

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 2017

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PROJECT OVERVIEW

Contract Closeout

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

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

Design- Build Contract C0988 (Alignment) – *The design-builder, Walsh-Shea Corridor Constructors (WSSC) continues engineering in support of construction.*

Construction efforts by the design-builder continued along all areas of the alignment. Underground work continues at the north end of the project. The contractor has substantially completed the cross-passages between the completed twin tunnels. The three underground stations remain at various levels of completion with work continuing on concourse floor and wall concrete placements. Contractor continued roof concrete placements at Expo Station and side entrance concrete placements at all three underground stations.

Three of the four at-grade stations structure concrete placements are substantially completed with canopy, entrance, and finish work underway. The aerial station structure concrete placement is substantially complete with canopy installed and entrance and finish work underway.

The underground shallow tunnel structure in front of the south runways of LAX along Aviation Boulevard is substantially completed. The shallow tunnel box structure south of Leimert Station and the shallow tunnel box structure south of Park Mesa Heights are both in various stages of construction.

All six bridge superstructures are substantially complete with the exception of the finishes and systems installations. Work has been completed on the mechanically stabilized earth (MSE) walls and continues for right-of-way at-grade work. Various construction efforts continue on the roadway section within the Park Mesa Heights area.

Trackwork installation is continuing in areas available along the southern area of alignment. The contractor has completed construction of six of 17 at-grade crossings.

Design- Build Contract C0991 Southwestern Yard (Division 16) – The design-builder, Hensel Phelps / Herzog JV (HPH) substantially completed final design and submission of submittals required for construction on October 26, 2016. Design for the future expansion of the main shop was issued as a preliminary engineering package for Metro's use in the future. Design and engineering is continuing in support of construction.

PROJECT OVERVIEW (Continued)

The contractor completed main shop slab on grade, metal decking installation, and continued roof concrete placement. The material storage building slab on grade was placed, structural steel erected and continued installation of exterior skin framing. Construction continued on the car wash and car cleaning footings and grade beams. Ductbank, underground utilities including the light pole and OCS foundations are proceeding toward completion of the yard site to commence track installation in the near future. Continued delivery of turn outs, precast crossing panels and concrete ties.

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 2017.* Thirty-six full takes, 26 part-takes and 14 TCE's have been provided to the design-builder WSCC.

Systems

Metro staff initiated a study to explore possible alternative layouts to accommodate the central control functions associated with new project needs, such as Crenshaw/LAX project, within the existing ROC facility as an interim measure. Metro has determined that the best course of action is to expand the existing functional operations at the ROC to support the new five new rail lines and extensions including Foothill Ext., Expo II, Crenshaw/LAX, Regional Connector and Purple Extension Projects. The existing ROC service control and closed circuit television monitoring areas are being expanded and reconfigured for each new rail line extension. The supporting facilities and electrical\communication systems are also expanded and upgraded accordingly to suit the needs of the growing Metro operations. The ROC Reconfiguration Plan will be updated to suit the central control needs of each upcoming new rail line extension. Metro will prepare a design update for the Crenshaw/LAX Project. All work for the ROC is planned to be completed concurrently with the C0988 design-builder scope work to ensure continuity of the systems effort.

Program Management

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

PROJECT OVERVIEW (Continued)

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.

Although there is no change to the Total LOP Current Budget there was a reallocation for changes to the SCC elements within the Current Budget in April 2017. The reallocation was required due to the draw down to date of the SCC 90 Allocated Contingency for changes issued to the design-build contractor, additional relocations of utilities by third parties, additional legal services and special services as well as an increase in professional services for construction and project management oversight.

The LOP budget is funded by various sources of funds which include local, state and federal funding. The TIFIA Loan is categorized under local funds as the loan is secured by a pledge of Measure R local sales tax funds. The funding percentages are as follows: local and state funding 91.3%, (includes Measure R TIFIA Loan), and federal funding is 8.7%.

The project commitments thru November 2017 are \$1,971.5 million or 95.8% of the Current Budget. The project expenditures thru November 2017 are \$1,498.5 million or 72.8% of the Current Budget.

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

PROJECT OVERVIEW (Continued)

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

WSCC in their November 2017 Schedule Update forecasts a 28 calendar day delay to WSCC’s Contract Milestone #1 Substantial Completion date of May 1, 2019. This is an additional eight days of delay from last month’s forecast. WSCC continues to explore mitigation opportunities along the alignment where the current impact of 28 days can be mitigated.

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 meets with the Contractor several times a week on design submittal status and works with the Contractor and City to resolve outstanding issues. Metro will continue to take action and strictly monitor the review comments from the agencies and work with the contractor to ensure submittals are coordinated, quality checked and submitted within necessary timeline for reviews.

Concern No. 2: Design-builders construction schedule

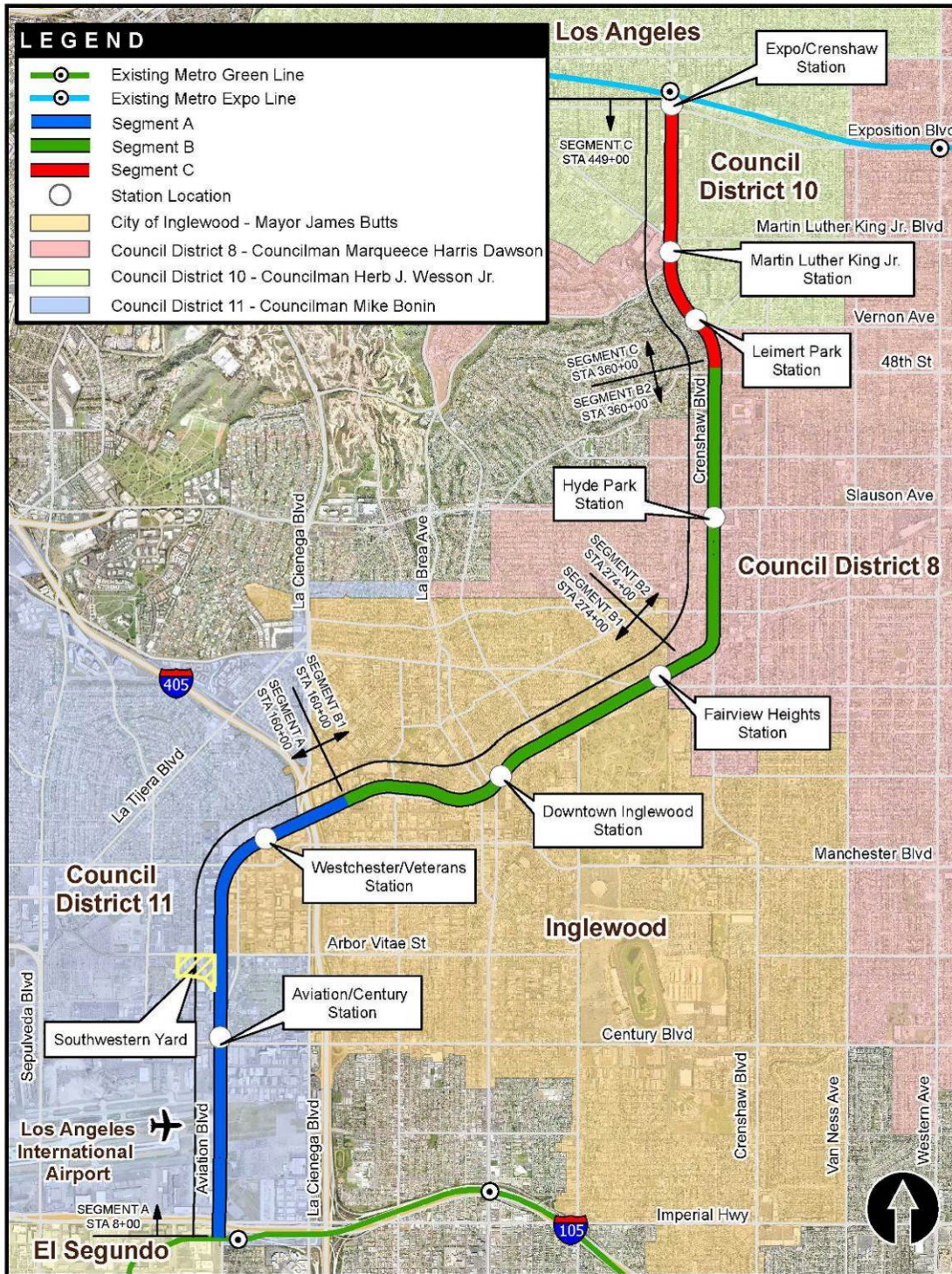
Status/Action WSCC submitted a "Completion Schedule" which was subsequently reviewed and approved by Metro on December 16, 2016. This schedule represents a re-baselining of WSCC's Contract schedule which reflects their means and methods for completing construction and testing during the next three years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

WSCC in their November 2017 Schedule Update forecasts a 28 calendar day delay to WSCC's Contract Milestone #1 Substantial Completion date of May 1, 2019. This is an additional eight calendar days delay from last month's forecast. WSCC continues to explore mitigation opportunities along the alignment where the current impact of 28 days can be mitigated.

Concern No. 3: Remaining Unallocated Contingency is less than 2% of Total Project Budget.

Status/Action
Metro monitors and reports on the drawdown of unallocated contingency on a monthly basis. There was a re-allocation of expenditures and forecast costs in October 2017 for non-federal funded activities which are now reported below the line. A new internal Metro project number, "Crenshaw/LAX Locally Funded Activities" for tracking these cost will be active commencing in July 2018. Staff continues to evaluate the potential uses of the remaining unallocated contingency.

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

Activity ID	Activity Name	Milestone Date	Nov-17	Dec-17	Jan-18	Feb-18	Mar-18	Apr-18
988-CT-36200	Turnover to Track (Manchester Bridge -STA 118+70 to 121+31) - Manchester Bridge	07-Nov-17 A						
988-SCE-T1050	TPSS-01 Permanent Power Drop - SCE - Procurement of Cable and Equipmen	25-Nov-17						
988-CT-84975	Bridge Emergency Walkway - Aviation / Century Bridge	27-Nov-17						
988-TW-9684	Construct Ballasted Track (Arbor Rail Pile STA 103+50 to STA 75+20) - Seg. A	30-Nov-17						
991-APM1120	Metro LAWA Final Acceptance	12-Dec-17		△				
991-SLT1090	Install South Yard Lead Track	19-Dec-17		△				
988-CT-33000	Turnover to Track (sta. 9+00 to 16+64) - Aerial Structure #1	20-Dec-17						
991-TW-30160	Construct Turnouts TO-43	20-Dec-17		△				
988-MOD-2780	TPSS No.2 Upgrade from 1.5 MW to 2.0 MW	22-Dec-17						
988-CT-69535	F/R/P Columns Sequence 3 - MLK	27-Dec-17						
988-IFC-TCC02	I-Face: TC&C Room Ready for systems @ A02 Aviation/Century TC&C #3	28-Dec-17						
988-CT-23700	Turnover to Track - 111th St Bridge	28-Dec-17						
988-SCE-T1170	TPSS-03 Permanent Power Drop - SCE - Utility Install Infrastructure and conduit	04-Jan-18						
988-TW-1400	Destress DF Track - STA 27+15 to 28+20 - 111th St. Bridge - Seg. A	09-Jan-18						
988-CT-5659	Ductbank - Manhole / Vault / Pad / Pull Box - TPSS-07/ Aux. Power (Future)	11-Jan-18						
988-IFC-ATC01	I-Face: Track Complete @ A01 (6+00 to 43+50)	19-Jan-18						
988-TW-2100	Construct Ballasted Track - Arbor Rail Pile STA 103+50 to 118+58 Manchester - Seg. A	24-Jan-18						
988-ATC-03300	Rough-In for Wayside Equipment @ A03 (85+90 to 130+00)	20-Feb-18						
988-MOD-3180	Deluge System at Expo Crossover	22-Feb-18						
988-ATC-01400	Install ATC Local Cable @ TC&C #1	01-Mar-18						
988-TW-9683	Construct Ballasted Track - STA 256+09 to 274+25 (High to Brynhurst)	14-Mar-18						
988-ATC-02750	Ground Bonds & Signals @ A02 (43+50 to 85+90)	20-Mar-18						
988-ATC-TIA5-3000	96th Street - Additional ATC Local Cable at TC&C #3	28-Mar-18						
988-ATC-03400	Install ATC Local Cable @ TC #4	02-Apr-18						
988-ATC-03400	Install ATC Local Cable @ TC #4	02-Apr-18						
988-CT-89148	Escalator Finishes - Aviation / Century	12-Apr-18						
988-CT-9189	Backup Power (TPSS) - TPSS-04	13-Apr-18						
988-CT-50980	Turnover to Track - U-Trench #3	19-Apr-18						

MTA Board Action

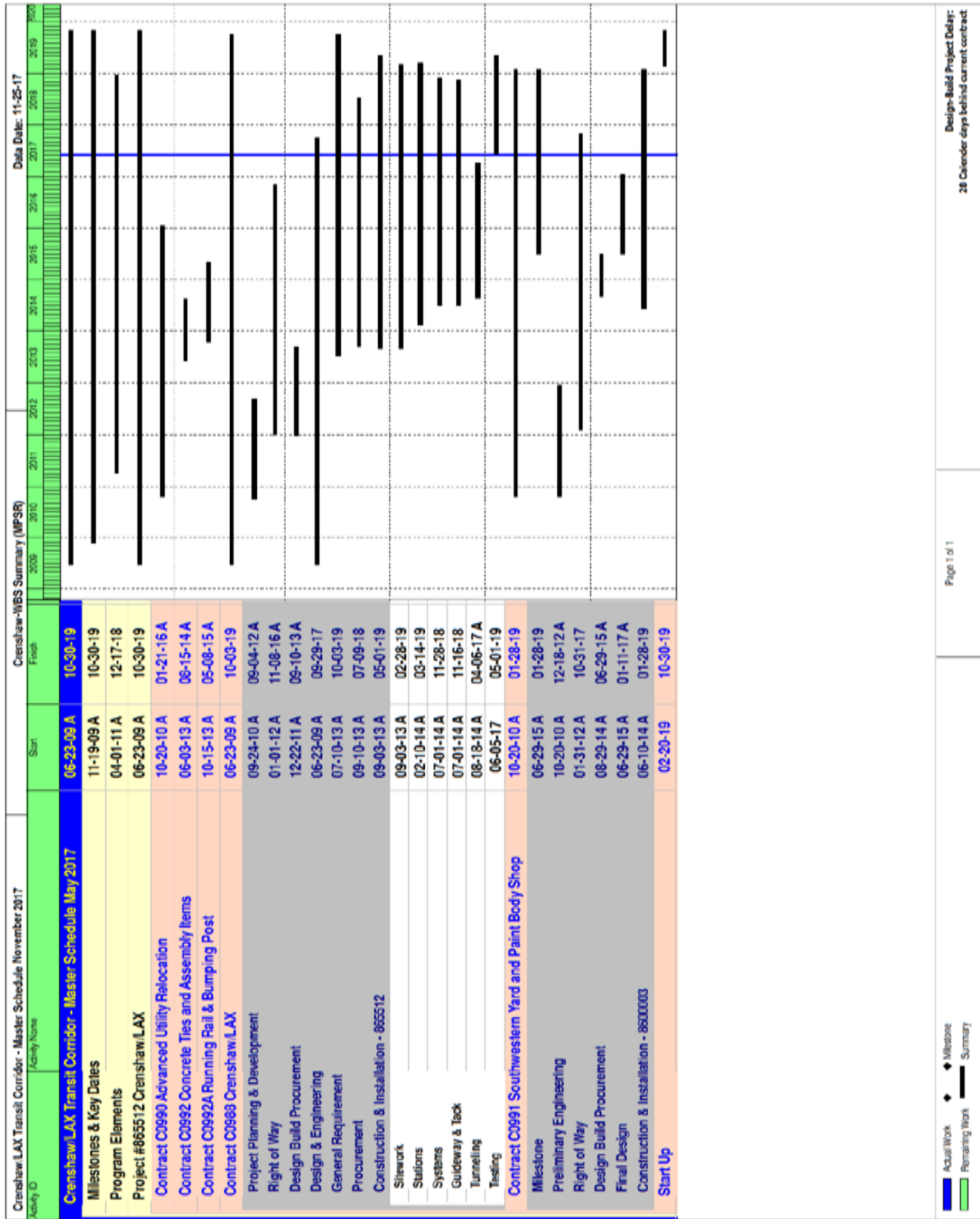
MTA Staff

Walsh Shea Corridor Constructors

Hensel Phelps / Herzog

*A" following date is actual and completed

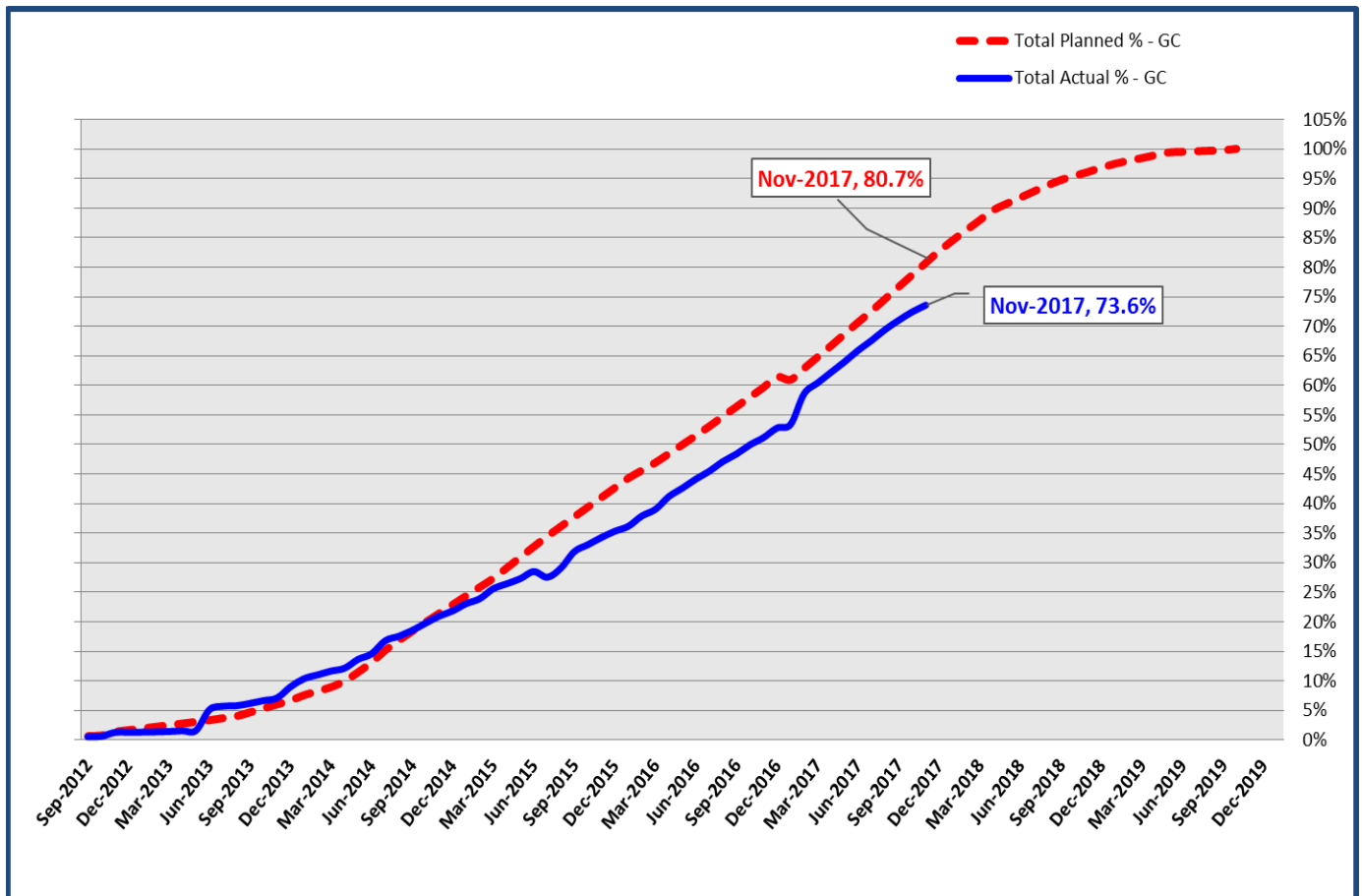
PROJECT SUMMARY SCHEDULE



SCHEDULE MEASUREMENTS

	Status	Change from Last Period	Comment
Current Revenue Service:	10/30/2019	0	
Forecast Revenue Service:	11/26/2019	-8	Behind Schedule; D-B responsible for mitigation
TIFIA Revenue Service:	10/30/2019	0	
Final Design Progress:			
Contract C0988	98.8%	0.1%	Behind Schedule
Contract C0990	100%	None	Design Completed
Contract C0991	88.6%	01.4%	On Schedule
Contract C0992	100%	None	Design Completed
Contract C0992A	100%	None	Design Completed
Construction Contracts Progress:			
Contract C0988	67.8%	0.9%	Behind Schedule
Contract C0990	100%	None	Substantially Completed
Contract C0991	42.0%	4.6%	On Schedule
Contract C0992	100%	None	Substantially Completed
Contract C0992A	100%	None	Substantially Completed

OVERALL CONSTRUCTION PROGRESS CURVE STATUS



The actual overall construction progress is 73.6% versus a planned progress of 80.7% through November 2017. The progress curves represent a composite percentage for the physical progress of work performed to complete the project’s construction contracts, including, but not limited to the alignment design-build (C0988), advance utility relocation (C0990), Southwestern Yard design-build (C0991), and two equipment procurement contracts-concrete ties (C0992) and running rail (C0992A).

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

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

MAJOR EQUIPMENT DELIVERY STATUS

Light Rail Vehicles

The Board approved exercising Option 1 of Contract P3010 with KinkiSharyo 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. KI is continuing final assembly on option 1 cars in Palmdale, CA.

Ticket Vending Machines

Procurement of the ticket vending machines will commence after the design-builder completes final design and the total requirements for the project are known. Initiated change notice to the existing TVM contractor in December 2016 with a planned notice to proceed by December 2017.

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

Area	Activity ID	Activity Name	Start	Need Date
Construction Submittals	988-PR-11724618	Prepare & Submit Porcelain Art Package (by KVO) - Expo Station	27-Nov-17	30-Jan-18
Construction Submittals	988-PR-11724619	Prepare & Submit Porcelain Art Package (by Winsor) - Hindry Station	27-Nov-17	19-Mar-18
Construction Submittals	988-PR-11724620	HNTB Review & Approve Porcelain Art Package - Expo Station	11-Dec-17	13-Feb-18
Construction Submittals	988-PR-11725373	Metro Review & Approval Porcelain Art Package - Expo Station	25-Dec-17	27-Feb-18
Construction Submittals	988-PR-11725383	HNTB Review & Approve Porcelain Art Package - Hindry Station	11-Dec-17	2-Apr-18
Construction Submittals	988-PR-11725387	Metro Review & Approval Porcelain Art Package - Hindry Station	25-Dec-17	16-Apr-18
Overhead Catenary (OCS)	988-PRC-O0060	OCS: Purchase/Deliver Hardware & Insulators	04-Jan-17 A	13-Feb-18
Procurement	988-PR-01724019	Canopy Steel Spine Frame - Material/Fabrication (Store Off Site) - Westchester/ Veterans Station	30-Jan-17 A	26-Mar-18
Procurement	988-PR-024149	Canopy Steel Spine Frame - Material/Fabrication (Store Off Site) - Hyde Park Station	27-Feb-17 A	8-May-18
Procurement	988-PR-11724129	Catwalk and Tiedowns - Material/Fabrication (Store Off Site) - Hyde Park Station	27-Feb-17 A	8-May-18
Procurement	988-PR-11724189	Structural Steel for Elevators #1 & #2 below concourse roof - Material/Fabrication (Store Off Site) - MLK Station	27-Nov-17	2-Jul-18
Procurement	988-PR-11724199	Structural Steel for Elevators #1 & #2 above ground - Material/Fabrication (Store Off Site) - Expo Station	27-Nov-17	30-Mar-18
Procurement	988-PR-11724209	Structural Steel for Elevators #1 & #2 below concourse roof - Material/Fabrication (Store Off Site) - Expo Station	27-Nov-17	30-Mar-18
Procurement	988-PR-11724229	Structural Steel for Elevators #3 & #4 - Material/Fabrication (Store Off Site) - Expo Station	27-Nov-17	30-Mar-18
Procurement - Communication System	988-PRC-C0711	Deliver & Receive Complete Comm Racks - TC&C #8 Fairview Heights	27-Feb-18	29-May-18
Procurement - Communication System	988-PRC-C0710	Mfgr/Test/Ship Complete Comm Racks - TC&C #8 Fairview Heights	27-Oct-17 A	29-May-18
Procurement - Communication System	988-PRC-C0611	Deliver & Receive Complete Comm Racks - TC&C #6 Inglewood	27-Mar-18	25-May-18

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Procurement - Communication System	988-PRC-C0610	Mfgr/Test/Ship Complete Comm Racks - TC&C #6 Inglewood	27-Oct-17 A	25-May-18
Procurement - Communication System	988-PRC-C0510	Mfgr/Test/Ship Complete Comm Racks - TC&C #5 - Westchester/Veterans	27-Oct-17 A	6-Apr-18
Procurement - Communication System	988-PRC-C0410	Mfgr/Test/Ship Complete Comm Racks - TC&C #4 Arbor	27-Oct-17 A	25-May-18
Site/Civil	988-PR-6370	Fab/Procure & Deliver Station Emergency Ventilation Fans	27-Nov-17	10-Oct-18
Site/Civil	988-PR-6375	Fab/Procure & Deliver Jet Fans - UG #3, UG#4	6-Jan-18	12-Sep-18
Site/Civil	988-PR-6430	Fab/Procure & Deliver Air Handling Units (HVAC)	17-Jan-18	10-Jul-18
Site/Civil	988-PR-6945	Fab/Procure & Deliver Electrical Manholes, Vaults, Pads - At-Grade Guideway	18-Sep-15 A	10-Nov-17
Site/Civil	988-PR-7555	Deliver Station Art Glass - Expo Stn - Glazing	21-Jan-19	16-Jan-19
Site/Civil	988-PR-7595	Deliver Station Art Glass - Vernon Stn- Glazing	16-Jan-19	5-Mar-19
Stations	988-PR-7395	Deliver Station Artwork Panels- Hyde Park Station (Porcelain Enamel Steel)	10-Dec-18	5-Feb-19
Stations	988-PR-30491	Fabricate 100% of Artwork Panels- Fairview Heights Station (Porcelain Enamel Steel)	2-Apr-18	14-Aug-18
Stations	988-PR-7425	Fabricate Station Artwork Panels - Crenshaw/Expo Station (Porcelain Enamel Steel)	8-Jan-18	22-May-18
Stations	988-PR-7465	Fabricate Station Artwork Panels- Leimert Park Station (Porcelain Enamel Steel)	25-Jun-18	24-Dec-18
Stations	988-PR-7505	Fabricate Station Artwork Panels- Martin Luther King Jr. Station (Porcelain Enamel Steel)	17-Sep-18	18-Mar-19
Stations	988-PR-7515	Deliver Station Artwork Panels - Martin Luther King Jr. Station (Porcelain Enamel Steel)	10-Dec-18	25-Mar-19
Stations	988-PR-30461	Fabricate Artwork Panels - Aviation / Century (Porcelain Enamel Steel)	25-Jun-18	6-Nov-18
Stations	988-PR-30471	Fabricate 100% of Artwork Panels - Westchester/Veterans Station (Porcelain Enamel Steel)	8-Jan-18	9-Jul-18
Stations	988-PR-30481	Fabricate Artwork Panels - Florence / La Brea (Porcelain Enamel Steel)	2-Apr-18	1-Oct-18
Stations	988-PR-30501	Fabricate 100% of Artwork Panels - Hyde Park Station (Porcelain Enamel Steel)	17-Sep-18	29-Jan-19
Stations	988-PR-11724621	Metro Orders/Fabricates Underground Station Tile Artwork	30-Jun-17 A	12-Nov-18
Stations	988-PR-11724622	Deliver Underground Station Tile Artwork - Martin Luther King Jr. Station	10-Oct-18	10-Dec-18

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Stations	988-PR-11724623	Deliver Underground Station Tile Artwork - Leimert Park Station	7-Nov-18	7-Jan-19
Stations	988-PR-11724624	Deliver Underground Station Tile Artwork - Crenshaw/Expo Station	5-Dec-18	4-Feb-19
Stations	988-PR-11725369	Fabricate Fencing	15-Jan-18	17-Apr-18
Traction Power	988-PRC-T1020	Prepare & Ship TPSS-10	16-May-18	4-Sep-18
Traction Power	988-PRC-T1010	Factory Acceptance Testing - TPSS-10	2-May-18	20-Aug-18
Traction Power	988-PRC-T1000	Mfgr/Assemble/Wire Substation - TPSS-10	27-Nov-17	8-May-18
Traction Power	988-PRC-T0920	Prepare & Ship TPSS-09	10-Jul-18	30-Jul-18
Traction Power	988-PRC-T0910	Factory Acceptance Testing - TPSS-09	25-Jun-18	16-Jul-18
Traction Power	988-PRC-T0900	Mfgr/Assemble/Wire Substation - TPSS-09	19-Jan-18	29-Jun-18
Traction Power	988-PRC-T0820	Prepare & Ship TPSS-08	4-Apr-18	7-May-18
Traction Power	988-PRC-T0810	Factory Acceptance Testing - TPSS-08	21-Mar-18	23-Apr-18
Traction Power	988-PRC-T0800	Mfgr/Assemble/Wire Substation - TPSS-08	02-Oct-17 A	27-Mar-18
Traction Power	988-PRC-T0320	Prepare & Ship TPSS-03	21-Mar-18	9-Jul-18
Traction Power	988-PRC-T0310	Factory Acceptance Testing - TPSS-03	7-Mar-18	22-Jun-18
Traction Power	988-PRC-T0300	Mfgr/Assemble/Wire Substation - TPSS-03	04-Sep-17 A	13-Mar-18
Traction Power	988-PRC-T0220	Prepare & Ship TPSS-02	21-Feb-18	29-May-18
Traction Power	988-PRC-T0210	Factory Acceptance Testing - TPSS-02	7-Feb-18	14-May-18
Traction Power	988-PRC-T0200	Mfgr/Assemble/Wire Substation - TPSS-02	10-Jul-17 A	13-Feb-18
Traction Power	988-PRC-T0100	Mfgr/Assemble/Wire Substation - TPSS-01	13-Jun-17 A	9-Jan-18
Traction Power	988-PR-6485	Fabricate & Deliver MCC - TPSS	16-Feb-17 A	7-Mar-18
Traction Power	988-PR-6505	Fabricate & Deliver Dry Type Transformers - TPSS	16-Feb-17 A	28-Feb-18
Traction Power	988-PR-6525	Fabricate & Deliver Loose Starters - Stations	1-Jan-18	25-Apr-18
Traction Power	988-PR-6545	Fabricate & Deliver TPSS Generator	07-Aug-17 A	7-Mar-18

**Crenshaw/LAX Transit Project
Monthly Project Status Report****November 2017**

Traction Power	988-PR-6555	Fabricate & Deliver Medium Voltage Cable	03-Apr-17 A	11-Jan-18
Traction Power	988-PR-6535	Fabricate & Deliver Station UPS	27-Nov-17	15-Jun-18
Traction Power	988-PR-6615	Fabricate & Deliver Unit Substations - Expo	27-Nov-17	10-Aug-18
Traction Power	988-PR-6475	Fabricate & Deliver Pad Mount Transformer - TPSS	02-Oct-17 A	12-Jun-18
Traction Power	988-PR-6765	Fabricate & Deliver Low Voltage Cable (Project Wide)	01-Aug-17 A	5-Feb-18
Traction Power	988-PR-6925	Fabricate & Deliver Panelboards - TPSS	16-Feb-17 A	23-Mar-18
Traction Power	988-PR-6955	Fabricate & Deliver Low Voltage Cable - Cut & Fill	03-Apr-17 A	11-Jan-18

CRITICAL PATH NARRATIVE

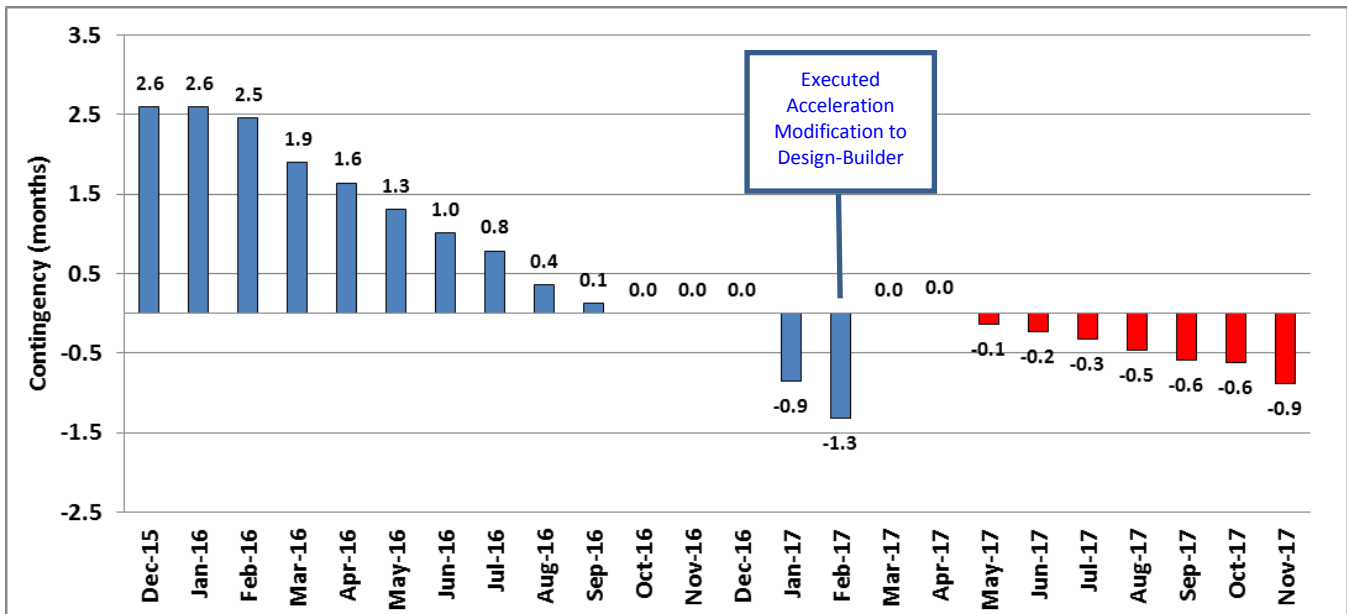
Critical Path:

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

The critical path remains the same this month. The ballasted track construction at Segment "A" (Green Line to Arbor Vitae). Trackwork construction continues heading north up the alignment with signal controls installation closely following.

The current critical path then continues with local field acceptance testing for elevators followed by WSCC systems integration testing, phase 1 and Metro's systems integration testing, phases 2, and Metro's pre-revenue operations. The critical path completes with the commencement of revenue operations.

PROJECT SCHEDULE CONTINGENCY DRAWDOWN



PROJECT SCHEDULE CONTINGENCY DRAWDOWN ANALYSIS

The project schedule contingency drawdown is based on the revenue service date of November 25, 2019.

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

The C0988 design-builder submitted a schedule update that forecast a twenty (28) calendar day delay to their substantial completion milestone of May 1, 2019. The design-builder is responsible for mitigating this delay. Metro therefore has reflected the potential delay as a drawdown of schedule contingency this month until the design-builder has implemented mitigation measures.

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	-	450,354,375	-	450,882,396	5,965,054	384,164,025	-	450,885,416	531,042
20	STATIONS	153,906,000	-	315,050,000	-	315,662,242	3,305,062	179,199,269	-	315,662,242	612,242
30	SUPPORT FACILITIES SOUTHWEST YARD	66,673,000	-	71,164,000	-	71,053,330	2,208,486	39,370,776	-	71,164,000	-
40	SITWORK/SPECIAL CONDITIONS	235,576,000	-	395,798,361	990,267	399,028,819	4,096,411	322,517,518	1,247,403	408,770,054	12,971,693
50	SYSTEMS	125,132,000	-	169,436,000	397,147	156,098,132	5,035,584	54,445,224	(1,247,403)	163,908,726	(5,527,274)
CONSTRUCTION SUBTOTAL (10-50)		1,052,622,000	-	1,401,802,736	1,387,414	1,392,724,919	20,610,595	979,696,812	-	1,410,390,439	8,587,703
60	RIGHT-OF-WAY	132,294,000	-	127,490,000	10,036	124,521,202	5,107	124,366,758	-	124,512,167	(2,977,832.70)
70	LRT VEHICLES	87,780,000	-	83,571,544	-	82,050,901	9,006,058	70,699,983	-	83,571,544	-
80	PROFESSIONAL SERVICES	273,147,000	-	368,734,466	(268,527)	346,638,267	2,938,820	298,194,710	-	374,806,814	6,072,349
SUBTOTAL (10-80)		1,545,843,000	-	1,981,598,746	1,128,922	1,945,935,289	32,560,581	1,472,958,263	-	1,993,280,965	11,682,219
90	UNALLOCATED CONTINGENCY	177,157,000	-	50,401,254	-	-	-	-	-	38,719,035	(11,682,219)
TOTAL PROJECT 865512 (10-100)		1,723,000,000	-	2,032,000,000	1,128,922	1,945,935,289	32,560,581	1,472,958,263	-	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	1,128,922	1,971,484,677	32,560,581	1,498,507,650	-	2,058,000,000	-

NOTE: EXPENDITURES ARE CUMULATIVE THROUGH 24-NOV-2017.

PROJECT COST ANALYSIS

The project numbers 405512, 465512, 865512, and 860003 are internal to Metro and are used to differentiate between environmental/planning and construction components of the project.

Original Budget:

The Board in October 2011 established the Life-of-Project (LOP) budget of \$1,749 million for the Crenshaw/LAX Transit Project.

Current Budget:

There have been two increases in the LOP to date:

- The Board in December 2012 approved an increase of \$13.9 million for a new LOP total of \$1,762.9 million. The Unallocated Contingency Standard Cost Category (SCC) 90 budget line item was increased by the \$13.9 million for a new total of \$191.1 million.
- The Board in June 2013 approved an increase of \$295.1 million for a new LOP total of \$2,058.0 million. The total increase was based on two actions:
 - Increase LOP base project scope in the amount of \$160.1 million, and
 - Increase LOP to include the options for Crenshaw/Vernon Station (Leimert Park Village) and Florence/Hindry Station in the amount of \$135.0 million.

The Board in May 2015 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 was 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 was revised to

PROJECT COST ANALYSIS (Continued)

\$150.2 million. 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 Current Budget allocation for the Crenshaw/LAX Transit Project, excluding the Southwestern Yard Project \$150.2 million 49% allocation and the Environmental/Planning Current Budget of \$26.0 million is \$1,881.8 million.

Although there is no change to the Total LOP Current Budget there was a reallocation for changes to the SCC elements within the Current Budget in April 2017. The reallocation was required due to the draw down to date of the SCC 90 Allocated Contingency for changes issued to the design-build contractor, additional relocations of utilities by third parties, additional legal services and special services as well as an increase in professional services for construction and project management oversight.

Current Forecast:

The total project current forecast is \$2,058 million. However, there was a reallocation of forecast within the SCC-10 (Guideways), SCC-40 (Sitework and Special Conditions), and SCC-60 (Right-of-Way) per FTA Guidelines.

Commitments:

The commitments are cumulative through November 24, 2017. The total commitments increased by \$1.1 million this period primarily due to the following:

- SCC-40 (Sitework and Special Conditions) has increased by \$1.0 million for executed modifications associated with the design-build Contract C0988 Crenshaw/LAX Transit Corridor.
- SCC-50 (Systems) has increased \$0.4 million for executed modifications associated with the design-build Contract C0988 Crenshaw/LAX Transit Corridor.
- SCC-80 (Professional Services) has a net decreased of \$0.3 million due to de-commitment of P.O. funds for cancelled change orders associated with the design-build Contract C0988 Crenshaw/LAX Transit Corridor and third party scope of work with Los Angeles City departments. The total commitment of \$346.6 million includes \$23.2 million for the Southwestern Yard 49% allocation.

The \$1,971.5 million in commitments to date represents 95.8% of the current budget.

PROJECT COST ANALYSIS (Continued)

Expenditures:

The expenditures are cumulative through November 24, 2017. The total expenditures increased by \$32.5 million this period due to the following:

- SCC-10 (Guideways) has increased by \$6.0 million for costs associated with the design-build Contract C0988 Crenshaw/LAX Transit Corridor.
- SCC-20 (Stations, Stops, Terminals, Intermodal) has increased by \$3.3 million for costs associated with the design-build Contract C0988 Crenshaw/LAX Transit Corridor.
- SCC-30 (Southwestern Yard) has increased by \$2.2 million for costs associated with the design-build Contract C0991 Division 16: Southwestern Yard (Design/Build).
- SCC-40 (Sitework and Special Conditions) has increased by \$4.1 million for costs associated with the design-build Contract C0988 Crenshaw/LAX Transit Corridor.
- SCC-50 (Systems) has increased \$5.0 million for costs associated with the design-build Contract C0988 Crenshaw/LAX Transit Corridor.
- SCC-70 (Vehicles) has increased by \$9.0 for costs associated with exercising Option 1 of the P3010 Contract with KINKISHARYO INTERNATIONAL, LLC. to procure 22 light rail vehicles.
- SCC-80 (Professional Services) has increased by \$2.9 million for costs associated with the design-build Contract C0988 Crenshaw/LAX Transit Corridor, Engineering and Design Contract E0117, Contract C0991 Division 16: Southwestern Yard (Design/Build), Metro project administration, IPMO field office lease and utilities, construction management support, project management support, labor compliance monitoring and environmental consultant services. The total expenditure of \$298.2 million includes \$16.8 million for the Southwestern Yard 49% allocation.

The \$1,498.5 million in expenditures to date represents 72.8% of the current budget.

Crenshaw/LAX Transit Non-Federal Activities

The costs shown in the table below are part of Crenshaw/LAX Transit Project non-federal activities' costs, which are being reported below the line and will be re-allocated to a new FY19 "Crenshaw/LAX Locally Funded Activities" project. The project will be active commencing July 2018.

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	
60	RIGHT-OF-WAY	-	-	-	-	3,867,395	-	3,867,395	-	3,867,395	(3,867,395)
80	PROFESSIONAL SERVICES	-	-	-	105,647	4,253,424	36,759	1,280,961	106,841	4,530,524	(4,530,524)
	SUBTOTAL (10-80)	-	-	-	105,647	8,120,819	36,759	5,148,356	106,841	8,397,919	(8,397,919)
	TOTAL	-	-	-	105,647	8,120,819	36,759	5,148,356	106,841	8,397,919	(8,397,919)

NOTE: EXPENDITURES ARE CUMULATIVE THROUGH 24-NOV-2017

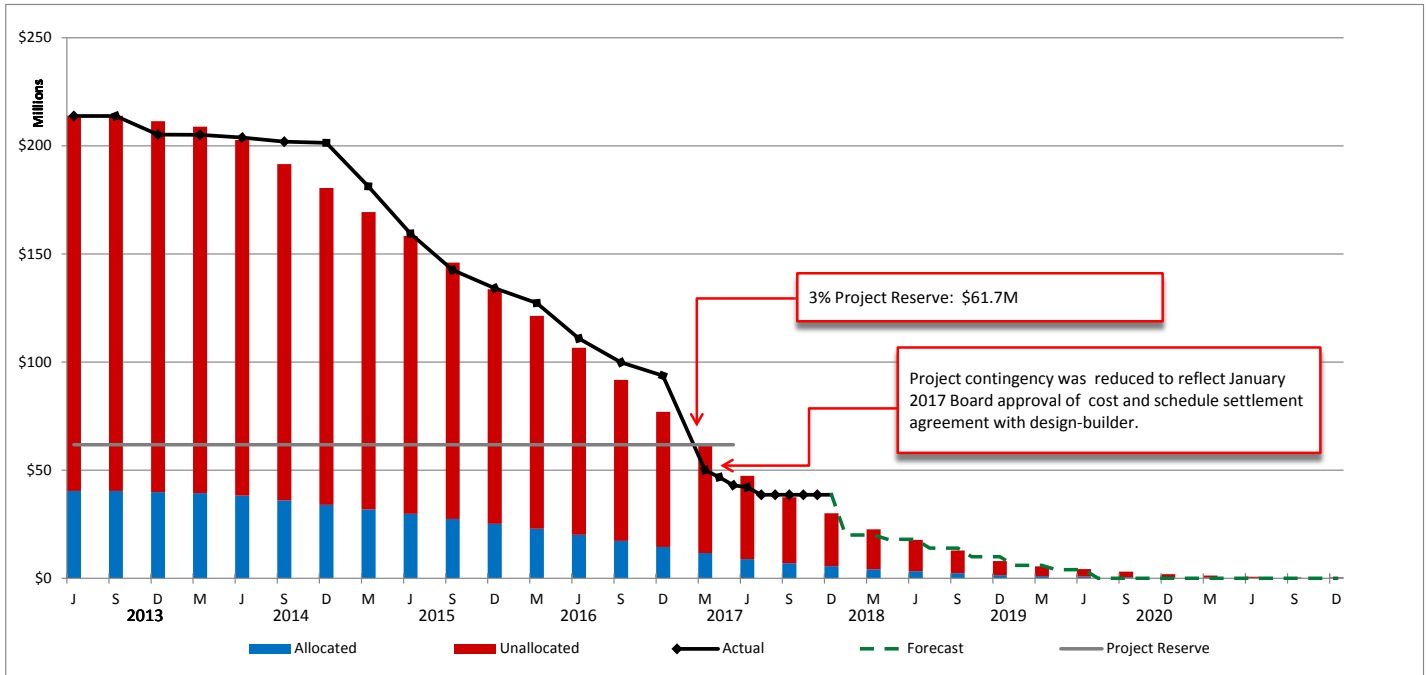
PROJECT COST ANALYSIS (Continued)

Non-Crenshaw/LAX Transit Project Funded Scope of Work

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

C0988 NON-CRENSHAW/LAX TRANSIT PROJECT FUNDED SCOPE OF WORK									
DESCRIPTION	CURRENT BUDGET		COMMITMENTS		EXPENDITURES		CURRENT FORECAST		FORECAST VARIANCE
	PERIOD	TO DATE	PERIOD	TO DATE	PERIOD	TO DATE	PERIOD	TO DATE	
405556 SYSTEMWIDE TRANSIT PLANNING	-	175,495	54,540	230,035	-	175,495	-	175,495	-
210090/93 FARE GATE PROJECT	-	2,566,226	-	2,566,226	79,980	252,726	83,480	2,566,226	-
210152 CRENSHAW/LAX BUS TRANSFER FACILITY	-	2,200,000	-	2,200,000	-	403,334	-	2,200,000	-
460303 AIRPORT METRO CONNECTOR	-	37,914,465	-	35,794,171	336,000	34,131,091	-	37,914,465	-
500013 C/LAX LAWA SCOPE OF WORK	-	1,575,362	91	531,216	-	408,712	-	1,575,362	-
TOTAL	-	44,431,548	54,631	41,321,648	415,980	35,371,358	83,480	44,431,548	-

PROJECT COST CONTINGENCY DRAWDOWN



Through 24-Nov-2017

PROJECT COST CONTINGENCY DRAWDOWN ANALYSIS

The project current budget of \$2,058,000,000 includes an “unallocated contingency” amount of \$173,500,000 which is included as a separate Standard Cost Category (SCC) element. Also included within the current budget is an “allocated contingency” of \$40,366,792 which is allocated, where applicable, to specific contracts within each SCC element. The allocated contingency is not broken out separately in the current budget, as this amount covers anticipated but unknown contract modifications issued by Metro. The total project cost contingency is \$213,866,792 or 10.4%.

Included in the project contingency drawdown is a 3% project reserve line. The Board is to be notified when it becomes necessary to drawdown contingency below the project reserve line to cover project costs. This notification request was adopted by the Metro Board of Directors in September 2012.

In February 2017, the project contingency drawdown curve went below the 3% project reserve level and the Board was notified.

The project contingency drawdown curve is based on an October 2019 revenue service date. In February 2017, the forecast drawdown curve was revised.

PROJECT CONTINGENCY DRAWDOWN ANALYSIS (Continued)

There has been a cumulative drawdown of \$175,068,383 or 81.9% for both allocated and unallocated contingency through November 2017.

- There is no drawdown of unallocated contingency for period ending November 2017. However, there was a re-allocation of \$1,749,252 for executed modifications for design-build contract C0988 Crenshaw/LAX Transit Corridor, executed modification with KKCS/TRIUNITY Contract AE3527 CWO11 compliance monitoring support services, third party scope of work with The Gas Company and QWEST COMMUNICATIONS COMPANY, LLC DBA CENTURY LINK. This re-allocation was based on a submittal of lower than planned cost proposal for fare collection equipment.
- There is no allocated contingency remaining as of February 2017 month-end reporting.

PROJECT COST CONTINGENCY (through 24-Nov-2017)					
UNITS IN DOLLARS					
	Original Contingency (Budget)	Previous Period	Current Period	To-Date	Remaining Contingency (Forecast)
Unallocated Contingency	173,500,000	(134,780,965)	-	(134,780,965)	38,719,035
Allocated Contingency	40,366,792	(40,366,792)	-	(40,366,792)	-
Total Contingency	213,866,792	(175,147,757)	-	(175,147,757)	38,719,035

DISADVANTAGED BUSINESS ENTERPRISE (DBE) STATUS

Contract C0988 Crenshaw/LAX Transit Corridor Design-Build

(Reported Data as of November 2017)

- DBE Goal (Design)** – A numerically expressed percentage of funds apportioned to Design Contracts and is calculated based upon the relative availability of DBE firms as compared to all firms in the relevant geographic market area. **20.00%**
- Current DBE Commitment** – Total DBE Committed Dollars divided by Total Contract Value for Design or Construction. **\$23,336,861 (20.00%)**
- Current DBE Participation** – Total amount paid to date to DBEs divided by the amount paid to date to Prime. **\$28,126,720 (25.76%)**

Twenty-Six (26) Design subcontractors have been identified to-date

- DBE Goal (Construction)** - A numerically expressed percentage of funds apportioned to Construction Contracts and is calculated based upon the relative availability of DBE firms as compared to all firms in the relevant geographic market area. **20.00%**
- DBE Commitment** - Contract commitment divided by current contract value for Construction. **\$251,067,446 (20.00%)**
- Current DBE Commitment** - Actual commitments as Construction work is awarded. **\$264,738,193 (21.09%)**
- Current DBE Participation** - Total amount paid to date to DBEs divided by the amount paid to date to Prime **\$211,772,852 (24.75%)**

220 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 2017)

• Targeted Worker Goal – Construction work to be performed by residents from Economically Disadvantaged Area of LA County	40.00%
Targeted Worker Current Attainment	59.58%
• Apprentice Worker Goal – Construction work to be performed by Apprentices	20.00%
Apprentice Worker Current Attainment	22.50%
• Disadvantaged Worker Goal – Construction work to be performed by Disadvantaged Workers whose primary place of residence is within LA County	10.00%
Disadvantaged Worker Current Attainment	12.38%

DISADVANTAGED BUSINESS ENTERPRISE (DBE) STATUS

Contract C0991 Division 16: Southwestern Yard Design-Build

(Reported Data as of October 2017)

- **DBE Goal (Design)** – A numerically expressed percentage of funds apportioned to Design Contracts and is calculated based upon the relative availability of DBE firms as compared to all firms in the relevant geographic market area. **20.00%**
- **Current DBE Commitment** – Total DBE Committed Dollars divided by Total Contract Value for Design or Construction. **\$2,467,837 (20.93%)**
- **Current DBE Participation** – Total amount paid to date to DBEs divided by the amount paid to date to Prime. **\$1,689,526 (17.05%)**

Nine (9) Design subcontractors have been identified to-date

- **DBE Goal (Construction)** - A numerically expressed percentage of funds apportioned to Construction Contracts and is calculated based upon the relative availability of DBE firms as compared to all firms in the relevant geographic market area. **16.00%**
- DBE Commitment** - Contract commitment divided by current contract value for Construction. **\$25,930,837 (16.00%)**
- **Current DBE Commitment** - Actual commitments as Construction work is awarded **\$25,643,805 (15.82%)**
- Current DBE Participation** - Total amount paid to date to DBEs divided by the amount paid to date to **\$5,473,792 (9.34%)**

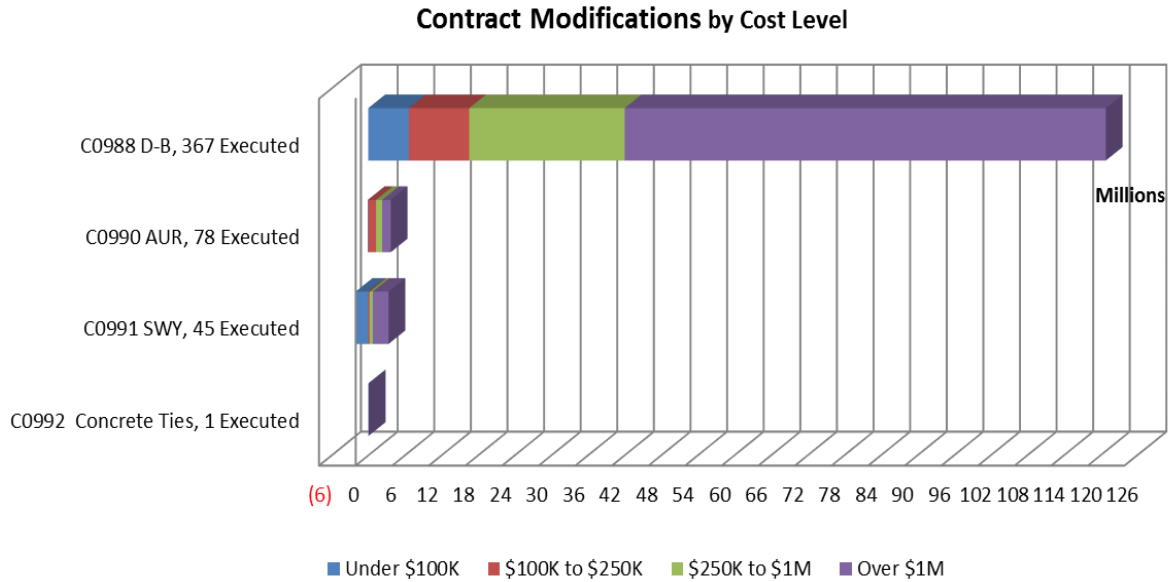
Forty-three (43) Construction subcontractors have been identified to-date.

PROJECT LABOR AGREEMENTS (PLA) STATUS

Contract C0991 Division 16: Southwestern Yard Design-Build
(Reported Data as of October 2017)

• Targeted Worker Goal – Construction work to be performed by residents from Economically	40.00%
Targeted Worker Current Attainment	50.88%
• Apprentice Worker Goal – Construction work to be performed by Apprentices	20.00%
Apprentice Worker Current Attainment	22.57%
• Disadvantaged Worker Goal – Construction work to be performed by Disadvantaged Workers whose primary place of residence is within LA County	10.00%
Disadvantaged Worker Current Attainment	9.37%

SUMMARY OF CONTRACT MODIFICATIONS



	C0988	C0990	C0991	C0992
	367 Executed	78 Executed	45 Executed	1 Executed
Under \$100K	\$ 6,641,310.99	(\$ 70,250.91)	(\$ 2,031,878.66)	\$ 81,738.00
\$100k to \$250K	\$ 9,894,598.20	\$ 1,280,183.74	\$ 215,390.00	\$ 0.00
\$250K to \$1M	\$ 25,485,434.58	\$ 984,662.39	\$ 523,914.00	\$ 0.00
Over \$1M	\$ 78,865,658.81	\$ 1,417,201.61	\$ 2,590,000.00	\$ 0.00
Total Contract MODs	\$ 120,887,002.58	\$ 3,611,796.83	\$ 1,297,425.34	\$ 81,738.00
% of Contract MODs	9.50%	46.14%	0.75%	3.78%

Three hundred and sixty-seven (367) changes with a total value of \$120.89 million have been executed since award of Contract C0988. There are an additional thirty-four (34) changes with a total credit value of \$0.47 million pending the administrative approval process.

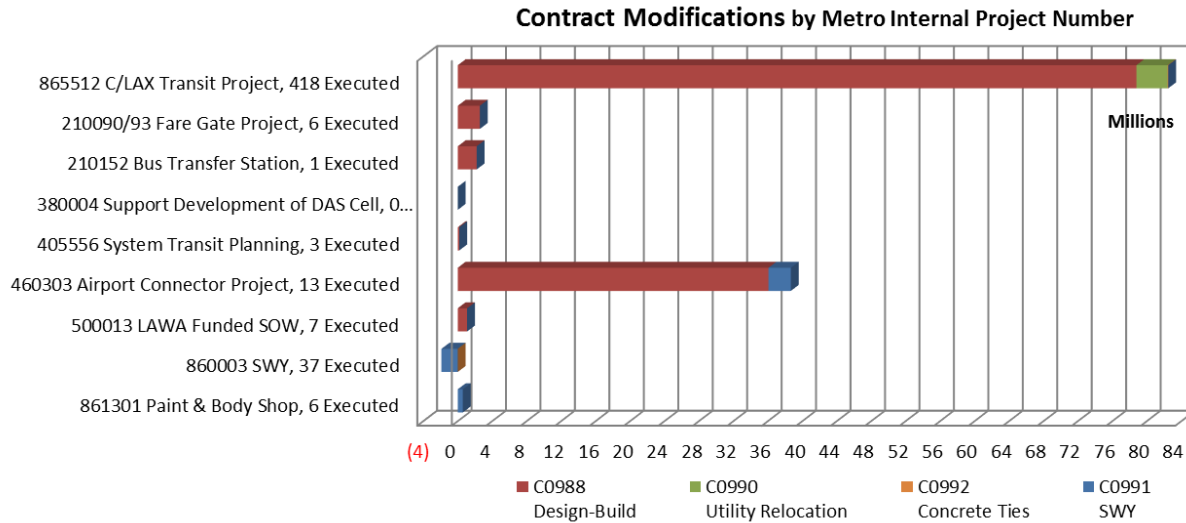
Seventy-eight (78) changes with a total value of \$3.61 million have been executed for completed Contract C0990.

Forty-five (45) changes with a total value of \$1.30 million have been executed since award of Contract C0991. There are an additional three (3) changes with a total value of \$0.01 million pending the administrative approval process.

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

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

SUMMARY OF CONTRACT MODIFICATIONS



	865512	210090/93	210152	405556	460303	500013	860003	861301
	Executed	Executed	Executed	Executed	Executed	Executed	Executed	Executed
C0988 - QTY	339	6	1	3	11	7	0	0
C0988 - \$	78,792,098	2,566,226	2,200,000	175,495	36,069,273	1,083,911	0	0
C0990 - QTY	78	0	0	0	0	0	0	0
C0990 - \$	3,611,797	0	0	0	0	0	0	0
C0991 - QTY	0	0	0	0	2	0	37	6
C0991 - \$	0	0	0	0	2,598,580	0	(1,886,915)	585,760
C0992 - QTY	1	0	0	0	0	0	0	0
C0992 - \$	81,738	0	0	0	0	0	0	0
Total - QTY	418	6	1	3	13	7	37	6
Total - \$	82,485,633	2,566,226	2,200,000	175,495	38,667,853	1,083,911	(1,886,915)	585,760

Four hundred and eighteen (418) changes with a total value of \$82.49 million have been executed for Project 865512 Crenshaw/LAX Transit Project. There are an additional thirty-one (31) changes with a total credit value of \$0.48 million pending the administrative approval process.

Six (6) changes with a value of \$2.57 million have been executed for Project 210090/93 Fare Gate Project.

One (1) change with a value of \$2.20 million has been executed for Project 210152 Bus Transfer Station Project.

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

Thirteen (13) changes with a value of \$38.67 million have been executed for Project 460303 Airport Metro Connector Project. There are an additional two (2) changes with a total value of \$0.004 million pending the administrative approval process.

Seven (7) changes with a total value of \$1.08 million have been executed for Project 500013 Crenshaw/LAX LAWA Statement of Work.

Thirty-seven (37) changes with a credit value of \$1.89 million have been executed for Project 860003 Southwestern Yard project. There are additional three (3) changes with a total value of \$0.01 million credit pending the administrative approval process.

Six (6) changes with a value of \$0.59 million have 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	54.0	54.0	54.0	100%	54.0	100%	54.0	100%
FEDERAL - SECTION 5309 BUS CAPT	8.6	8.6	8.6	8.6	100%	8.6	100%	8.6	100%
FEDERAL - REGIONAL STP	20.0	100.9	73.7	102.2	101%	73.7	73%	65.9	65%
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	99%	0.179	100%
STATE PROP 1B PTMISEA	201.2	128.9	128.9	128.9	100%	128.9	100%	128.9	100%
STATE PROP 1 B LOCAL PARTNER PROG	0.0	49.5	49.5	49.5	100%	49.5	100%	49.5	100%
MEASURE R - TIFIA LOAN	545.9	545.9	545.9	545.9	100%	545.9	100%	545.9	100%
MEASURE R	661.1	529.3	529.3	529.3	100%	529.3	93%	466.2	88%
OTHER FUNDS*	52.4	160.5	25.0	99.9	62%	25.0	16%	48.2	30%
PROP C 25% HIGHWAY	148.9	378.1	349.8	350.9	93%	15.8	4%	31.9	8%
PROP C 40% DISCRETIONARY	0.0	0.0	0.0	0.0	0%	0.0	0%	0.0	0%
PROP A 35% RAIL CAPITAL	4.8	50.4	50.4	50.4	100%	50.4	100%	4.9	10%
TOTAL	1,749.0	2,058.0	1,832.5	1,971.5	96.0%	1,498.5	73.0%	1,421.4	69.0%

NOTE: Expenditures are cumulative through November 24, 2017

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

Total Funds Anticipated based on August 2016 Funding Plan

* Other funds include: Local Agency Funds (\$107.470), CNG Tax Credit (\$54.000) and 3rd Party Lease Contingency (\$26.000)

STATUS OF FUNDS ANTICIPATED

FEDERAL – CMAQ: Metro submitted to FTA in October 2013 a draft grant application of \$30M for review. FTA has reviewed the application and allowed Metro to formally submit the grant application in July 2014. Grant was approved in December 2014. Funds are available for drawdown. Metro submitted to FTA in January 2015 a grant application of \$24M for approval. Grant was approved on September 23, 2015. Funds are available for drawdown.

FEDERAL – RSTP: FTA approved a grant of \$45M in May 2014 to fund the project rail cars. Funds are available for drawdown. Metro submitted to FTA in October 2013 a draft grant application of \$28.2M for review. FTA has reviewed the application and allowed Metro to formally submit the grant application in July 2014. Grant was approved in December 2014. Funds are available for drawdown.

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

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

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

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

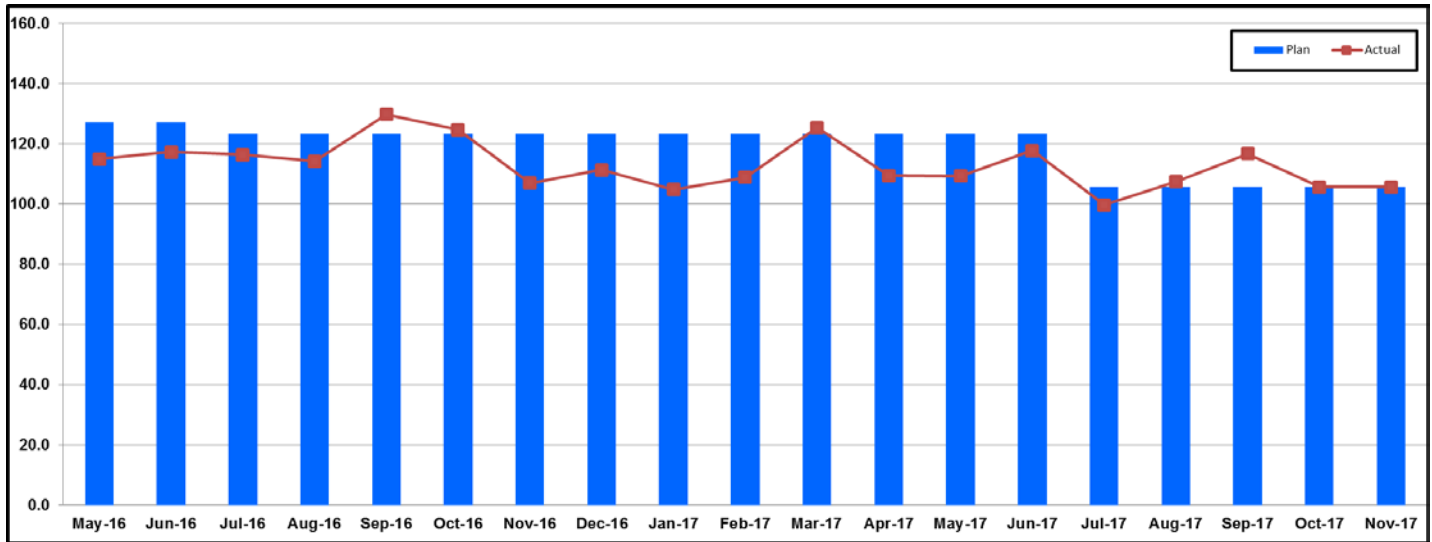
OTHER FUNDS: City of LA: Based on the funding agreement between Metro and the City of LA. \$19M is available for drawdown through FY2017.

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

PROP A 35% RAIL CAPITAL: \$4.8M has been allocated to the project based on the June 2014 TIFIA Financial Model. No Proposition A 35% Rail Capital funds are allocated for fiscal 2017.

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 2017.

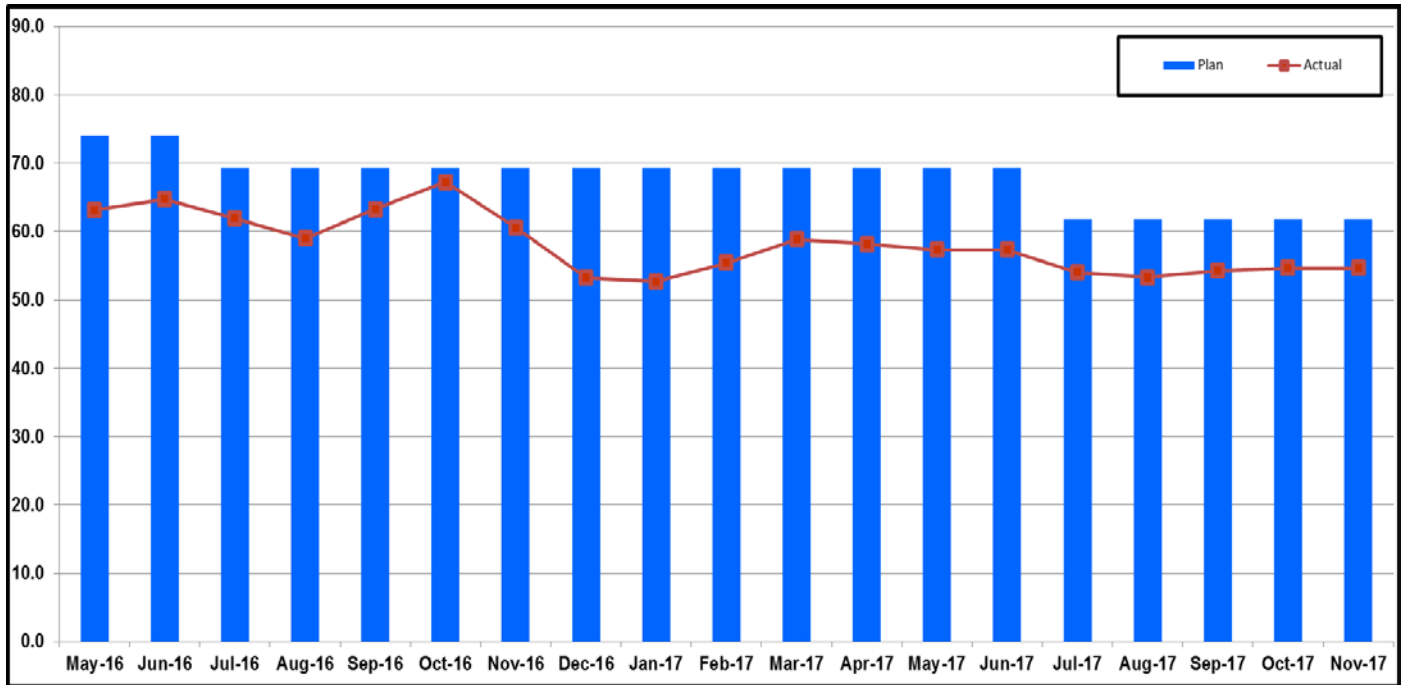
TOTAL PROJECT STAFFING

The overall FY18 Total Project Staffing Plan averages 105.7 Full Time Equivalent (FTEs) per month consisting of 61.7 for Metro Agency staff, 37.0 for Construction Management Support Services Consultant and 7.0 for Design and Engineering Support Services Consulting staff.

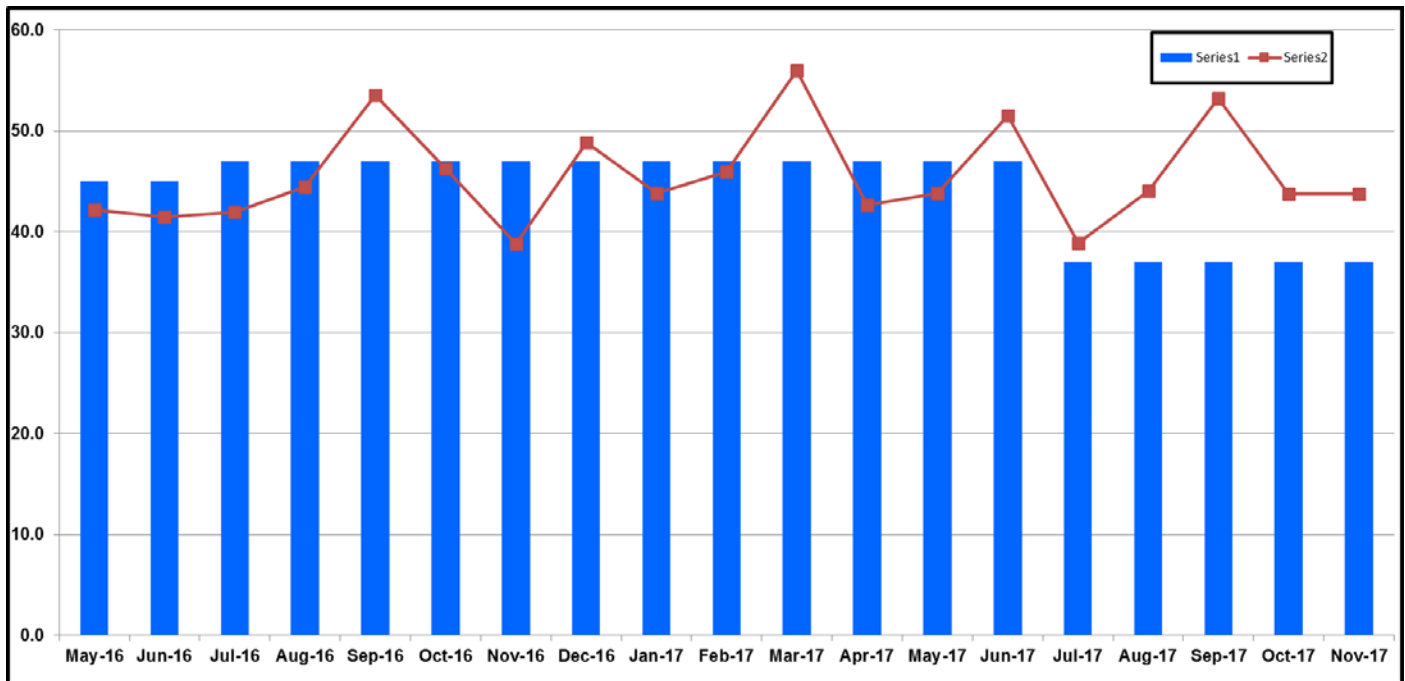
For November 2017, total project staffing were 105.7 FTEs for the month consisting of 54.3 FTEs for Metro’s project administration staff, 43.7 FTEs for Construction Management Support Services Consultant and 7.3 FTEs for Design and Engineering Support Services Consulting staff.

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

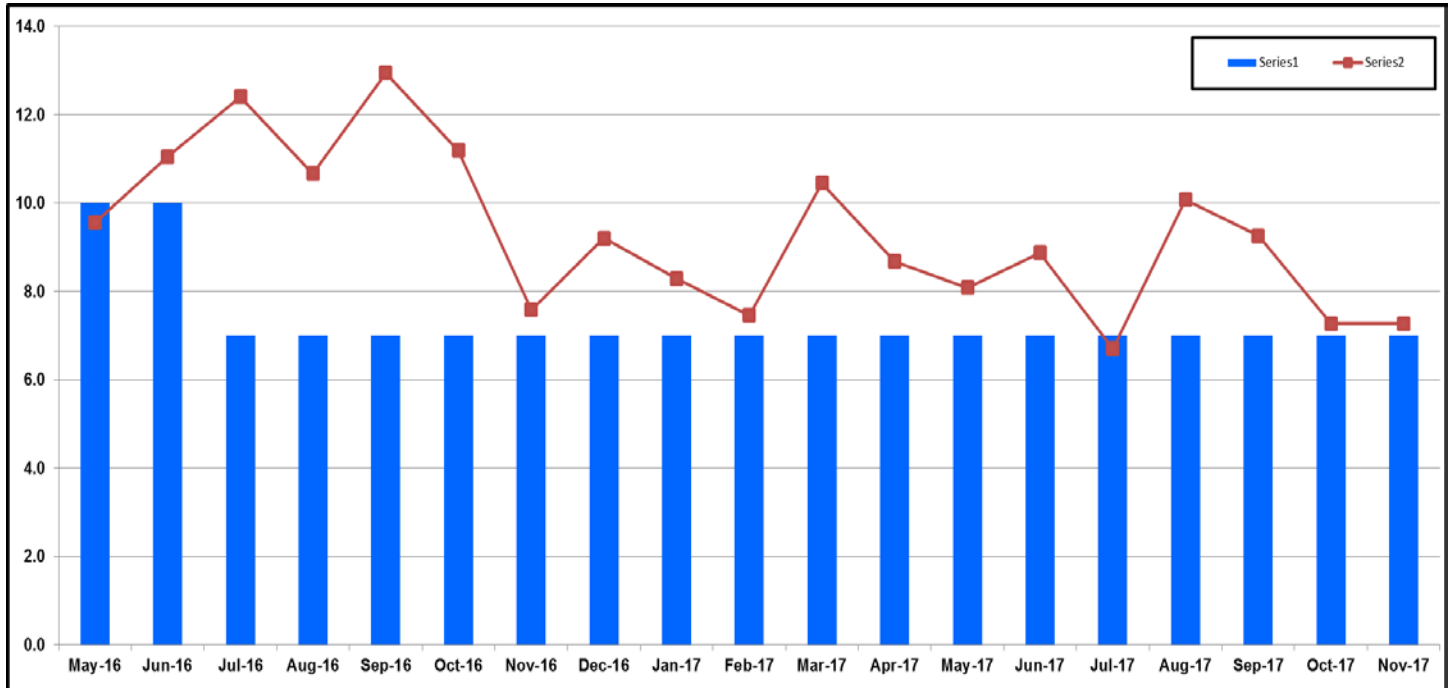
STAFFING STATUS (Continued)
METRO STAFFING – FTES



**CONSTRUCTION MANAGEMENT
 SUPPORT SERVICES CONSULTANT – FTES**



STAFFING STATUS (Continued) ENGINEERING SERVICES CONSULTANT – FTES



REAL ESTATE STATUS

Contract No.	Number of Parcels	Certified	Decertified	Appraisals Complete	Offers Made	Agreements Signed	Condemnations Filed	Relocations Complete	Parcels Available to WSCC
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	1		
TCE									
Subtotal Parcels:	1	1		1	1	1	1		
Total Crenshaw Parcels	33	31	2	32	32	12	20	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	8	10		15
TCE	3	2	1	2	2		2		2
Subtotal Parcels	36	33	3	35	34	16	19	12	32
<i>Harbor Subdivision Additional Parcels:</i>									
Full Takes	3	2	1	2	1			1	1
Part Takes	4	2	2	2	2	2			2
TCE	3	3		3	3	3			3
Subtotal Parcels:	10	7	3	7	6	5		1	6
Total Harbor Subdivision Parcels	46	40	6	42	40	21	19	13	38
Total CR/HS Parcels:	79	71	8	74	72	33	39	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	82	80	37	43	32	76

- All parcels necessary to construct the guideway have been turned over to the Contractor.
- Work requiring the remaining 3 parcels is not on the critical path and will be used to construct ADA, sidewalk, and other civil improvements.
- Efforts continue to closeout court cases on the various condemned properties.

QUALITY ASSURANCE STATUS

C0988 Crenshaw/LAX Transit Corridor Design-Build Contract

- Attended weekly Quality Staff Meetings with City of Los Angeles, Los Angeles Bureau of Contract Administration, HNTB, and WSCC Lead Quality personnel.
- *WSCC Quality issued Four (4) Nonconformance Reports (NCR's) during this period.*
- *Metro approved two Quality Control Inspectors resumes for assignment as project Rail Inspectors.*
- *Metro approved a resume for a WSCC Assistant Project Quality Manager.*
- *Issued a Quality Action Request to WSCC due to recent incidents that may indicate lax discipline in the implementation of the Quality Program.*
- *Issued the 2017 Annual Audit Report to WSCC. One finding requires a formal response.*

ENVIRONMENTAL STATUS

C0988 Crenshaw/LAX Transit Corridor Design Build

- Reviewed and commented on the following Contractor Submittals:
 - Weekly Noise and Vibration Monitoring Data for station and alignment construction
 - Green Construction Policy Monthly Report
 - Weekly Storm Water Pollution Prevent Plan (SWPPP) inspection reports
 - Weekly Fugitive Dust Inspection Reports
 - Various Construction Work Plans and Submittals
- Conducted Contractor Cultural Awareness Training.
- Coordinated cultural monitoring (Archaeological, Paleontological and Native American Monitoring).
- Participated in Environmental Management System (EMS) meetings with design builder.
- *Conducted night time noise monitoring at UG3 operations on 11/2, 11/3, 11/7, 11/14, 11/15, 11/17 and 11/21.*
- *Conducted night time noise monitoring at Crenshaw/Slauson on 11/1.*
- *Conducted night time noise monitoring at UG4 on 11/18, 11/20, 11/21 and 11/28.*
- *Conducted night time noise monitoring at Vernon Station on 11/9 and 11/22.*
- *Conducted night time noise monitoring at Manchester Bridge on 11/3 and 11/6.*
- *Conducted night time noise monitoring at West Station on 11/13.*
- *Conducted night time noise monitoring at Expo Station on 11/13 and 11/28.*
- *Conducted night time noise monitoring at MLK Station on 11/28.*
- *Additional removal of Tesoro line pipes. Wipe samples were collected on the pipes on 10/25 and 11/13 (at the request of the disposal facility). The pipes are properly stockpiled and scheduled for disposal on 12/1.*

C0991 Southwestern Yard Design Build

- *Undocumented underground storage tank (UST) was encountered on 10/2/17. The UST was removed on 11/14 with supervision from Inspector Husband of the LAFD. Two soil samples were taken from the soil beneath the UST and all chemical constituents were reported as non-detect. The soil surrounding the UST was hauled to Chiquita Canyon on November 16-17th. On November 17th the LAFD approved the backfill of the UST excavation.*

CONSTRUCTION RELATIONS STATUS

- Metro Construction Relations and Environmental are working with WSCC on noise complaints and issues associated with work in the UG3 cut and cover section. WSCC is implementing new noise control measures to address problems.
- *Working with WSCC to address homeless encampments along the alignment. WSCC increased site security and installed fencing to discourage encampments on Metro owned property.*

SYSTEMWIDE DESIGN AND ART PROGRAM STATUS

- Facilitated coordination between artists and fabrication firms.
- Worked with artists to refine designs for submission to fabricators.
- Provided design review comments for NDCs and shop drawings.
- *Reviewed porcelain enamel steel artwork fabrication proofs.*

SAFETY & SECURITY STATUS

- Participated in weekly progress meetings with Construction Management Team to discuss safety/security/quality related issues.
- Attended WSCC's and Metro Progress Meeting to discuss safety concerns and the six week look ahead work schedule.
- Attended the WSCC's weekly Safety Tool-Box Meetings and Safety and Security Staffing Plan Meeting.
- Attended WSCC's Safety Stand-Up Meeting and conducted weekly Safety Briefings.
- Monitored construction activities on a daily basis including weekend safety "spot-checks" to ensure compliance with contract specifications.
- *Monitored UG4 station boxes and tunnels including tunnel cross passages, observed installation of canopy steel at the Florence/Hindry Station including the removal of de-stress struts at UG3.*
- *Conducted Monthly All Hands Safety and Security Meeting on November 29, 2017 to discuss WSCC's Safety Staffing Plan, teamwork/partnering, accident investigation and elevator status.*
- *Conducted safety walk with Neal Electric on November 13, 2017 to discuss excavation checklist procedures and confined space protocol.*
- *Scheduled WSCC's Metro Rail Safety Training on October 25, 2017.*
- *Conducted underground Safety Awareness Self-Rescuer Training on October 25, 2017.*
- Contract C0990 Metro Builders Advanced Utility Relocation completed 360,287 work hours with four recordable incidents. This contract is closed out.
- *Contract C0991 Hensel Phelps Project-to-Date completed 237,235 work hours with 3 recordable injuries. Hensel Phelps and their subcontractors completed 27,883 work hours and zero recordable injuries for the month of November 2017.*
- *Contract C0988 (WSCC) completed 128,353 work hours with one recordable injury for the month of November 2017. Total Project to Date work hours are 5,034,675 with a total of seventy-two recordable incidents. The Project Recordable Rate is 2.9. The Bureau of Labor Statistics average recordable rate per 200,000 work hours is 2.8.*

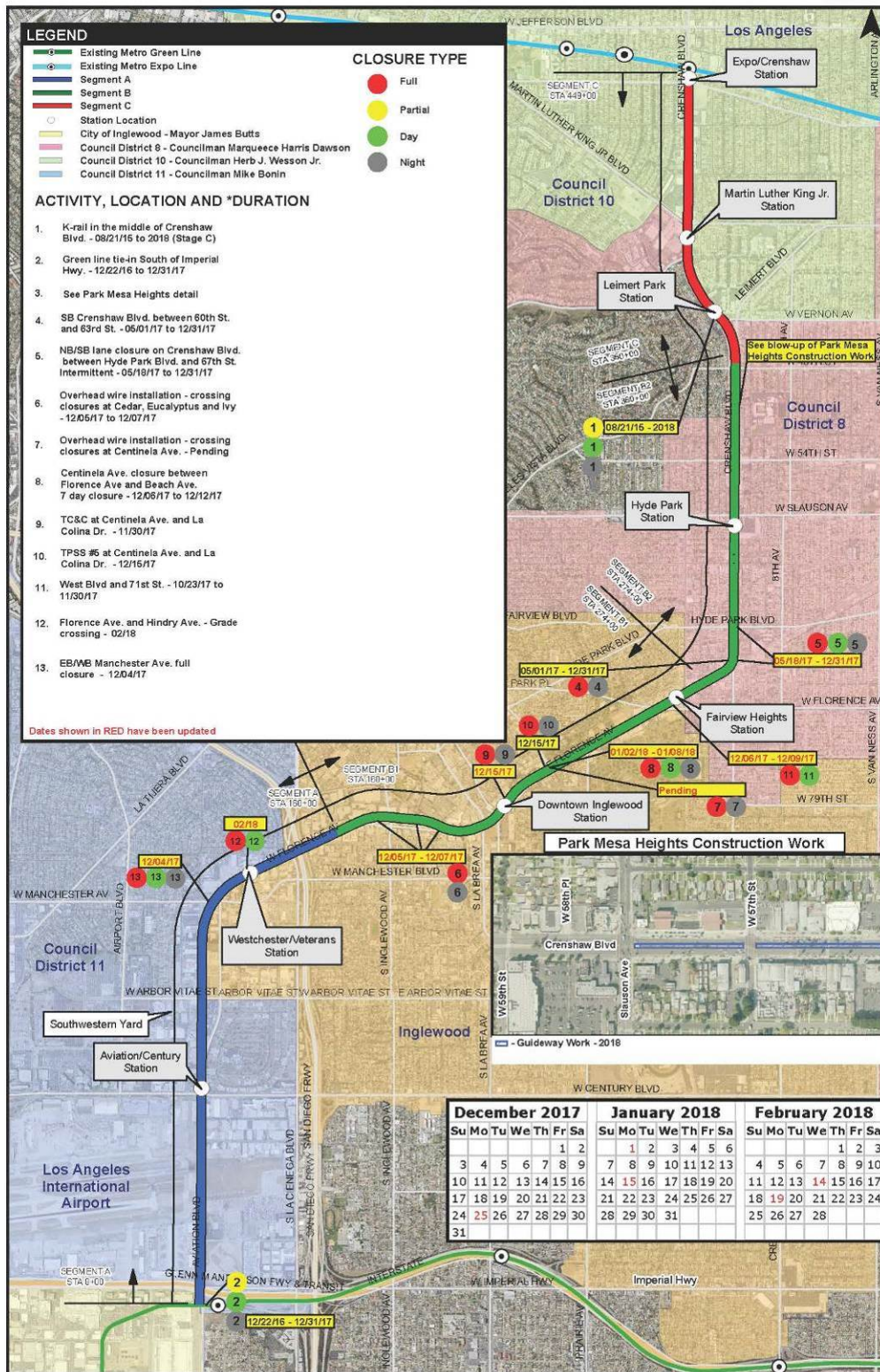
THIRD PARTY AGREEMENT STATUS

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 - December - January 2017-2018



Updated: 11/02/2017

*Note: Traffic closure dates and duration 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.


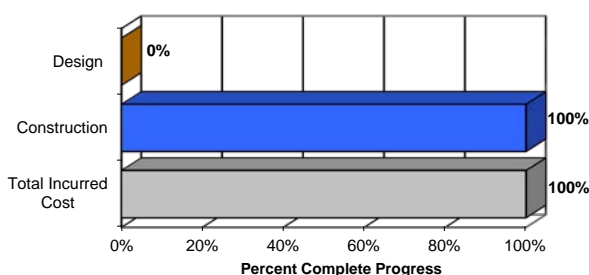
CHRONOLOGY OF EVENTS (Continued)

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.
April 6, 2017	The northbound tunnel boring machine completed mining with the hole thru at Leimert Park Station.


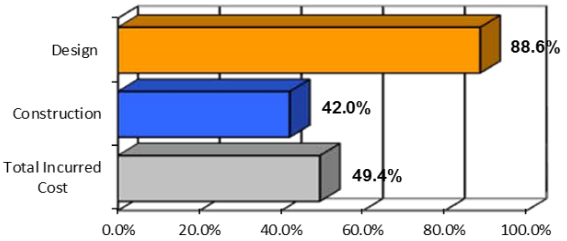
CONTRACT C0988 STATUS
Crenshaw/LAX Transit Corridor

<p>PE Design Contractor: Hatch Mott (HM) CM Consultant: Stantec Contractor: - Walsh Shea Corridor Constructors (WSCC)</p>	<p>Contract No.: C0988 </p> <p>Status as of November 25, 2017</p>																																														
<p>Progress/Work Completed: Construction</p> <ul style="list-style-type: none"> Continued twin tunnel cross passage electrical and concrete work. Continued wall and concourse concrete placements at Expo, MLK Jr and Leimert Park stations. Continued wall and roof placements at underground structure #3 and wall placements at #4. Continued civil construction work within Park Mesa Heights area. Continued accommodations for future 96th Street Station. Continued finishing work for Green line tie-in structure. 	<p>Areas of Concern:</p> <ul style="list-style-type: none"> Timely submittal of WSCC's design submittals and review by City of Los Angeles. WSCC's ability to mitigate potential schedule delay to their substantial completion milestone of May 1, 2019. 																																														
<p>Schedule Assessment:</p> <ul style="list-style-type: none"> WSCC's November 2017 schedule update reflects a 28 days delay to Milestone 1. WSCC is looking at several options to mitigate the forecast delay. Metro's assessment is that WSCC is responsible to mitigate the 28 days. 	<p>Cost Assessment:</p> <ul style="list-style-type: none"> The current construction contract cost forecast from pay application is \$1,387,409,492.64 and is within the Board authorized budget. The Contractor submitted their 52nd payment application in the approved amount of \$12,685,816.46 <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>2059</td> <td></td> </tr> <tr> <td>5. Elapsed Time from NTP:</td> <td>1537</td> <td>74.6%</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:	2059		5. Elapsed Time from NTP:	1537	74.6%	<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>112.86</td> </tr> <tr> <td>3. Approved Change Orders:</td> <td>8.02</td> </tr> <tr> <td>4. Current Contract Value (1 + 2 + 3):</td> <td>1,393.51</td> </tr> <tr> <td>5. Incurred Cost:</td> <td>1,019.94</td> </tr> </table>	1. Award Value:	1,272.63	2. Executed Modifications:	112.86	3. Approved Change Orders:	8.02	4. Current Contract Value (1 + 2 + 3):	1,393.51	5. Incurred Cost:	1,019.94																					
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<table border="1"> <thead> <tr> <th>Milestones</th> <th>Original Contract</th> <th>Current Contract</th> <th>Forecast</th> <th>Calendar Day Variance</th> </tr> </thead> <tbody> <tr> <td>Milestone 1 - Contract Substantial Completion</td> <td>09/08/18</td> <td>05/01/19</td> <td>05/29/19</td> <td>-28</td> </tr> <tr> <td>Milestone 2 - UFS Completion</td> <td>03/09/18</td> <td>11/01/18</td> <td>07/09/18</td> <td>115</td> </tr> <tr> <td>Milestone 3 - Commence SIT Phase I</td> <td>06/09/18</td> <td>02/01/19</td> <td>02/28/19</td> <td>-27</td> </tr> <tr> <td>Milestone 5A - Const./Turnover Parcels SW-0002, 0003, 0004, 0104 (South)</td> <td>06/05/17</td> <td>06/05/17</td> <td>06/05/17A</td> <td>0</td> </tr> <tr> <td>Milestone 5B - Const./Turnover Parcels SW-0002, 0003, 0004, 0104(North)</td> <td>06/05/17</td> <td>06/11/17</td> <td>06/11/17A</td> <td>0</td> </tr> <tr> <td>Milestone 6 - Const./Turnover Parcels SW-0001</td> <td>08/01/17</td> <td>08/01/17</td> <td>07/10/17A</td> <td>0</td> </tr> <tr> <td>Milestone 7 - Provide Access for Division 16 Southwestern Yard</td> <td>01/23/16</td> <td>01/23/16</td> <td>02/22/16A</td> <td>-30</td> </tr> </tbody> </table>	Milestones	Original Contract	Current Contract	Forecast	Calendar Day Variance	Milestone 1 - Contract Substantial Completion	09/08/18	05/01/19	05/29/19	-28	Milestone 2 - UFS Completion	03/09/18	11/01/18	07/09/18	115	Milestone 3 - Commence SIT Phase I	06/09/18	02/01/19	02/28/19	-27	Milestone 5A - Const./Turnover Parcels SW-0002, 0003, 0004, 0104 (South)	06/05/17	06/05/17	06/05/17A	0	Milestone 5B - Const./Turnover Parcels SW-0002, 0003, 0004, 0104(North)	06/05/17	06/11/17	06/11/17A	0	Milestone 6 - Const./Turnover Parcels SW-0001	08/01/17	08/01/17	07/10/17A	0	Milestone 7 - Provide Access for Division 16 Southwestern Yard	01/23/16	01/23/16	02/22/16A	-30	<p align="center">PERCENT COMPLETE <i>from 09/10/13 to 11/25/17</i></p> <table border="0"> <tr> <td>Design</td> <td>98.8%</td> </tr> <tr> <td>Construction</td> <td>67.8%</td> </tr> <tr> <td>Total Incurred Cost</td> <td>73.5%</td> </tr> </table> <p align="center">Percent Complete Progress</p> <p><i>Construction physical percent complete excludes mobilization and general requirements</i></p>	Design	98.8%	Construction	67.8%	Total Incurred Cost	73.5%
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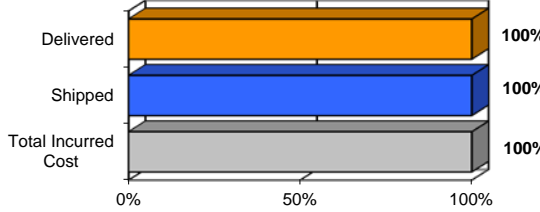
CONTRACT C0990 STATUS
Crenshaw/LAX Advanced Utility Relocations

PE Design Contractor: Hatch Mott (HM) CM Consultant: Stantec Contractor: - Metro Builders and Engineers Group LTD		Contract No.: C0990 Status: Completed																																				
Progress/Work Completed: - The construction was substantially completed on August 21, 2014 - Board authorized in March a settlement with the contractor. - Contract is closed out.		Areas of Concern:																																				
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.		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.																																				
Schedule Summary:		Cost Summary: \$ In millions																																				
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		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																																				
<table border="1"> <thead> <tr> <th>Milestones</th> <th>Original Contract</th> <th>Current Contract</th> <th>Forecast</th> <th>Calendar Day Variance</th> </tr> </thead> <tbody> <tr> <td>Milestone 1 - Contract Substantial Completion</td> <td>07/17/13</td> <td>11/18/13</td> <td>08/21/14A</td> <td>-276</td> </tr> <tr> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> </tr> </tbody> </table>		Milestones	Original Contract	Current Contract	Forecast	Calendar Day Variance	Milestone 1 - Contract Substantial Completion	07/17/13	11/18/13	08/21/14A	-276																										<p align="center">PERCENT COMPLETE <i>from 7/17/12 to 8/21/14</i></p>  <p align="center">Construction physical percent complete excludes mobilization and general requirements</p>	
Milestones	Original Contract	Current Contract	Forecast	Calendar Day Variance																																		
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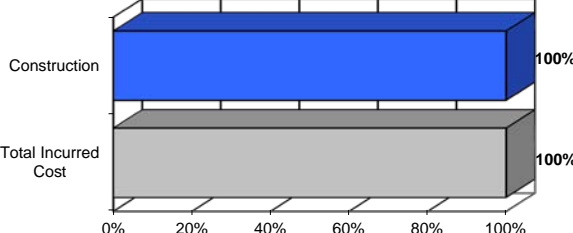
CONTRACT C0991 STATUS
Southwestern Yard

<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 November 25, 2017</p> 																									
<p>Progress/Work Completed:</p> <ul style="list-style-type: none"> Completed main shop pits and SOG construction following steel erection and deck installation, continued with 2nd level of roof concrete placement. Continued with electrical and communication signaling and TPSS, duct banks, dry wells, fire risers, storm drain, sewer and fire water lines. Completed material storage building placed slab on grade and installed the structural steel, CMU walls and started exterior skin framing installation. Continued car wash and car cleaning foundations. Delivered all the rail and completed flash welding operation, received turnouts, concrete ties and precast crossing panels. Continued with Main Shop CMU wall construction, exterior/interior framing, electrical, mechanical and plumbing. Completed construction of 66" storm drain over build. Started the OCS of light pole foundation. 	<p>Areas of Concern:</p> <ul style="list-style-type: none"> An underground storage tank (UST) has been discovered, which is located under south yard lead. Work was completed, schedule impact to interim milestones for yard leads is being evaluated. An MOU between HPH and WSCC is expected to be executed by 12/19/17. 																									
<p>Schedule Assessment:</p> <ul style="list-style-type: none"> 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. Work is progressing ahead of schedule, but float days are being reduced. All phase II access dates were achieved ahead of time. HPH has stated that there is a potential for them to complete early by 1/18/2019. 	<p>Cost Assessment:</p> <ul style="list-style-type: none"> The current construction contract cost forecast from pay application is \$173,586,121.24 is within the Board authorized budget. The Contractor submitted their 28th payment application in the approved amount of \$7,002,148.61 <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>880 67.1%</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:	880 67.1%	<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>1.18</td> </tr> <tr> <td>3. Approved Change Orders:</td> <td>0.12</td> </tr> <tr> <td>4. Current Contract Value (1 + 2 + 3):</td> <td>173.61</td> </tr> <tr> <td>5. Incurred Cost (thru August 2017):</td> <td>85.76</td> </tr> </table>	1. Award Value:	172.31	2. Executed Modifications:	1.18	3. Approved Change Orders:	0.12	4. Current Contract Value (1 + 2 + 3):	173.61	5. Incurred Cost (thru August 2017):	85.76					
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MS#4 Southwestern Yard Substantial Completion	31-Oct-18	30-Jan-19	30-Jan-19	0																						

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:</p> <p>All concrete ties were delivered to job site by August 15, 2014.</p>	<p>Cost Assessment:</p> <p>The final contract cost is \$2.25 million and has been completely paid to contractor.</p>																																								
<p>Schedule Summary:</p> <table border="0"> <tr> <td>1. Date of Award:</td> <td align="right">12/10/13</td> </tr> <tr> <td>2. Notice to Proceed:</td> <td align="right">12/23/13</td> </tr> <tr> <td>3. Original Substantial Completion Duration:</td> <td align="right">220</td> </tr> <tr> <td>4. Current Substantial Completion Duration:</td> <td align="right">235</td> </tr> <tr> <td>5. Elapsed Time from NTP:</td> <td align="right">235</td> </tr> </table>	1. Date of Award:	12/10/13	2. Notice to Proceed:	12/23/13	3. Original Substantial Completion Duration:	220	4. Current Substantial Completion Duration:	235	5. Elapsed Time from NTP:	235	<p>Cost Summary: \$ In millions</p> <table border="0"> <tr> <td>1. Award Value:</td> <td align="right">2.16</td> </tr> <tr> <td>2. Executed Modifications:</td> <td align="right">0.09</td> </tr> <tr> <td>3. Approved Change Orders:</td> <td></td> </tr> <tr> <td>4. Current Contract Value (1 + 2 + 3):</td> <td align="right">- 2.25</td> </tr> <tr> <td>5. Incurred Cost:</td> <td align="right">2.25</td> </tr> </table>	1. Award Value:	2.16	2. Executed Modifications:	0.09	3. Approved Change Orders:		4. Current Contract Value (1 + 2 + 3):	- 2.25	5. Incurred Cost:	2.25																				
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CONTRACT C0992A STATUS
Running Rail and Bumping Posts

<p>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>																																									
<p>Schedule Summary:</p> <table border="0" style="width: 100%;"> <tr> <td style="width: 80%;">1. Date of Award:</td> <td align="right">01/23/14</td> </tr> <tr> <td>2. Notice to Proceed:</td> <td align="right">03/07/14</td> </tr> <tr> <td>3. Original Substantial Completion Duration:</td> <td align="right">300</td> </tr> <tr> <td>4. Current Substantial Completion Duration:</td> <td align="right">558</td> </tr> <tr> <td>5. Elapsed Time from NTP:</td> <td align="right">448</td> </tr> </table>	1. Date of Award:	01/23/14	2. Notice to Proceed:	03/07/14	3. Original Substantial Completion Duration:	300	4. Current Substantial Completion Duration:	558	5. Elapsed Time from NTP:	448	<p>Cost Summary: \$ In millions</p> <table border="0" style="width: 100%;"> <tr> <td style="width: 80%;">1. Award Value:</td> <td align="right">5.2</td> </tr> <tr> <td>2. Executed Modifications:</td> <td></td> </tr> <tr> <td>3. Approved Change Orders:</td> <td></td> </tr> <tr> <td>4. Current Contract Value (1 + 2 + 3):</td> <td align="right">- 5.2</td> </tr> <tr> <td>5. Incurred Cost:</td> <td align="right">5.2</td> </tr> </table>		1. Award Value:	5.2	2. Executed Modifications:		3. Approved Change Orders:		4. Current Contract Value (1 + 2 + 3):	- 5.2	5. Incurred Cost:	5.2																				
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CONSTRUCTION PHOTOGRAPHS



MSE 29L&R – Asphalt cap subgrade fine grading from STA 30+50 to 32+09.



UG1– Crew continued moving 115# R.E running rail on track-4 NB inside UG-1.

CONSTRUCTION PHOTOGRAPHS (Continued)



AVIATION/CENTURY BRIDGE – Steel flex conduit and junction box installation in the platform canopy beam assembly.



MSE 75L&R: Crew moving 115 # R.E running rail on track-3 SB.

CONSTRUCTION PHOTOGRAPHS (Continued)



HINDRY STATION - Forming for electrical duct bank between platforms.



UG3 – Rebar installation along walls north of 60th St.

CONSTRUCTION PHOTOGRAPHS (Continued)



PARK MESA – Removing ballast wall formwork between 54th and 57th St.



UG4 – East, center, and west wall progress along the Guideway.

CONSTRUCTION PHOTOGRAPHS (Continued)



UG4 – Installing rebar for roof section R-27.



LEIMERT PARK STATION – Removing and installing formwork for west concourse level walls.

CONSTRUCTION PHOTOGRAPHS (Continued)



MARTIN LUTHER KING JR. STATION – Placement of concrete for concourse deck section C-2.



MARTIN LUTHER KING JR. STATION Installation of waterproofing along the north and east concourse level walls.

CONSTRUCTION PHOTOGRAPHS (Continued)



EXPOSITION/CRENSHAW STATION – Placement of concrete for roof deck section K-7.

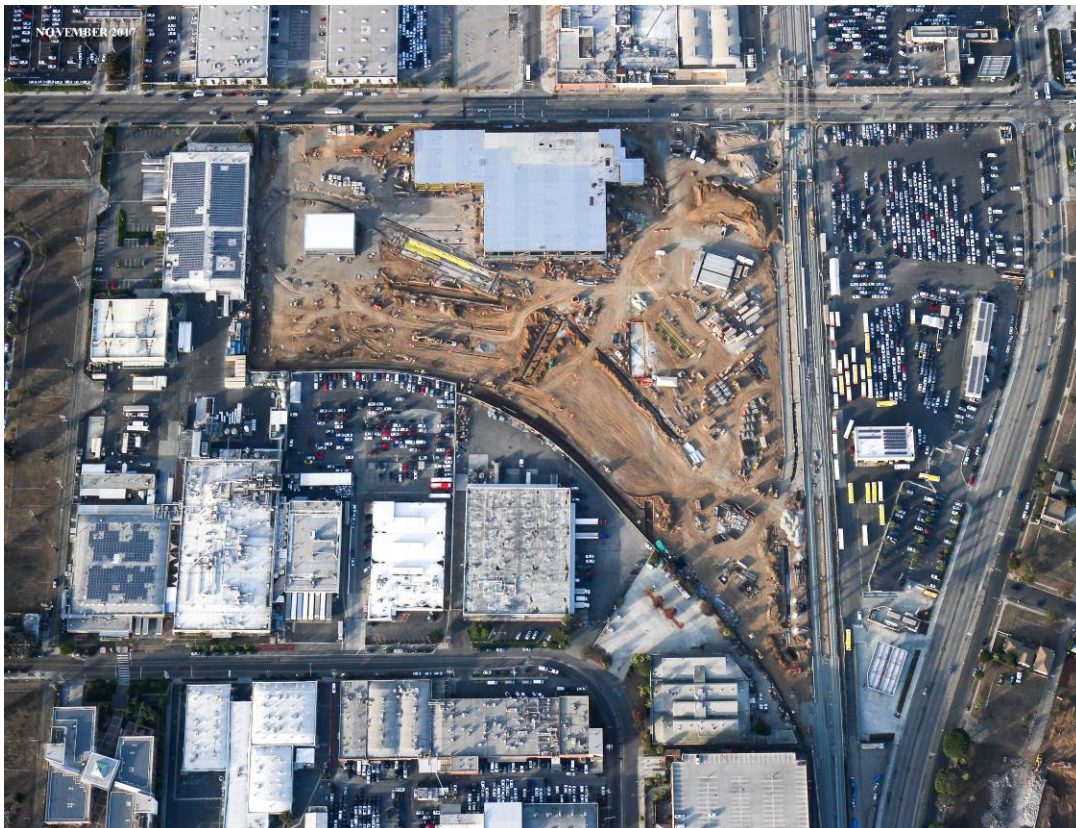


TUNNELING – SB Tunnel at entrance to Cross Passage 5.

CONSTRUCTION PHOTOGRAPHS (Continued)



TUNNELING – Looking into CP-5 from the SB Tunnel.

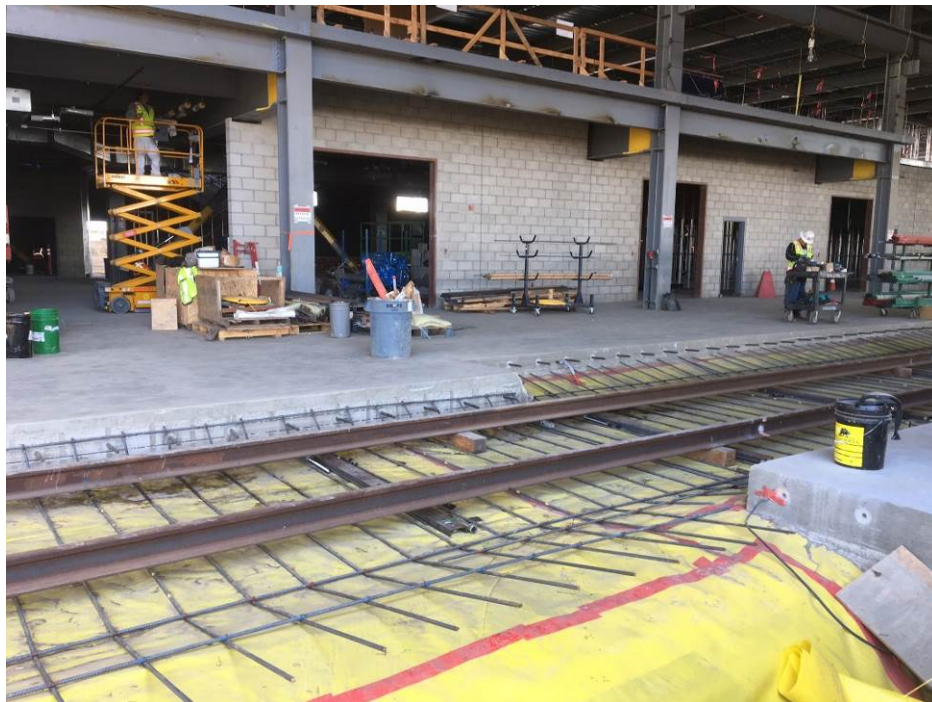


SOUTHWESTERN YARD MAINTENANCE FACILITY – Aerial photo by contractor.

CONSTRUCTION PHOTOGRAPHS (Continued)



SOUTHWESTERN YARD MAINTENANCE FACILITY – Main shop construction.



SOUTHWESTERN YARD MAINTENANCE FACILITY – Track work installation within Main shop.

CONSTRUCTION PHOTOGRAPHS (Continued)



SOUTHWESTERN YARD MAINTENANCE FACILITY – Material storage building construction.

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	73,000	85,100,240	4,148,918	28,879,823	73,000	85,457,076	267,077
40	SITWORK/SPECIAL CONDITIONS	35,932,000	0	38,273,000	0	38,794,470	498,142	26,448,905	0	39,005,140	732,140
50	SYSTEMS	25,784,616	0	32,991,000	0	33,067,500	1,745,535	13,150,880	0	33,067,500	76,500
	(10-50) CONSTRUCTION	147,263,451	0	156,453,999	73,000	156,962,210	6,392,595	68,479,608	73,000	157,529,716	1,075,717
60	RIGHT-OF-WAY	99,910,000	0	100,000,000	0	102,474,206	0	102,418,610	0	102,420,624	2,420,623
70	VEHICLES	0	0	0	0	0	0	0	0	0	0
80	PROFESSIONAL SERVICES	35,601,095	0	33,639,631	50,537	32,975,937	364,434	26,080,544	125,537	35,838,617	2,198,986
90	PROJECT CONTINGENCY	13,659,732	0	17,106,370	0	0	0	0	(198,537)	11,411,043	(5,695,327)
TOTAL		296,434,278	0	307,200,000	123,537	292,412,353	6,757,029	196,978,762	(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	14,959	9,724,070	91,275	3,155,482	0	11,000,000	0

GRAND TOTAL	307,434,278	0	318,200,000	138,496	302,136,423	6,848,304	200,134,244	(0)	318,200,000	(0)
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NOTE: EXPENDITURES ARE CUMULATIVE THROUGH November 25, 2017.

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 November 25, 2017.

Total commitments increased by \$0.14 million for this period due to the following:

- SCC-30
 - Hensel Phelps/Herzog JV commitments increase by \$0.07 million.
- SCC-40
 - No change to commitments to report.
- SCC-50
 - No change to commitments to report.
- SCC-60
 - No change to commitments to report.
- SCC-80
 - Professional services such as legal, construction management and labor commitment increased by \$0.07 million.

The \$302.14 million in commitments to date represents 95.0% of the current budget.

Expenditures:

The expenditures are cumulative through November 25, 2017.

The total expenditures increased by \$6.85 million for this period due to the following:

- SCC-30
 - Hensel Phelps/Herzog JV expenditure increase by \$4.15 million.
- SCC-40
 - Hensel Phelps/Herzog JV expenditure increased by \$0.50 million.
- SCC-50
 - Hensel Phelps/Herzog JV expenditure increase by \$1.75 million.
- SCC-60
 - No change to Right-of-Way expenditure.
- SCC-80
 - Hensel Phelps/Herzog JV, agency expenditure and professional services expenditure increase by \$0.45 million.

The \$200.13 million in expenditures to date represents 62.9% 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.