# Crenshaw/LAX Transit Project



# **CRENSHAW/LAX TRANSIT PROJECT**

## QUARTERLY 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).

**DECEMBER 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 (WSCC) 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 December 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 December 2017 are \$1,979.8 million or 96.2% of the Current Budget. The project expenditures thru December 2017 are \$1,519.2 million or 73.8% 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 December 2017 Schedule Update forecasts a 40 calendar day delay to WSCC's Contract Milestone #1 Substantial Completion date of May 1, 2019. This is an additional 12 days of delay from last month's forecast. WSCC continues to explore mitigation opportunities along the alignment where the current impact of 40 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

<u>Status/Action</u> WSCC submitted a "Completion Schedule" which was subsequently reviewed and approved by Metro on December 16, 2016. This schedule represents a rebaseling 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.

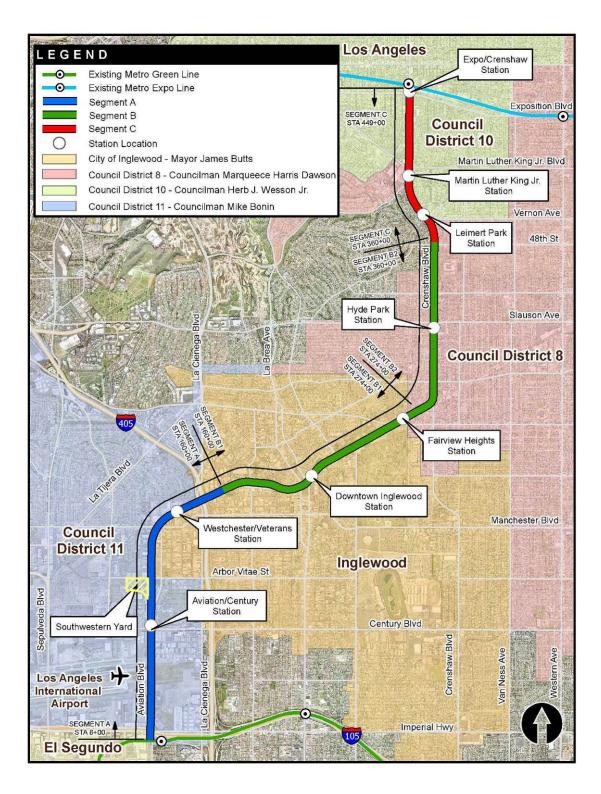
WSCC in their December 2017 Schedule Update forecasts a 40 calendar day delay to WSCC's Contract Milestone #1 Substantial Completion date of May 1, 2019. This is an additional 12 calendar days delay from last month's forecast. WSCC continues to explore mitigation opportunities along the alignment where the current impact of 40 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. Staff continues to evaluate the potential uses of the remaining unallocated contingency. There was a re-allocation of expenditures and forecast costs in October 2017 for local and nonfederal activities which are reported below the line. This month, additional costs have been included below the line. As part of Metro's fiscal year budgeting process a new internal Metro project, "Crenshaw/LAX Locally Funded Activities" for tracking these costs will be active commencing in July 2018.

### **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.

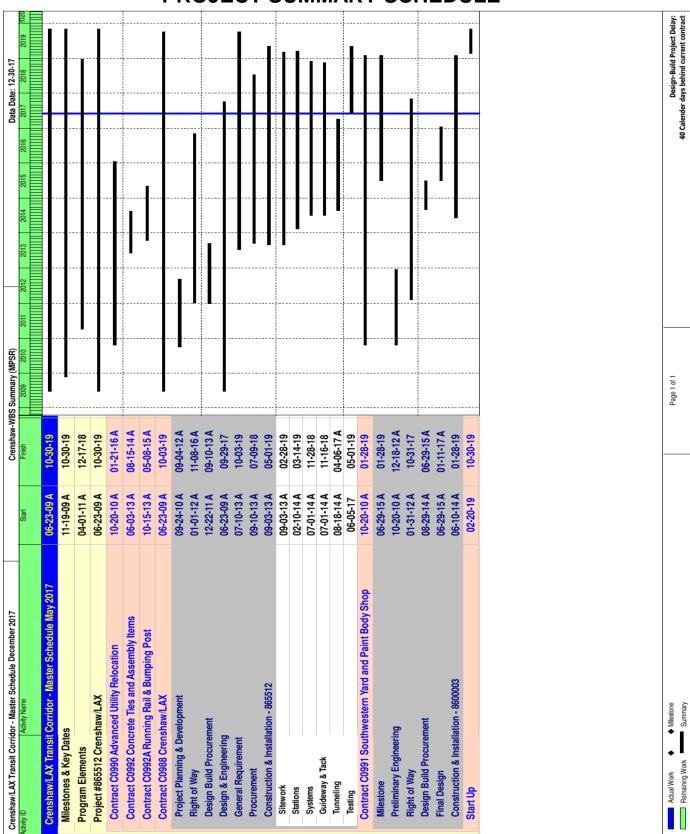
The project delivery method for this contract was bid-build IFB approach.

#### 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	Dec-17	Jan-18	Feb-18	Mar-18	Apr-18	May-18
988-TW-9684	Construct Ballasted Track (Arbor Rail Pile STA 103+50 to STA 75+20) - Seg. A	15-Nov-17 A	4					
988-SCE-T1050	TPSS-01 Permanent Power Drop - SCE - Procurement of Cable and Equipmen	30-Dec-17	₽					
988-CT-84975	Bridge Emergency Walkway - Aviation / Century Bridge	01-Jan-18		4				
991-SLT1090	Install South Yard Lead Track	02-Jan-18		$\triangle$				
988-CT-33000	Turnover to Track (sta. 9+00 to 16+64) - Aerial Structure #1	02-Jan-18		4				
988-CT-23700	Turnover to Track - 111th St Bridge	09-Jan-18		4				
991-APM1120	Metro LAWA Final Acceptance	10-Jan-18		$\land$				
988-IFC-TCC02	I-Face: TC&C Room Ready for systems @ A02 Aviation/Century TC&C #3	16-Jan-18		4				
988-TW-1400	Destress DF Track - STA 27+15 to 28+20 - 111th St. Bridge - Seg. A	17-Jan-18		4				
988-IFC-ATC01	I-Face: Track Complete @ A01 (6+00 to 43+50)	17-Jan-18		4				
991-TW-30160	Construct Turnouts TO-43	11-Jan-18		$\triangle$				
988-CT-5659	Ductbank - Manhole / Vault / Pad / Pull Box - TPSS-07/ Aux. Power (Future)	18-Jan-18		1				
988-CT-69535	F/R/P Columns Sequence 3 - MLK	19-Jan-18		4				
988-MOD-2780	TPSS No.2 Upgrade from 1.5 MW to 2.0 MW	26-Jan-18		4				
988-SCE-T1170	TPSS-03 Permanent Power Drop - SCE - Utility Install Infrastructure and conduit	08-Feb-18						
988-TW-2100	Construct Ballasted Track - Arbor Rail Pile STA 103+50 to 118+58 Manchester - Seg. A	08-Feb-18						
988-ATC-03300	Rough-In for Wayside Equipment @ A03 (85+90 to 130+00)	08-Mar-18				4		
988-ATC-01400	Install ATC Local Cable @ TC&C #1	12-Mar-18				Ê		
988-TW-9683	Construct Ballasted Track - STA 256+09 to 274+25 (High to Brynhurst)	27-Mar-18				4		
988-MOD-3180	Deluge System at Expo Crossover	29-Mar-18				4		
988-ATC-02750	Ground Bonds & Signals @ A02 (43+50 to 85+90)	02-Apr-18					₽	
988-ATC-TIA5-3000	96th Street - Additional ATC Local Cable at TC&C #3	10-Apr-18						
988-ATC-03400	Install ATC Local Cable @ TC #4	18-Apr-18					<b>P</b>	
988-CT-50980	Turnover to Track - U-Trench #3	26-Apr-18					₽	
988-CT-89148	Escalator Finishes - Aviation / Century	14-May-18						٢
988-CT-9189	Backup Power (TPSS) - TPSS-04	18-May-18						
988-CT-91808	Erect Elevator 1 & 2 Framing - Plaza - Expo	18-May-18						1
988-FAT-01A50	ATC: Field Acceptance Testing @ Aviation TC&C #1 Continental (6+00 to 43+50)	23-May-18						



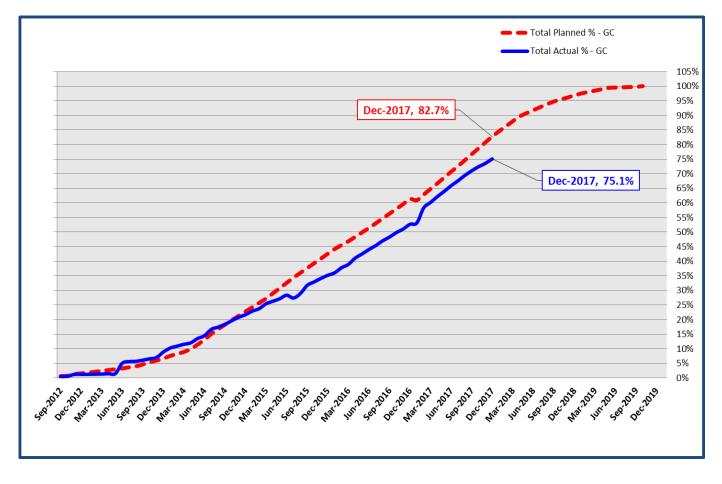
### **PROJECT SUMMARY SCHEDULE**

### December 2017

### SCHEDULE MEASUREMENTS

		Change from	
		Last	
	Status	Period	Comment
Current Revenue Service:	10/30/2019	0	
Forecast Revenue Service:	12/08/2019	-12	Behind Schedule; D-B responsible for mitigation
TIFIA Revenue Service:	10/30/2019	0	
Final Design Progress:			
Contract C0988	98.8%	0.0%	Behind Schedule
Contract C0990	100%	None	Design Completed
Contract C0991	89.3%	0.7%	On Schedule
Contract C0992	100%	None	Design Completed
Contract C0992A	100%	None	Design Completed
Construction Contracts			
Progress:			
Contract C0988	69.2%	1.4%	Behind Schedule
Contract C0990	100%	None	Substantially Completed
Contract C0991	46.9%	4.9%	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 75.1% versus a planned progress of 82.7% through December 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 January 2018

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

Area	Activity ID	Activity Name	Start	Need Date
Overhead Catenary (OCS)	988-PRC-00060	OCS: Purchase/Deliver Hardware & Insulators	04-Jan-17 A	13-Feb-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- 01724029	Catwalk and Tiedowns - Material/Fabrication (Store Off Site) - Westchester/ Veterans Station	30-Jan-17 A	10-May-18
Procurement	988-PR- 11724079	Elevator Canopy - Material/Fabrication (Store Off Site) - Century Station	01-Feb-17 A	31-May-18
Procurement	988-PR-084239	Entry Canopy Frame - Material/Fabrication (Store Off Site) - Expo Station	03-Apr-17 A	14-Sep-18
Procurement	988-PR- 11724219	Elevator Canopy - Material/Fabrication (Store Off Site) - Expo Station	03-Apr-17 A	14-Sep-18
Procurement	988-PR- 11724179	Elevator Canopy - Material/Fabrication (Store Off Site) - MLK Station	03-Apr-17 A	23-Oct-18
Procurement	988-PR-94199	Entry Canopy Frame - Material/Fabrication (Store Off Site) - MLK Station	03-Apr-17 A	6-Nov-18
Procurement	988-PR-1024149	Entry Canopy Frame - Material/Fabrication (Store Off Site) - Leimert Park Station	03-Apr-17 A	13-Nov-18
Procurement	988-PR- 11724159	Elevator Canopy - Material/Fabrication (Store Off Site) - Leimert Park Station	03-Apr-17 A	13-Nov-18
Procurement	988-PR- 11724019	Entry Canopy Frame - Material/Fabrication (Store Off Site) - Century Station	01-Feb-17 A	21-Nov-18
Procurement - Communication System	988-PRC-C0010	Procure/Deliver CTS Wire & Cable	21-Jun-17 A	24-Apr-18
Procurement - Communication System	988-PRC-C0009	Procure/Deliver IDS Wire & Cable	21-Jun-17 A	9-May-18
Procurement - Communication System	988-PRC-C0008	Procure/Deliver Fire Alarm Wire & Cable	21-Jun-17 A	9-May-18

				1
Procurement -	988-PRC-C0075	Procure Equip. & Components for	21-Jun-17 A	9-May-18
Communication		Portal Surveillance		
System				
Procurement -	988-PRC-C0070	Procure Equip. & Components for	21-Jun-17 A	9-May-18
Communication		Telephone		
System				
Procurement -	988-PRC-C0065	Procure Equip. & Components for	21-Jun-17 A	9-May-18
Communication		Seismic Detection		
System				
Procurement -	988-PRC-C0060	Procure Equip. & Components for	21-Jun-17 A	9-May-18
Communication		SCADA		
System				
Procurement -	988-PRC-C0055	Procure Equip. & Components for	21-Jun-17 A	9-May-18
Communication		Radio		,
System				
, Procurement -	988-PRC-C0045	Procure Equip. & Components for	21-Jun-17 A	9-May-18
Communication		Intrusion Detection		,
System				
Procurement -	988-PRC-C0040	Procure Equip. & Components for	21-Jun-17 A	9-May-18
Communication		Gas Detection		, -
System				
Procurement -	988-PRC-C0030	Procure Equip. & Components for	21-Jun-17 A	9-May-18
Communication		EMP		5 may 20
System				
Procurement -	988-PRC-C0016	Procure/Deliver TVM Wire & Cable	21-Jun-17 A	9-May-18
Communication	500 110 00010		21 0011 17 7 1	5 may 10
System				
Procurement -	988-PRC-C0014	Procure/Deliver Radio Wire &	21-Jun-17 A	9-May-18
Communication	500 110 00011	Cable	21 3011 17 77	5 Way 10
System		Casic		
Procurement -	988-PRC-C0013	Procure/Deliver CCTV Wire & Cable	21-Jun-17 A	9-May-18
Communication	500 1 110 00015		21 3011 17 77	5 Way 10
System				
Procurement -	988-PRC-C0012	Procure/Deliver PA/VMS Wire &	21-Jun-17 A	9-May-18
Communication	500 1 1 2 20012	Cable	21 Jun 17 //	5 Widy 10
System		Casic		
Procurement -	988-PRC-C0011	Procure/Deliver Telephone Wire &	21-Jun-17 A	9-May-18
Communication		Cable	21 Jun 17 A	5 1010 10
System				
Procurement -	988-PRC-C1010	Mfgr/Test/Ship Complete Comm	27-Oct-17 A	10-Jul-18
Communication	500 FINC-C1010	Racks - 48th Street Radio House	27 OCI-17 A	10 JUI-10
System				
Procurement -	988-PRC-C0810	Mfgr/Test/Ship Complete Comm	27-Oct-17 A	10-Jul-18
Communication	300-FNC-CU010	Racks - UG3 Radio Room	27-001-17 A	10-JUI-10
System Procurement -	988-PRC-C0018	Procuro/Dolivor ETS/TT Coble	21-Jun-17 A	Q Aug 10
	300-546-00018	Procure/Deliver ETS/TT Cable	ZI-JUII-I/A	8-Aug-18
Communication				
System				

Procurement - Communication System	988-PRC-C0085	Procure & Deliver UPS & Batteries - TC&C #10 Leimert Park	21-Jun-17 A	28-Aug-18
Procurement - Communication System	988-PRC-C1110	Mfgr/Test/Ship Complete Comm Racks - TC&C #10 Leimert Park	27-Oct-17 A	28-Aug-18
Procurement - Communication System	988-PRC-C1310	Mfgr/Test/Ship Complete Comm Racks -TC&C #12 EXPO	27-Oct-17 A	29-Aug-18
Procurement - Communication System	988-PRC-C1210	Mfgr/Test/Ship Complete Comm Racks -TC&C #11 MLK	27-Oct-17 A	29-Aug-18
Procurement - Communication System	988-PRC-C0210	Mfgr/Test/Ship Complete Comm Racks - UG1 Radio Room	27-Oct-17 A	10-Sep-18
Procurement - Communication System	988-PRC-C0082	Procure & Deliver UPS & Batteries - TC&C #4 Arbor	21-Jun-17 A	26-Sep-18
Procurement - Communication System	988-PRC-C0380	Deliver & Receive Telephone Equip. - TC&C #3 Century	24-Feb-17 A	28-Sep-18
Procurement - Communication System	988-PRC-C0360	Deliver & Receive PA Equip TC&C #3 Century	13-Feb-17 A	2-Oct-18
Procurement - Communication System	988-PRC-C0017	Procure/Deliver Comm Wire & Cable	21-Jun-17 A	2-Oct-18
Procurement - Communication System	988-PRC-C0330	Deliver & Receive CCTV Equip TC&C #3 Century	24-Feb-17 A	4-Oct-18
Procurement - Communication System	988-PRC-C0280	Deliver & Receive Telephone Equip. - UG1 Radio Room	24-Feb-17 A	4-Oct-18
Procurement - Communication System	988-PRC-C0084	Procure & Deliver UPS & Batteries - TC&C #9 Hyde Park	21-Jun-17 A	12-Nov-18
Procurement - Communication System	988-PRC-C0087	Procure & Deliver UPS & Batteries - TC&C #12 EXPO	21-Jun-17 A	15-Nov-18
Procurement - Communication System	988-PRC-C0086	Procure & Deliver UPS & Batteries - TC&C #11 MLK	21-Jun-17 A	15-Nov-18
Procurement - Communication System	988-PRC-C0083	Procure & Deliver UPS & Batteries - TC&C #8 Fairview Heights	21-Jun-17 A	15-Nov-18
Procurement - Communication System	988-PRC-C0081	Procure & Deliver UPS & Batteries - TC&C #3 Century	21-Jun-17 A	15-Nov-18

Site/Civil	Site/Civil         988-PR-6965         Fab/Procure & Deliver Electrical           Manholes, Vaults, Pads - Tunnel		01-Feb-17 A	21-Jun-18
Stations	988-PR-4700	Fabricate & Deliver Elevators	04-Apr-16 A	1-Apr-18
Stations	988-PR-30521	R-30521 Fabricate & Deliver Structural Steel Canopy for Westchester/Veterans Station		4-May-18
Stations	988-PR-30541	Fabricate & Deliver Structural Steel Canopy for Hyde Park Station	27-Feb-17 A	8-May-18
Stations	988-PR-4800	Escalators - Materials & Fabrication & OP Manual/ Maint. Ctl. Program - Leimert Park Station	02-May-16 A	2-Jun-18
Stations	988-PR- 11724621	Metro Orders/Fabricates Underground Station Tile Artwork	30-Jun-17 A	12-Nov-18
Stations	988-PR- 11724591	Escalators - Materials & Fabrication & OP Manual/ Maint. Ctl. Program - Aviation / Century	04-Sep-17 A	21-Nov-18
Traction Power	988-PR-6555	Fabricate & Deliver Medium Voltage Cable	03-Apr-17 A	11-Jan-18
Traction Power	988-PR-6955	Fabricate & Deliver Low Voltage Cable - Cut & Fill	03-Apr-17 A	11-Jan-18
Traction Power	988-PRC-T0100	Mfgr/Assemble/Wire Substation - TPSS-01	13-Jun-17 A	22-Jan-18
Traction Power	988-PRC-T0200	Mfgr/Assemble/Wire Substation - TPSS-02	10-Jul-17 A	29-Jan-18
Traction Power	988-PR-6765	Fabricate & Deliver Low Voltage Cable (Project Wide)	01-Aug-17 A	5-Feb-18
Traction Power	988-PRC-T0300	Mfgr/Assemble/Wire Substation - TPSS-03	04-Sep-17 A	26-Feb-18
Traction Power	988-PR-6505	Fabricate & Deliver Dry Type Transformers - TPSS	16-Feb-17 A	5-Mar-18
Traction Power	988-PR-6485	Fabricate & Deliver MCC - TPSS	16-Feb-17 A	7-Mar-18
Traction Power	988-PR-6545	Fabricate & Deliver TPSS Generator	07-Aug-17 A	7-Mar-18
Traction Power	988-PRC-T0800	Mfgr/Assemble/Wire Substation - TPSS-08	02-Oct-17 A	14-Mar-18
Traction Power	988-PR-6925	Fabricate & Deliver Panelboards - TPSS	16-Feb-17 A	23-Mar-18
Traction Power	988-PR-6495	Fabricate & Deliver Panelboards - Underground Stations	16-Feb-17 A	25-Apr-18
Traction Power	988-PR-6605	Fabricate & Deliver Cable Tray in Stations	21-Mar-17 A	9-May-18

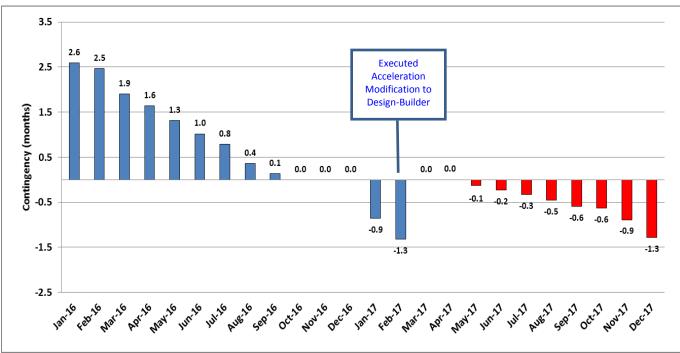
### **CRITICAL PATH NARRATIVE**

#### **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 changed this month. Starts with the track construction at Segment "A" (Green Line to Arbor Vitae), followed by ballasted track construction from Arbor Vitae to Oak Street, La Brea to Brynhurst, and Brynhurst to 48<sup>th</sup> Street. Track and OCS installation in the bored tunnel follows thereafter.

The current critical path then continues with WSCC systems integration testing, phase 1 and Metro's systems integration testing, phase 2, and Metro's pre-revenue operations. The critical path completes with the commencement of revenue operations.



### PROJECT SCHEDULE CONTINGENCY DRAWDOWN

### **PROJECT SCHEDULE CONTINGENCY DRAWDOWN ANALYSIS**

The project schedule contingency drawdown is based on the revenue service date of December 8, 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 forty (40) 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.

SCC	DESCRIPTION	ORIGINAL	CURREN	T BUDGET	COMMI	TMENTS	EXPEND	DITURES	CURRENT	FORECAST	CURRENT BUDGET/
CODE	DESCRIPTION	BUDGET	PERIOD	TO DATE	PERIOD	TO DATE	PERIOD	TO DATE	PERIOD	TO DATE	FORECAST VARIANCE
10	GUIDEWAYS	471,335,000		450,354,375	-	450,882,396	4,534,041	388,698,066	-	450,885,416	531,042
20	STATIONS	153,906,000		315,050,000		315,662,242	3,116,365	182,315,634		315,662,242	612,242
30	SUPPORT FACILITIES SOUTHWEST YARD	66,673,000		71,164,000		71,053,330	2,151,212	41,521,988		71,164,000	-
40	SIT EWORK\SPECIAL CONDITIONS	235,576,000	•	395,798,361	66,242	399,095,061	2,323,787	324,841,306	(2,146,208)	406,623,846	10,825,485
50	SYSTEMS	125,132,000		169,436,000	2,146,208	158,244,340	2,448,863	56,894,087	2,146,208	166,054,934	(3,381,066)
	CONSTRUCTION SUBTOTAL (10-50)	1,052,622,000	-	1,401,802,736	2,212,450	1,394,937,369	14,574,268	994,271,080	-	1,410,390,439	8,587,703
60	RIGHT-OF-WAY	132,294,000		127,490,000	(9,146)	124,512,056	3,238	124,369,996	-	124,512,167	(2,977,833)
70	LRT VEHICLES	87,780,000		83,571,544	-	82,050,901	2,359,824	73,059,808	-	83,571,544	-
80	PROFESSIONAL SERVICES	273,147,000		368,734,466	6,087,773	352,726,040	3,734,168	301,928,878	-	374,806,814	6,072,349
	SUBTOTAL (10-80)	1,545,843,000	-	1,981,598,746	8,291,077	1,954,226,366	20,671,499	1,493,629,762	-	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	8,291,077	1,954,226,366	20,671,499	1,493,629,762	-	2,032,000,000	-
	ENVIRONMENT AL/PLANNING - 405512	5,526,150		5,526,150	-	5,526,150	-	5,526,150	-	5,526,150	-
	ENVIRONMENT AL/PLANNING - 465512	20,473,850		20,473,850	(357)	20,022,881	(357)	20,022,881		20,473,850	-
TOTAL	PROJECTS 405512 & 465512 (ENV/PLAN'G)	26,000,000	-	26,000,000	(357)	25,549,031	(357)	25,549,031	-	26,000,000	-
	TOTAL PROJECTS 405512, 465512 & 865512	1,749,000,000	-	2,058,000,000	8,290,720	1,979,775,397	20,671,143	1,519,178,793	-	2,058,000,000	-

### **PROJECT COST STATUS**

NOTE: EXPENDITURES ARE CUMULATIVE THROUGH 29-DEC-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-40 (Sitework and Special Conditions) and SCC-50 (Systems).

#### **Commitments:**

The commitments are cumulative through December 29, 2017. The total commitments increased by \$8.3 million this period primarily due to the following:

- SCC-40 (Sitework and Special Conditions) has increased by \$0.1 million for executed modifications associated with the design-build Contract C0988 Crenshaw/LAX Transit Corridor.
- SCC-50 (Systems) has increased \$2.1 million for executed modifications associated with the design-build Contract C0988 Crenshaw/LAX Transit Corridor.
- SCC-80 (Professional Services) has increased \$6.1 million for executed modifications associated with design-build Contract C0988 Crenshaw/LAX Transit Corridor, legal services, tunnel advisory panel services and executed FY18 annual work orders with Los Angeles City departments. The total commitment of \$352.7 million includes \$23.2 million for the Southwestern Yard 49% allocation.

The \$1,979.8 million in commitments to date represents 96.2% of the current budget.

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

#### Expenditures:

The expenditures are cumulative through December 29, 2017. The total expenditures increased by \$20.7 million this period due to the following:

- SCC-10 (Guideways) has increased by \$4.5 million for costs associated with the designbuild Contract C0988 Crenshaw/LAX Transit Corridor.
- SCC-20 (Stations, Stops, Terminals, Intermodal) has increased by \$3.1 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 \$2.3 million for costs associated with the design-build Contract C0988 Crenshaw/LAX Transit Corridor.
- SCC-50 (Systems) has increased \$2.5 million for costs associated with the design-build Contract C0988 Crenshaw/LAX Transit Corridor.
- SCC-70 (Vehicles) has increased by \$2.4 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 \$3.7 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, legal, tunnel advisory panel, labor compliance monitoring and environmental consultant services. The total expenditure of \$301.9 million includes \$17.4 million for the Southwestern Yard 49% allocation.

The \$1,519.2 million in expenditures to date represents 73.8% of the current budget.

#### Crenshaw/LAX Transit Locally Funded Activities

The costs shown in the table below are part of Crenshaw/LAX Transit Project locally funded 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.

This period, \$10.7 million has been added under SCC 70 LRT Vehicles, to reflect the decision by the State Board of Equalization (SBOE) to tax LRT vehicle deliveries since August 2016. Metro is appealing the decision by the SBOE but is paying the tax so as not to incur any late fees.

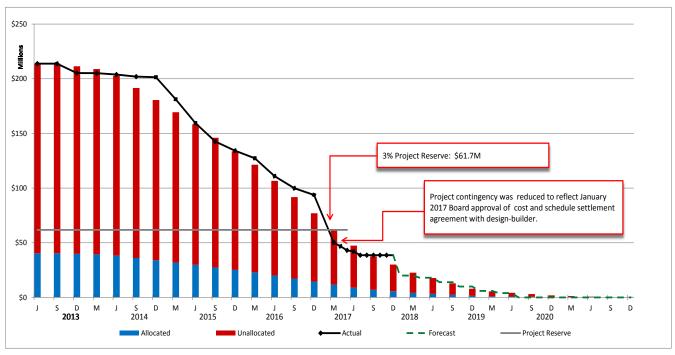
SCC	DESCRIPTION	ORIGINAL	CURRENT	CURRENT BUDGET		COMMITMENTS		EXPENDITURES		CURRENT FORECAST	
CODE		BUDGET	PERIOD	TO DATE	PERIOD	TO DATE	PERIOD	TO DATE	PERIOD	TO DATE	VARIANCE
60	RIGHT-OF-WAY	-	-	-	-	3,867,395	-	3,867,395	-	3,867,395	(3,867,395)
70	VEHICLES / BUSES	-	-	-	10,699,000	10,699,000	10,699,000	10,699,000	10,699,000	10,699,000	(10,699,000)
80	PROFESSIONAL SERVICES	-	-	-	52,579	4,306,003	162,827	1,443,788	188,373	4,718,897	(4,718,897)
	SUBTOTAL (10-80)	-	-	-	10,751,579	18,872,398	10,861,827	16,010,183	10,887,373	19,285,292	(19,285,292)
TOTAL				10,751,579	18,872,398	10,861,827	16,010,183	10,887,373	19,285,292	(19,285,292)	
NOTE: EXPENDITURES ARE CUMULATIVE THROUGH 29-DEC-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)

DESCRIPTION	CURREN	T BUDGET	COMMITMENTS		EXPENDITURES		CURRENT FORECAST		FORECAST
DESCRIPTION	PERIOD	TO DATE	PERIOD	TO DATE	PERIOD	TO DATE	PERIOD	TO DATE	VARIANCE
405556 SYSTEMWIDE TRANSIT PLANNING	-	175,495	90,000	320,035	-	175,495	-	175,495	-
210090/93 FARE GATE PROJECT	-	2,566,226	-	2,566,226	-	252,726	-	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	107,535	34,238,625	-	37,914,465	-
500013 C/LAX LAWA SCOPE OF WORK	-	1,575,362	332,695	863,911	-	408,712	-	1,575,362	-
TOTAL	-	44,431,548	422,695	41,744,343	107,535	35,478,892	-	44,431,548	-



### PROJECT COST CONTINGENCY DRAWDOWN

Through 29-Dec-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 \$175,147,757 or 81.9% for both allocated and unallocated contingency through December 2017.

• There is no drawdown of unallocated contingency for period ending December 2017. However, there was a re-allocation of \$2,239,778 for executed modifications for design-build contract C0988 Crenshaw/LAX Transit Corridor and third party scope of work with Los Angeles World Airport (LAWA) for right of way access. This re-allocation was feasible due to available funds from SCC-40.02 Utility Relocation and SCC-80.03 Metro Project Administration.

There is no allocated contingency remaining as of February 2017 month-end reporting.

PROJECT COST CONTINGENCY (through 29-Dec-2017) UNITS IN DOLLARS										
	Original				Remaining					
	Contingency	Previous	Current	To-Date	Contingency					
	(Budget)	Period	Period		(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 Co (Reported Data as of Decembe		Build
• pe Cc rel to	<b>BE Goal (Design)</b> – A numerically expressed ercentage of funds apportioned to Design ontracts and is calculated based upon the lative availability of DBE firms as compared all firms in the relevant geographic market ea.	20.00%	
Co	urrent DBE Commitment – Total DBE ommitted Dollars divided by Total Contract alue for Design or Construction.	\$23,467,383	(20.00%)
pa	urrent DBE Participation – Total amount hid to date to DBEs divided by the amount hid to date to Prime.	\$28,174,768	(25.72%)
Тм	venty-Six (26) Design subcontractors have bee	n identified to-dat	te
• exp Co upo cor	<b>BE Goal (Construction)</b> - A numerically pressed percentage of funds apportioned to instruction Contracts and is calculated based on the relative availability of DBE firms as mpared to all firms in the relevant ographic market area.	20.00%	
div	<b>BE Commitment</b> - Contract commitment rided by current contract value for Instruction.	\$251,067,446	(20.00%)
• cor	Irrent DBE Commitment - Actual mmitments as Construction work is varded.	\$265,633,905	(21.16%)
pai	Irrent DBE Participation - Total amount id to date to DBEs divided by the amount id to date to Prime	\$209,614,502	(24.17%)
22	25 Construction subcontractors have been ider	ntified to-date.	

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

	Contract C0988 Crenshaw/LAX Transit Corridor De (Reported Data as of November 2017)	esign-Build
•	<b>Targeted Worker Goal</b> – Construction work to be performed by residents from Economically Disadvantaged Area of LA County	40.00%
	Targeted Worker Current Attainment	59.49%
•	Apprentice Worker Goal – Construction work to be performed by Apprentices	20.00%
	Apprentice Worker Current Attainment	22.66%
•	<b>Disadvantaged Worker Goal</b> – Construction work to be performed by Disadvantaged Workers whose primary place of residence is within LA County	10.00%
	Disadvantaged Worker Current Attainment	12.42%

### DISADVANTAGED BUSINESS ENTERPRISE (DBE) STATUS

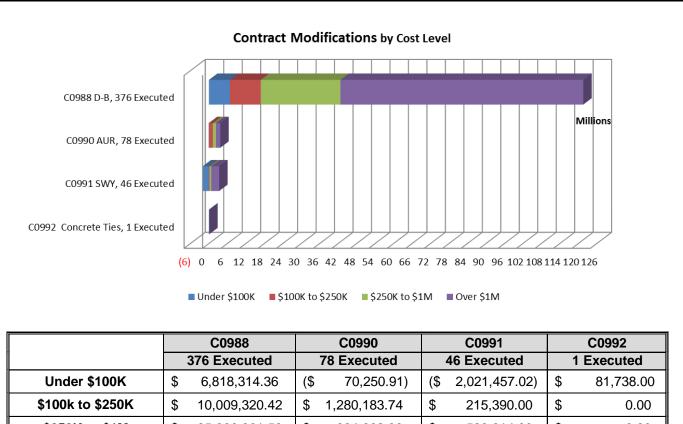
Contract C0991 Division 16: Southwestern Ya (Reported Data as of November 207	-	d
<ul> <li>DBE Goal (Design) – A numerically expressed percentage of funds apportioned to Design Contracts and is calculated based upon the relative availability of DBE firms as compared to all firms in the relevant geographic market area.</li> </ul>	20.00%	
<ul> <li>Current DBE Commitment – Total DBE Committed Dollars divided by Total Contract Value for Design or Construction.</li> </ul>	\$2,467,837	(20.93%)
<ul> <li>Current DBE Participation – Total amount paid to date to DBEs divided by the amount paid to date to Prime.</li> </ul>	\$1,842,849	(18.40%)
Nine (9) Design subcontractors have been identified to-date	te	
• <b>DBE Goal (Construction)</b> - 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%	
<b>DBE Commitment</b> - Contract commitment divided by current contract value for Construction.	\$25,930,837	(16.00%)
<ul> <li>Current DBE Commitment - Actual commitments as Construction work is awarded</li> </ul>	\$21,862,339	(13.49%)
<b>Current DBE Participation</b> - Total amount paid to date to DBEs divided by the amount paid to date to		(1.93%)
Forty-four (44) Construction subcontractors have been i	dentified to-date	

### PROJECT LABOR AGREEMENTS (PLA) STATUS

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

•	<b>Targeted Worker Goal</b> – Construction work to be performed by residents from Economically	40.00%
	Targeted Worker Current Attainment	52.21%
•	Apprentice Worker Goal – Construction work to be performed by Apprentices	20.00%
	Apprentice Worker Current Attainment	22.96%
•	<b>Disadvantaged Worker Goal</b> – Construction work to be performed by Disadvantaged Workers whose primary place of residence is within LA County	10.00%
	Disadvantaged Worker Current Attainment	9.65%

### SUMMARY OF CONTRACT MODIFICATIONS



\$250K to \$1M	\$ 25,896,361.58	\$ 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	\$ 121,589,655.17	\$ 3,611,796.83	\$ 1,307,846.98	\$ 81,738.00
% of Contract MODs	9.55%	46.14%	0.76%	3.78%

Three hundred and seventy-six (376) changes with a total value of \$121.59 million have been executed since award of Contract C0988. There are an additional thirty-eight (38) changes with a total value of \$2.56 million pending the administrative approval process.

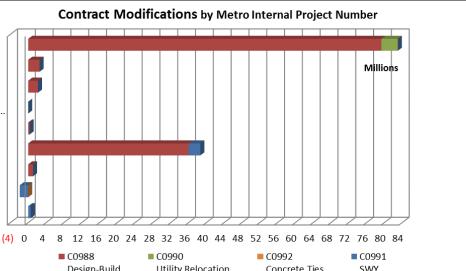
Seventy-eight (78) changes with a total value of \$3.61 million have been executed for completed Contract C0990.

Forty-six (46) changes with a total value of \$1.31 million have been executed since award of Contract C0991. There are an additional three (3) changes with a total value of \$0.08 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 C/LAX Transit Project, 425 Executed 210090/93 Fare Gate Project, 6 Executed 210152 Bus Transfer Station, 1 Executed 380004 Support Development of DAS Cell, 0.. 405556 System Transit Planning, 5 Executed 460303 Airport Connector Project, 13 Executed 500013 LAWA Funded SOW, 7 Executed 860003 SWY, 38 Executed 861301 Paint & Body Shop, 6 Executed

			Desi	gn-bullu	ounty Nelocation	Concrete	1103 3001	
	865512	210090/93	210152	405556	460303	500013	860003	861301
	Executed	Executed	Executed	Executed	Executed	Executed	Executed	Executed
C0988 - QTY	346	6	1	5	11	7	0	0
C0998 - \$	79,350,210	2,566,226	2,200,000	320,035	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	38	6
C0991 - \$	0	0	0	0	2,598,580	0	(1,876,493)	585,760
C0992 - QTY	1	0	0	0	0	0	0	0
C0992 - \$	81,738	0	0	0	0	0	0	0
Total - QTY	425	6	1	5	13	7	38	6
Total - \$	83,043,745	2,566,226	2,200,000	320,035	38,667,853	1,083,911	(1,876,493)	585,760

Four hundred and twenty-five (425) changes with a total value of \$83.04 million have been executed for Project 865512 Crenshaw/LAX Transit Project. There are an additional thirty-four (34) changes with a total value of \$2.57 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.

Five (5) changes with a value of \$0.32 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 three (3) 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-eight (38) changes with a credit value of \$1.88 million have been executed for Project 860003 Southwestern Yard project. There are additional three (3) changes with a total value of \$0.10 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									
	(A) ORIGINAL	(B) TOTAL	(C)	(D) (D/B)		(E) (E/B) EXPENDITURES		(F) (F/B)	
SOURCE	BUDGET	FUNDS	TOTAL FUNDS	COMMITMENTS		EAPENDI	IURES	BILLED to FUNDING SOURCE	
COORCE	DODGET	ANTICIPATED	AVAILABLE	\$	%	\$	%	\$	%
		,		Ŷ	,,,	Ŷ	,,,	÷	,0
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	100.9	100%	83.9	83%	83.9	83%
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%	477.0	90%	477.0	90%
OTHER FUNDS*	52.4	160.5	25.0	99.9	62%	25.0	16%	25.0	16%
PROP C 25% HIGHWAY	148.9	378.1	349.8	360.5	95%	78.5	21%	78.5	21%
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%	34.9	69%
TOTAL	1,749.0	2,058.0	1,832.5	1,979.8	96.0%	1,519.2	73.0%	1,503.7	69.0%

NOTE: Expenditures are cumulative through December 29, 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.

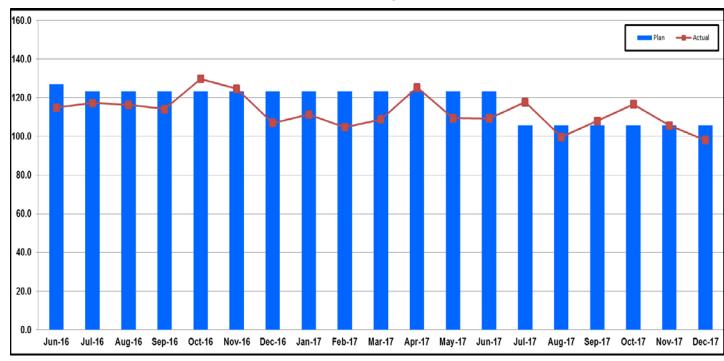
**MEASURE R:** \$446.7M has been allocated to the project through FY2017. Funds are available for drawdown.

**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:

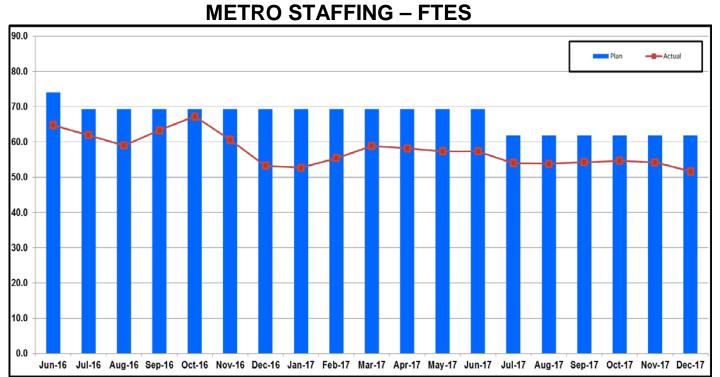
- 1. FTE = Full Time Equivalent
- 2. Staffing levels include the Southwestern Yard Project.
- 3. Actual staffing levels are cumulative through December 2017.

# 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.

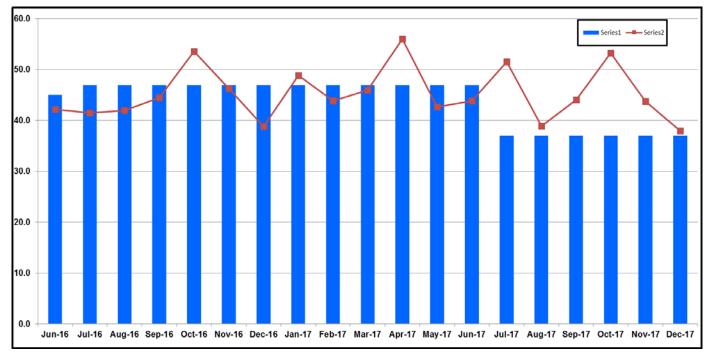
For December 2017, total project staffing were 105.1 FTEs for the month consisting of 51.7 FTEs for Metro's project administration staff, 47.5 FTEs for Construction Management Support Services Consultant and 6.0 FTEs for Design and Engineering Support Services Consulting staff.

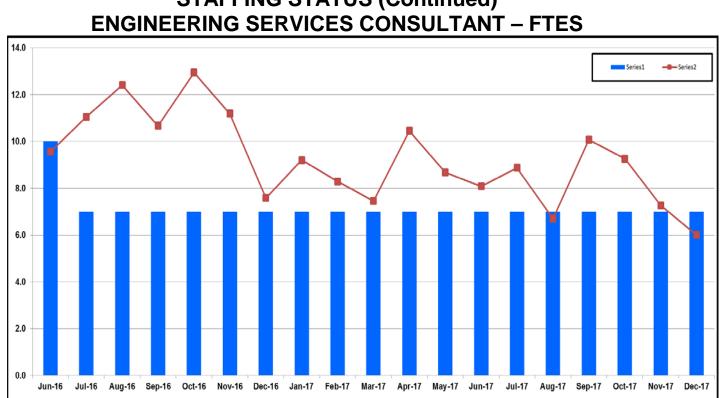
The next three charts show actual staffing versus planned staffing for the three major project participants.



# STAFFING STATUS (Continued) METRO STAFFING – FTES

CONSTRUCTION MANAGEMENT SUPPORT SERVICES CONSULTANT – FTES





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 Corrido	r (D-B):										
Crenshaw Subdivision											
Full Takes	12	12		12	12	7	5	12	12		
Part Takes (PT or SE)	10	9	1	9	9	3	6		9		
TCE	10	9	1	10	10	1	8		9		
Subtotal Parcels	32	30	2	31	31	11	19	12	30		
Crenshaw Subdivision Addit	ional Parcels:										
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		
Harbor Subdivision											
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		
Harbor Subdivision Addition	al Parcels:										
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		
Southwestern Yard	-					·					
Full Takes	8	8		8	8	4	4	7	8		
Part Takes											
TCE											
Subtotal Parcels:	8	8		8	8	4	4	7	8		
Total SW Parcels:	8	8		8	8	4	4	7	8		
Total Project Parcels	87	79	8	82	80	37	43	32	76		

#### **REAL ESTATE STATUS**

• 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

#### **Reported Data as of November 2017**

#### 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
  - 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.
- Participated in Environmental Management System (EMS) meetings with design builder.
- Conducted site visits along the ROW for environmental compliance including soil stockpile areas, UG1, UG#, UG4, B1 and A guideways and laydown yards.
- Conducted night time noise monitoring at UG3 operations on multiple days in December.
- Conducted night time noise monitoring at UG4 on 12/12 and 12/21.
- Conducted night time noise monitoring at Vernon Station on 12/6 and 12/21.
- Conducted night time noise monitoring at Manchester Bridge on 12/4.
- Conducted night time noise monitoring at West/71<sup>st</sup> storm drain installation on 12/4-12/6, 12/12 and 12/14.
- Conducted night time noise monitoring at Isis/Florence on 12/29.
- Potentially contaminated soil was reported by crew excavating the duct bank under the Manchester Bridge on 12/27. Metro Environmental visited the site on 12/28 to find that the excavated soil was hauled off to La Brea Yard.

## **CONSTRUCTION RELATIONS STATUS**

- 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.
- LAWA is planning to remove the large homeless encampment in Manchester Square. Construction Relations is working with WSCC to secure the worksite.
- Working with WSCC on the scheduled closures of Crenshaw Blvd. during the concrete pours and rebar deliveries in the UAG4 tunnel segment between Vernon Avenue and 48<sup>th</sup> St.
- Working with WSCC to prevent traffic issues during scheduled road closures.
- Conducted outreach and coordinated mitigations for the upcoming extended closure of the southern portion of the existing Green Line to allow for the direct connection of rail line tracks of the Crenshaw/LAX Transit Project to the tracks of the Green Line.

## SYSTEMWIDE DESIGN AND ART PROGRAM STATUS

- Facilitated coordination between artists and fabrication firms.
- Provided design review comments for NDCs and shop drawings.
- Reviewed porcelain enamel steel artwork fabrication proofs.
- Delivered original artwork designs to Design Builder for fabrication by specialized fabricators.

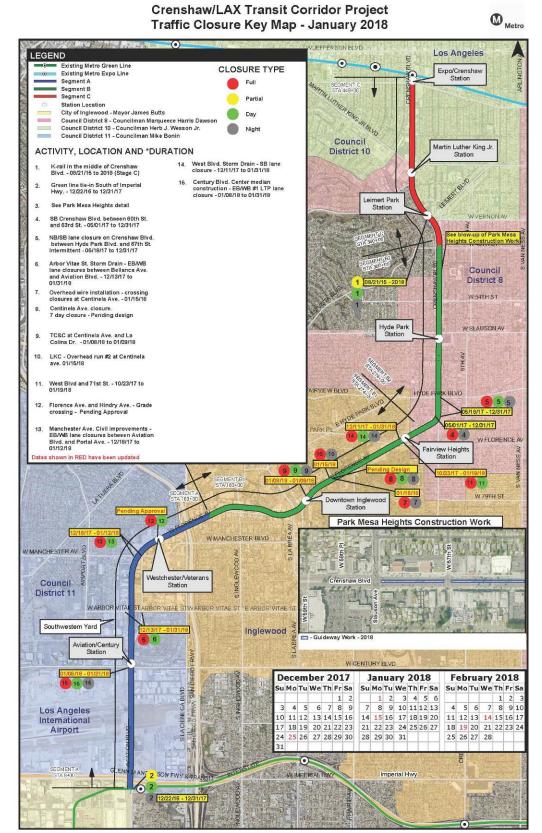
## **SAFETY & SECURITY STATUS**

- 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 "spotchecks" 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 installation of OCS poles.
- Conducted Monthly All Hands Safety and Security Meeting on December 20, 2017 to discuss WSCC's Safety Staffing Plan, teamwork/partnering, accident investigation, elevator status and UG3.
- Conducted safety walk with WSCC Safety Manager on December 6, 2017 to monitor ventilation at UG3,
- Conducted safety walk with Fire Life Safety, the Fire Department and Link Nielsen on December 18, 2017 to verify testing on standpipe.
- Participated in Readiness Review Meeting on December 8, 2018 to discuss Pin Piles. 2017.
- Conducted Self-Rescue Training for tour on December 29, 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 265,909 work hours with 3 recordable injuries. Hensel Phelps and their subcontractors completed 28,674 work hours and zero recordable injuries for the month of December 2017.
- Contract C0988 (WSCC) completed 87,333 work hours with one recordable injury for the month of December 2017. Total Project to Date work hours are 5,122,088 with a total of seventy-four 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	Type of Agreement	Forecast Execution Date	Required Need Date	Status/ Comments
City of Los Angeles	Amendment to Master Cooperative Agreement	N/A	N/A	Parties will work under 2003 MCA.
City of Inglewood	Master Cooperative Agreement	8/16	N/A	Executed Letter of Agreement April 2012. Metro working on outstanding issues.
Los Angeles Department of Water and Power	Amendment to Memorandum of Understanding	N/A	N/A	Metro and LADWP will work under 2002 Utility Cooperative Agreement which remains in effect.
Los Angeles County Public Works	Letter of Agreement	4/11	3/12	Executed
Caltrans	Amendment	8/11	3/12	Executed
Private Utilities	LOA, MOU or UCA	5/11 to 5 <b>/</b> 13	N/A	Metro is working with affected third party utilities under work orders unless license agreements dictate relocation by utility company. No additional agreements required.

## **CPUC CROSSING SUMMARY STATUS**

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



Updated : 01/05/2018

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

PE Design Contractor: Hatch M CM Consultant: Stantec	lott (HM)		Contract No.: C0988					
Contractor: - Walsh Shea Corri	dor Const	ructors (	NSCC)		Status as of December 30, 2017			
<ul> <li>Progress/Work Completed: Construction</li> <li>Completed twin tunnel cross pass</li> <li>Continued wall and concourse cor Leimert Park stations.</li> <li>Continued wall and roof placemer placements at #4.</li> <li>Continued civil construction work for Continued accommodations for fu</li> <li>Continued finishing work for Greet</li> </ul>	ncrete place its at under within Park ture 96th S	ements at E ground stru Mesa Heig treet Statio	<ul> <li>Areas of Concern:</li> <li>Timely submittal of WSCC's design submittals and review by City of Los Angeles.</li> <li>WSCC's ability to mitigate potential schedule delay to their substantial completion milestone of May 1, 2019.</li> </ul>					
<ul> <li>Schedule Assessment:</li> <li>WSCC's December 2017 schedule up WSCC is looking at several options to</li> <li>Metro's assessment is that WSCC is r</li> </ul>	mitigate the	e forecast de	elay.	itone 1.	Cost Assessment: • The current construction contract cost \$1,387,685,172.80 and is within the Bo • The Contractor submitted their 53rd pa approved amount of \$16,509,865.82 * Please note that not all executed modified in the Contractor current payment application	ard authorized budget. syment application in the ications may have been included		
Schedule Summary:					Cost Summary:	\$ In millions		
1. Date of Award:		08/01/13			1. Award Value:	1,272.63		
2. Notice to Proceed:		09/10/13			,			
			2. Executed Modifications:	113.86				
3. Original Substantial Completion	Duration:	1824			<ol> <li>2. Executed Modifications:</li> <li>3. Approved Change Orders:</li> </ol>	113.86 7.73		
<ol> <li>Original Substantial Completion I</li> <li>Current Substantial Completion I</li> </ol>		1824 2059						
			76.3%		3. Approved Change Orders:	7.73		
4. Current Substantial Completion E		2059	76.3% Forecast	Calendar Day Variance	<ol> <li>Approved Change Orders:</li> <li>Current Contract Value (1 + 2 + 3):</li> </ol>	7.73 1,394.22 1,036.45		
<ol> <li>Current Substantial Completion E</li> <li>Elapsed Time from NTP:</li> </ol>	Ouration:	2059 1572 Current		Day	<ol> <li>Approved Change Orders:</li> <li>Current Contract Value (1 + 2 + 3):</li> <li>Incurred Cost:</li> </ol>	7.73 1,394.22 1,036.45 COMPLETE to 12/30/17		
4. Current Substantial Completion E     5. Elapsed Time from NTP: <u>Milestones     Milestone 1 - Contract Substantial     </u>	Ouration: Original Contract	2059 1572 Current Contract	Forecast	Day Variance	<ol> <li>Approved Change Orders:</li> <li>Current Contract Value (1 + 2 + 3):</li> <li>Incurred Cost:</li> </ol>	7.73 1,394.22 1,036.45 COMPLETE to 12/30/17		
4. Current Substantial Completion E     5. Elapsed Time from NTP:     Milestones Milestone 1 - Contract Substantial Completion	Ouration: Original Contract 09/08/18	2059 1572 Current Contract 05/01/19	Forecast 06/10/19	Day Variance -40	<ol> <li>Approved Change Orders:</li> <li>Current Contract Value (1 + 2 + 3):</li> <li>Incurred Cost:</li> </ol> PERCENT Of from 09/10/13	7.73 1,394.22 1,036.45		
4. Current Substantial Completion E     5. Elapsed Time from NTP: <u>Milestones     Milestone 1 - Contract Substantial     Completion     Milestone 2 - UFS Completion     </u>	Original Contract 09/08/18 03/09/18	2059 1572 Current Contract 05/01/19 11/01/18	Forecast 06/10/19 10/10/18	Day Variance -40 22	<ul> <li>Approved Change Orders:</li> <li>Current Contract Value (1 + 2 + 3):</li> <li>Incurred Cost:</li> </ul> <b>PERCENT O</b> <i>Total Incurred</i>	7.73 1,394.22 1,036.45 COMPLETE to 12/30/17 98.8%		
4. Current Substantial Completion E 5. Elapsed Time from NTP: Milestones Milestone 1 - Contract Substantial Completion Milestone 2 - UFS Completion Milestone 3 - Commence SIT Phase I Milestone 5A - Const./Turnover Parcels	Original Contract 09/08/18 03/09/18 06/09/18	2059 1572 Current Contract 05/01/19 11/01/18 02/01/19	Forecast 06/10/19 10/10/18 03/12/19	Day Variance -40 22 -39	<ul> <li>3. Approved Change Orders:</li> <li>4. Current Contract Value (1 + 2 + 3):</li> <li>5. Incurred Cost:</li> </ul> <b>PERCENT O</b> from 09/10/13 Design Construction	7.73 1,394.22 1,036.45 COMPLETE to 12/30/17 98.8%		
4. Current Substantial Completion E 5. Elapsed Time from NTP: <u>Milestones</u> Milestone 1 - Contract Substantial Completion Milestone 2 - UFS Completion Milestone 3 - Commence SIT Phase I Milestone 5A - Const./Turnover Parcels SW-0002, 0003, 0004, 0104 (South) Milestone 5B - Const./Turnover Parcels	Original Contract 09/08/18 03/09/18 06/09/18 06/05/17	2059 1572 Current Contract 05/01/19 11/01/18 02/01/19 06/05/17	Forecast 06/10/19 10/10/18 03/12/19 06/05/17A	Day Variance -40 22 -39 0	<ul> <li>Approved Change Orders:</li> <li>Current Contract Value (1 + 2 + 3):</li> <li>Incurred Cost:</li> </ul> PERCENT Of the form 09/10/13 Design Construction Total Incurred Cost 0.0% 20.0% 40.0%	7.73 1,394.22 1,036.45 COMPLETE to 12/30/17 98.8%		

#### **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 substar - Board authorized in March a s - Contract is closed out.	itially comp	leted on Au with the co	ugust 21, 20 <sup>.</sup> ntractor.	Areas of Concern:			
Schedule Assessment: - Metro granted substantial completion to Metro Builders on August 21, 2014, which is 276 calender 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			1. Award Value:	7.83	
2. Notice to Proceed:		07/17/12			2. Executed Modifications:*	3.49	
3. Original Substantial Comple	tion Durati	365			3. Approved Change Orders:	-	
4. Current Substantial Comple	tion Duration	468			4. Current Contract Value (1 + 2 + 3)	: 11.32	
5. Elapsed Time from NTP:		753			5. Incurred Cost:	11.32	
Milestones	Original Contract	Current Contract	Forecast	Calendar Day Variance	PERCENT ( from 7/17/12		
Milestone 1 - Contract Substantial Completion	07/17/13	11/18/13	08/21/14A	-276	Dosign 0%		
				1	Design		
					Construction	100%	
					Total Incurred	100%	
					Cost		
					0% 20% 40%	60% 80% 100%	
					Percent Cor	nplete Progress	
					Construction physical percen mobilization and general requ		

## **CONTRACT C0991 STATUS**

Southwestern Yard

					ard			
PE Design Contractor: Hatch CM Consultant: Stantec	Mott (HM)				Contract No.:	C0991		
Contractor: - Hensel Phelps /	Herzog JV				Status as of	December 30, 2017	· Lope	
Progress/Work Completed:					Areas of Concern:			
. Continued with 2nd level of roof concret	r main sh	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.						
. Continued with electrical and community storm drain, sewer and fire water lines.	cation signaling	g and TPS						
Continued exterior skin framing installat	tion for materia	I storage I	building.					
. Continued car wash and car cleaning for	oundations.							
. Started embeded track in the main sho	p.							
Continued with main shop CMU wall commechanical, plumbing and started the r				ectrical,				
Continued the OCS of light pole foundation	tion construction	on.						
Schedule Assessment:					Cost Assessment:			
Interface coordination between HPH, W	SCC, City, 3rd	Parties a	ire being mana	aged	The current constru	iction contract cost forecast fi	om pay application is	
proactively to address and to minimize Work is progressing ahead of schedule				hedule.	\$173,596,542.88 is within the Board authorized budget. The Contractor submitted their 29th payment application in the			
All phase II access dates were achieve	d ahead of time	2			approved amount of	f \$6,907,204.59		
. HPH has stated that there is a potentia			arly by 1/18/20	119				
					-	ot all executed modifications r tractor current payment applic	cation.	
Schedule Summary:					Cost Summary:		\$ In millions	
1. Date of Award:	28	8-May-15			1. Award Value:		172.31	
2. Notice to Proceed:	29	9-Jun-15			2. Executed Modi	fications:	1.17	
3. Original Substantial Completion Dur	ration:	1,220			3. Approved Change Orders: 0.12			
4. Current Substantial Completion Dura	ation:	1,311			4. Current Contrac	ct Value (1 + 2 + 3):	173.60	
5. Elapsed Time from NTP:		915	69.8%		5. Incurred Cost (t	hru December 2017):	92.67	
Milestones	- 5	Current Contract	Forecast	Calendar Day Variance		PERCENT COMPLETE from 06/29/15 to 12/30,		
MS#1 Yard and Main Shop Design Completion	26-Oct-16 26	6-Oct-16	26-Oct-16 A	0				
MS#2 Main Shop Communication Room Completion	15-Jan-18 1	6-Apr-18	13-Apr-18	3	Design		89.3%	
MS#3 Main Shop Substantial Completion	30-Apr-18 3	0-Jul-18	30-Jul-18	0	Construction	46.9%		
MS#4 Southwestern Yard Substantial Completion	31-Oct-18 3	0-Jan-19	30-Jan-19	0	Total Incurred Cost	53.49	•	
					0.0%	20.0% 40.0% 60.0%	80.0% 100.0%	
						Percent Complete Progr	255	

## **CONTRACT C0992 STATUS**

Concrete Ties

PE Design Contractor: Hatch CM Consultant: Stantec		)		Contract No.: C0992				
Contractor: Rocla Concrete T	ie Inc.				Status: Completed			
Progress/Work Completed: - All 19,936 concrete ties have bee (Contract C0988). - Contract is closed out.	n received	onsite by t	he design-b	uilder	Areas of Concern:			
Schedule Assessment:					Cost Assessment:			
All concrete ties were delivered to	job site by	August 15,	2014.		The final contract cost is \$2.25 million and has b to contractor.	een completely paid		
Schedule Summary:					Cost Summary: \$ In mill	ions		
1. Date of Award:			12/10/13		1. Award Value:	2.16		
<ol> <li>2. Notice to Proceed:</li> </ol>			12/23/13		2. Executed Modifications:	0.09		
	Durations		220			0.00		
3. Original Substantial Completion			235		3. Approved Change Orders:	2.25		
4. Current Substantial Completion	Duration:		235		4. Current Contract Value (1 + 2 + 3):	2.25		
5. Elapsed Time from NTP:					5. Incurred Cost:	2.23		
Milestones	Original Contract	Current Contract	Forecast	Calendar Day Variance	PERCENT COMPLETE from 12/23/2013 to 8/15/14			
Milestone 1 - Contract Substantial Completion	07/31/14	08/15/14	08/15/14A	0		100%		
				0	Delivered	100%		
					Shipped	100%		
				0	Total Incurred Cost	100%		
				0	0% 50%	100%		
					Percent Complete Progress			
				0				
					Construction physical percent complete mobilization and general requirements	excillaes		

#### **CONTRACT C0992A STATUS**

Running Rail and Bumping Posts

PE Design Contractor: Hatch CM Consultant: Stantec Contractor: LB Foster Rail Ter		orp	Contract No.: C0992A Status: Completed				
Progress/Work Completed: - All 115RE SS Blank Stick Rails h - All 115RE HH rail have been deli - All Bumping Posts have been deli - Contract is closed out.	vered to job s	ite.			Areas of Concern:		
Schedule Assessment: All running rails and bumping posts	s were deliver	ed ahead c	of the schedu	le.	Cost Assessment: The final contract cost is \$5,2 mil to contractor.	lion and has been	completely paid
Sobodulo Summariu					Cost Summariu	\$ In millior	
Schedule Summary:			01/23/14		Cost Summary:	φπιππηοΓ	5.2
1. Date of Award:			03/07/14		1. Award Value:		0.2
2. Notice to Proceed:	Dunati				2. Executed Modifications:		
3. Original Substantial Completion			300		3. Approved Change Orders:		5.2
4. Current Substantial Completion	Duration:		558		<ol> <li>Current Contract Value (1 + 2</li> <li>Incurred Cost:</li> </ol>	2 + 3): -	5.2
5. Elapsed Time from NTP:			448		5. incurred Cost:		0.2
Milestones	Original Contract	Current Contract	Forecast	Calendar Day Variance		ENT COMPLETE /7/2014 to 05/29/15	
Milestone 1 - Contract Substantial Completion	12/31/14	09/30/15	05/08/15A	145			
				0	Construction	- I - I	100%
				0			
				0	Total Incurred Cost		100%
				0	0% 20% 40		
				0		nt Complete Progress	
					Construction physical p mobilization and genera		ludes

## **CONSTRUCTION PHOTOGRAPHS**



**GREENLINE UNDERPASS** – Crew finishing concrete plinth pour on track-3 SB.



**GREENLINE UNDERPASS** – Crew continued installation of iron horse system and rail fasteners on track-4 NB.



MSE 29L&R – OCS poles delivered and stock piled on the west side of the retaining wall.



**UG1**– Backfill and compaction on both sides of the retainer wall STA 59+50 to 60+00.

## **CONSTRUCTION PHOTOGRAPHS (Continued)**



MANCHESTER BRIDGE - Abutment 3 approach slabs overview.



MSE 122 L&R- Electrical ductbank forming over lightweight cellular concrete fill.

# **CONSTRUCTION PHOTOGRAPHS (Continued)**



**WESTCHESTER STATION** – Crew continued splice welding of canopy frames and column to canopy girder FP.



(AG-5) I-405 - Overview of electrical ductbank forming.

# **CONSTRUCTION PHOTOGRAPHS (Continued)**



(AG-5) I-405 - Span 4 epoxied reinforcement doweling and bracing the north face of ductbank.



**UG#3** - Previously installed walkway conduit at the south portal.



**PARK MESA -** Placement of storm drain invert at manhole #16 at Slauson Ave **HYDE**.



**UG4** – Installation of formwork for center wall section CW-16.

## **CONSTRUCTION PHOTOGRAPHS (Continued)**



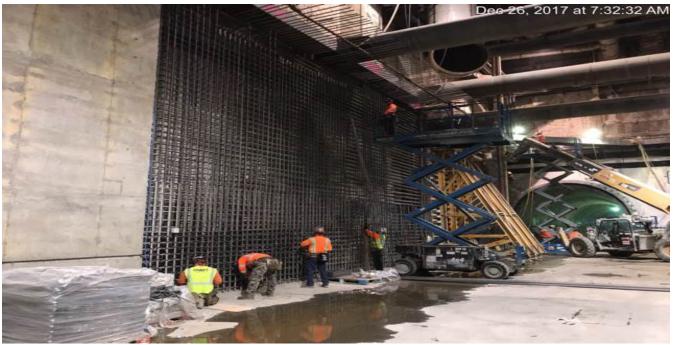
LEIMERT PARK STATION - Previously placed concourse level columns and walls.



LEIMERT PARK STATION – Installation of rebar at concourse level walls.

# <image>

**MARTIN LUTHER KING JR. STATION** – Installing waterproofing along the west concourse level walls.



EXPOSITION/CRENSHAW STATION - Installing rebar for invert level wall section D-39.



# CONSTRUCTION PHOTOGRAPHS (Continued)

**TUNNELING – NB** Tunnel at Vernon portal.

#### APPENDIX

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

SCC	DESCRIPTION	original Budget	CURRENT BUDGET		COMMITMENTS		EXPENDITURES		CURRENT FORECAST		FORECAST
CODE			PERIOD	TO DATE	PERIOD	TO DATE	PERIOD	TO DATE	PERIOD	TO DATE	VARIANCE
10	GUIDEWAYS	0	0	0	0	0	0	0	0	0	0
20	STATIONS	0	0	0	0	0	0	0	0	0	0
30	SUPPORT FACILITIES (Y & S)	85,546,835	0	85,189,999	269,077	85,369,318	4,542,037	33,421,860	269,077	85,726,154	536,155
40	SITEWORK\SPECIAL CONDITIONS	35,932,000	0	38,273,000	1,545,978	40,340,448	507,147	26,956,051	1,545,978	40,551,118	2,278,118
50	SYSTEMS	25,784,616	0	32,991,000	47,619	33,115,119	1,756,090	14,906,970	47,619	33,115,119	124,119
	(10-50) CONSTRUCTION	147,263,451	0	156,453,999	1,862,675	158,824,885	6,805,274	75,284,881	1,862,675	159,392,391	2,938,392
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	210,898	33,186,835	611,929	26,692,473	210,898	36,049,516	2,409,885
90	PROJECT CONTINGENCY	13,659,732	0	17,106,370	0	0	0	0	(2,073,573)	9,337,470	(7,768,900)
TOTAL		296,434,278	0	307,200,000	2,073,573	294,485,926	7,417,203	204,395,964	0	307,200,000	0
C0991 PAINT & BODY SHOP PROJECT											
DESCRIPTION		ORIGINAL	CURRENT BUDGET		COMMITMENTS		EXPENDITURES		CURRENT FORECAST		FORECAST
		BUDGET	PERIOD	TO DATE	PERIOD	TO DATE	PERIOD	TO DATE	PERIOD	TO DATE	VARIANCE
861301 DIV 22 PAINT & BODY SHOP		11,000,000	0	11,000,000	35,083	9,759,153	123,918	3,279,401	0	11,000,000	0
GRAND TOTAL		307,434,278	0	318,200,000	2,108,657	304,245,079	7,541,121	207,675,365	0	318,200,000	0

NOTE: EXPENDITURES ARE CUMULATIVE THROUGH December 30, 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 designbuild Contract C0991 Southwestern Yard Project. Of the total \$307.2 million, \$150.2 million is funded in the Crenshaw/LAX Transit Project LOP budget which includes the original 49% allocation amount of \$139.4 million plus a new \$10.8 million reduction from the Crenshaw/LAX Transit Project contingency line item in the budget. There is no increase in the LOP for the Crenshaw/LAX Transit Project. The original 51% share associated with future Green Line related extensions in an amount of \$145.8 million was increased by \$11.2 million for a new total of \$157.0 million.

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

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

#### APPENDIX

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

#### **Current Forecast:**

The current project forecast is \$318.20 million. However, there was a reallocation of forecast within the SCC-30 (Support Facilities), SCC-40 (Sitework and Special Conditions), SCC-50 (Systems), and SCC-80 (Professional Services) per FTA Guidelines.

#### **Commitments:**

The commitments are cumulative through December 30, 2017. Total commitments increased by \$2.11 million for this period due to the following:

- SCC-30
  - Hensel Phelps/Herzog JV commitments increase by \$0.27 million.
- SCC-40
  - Hensel Phelps/Herzog JV commitments increase by \$1.55 million.
- SCC-50
  - Hensel Phelps/Herzog JV commitments increase by \$0.05 million.
- SCC-60
  - No change to commitments to report.
- SCC-80
  - Professional services such as legal, construction management and labor commitment increased by \$0.25 million.

The \$304.25 million in commitments to date represents 95.6% of the current budget.

#### **Expenditures:**

The expenditures are cumulative through December 30, 2017. The total expenditures increased by \$7.54 million for this period due to the following:

- SCC-30
  - Hensel Phelps/Herzog JV expenditure increase by \$4.54 million.
- SCC-40
  - Hensel Phelps/Herzog JV expenditure increased by \$0.51 million.
- SCC-50
  - Hensel Phelps/Herzog JV expenditure increase by \$1.76 million.
- SCC-60
  - No change to Right-of-Way expenditure.
- SCC-80
  - Hensel Phelps/Herzog JV, agency expenditure and professional services expenditure increase by \$7.54 million.

The \$207.68 million in expenditures to date represents 65.3% 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. 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.						
COMMITMENTS							
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	t 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. 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. 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.						
CONTINGENCY							
PROJECT REVENUE							