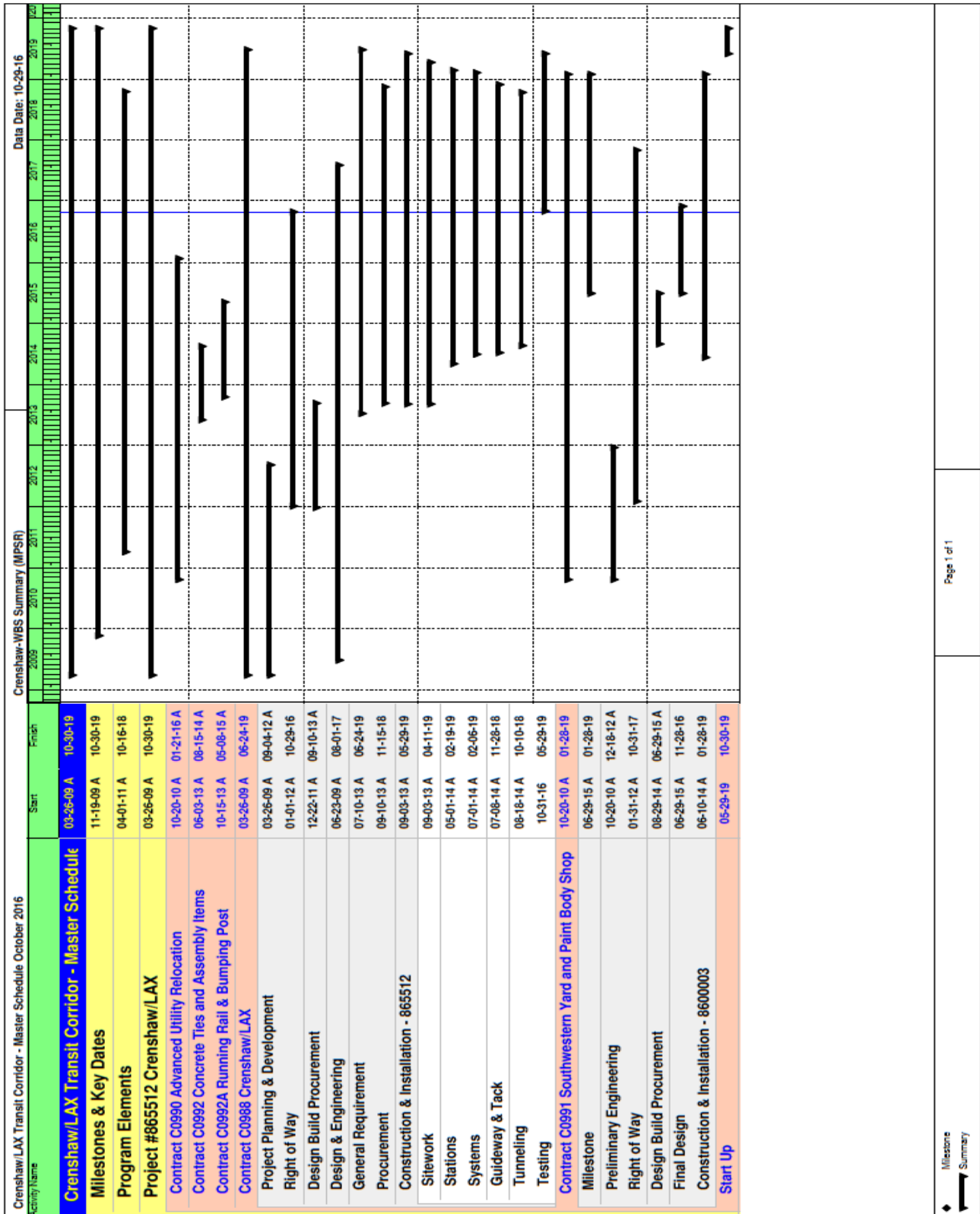
Start Up

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	Nov-16	Dec-16	Jan-17	Feb-17	Mar-17	Apr-17
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 [btn 46th 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						
C0988-CT-79286	Set-up Form System & Pour Track Foundation - Green Line Bridge - Aerial Structure #1	12-Apr-17						
	MTA Staff							
	MTA Board Action							
	Walsh Shea Corridor Constructors							
	Hensel Phelps							
	"A" following date is actual and completed							

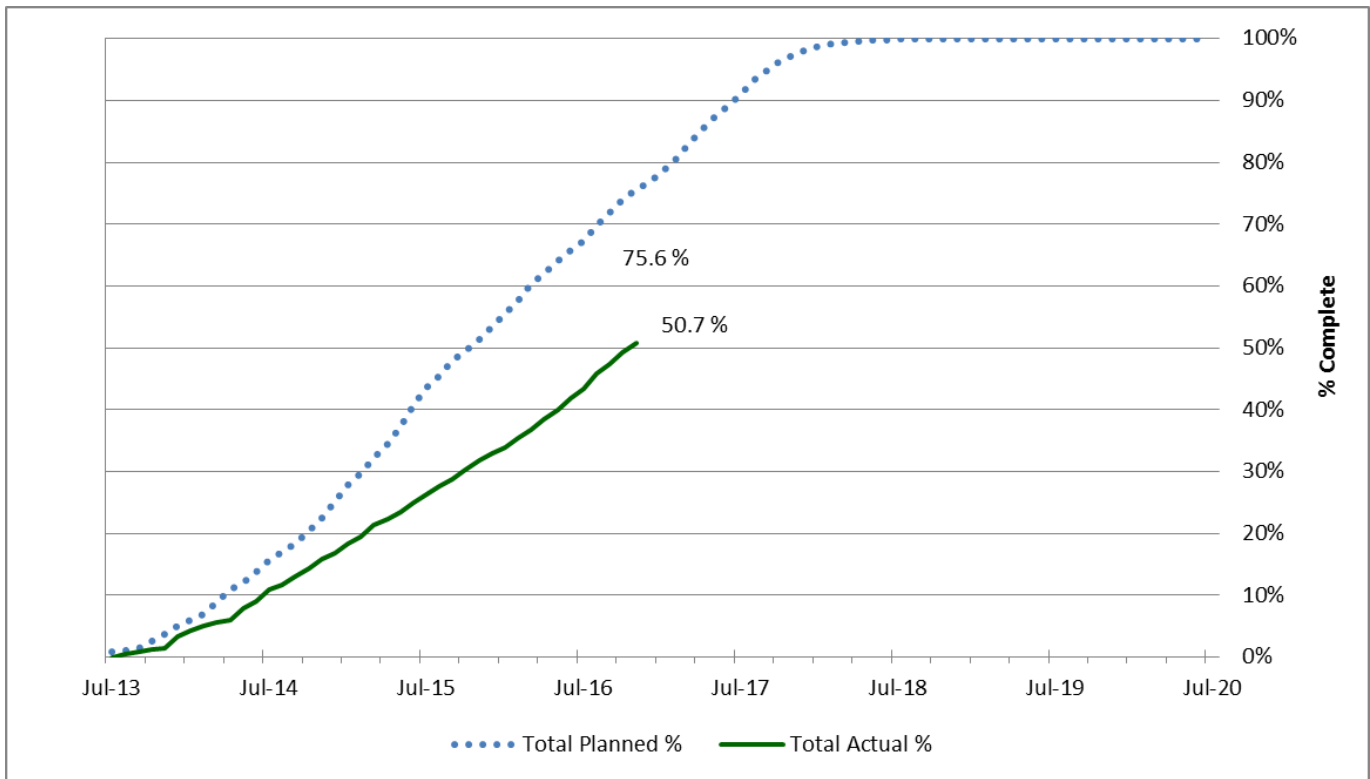
PROJECT SUMMARY SCHEDULE



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	73.7%	3.2%	On Schedule
Contract C0992	100%	None	Design Completed
Contract C0992A	100%	None	Design Completed
Construction Contracts Progress:			
Contract C0988	44.9%	3.6%	Behind Schedule
Contract C0990	100%	None	Substantially Completed
Contract C0991	3.4%	1.0%	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 50.7% versus a planned progress of 75.6% through November 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	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 Leimert Park	09/17/15	10/17/16	10/20/16A	
TBM NB Tunnel Launch at Expo	10/29/15	12/02/16	12/06/16	-4
TBM NB Break through at Leimert Park	03/21/16	03/28/17	04/04/17	-1

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. 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
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:

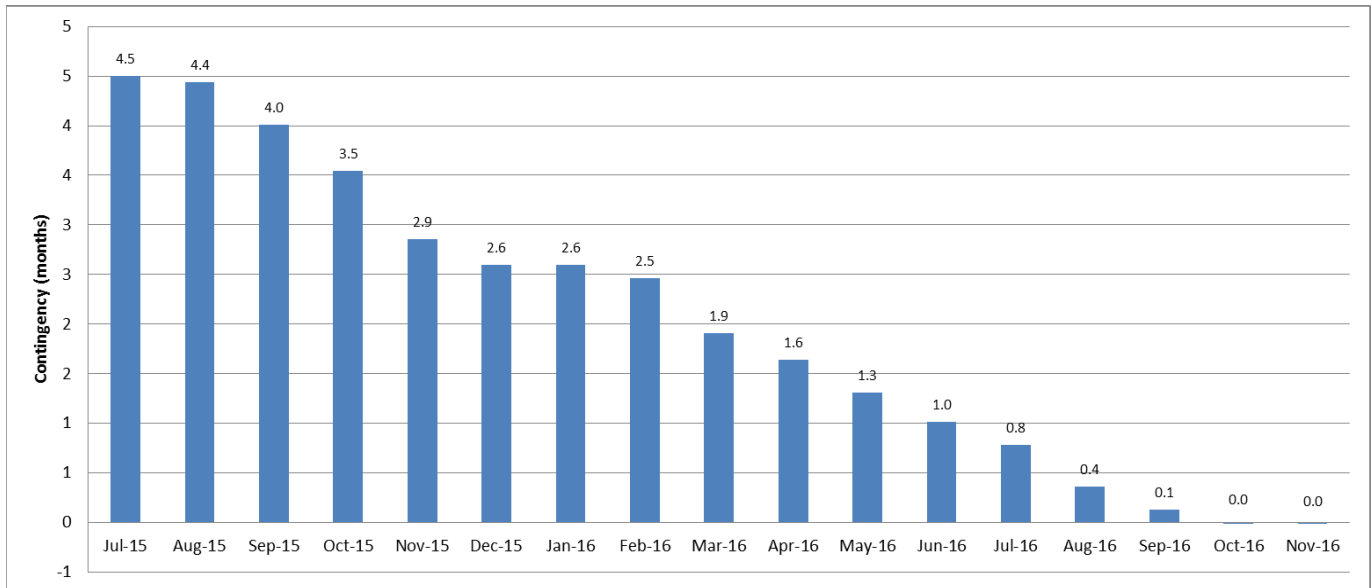
The longest path to project substantial completion begins with final design of the Design/Build Contract #C0988 Crenshaw/LAX Transit Corridor.

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.

Metro is maintaining zero days of float this month. A new completion schedule submitted by the design – builder is under review by Metro.

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	(459,518)	443,119,255	16,033,786	253,013,161	-	450,354,375	(2,145,626)
20	STATIONS	153,906,000	-	316,050,000	-	303,697,278	842,054	133,974,662	-	315,050,000	(1,000,000)
30	SUPPORT FACILITIES SOUTHWEST YARD	66,673,000	-	73,245,544	-	71,053,330	2,307,581	20,708,989	-	71,164,000	(2,081,544)
40	SITWORK/SPECIAL CONDITIONS	235,576,000	-	348,565,999	500,260	374,406,893	3,162,067	266,830,018	-	383,727,999	35,162,000
50	SYSTEMS	125,132,000	-	169,311,000	-	152,608,855	1,876,991	11,655,804	-	169,436,000	125,000
CONSTRUCTION SUBTOTAL (10-50)		1,052,622,000	-	1,359,672,544	40,742	1,344,885,611	24,222,478	686,182,634	-	1,389,732,374	30,059,830
60	RIGHT-OF-WAY	132,294,000	-	127,400,000	255,001	123,635,295	163,114	120,827,150	-	127,490,000	90,000.00
70	LRT VEHICLES	87,780,000	-	82,100,000	-	82,050,901	3,837,692	12,853,570	-	83,571,544	1,471,544
80	PROFESSIONAL SERVICES	273,147,000	-	300,093,178	1,650,000	317,455,019	4,913,236	256,095,571	700,000	356,846,548	56,753,370
SUBTOTAL (10-80)		1,545,843,000	-	1,869,265,722	1,945,743	1,868,026,826	33,136,520	1,075,958,925	700,000	1,957,640,466	88,374,744
90	UNALLOCATED CONTINGENCY	177,157,000	-	162,734,278	-	-	-	-	(700,000)	74,359,534	(88,374,744)
TOTAL PROJECT 865512 (10-100)		1,723,000,000	-	2,032,000,000	1,945,743	1,868,026,826	33,136,520	1,075,958,925	-	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	1,945,743	1,893,576,214	33,136,520	1,101,508,313	-	2,058,000,000	-

NOTE: EXPENDITURES ARE CUMULATIVE THROUGH 02-DEC-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 December 2, 2016. The total commitments increased by \$1.9 million this period primarily due to the following:

- SCC-10 (Guideways) has decreased by \$0.5 million due to purchase order close-out and de-commitments of funds associated with the design-build Contract C0988 Crenshaw/LAX Transit Corridor.
- SCC-40 (Sitework and Special Conditions) has increased by \$0.5 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 increased \$0.3 million primarily for cost associated with real estate acquisition, environmental and relocation services. The total commitment of \$123.6 million includes \$53.2 million for the Southwestern Yard 49% allocation
- SCC-80 (Professional Services) has increased of \$1.6 million due to executed modifications associated with the design-build Contract C0988 Crenshaw/LAX Transit Corridor, labor compliances services for Southwestern Yard and legal services. The total commitment of \$317.5 million includes \$22.0 million for the Southwestern Yard 49% allocation.

The \$1,893.6 million in commitments to date represents 92.0% of the current budget.

Expenditures:

The expenditures are cumulative through December 2, 2016. The total expenditures increased by \$33.1 million this period due to the following:

- SCC-10 (Guideways) has increased by \$16.0 million for costs associated with the design-build Contract C0988 Crenshaw/LAX Transit Corridor.
- SCC-20 (Stations, Stops, Terminals, Intermodal) has increased by \$0.8 million for costs associated with the design-build Contract C0988 Crenshaw/LAX Transit Corridor.
- SCC-30 (Southwestern Yard) has increased by \$2.3 million for costs associated with the design-build Contract C0991 Division 16: Southwestern Yard (Design/Build).

PROJECT COST ANALYSIS (Continued)

- SCC-40 (Sitework and Special Conditions) has increased by \$3.2 million for costs associated with the design-build Contract C0988 Crenshaw/LAX Transit Corridor.
- SCC-50 (Systems) has increased \$1.9 million for costs associated with the design-build Contract C0988 Crenshaw/LAX Transit Corridor.
- SCC-60 (Right-of-Way) has increased \$0.2 million for cost associated with real estate appraisal, acquisition and relocation services. The total expenditure of \$120.8 million includes \$52.6 million for the Southwestern Yard 49% allocation.

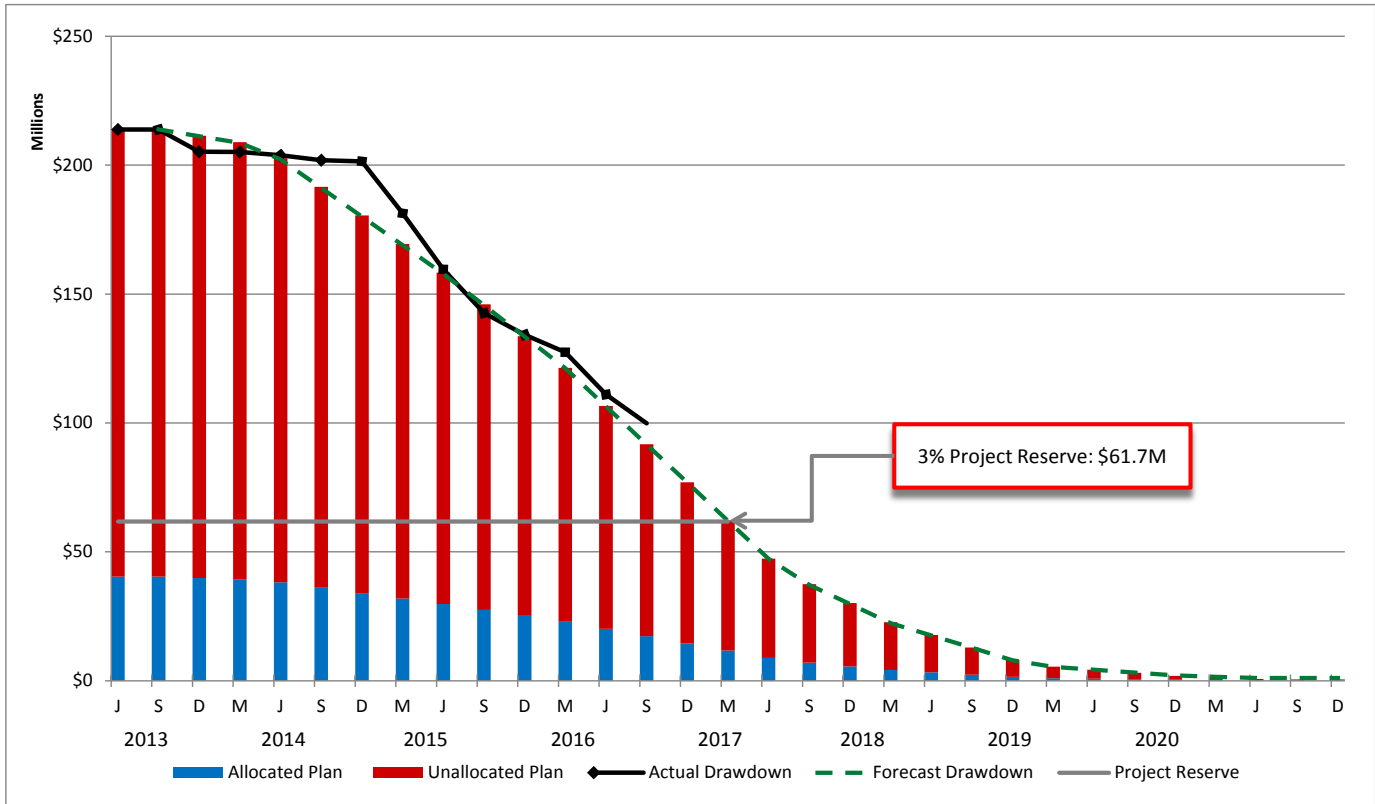
The \$1,101.5 million in expenditures to date represents 53.5% of the current budget.

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).

C0988 NON-CRENSHAW/LAX TRANSIT PROJECT FUNDED SCOPE OF WORK										
DESCRIPTION	CURRENT BUDGET		COMMITMENTS		EXPENDITURES		CURRENT		FORECAST VARIANCE	
	PERIOD	TO DATE	PERIOD	TO DATE	PERIOD	TO DATE	PERIOD	TO DATE		
405556 SYSTEMWIDE TRANSIT PLANNING	-	139,236	-	139,236	-	139,236	-	139,236	-	
210090/93 FARE GATE PROJECT	-	2,482,746	-	2,482,746	-	172,746	-	2,482,746	-	
210152 CRENSHAW/LAX BUS TRANSFER FACILITY	2,200,000	2,200,000	-	-	-	-	2,200,000	2,200,000	-	
460303 AIRPORT METRO CONNECTOR	762,289	3,763,844	-	3,763,844	-	2,182,405	762,289	3,763,844	-	
500013 C/LAX LAWA SCOPE OF WORK	-	1,575,362	-	531,125	-	408,712	-	1,575,362	-	
TOTAL	2,962,289	10,161,188	-	6,916,950	-	2,903,100	2,962,289	10,161,188	-	

PROJECT COST CONTINGENCY DRAWDOWN



Through 02-Dec-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 \$116,651,926 or 54.6% for both allocated and unallocated contingency through November 2016.

- The unallocated contingency decreased by \$1,184,855 for executed modifications for the design-build contract C0988 Crenshaw/LAX Transit Corridor.
- The allocated contingency increased by \$34,594 as a result of replenishing due to cancellation of approved change order for design-build contract C0988 Crenshaw/LAX Transit Corridor.

PROJECT COST CONTINGENCY (through 02-Dec-2016)					
UNITS IN DOLLARS					
	Original Contingency (Budget)	Previous Period	Current Period	To-Date	Remaining Contingency (Forecast)
Unallocated Contingency	173,500,000	(98,440,466)	(1,184,855)	(99,625,320)	73,874,680
Allocated Contingency	40,366,792	(17,061,200)	34,594	(17,026,605)	23,340,187
Total Contingency	213,866,792	(115,501,665)	(1,150,260)	(116,651,926)	97,214,866

DISADVANTAGED BUSINESS ENTERPRISE (DBE) STATUS

Contract C0988 Crenshaw/LAX Transit Corridor Design-Build

(Reported Data as of November, 2016)

- DBE Goal – Design 20.00%
- Current DBE Commitment \$20,928,235 (20.00%)
- Current DBE Participation \$25,562,013 (24.86%)
- Twenty-one (21) Design subcontractors have been identified to-date

- DBE Goal – Construction 20.00%
- DBE Commitment \$235,351,664 (20.00%)
- Current DBE Commitment \$194,555,539 (16.53%)
- Current DBE Participation \$141,335,112 (25.36%)
- 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 November, 2016)

- Targeted Worker Goal – 40.00%
- Targeted Worker Current Participation - 58.53%

- Apprentice Worker Goal - 20.00%
- Apprentice Worker Current Participation - 20.53%

- Disadvantaged Worker Goal - 10.00%
- Disadvantaged Worker Current Participation 12.79%

DISADVANTAGED BUSINESS ENTERPRISE (DBE) STATUS

Contract C0991 Division 16: Southwestern Yard Design-Build

(Reported Data as of November, 2016)

- DBE Goal – Design 20.00%
- Current DBE Commitment \$2,383,718 (20.93%)
- Current DBE Participation \$1,121,656 (14.79%)
- Six (6) Design subcontractors have been identified to-date

- DBE Goal – Construction 16.00%
- DBE Commitment \$25,181,792 (16.00%)
- Current DBE Commitment \$12,204,563 (7.75%)
- Current DBE Participation \$ 1,542.053 (8.61%)
- Fourteen (14) Construction subcontractors have been identified to-date.

PROJECT LABOR AGREEMENTS (PLA) STATUS

Contract C0991 Division 16: Southwestern Yard Design-Build

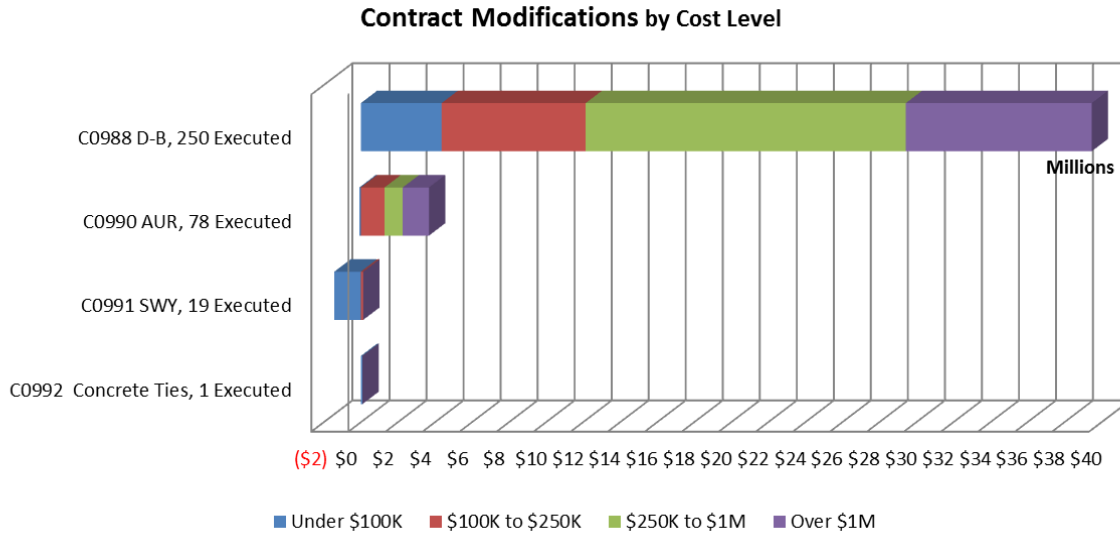
(Reported Data as of November, 2016)

- Targeted Worker Goal – 40.00%
- Targeted Worker Current Participation - 48.06%

- Apprentice Worker Goal - 20.00%
- Apprentice Worker Current Participation - 20.63%

- Disadvantaged Worker Goal - 10.00%
- Disadvantaged Worker Current Participation 7.51%

SUMMARY OF CONTRACT MODIFICATIONS



	C0988	C0990	C0991	C0992
	250 Executed	78 Executed	19 Executed	1 Executed
Under \$100K	\$ 4,360,231	\$ (70,251)	\$ (1,427,575)	\$ 81,738
\$100k to \$250K	\$ 7,781,634	\$ 1,280,184	\$ 130,000	\$ -
\$250K to \$1M	\$ 17,293,024	\$ 984,662	\$ -	\$ -
Over \$1M	\$ 10,039,556	\$ 1,417,202	\$ -	\$ -
Total Contract MODs	\$ 39,474,444	\$ 3,611,797	\$ (1,297,575)	\$ 81,738
% of Contract MODs	3.10%	46.14%	-0.75%	3.78%

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

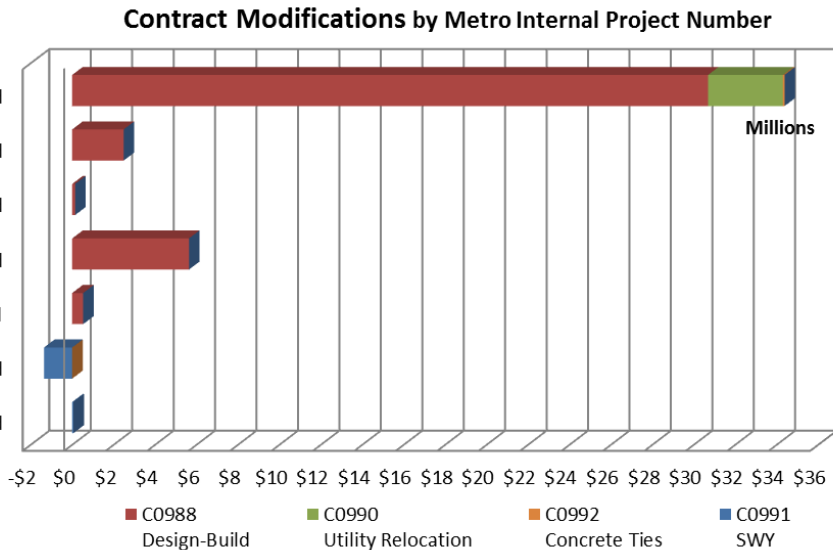
Two hundred fifty (250) changes with a total value of \$39.47 million have been executed since award of Contract C0988. There are an additional twenty three (23) changes with a total value of \$1.06 million pending the administrative approval process.

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

Nineteen (19) changes with a total value of \$1.30 million credits have been executed since award of Contract C0991.

One (1) 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	229	3	2	12	4	0	0
C0988 - \$	\$ 30,687,363	\$ 2,482,746	\$ 139,236	\$ 5,633,884	\$ 531,216	\$ -	\$ -
C0990 - QTY	78	0	0	0	0	0	0
C0990 - \$	\$ 3,611,797	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
C0991 - QTY	0	0	0	0	0	18	1
C0991 - \$	\$ -	\$ -	\$ -	\$ -	\$ -	\$ (1,354,575)	\$ 57,000
C0992 - QTY	1	0	0	0	0	0	0
C0992 - \$	\$ 81,738	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Total - QTY	308	3	2	12	4	18	1
Total - \$	\$ 34,380,898	\$ 2,482,746	\$ 139,236	\$ 5,633,884	\$ 531,216	\$ (1,354,575)	\$ 57,000

Three hundred and eight (308) changes with a total value of \$34.38 million have been executed for Project 865512 Crenshaw/LAX Transit Project. There are an additional twenty two (22) changes with a total value of \$1.02 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. There is one (1) additional change with a total value of \$0.04 million pending the administrative approval process.

Twelve (12) changes with a value of \$5.63 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.

Eighteen (18) changes with a value of \$1.35 million credit have been executed for Project 860003 Southwestern Yard.

One (1) change with a value of \$57,000 has been executed for Project 861301 Southwestern Yard Paint and Body Shop.

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%	546.0	100%	546.0	100%
MEASURE R	661.1	529.3	446.7	529.3	100%	203.2	38%	103.6	20%
OTHER FUNDS*	52.4	187.5	19.0	24.2	13%	19.0	10%	19.0	10%
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%	1,101.5	53.5%	982.7	47.8%

NOTE: Expenditures are cumulative through December 2, 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.

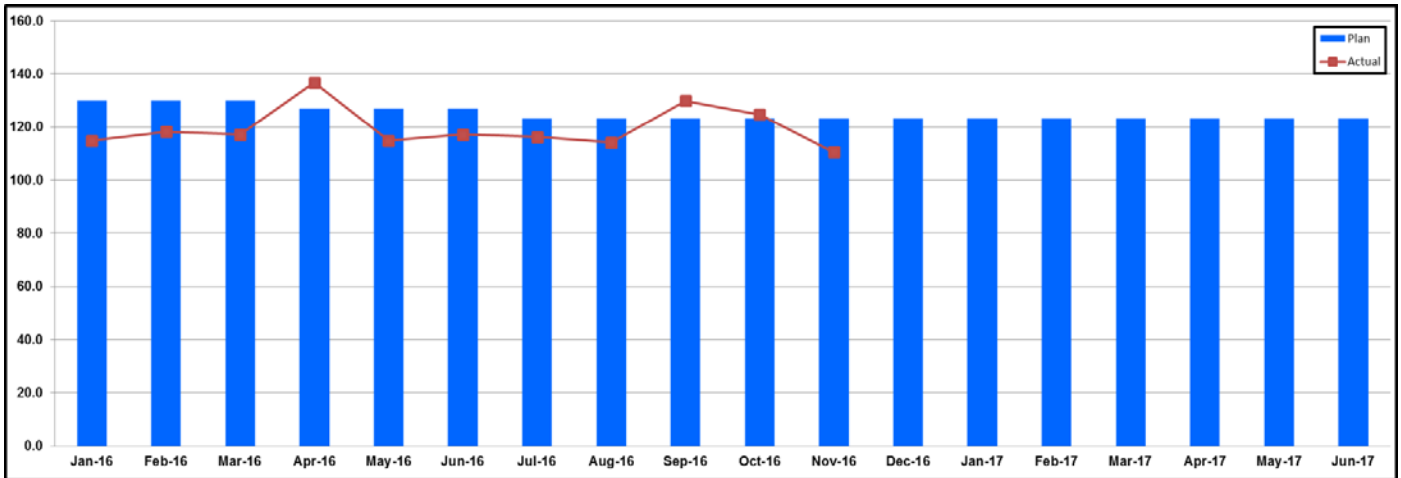
OTHER FUNDS: City of LA: Based on the funding agreement between Metro and the City of LA. \$19M is available for drawdown through FY2017.

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 November 2016.

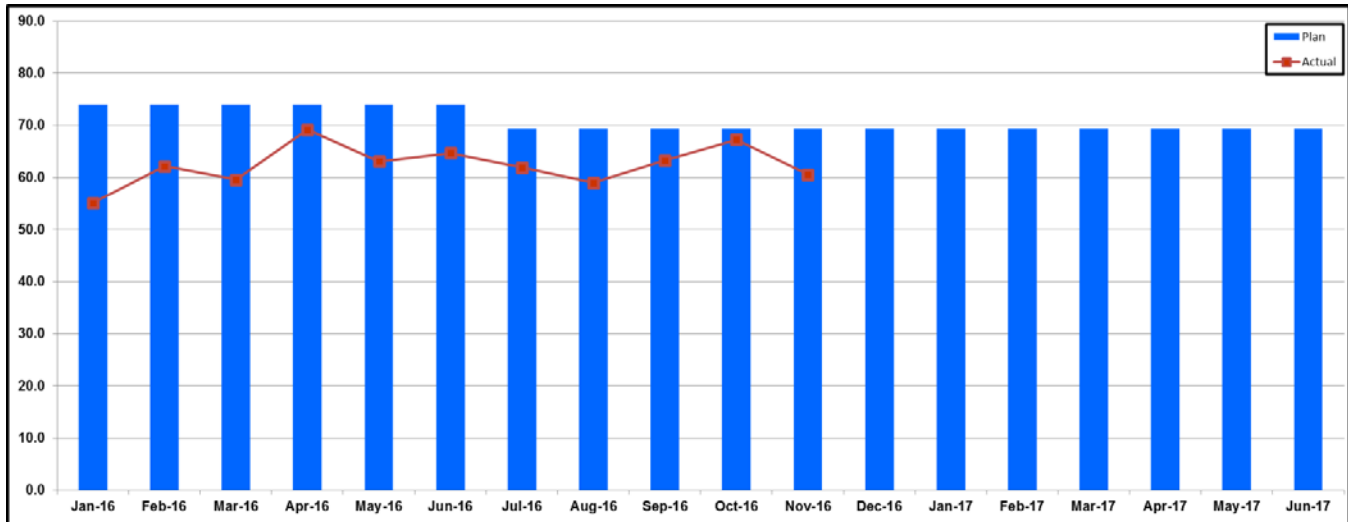
TOTAL PROJECT STAFFING

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.

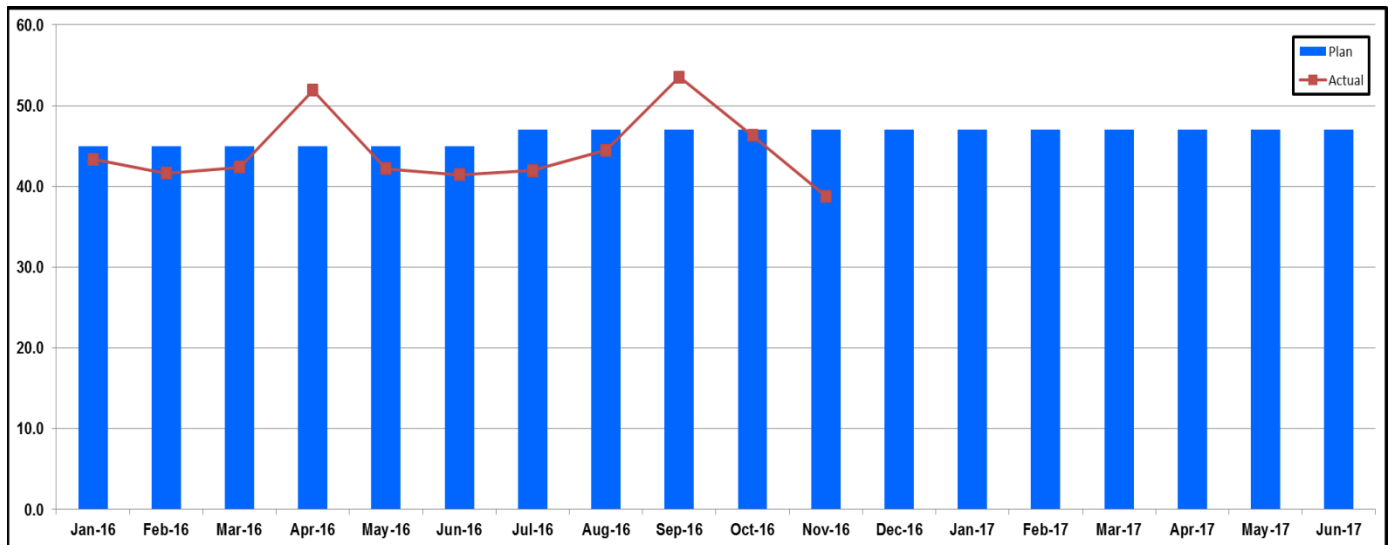
For November 2016, there were a total of 60.6 FTEs for Metro’s project administration staff, 38.8 FTEs for Construction Management Support Services Consultant and 11.2 FTEs for Design and Engineering Support Services Consulting staff.

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

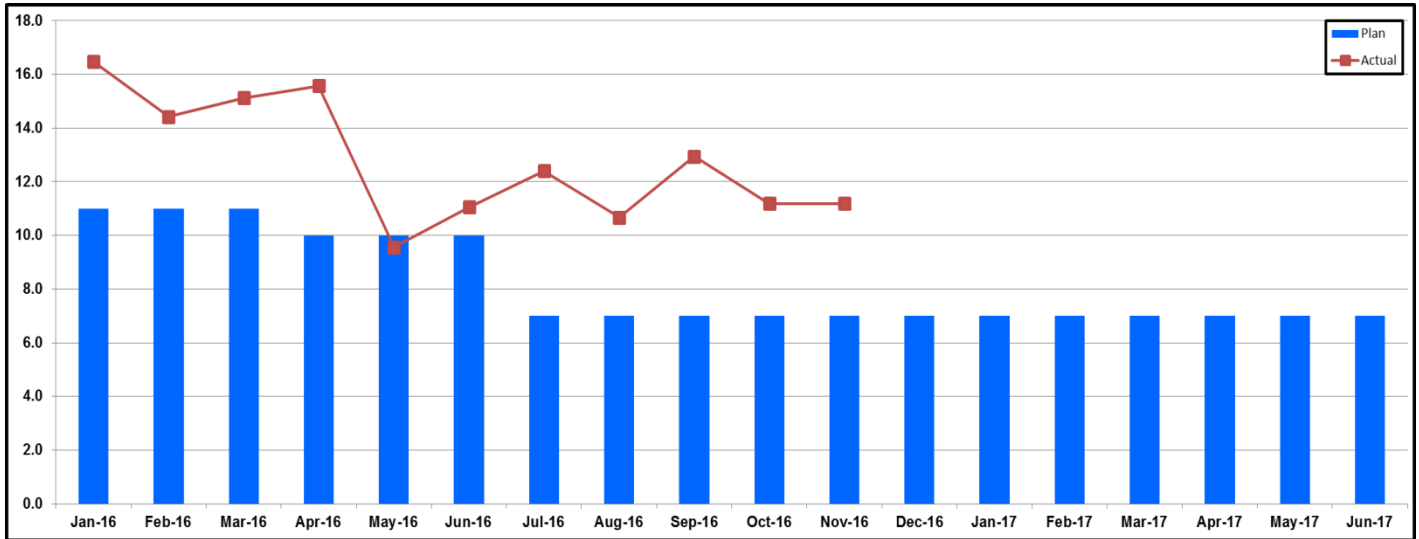
STAFFING STATUS (Continued)
METRO STAFFING – FTES



**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	7	10		15
TCE	3	2	1	2	2		2		2
Subtotal Parcels	36	33	3	35	34	15	19	12	32
<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	3			3
Subtotal Parcels:	10	7	3	6	5	5		1	6
Total Harbor Subdivision Parcels	46	40	6	41	39	20	19	13	38
Total CR/HS Parcels:	79	71	8	73	71	32	38	25	68
<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	36	42	32	76

- *All parcels necessary to construct the guideway have been turned over to the Contractor.*
- *Work requiring the remaining parcels is not on the critical path, and will be used to construct ADA, sidewalk, and other civil improvements.*

QUALITY ASSURANCE STATUS

C0988 Crenshaw/LAX Transit Corridor Design-Build Contract

- Attended weekly Quality Staff Meetings with City of Los Angeles, Los Angeles Bureau of Contract Administration, HNTB, and WSCC Lead Quality personnel.
- *WSCC Quality issued five (5) Nonconformance Reports (NCR's) during this month.*
- *WSCC Quality closed five (5) NCR's during this month.*
- *WSCC Quality completed the "Concrete at Crenshaw Series" Training Program.*
- *WSCC Quality conducted a training session on Tunnel Boring Machine (TBM), addressing topics on Process, Safety and Quality.*
- *HNTB Design Quality Control reviewed twelve (12) NDC's, zero (0) RFI's, three (3) AFC and six (6) design packages.*
- *Metro Independent Testing Lab (ITL) conducted third soil split sampling and verification testing of material for use on Mechanically Stabilized Earth (MSE) Wall 17 and 122, performed compressive strength testing of Class II / Class III Lightweight Cellular Concrete (LCC) specimens for MSE Wall 122, conducted Ballast material verification testing, performed verification inspections for Stud Welding and performed temperature monitoring and density testing for Hot Mix Asphalt (HMA) pavement.*
- *Metro Quality participated in Readiness Review meetings for the Tunnel Boring Machine (TBN) Hoist and Transport, structural concrete at Aerial Stations and asphalt paving.*
- *Metro Quality visited WSCC's Independent Testing Laboratories (ITL) 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
 - *Quarterly Noise Control Plan updates*
 - *Waste Management Plan*

- Monitoring groundwater dewatering activities at the Expo Station excavations.
- Conducted Contractor Cultural Awareness Training.
- Coordinated cultural monitoring (Archaeological, Paleontological and Native American Monitoring).
- Conducted noise and vibration monitoring for weekend and night decking operations at UG3.
- *Conducted soil and soil vapor sampling at former Hi-Tech Cleaners.*
- *Submitted NPDES Groundwater Discharge Permit Monitoring Report to RWQCB.*

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.
- *The Mayor's office and CD8 held a Park Mesa Community Meeting on November 17th to address long-term parking and economic development issues.*
- *Working with the Mayor's office and CD8 regarding Black Diamond Gym's vault in the public right-of-way.*
- *Addressing complaints from local businesses about obstructed views due to the construction of the MSE walls near the Manchester Bridge.*

SYSTEMWIDE DESIGN AND ART PROGRAM STATUS

- Continued to review and respond to submittals.
- Worked with artists to refine designs for submission to fabricators.

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 AC Paving for Park Mesa and structural concrete aerial station at Manchester.*
- *Participated in the Fire Department inspection walk thru of the Expo Station for the Fire Protection System.*
- Contract C0990 Advanced Utility Relocation completed 369,287 manhours and four recordable incidents.
- *Contract C0988 (WSCC) reported 111,636 work hours, three recordable incidents and one first aid for the month of November 2016. The total work hours are 333,888 and a total of two recordable incidents.*
- *Total Project-to-Date work hours for Contracts C0990 and C0988 are 3,561,275 and a total of forty-four (44) 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.*

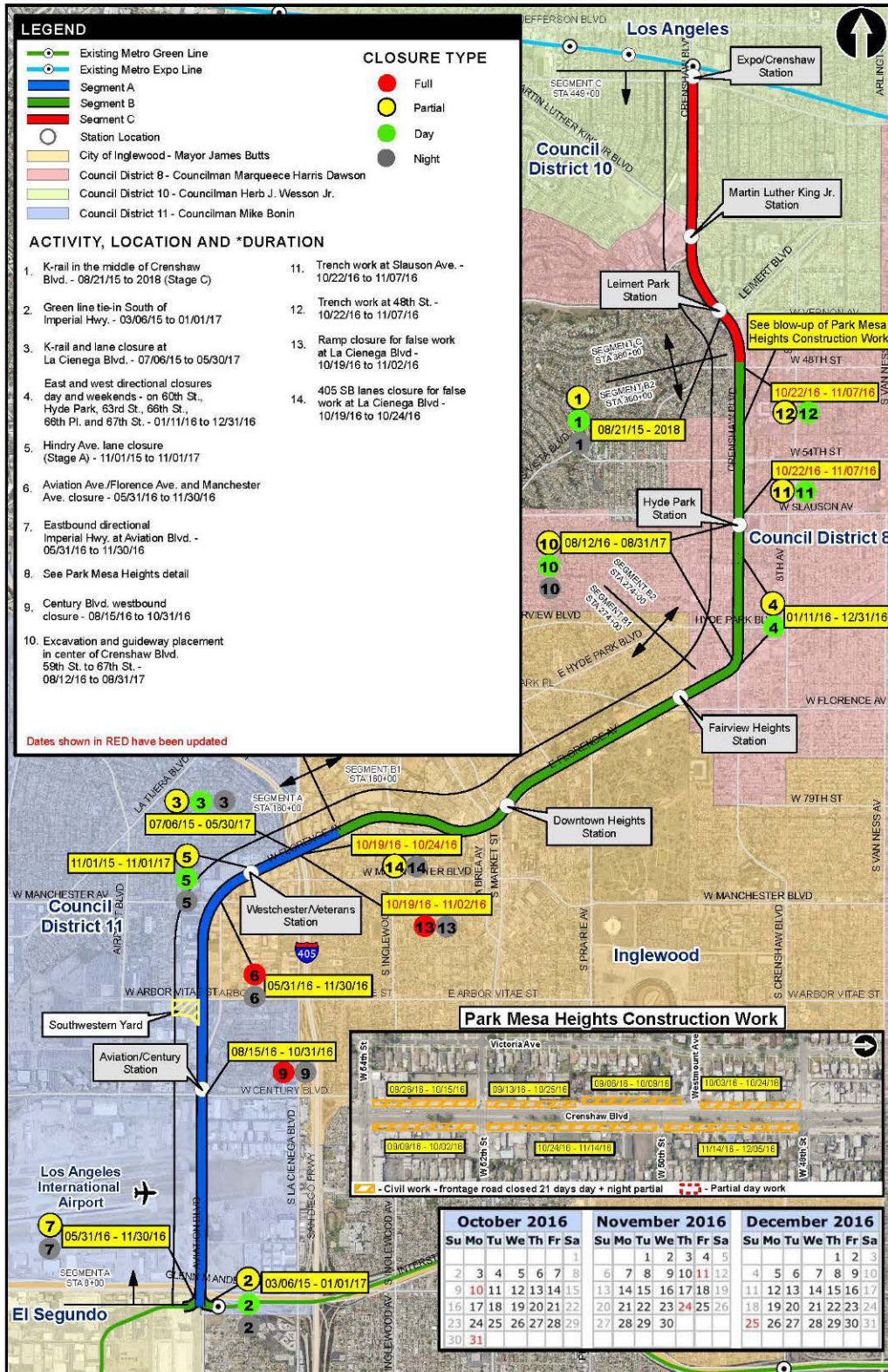
THIRD PARTY AGREEMENT STATUS

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.


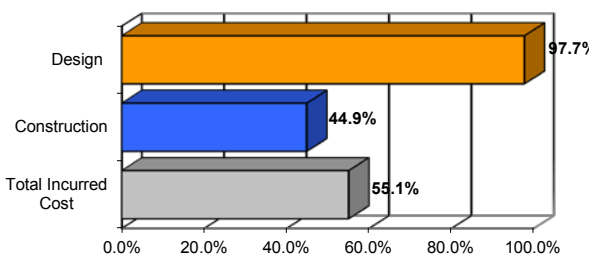
CHRONOLOGY OF EVENTS (Continued)

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.


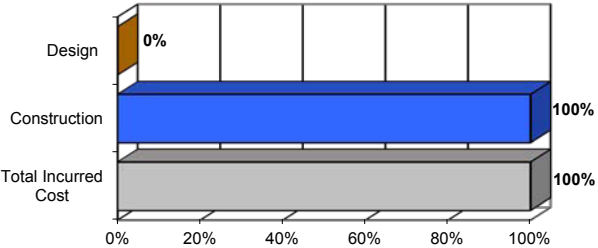
CHRONOLOGY OF EVENTS (Continued)

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	The southbound tunnel boring machine completed mining with the hole thru at Leimert Park Station.


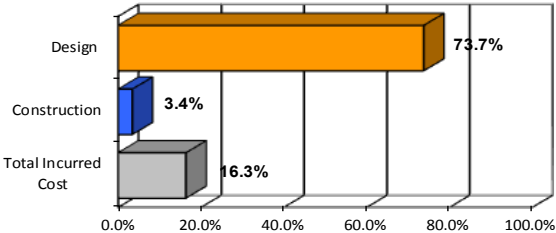
CONTRACT C0988 STATUS
Crenshaw/LAX Transit Corridor

<p>PE Design Contractor: Hatch Mott (HM) CM Consultant: Stantec Contractor: - Walsh Shea Corridor Constructors (WSCC)</p>	<p>Contract No.: C0988 Status as of December 03, 2016</p> 																																								
<p>Progress/Work Completed: Construction</p> <ul style="list-style-type: none"> Continue construction of the Interior walls at Expo Station Continued excavation and lagging at UG #4 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 La Brea Station Continued construction of Manchester bridge Superstructure Continued waterproofing and U-Walls at UG #1 Continued construction of the Cut & Cover Walls & Roof. Continued construction of Green Line Superstructure 	<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 accomodations 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. Metro is reviewing contractor's completion schedule. 	<p>Cost Assessment:</p> <ul style="list-style-type: none"> The current construction contract cost forecast is \$1,305,290,879.99 and is within the Board authorized budget. The Contractor submitted their 39th payment application in the approved amount of \$17,881,921.60 <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>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>1180</td> <td>63.3%</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:	1180	63.3%	<p>Cost Summary: \$ In millions</p> <table border="0"> <tr> <td>1. Award Value:</td> <td>1,272.63</td> </tr> <tr> <td>2. Executed Modifications:</td> <td>29.42</td> </tr> <tr> <td>3. Approved Change Orders:</td> <td>10.06</td> </tr> <tr> <td>4. Current Contract Value (1 + 2 + 3):</td> <td>1,312.11</td> </tr> <tr> <td>5. Incurred Cost:</td> <td>718.60</td> </tr> </table>	1. Award Value:	1,272.63	2. Executed Modifications:	29.42	3. Approved Change Orders:	10.06	4. Current Contract Value (1 + 2 + 3):	1,312.11	5. Incurred Cost:	718.60															
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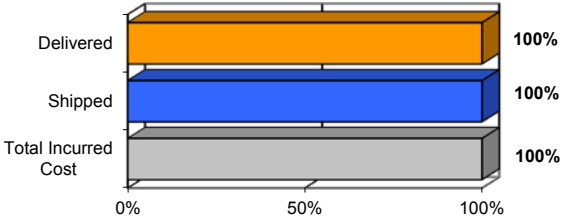
CONTRACT C0990 STATUS
Crenshaw/LAX Advanced Utility Relocations

<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 Duration:</td> <td align="right">365</td> </tr> <tr> <td>4. Current Substantial Completion Duration:</td> <td align="right">468</td> </tr> <tr> <td>5. Elapsed Time from NTP:</td> <td align="right">753</td> </tr> </table>	1. Date of Award:	05/30/12	2. Notice to Proceed:	07/17/12	3. Original Substantial Completion Duration:	365	4. Current Substantial Completion Duration:	468	5. Elapsed Time from NTP:	753	<p>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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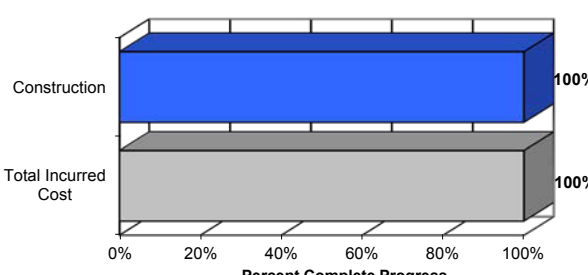
CONTRACT C0991 STATUS
Southwestern Yard

PE Design Contractor: Hatch Mott (HM) CM Consultant: Stantec Contractor: - Hensel Phelps / Herzog JV		Contract No.: C0991 Status as of December 03, 2016 																											
Progress/Work Completed: <ul style="list-style-type: none"> Traffic Control Plans were approved for restriping of Arbor Vitae, Temporary Access Road (TAR) was opened to traffic on 9/12/16 and demolition of Bellanca started. DWP installed new poles and wiring east of Temporary Access Road (TAR). 		Areas of Concern: <ul style="list-style-type: none"> DWP utility line relocation design was approved by BOE. 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. 																											
Schedule Assessment: <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 start of construction for the Main Shop Facility to milestones 2 and 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. Assessment, no delay to the milestones are expected. 		Cost Assessment: <ul style="list-style-type: none"> The current construction contract cost forecast is \$171,015,119.82 is within the Board authorized budget. The Contractor submitted their 16th payment application in the approved amount of \$1,118,874.40. <p>*Please note that not all executed modifications may have been included in the Contractor current payment application.</p>																											
Schedule Summary: <table border="0" style="width: 100%;"> <tr> <td style="width: 60%;">1. Date of Award:</td> <td style="width: 20%;">28-May-15</td> <td style="width: 20%;"></td> </tr> <tr> <td>2. Notice to Proceed:</td> <td>29-Jun-15</td> <td></td> </tr> <tr> <td>3. Original Substantial Completion Duration:</td> <td>1,220</td> <td></td> </tr> <tr> <td>4. Current Substantial Completion Duration:</td> <td>1,311</td> <td></td> </tr> <tr> <td>5. Elapsed Time from NTP:</td> <td>516</td> <td>39.4%</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:	516	39.4%	Cost Summary: <table border="0" style="width: 100%;"> <tr> <td></td> <td style="text-align: right;">\$ In millions</td> </tr> <tr> <td>1. Award Value:</td> <td style="text-align: right;">172.31</td> </tr> <tr> <td>2. Executed Modifications:</td> <td style="text-align: right;">(1.32)</td> </tr> <tr> <td>3. Approved Change Orders:</td> <td style="text-align: right;">0.03</td> </tr> <tr> <td>4. Current Contract Value (1 + 2 + 3):</td> <td style="text-align: right;">171.02</td> </tr> <tr> <td>5. Incurred Cost (thru September 2016):</td> <td style="text-align: right;">24.97</td> </tr> </table>		\$ In millions	1. Award Value:	172.31	2. Executed Modifications:	(1.32)	3. Approved Change Orders:	0.03	4. Current Contract Value (1 + 2 + 3):	171.02	5. Incurred Cost (thru September 2016):	24.97
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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</p> <p>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</p>  <p>Status: Completed</p>																																								
<p>Progress/Work Completed:</p> <ul style="list-style-type: none"> - 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>Areas of Concern:</p> <p>.</p>																																								
<p>Schedule Assessment:</p> <p>All running rails and bumping posts were delivered ahead of the schedule.</p>	<p>Cost Assessment:</p> <p>The final contract cost is \$5,2 million and has been completely paid to contractor.</p>																																								
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CONSTRUCTION PHOTOGRAPHS



GREENLINE UNDERPASS – Frame 2: Deck concrete placement.

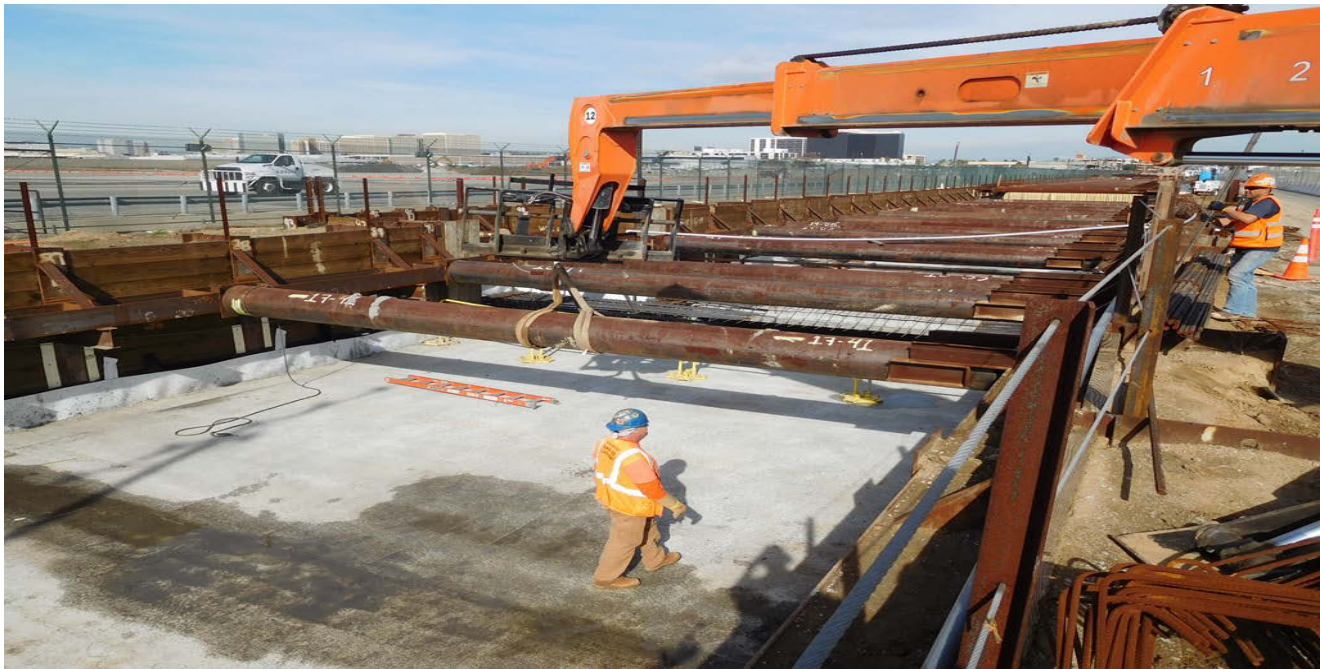


GREENLINE UNDERPASS – Frame A: overhang formwork removed and PT tendons installed by DSI.

CONSTRUCTION PHOTOGRAPHS (Continued)



UG#1 – Crews continue with sequential construction at Underground Guideway 1 progressing from south to north.

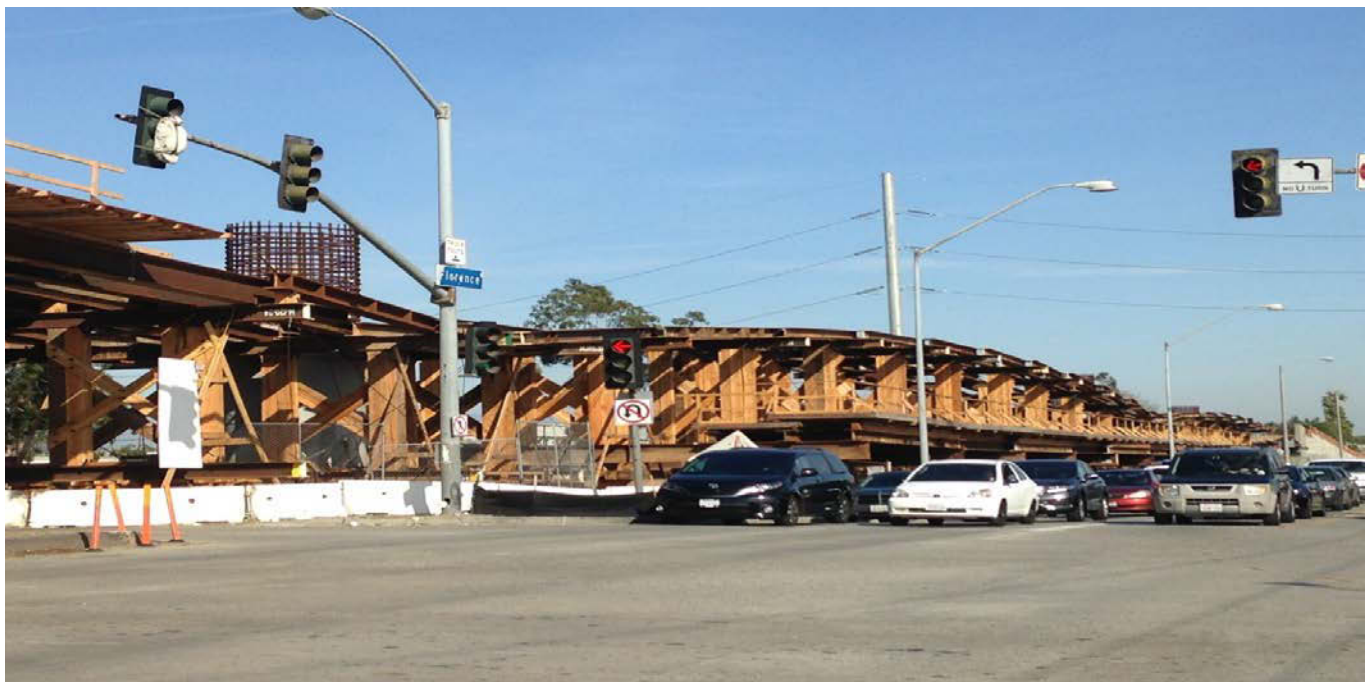


UG#1 Tier 1 SOE strut removals ongoing.

CONSTRUCTION PHOTOGRAPHS (Continued)



AVIATION/CENTURY BRIDGE – Formwork and rebar installations ongoing for the girders and beams of the aerial station platform.



(AG-5) I-405 Bridge – Bridge superstructure falsework erection 90% complete. Crews commenced rolling soffit construction in frame 1.

CONSTRUCTION PHOTOGRAPHS (Continued)



(AG-6) LA BREA BRIDGE – Crews continued to drill and bond the Emergency walkway/ CS ductbank.



UG#3- Excavating beneath struts at north portal.

CONSTRUCTION PHOTOGRAPHS (Continued)



UG#4 – Preparing grade for mud slab placement at north end of UG4.



LEIMERT PARK STATION – Installation of rebar along the lower west walls.

CONSTRUCTION PHOTOGRAPHS (Continued)



MARTIN LUTHER KING JR. STATION – Installation of rebar for invert columns.



EXPOSITION/CRENSHAW STATION – Installation of shoring components for concourse slab falsework.

CONSTRUCTION PHOTOGRAPHS (Continued)



TUNNELING – Welding of the TBM mid-shield/tail shield joint at NB tunnel portal.

APPENDIX

PROJECT COST STATUS – SOUTHWESTERN YARD

SCC CODE	DESCRIPTION	ORIGINAL BUDGET	CURRENT BUDGET		COMMITMENTS		EXPENDITURES		CURRENT FORECAST		FORECAST VARIANCE
			PERIOD	TO DATE	PERIOD	TO DATE	PERIOD	TO DATE	PERIOD	TO DATE	
10	GUIDEWAYS	0	0	0	0	0	0	0	0	0	0
20	STATIONS	0	0	0	0	0	0	0	0	0	0
30	SUPPORT FACILITIES (Y & S)	85,546,835	0	85,189,999	0	86,532,695	891,675	962,375	0	86,889,531	1,699,532
40	SITWORK/SPECIAL CONDITIONS	35,932,000	0	38,273,000	0	38,736,286	1,956,031	20,383,399	0	38,273,000	0
50	SYSTEMS	25,784,616	0	32,991,000	0	32,991,000	429,750	429,750	0	32,991,000	0
	(10-50) CONSTRUCTION	147,263,451	0	156,453,999	0	158,259,981	3,277,456	21,775,524	0	158,153,531	1,699,532
60	RIGHT-OF-WAY	99,910,000	0	100,000,000	(2,271,047)	104,015,191	(2,271,314)	103,367,897	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	880,065	30,821,802	1,243,900	19,865,937	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	(1,390,982)	293,096,973	2,250,042	145,009,357	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	2,355,913	9,322,648	2,298,913	2,543,524	0	11,000,000	0	

GRAND TOTAL	307,434,278	0	318,200,000	964,931	302,419,621	4,548,955	147,552,880	0	318,200,000	(0)
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PROJECT COST ANALYSIS

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

Original Budget:

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

Current Budget:

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

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

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

APPENDIX PROJECT COST ANALYSIS (Continued)

Current Forecast: The forecast is under review.

Commitments:

The commitments are cumulative through December 03, 2016.

Total commitments increased by \$0.96 million for this period due to the following:

- SCC-40
 - No change to report.
- SCC-60
 - Right-of-Way (ROW) commitment transfer between two projects 860003 to 861301 by \$2.27 million for October/November.
- SCC-80
 - Other professional services such as legal, construction management and labor increased by \$0.96 for October/November.

The \$302.42 million in commitments to date represents 95.04% of the current budget.

Expenditures:

The expenditures are cumulative through December 03, 2016.

The total expenditures increased by \$4.55 million for this period due to the following:

- SCC-30
 - Hensel Phelps/Herzog JV expenditure increase by \$0.89 million for October/November.
- SCC-40
 - Hensel Phelps/Herzog JV expenditure increase by \$1.96 million for October/November.
- SCC-60
 - Right-of-Way (ROW) expenditure transfer between two projects 860003 to 861301 by \$2.27 million for October/November.
- SCC-80
 - Hensel Phelps/Herzog JV, agency expenditure and professional services expenditure increase by \$1.70 million for October/November.

The \$147.55 million in expenditures to date represents 46.37% 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.