



Metro

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November 20, 2020

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FROM: *for* SAMEH GHALY *SGH*
SR. EXECUTIVE OFFICER/PROJECT MANAGEMENT

SUBJECT: CRENSHAW/LAX TRANSIT PROJECT
October 2020 MONTHLY PROJECT STATUS REPORT

Attached herewith is the Monthly Project Status Report for the Crenshaw/LAX Transit Project. This report contains the Los Angeles County Metropolitan Transportation Authority's (LACMTA) representation of the Crenshaw/LAX Transit Project status for the period ending October 30, 2020.

If you have any questions regarding this report or its supporting information, please contact Bill Brown, Deputy Executive Officer Program Control at (323) 903-4109.

SG: TS
Enclosure

CRENSHAW/LAX TRANSIT PROJECT

MONTHLY PROJECT STATUS REPORT

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

OCTOBER 2020

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PROJECT OVERVIEW

Project Background

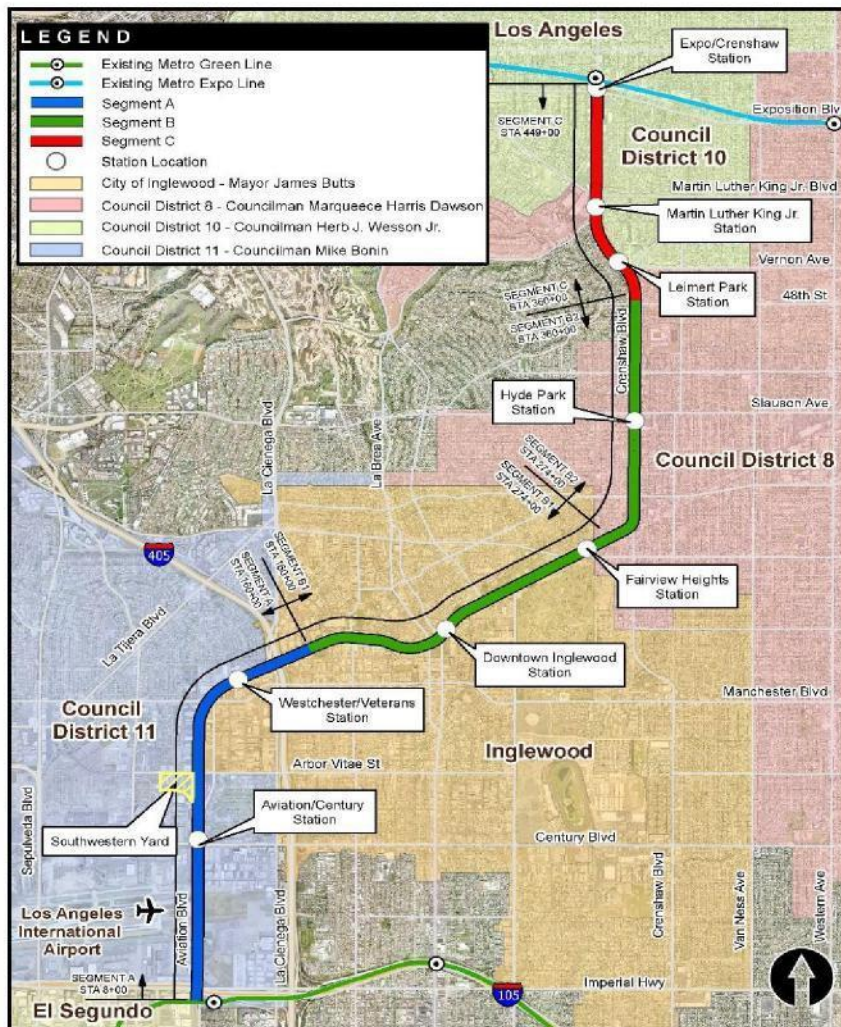
The Crenshaw/LAX Transit Project is a north/south light rail line that serves the cities of Los Angeles, Inglewood, Hawthorne and El Segundo as well as portions of unincorporated Los Angeles County. The alignment extends 8.5 miles, from the intersection of Crenshaw and Exposition Boulevards to a connection with the Metro Green Line south of the Aviation/LAX Station. The project provides major connections with the Los Angeles International Airport (LAX) as well as links to the C Line (Green), the E Line (Expo) and countywide bus network.

Two additional stations, Leimert Park and Westchester/Veterans were funded by the City of Los Angeles and by Metro and were approved to be part of the project by the Metro Board in May 2013. The Metro Board in July 2014 and again in May 2015 approved a revision to the project alignment to include accommodations to the alignment at 96th Street to not preclude a future light rail Metro Rail station being developed as part of the Airport Metro Connector (AMC) project. The accommodations included shifting the ultimate track configuration to the west side of the alignment to confine the revised trackwork on Metro Right-of-Way to mitigate potential cost exposure. These accommodations are not funded by the Crenshaw/LAX Transit Project but are paid for by the AMC project.

The alignment is comprised of a double-tracked rail line 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 two locations, utilities, landscaping, roadway improvements required by the project and a maintenance & storage facility (Southwestern Yard).

The Project configuration is based on years of planning and environmental work that is reflected in the following milestones:

- Major Investment Study – 2003
- Metro Board approval of Alternative Analysis – December 2009
- Initiation of Preliminary Engineering – September 2010
- Metro Board certification of Final EIS/EIR – September 2011
- FTA issuance of Record of Decision – December 2011
- TIFIA and TIGER II Grants approved September 2012



Major Procurements

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 duct bank infrastructure was built by Metro with the fiber replacement work and cut-over by FAA/LAWA. These duct banks contain fiber lines and power lines which belong to both LAWA and FAA. Since the track alignment is below grade at these crossings, the duct banks were 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 were included as part of this contract.

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 constructed the Southwestern Yard which consolidated 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. Southwestern Yard is complete and maintained by Metro Operations.

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. Procurement completed and delivered to the project.

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 including a bumping post for the Design-Build Contract C0991 Southwestern Yard. Procurement completed and delivered to the project.

Design-Build Contract C0988 Crenshaw/LAX Transit Corridor

This is the largest project contract which completes final design and construction of the infrastructure required along the corridor alignment. The structures required to be constructed are eight stations (at-grade, elevated and underground), grade separations including flyover structures, cut and cover trenching, tunneling and two park-n-ride facilities. The scope of work includes all the necessary systems work including train control, traction power supply substations and distribution, overhead catenary, communications, and systems tie-in to the existing C Line (Green). The project delivery method for this contract was design-build utilizing a two-step best value procurement approach with submittal of qualification statements through an RFQ process, prequalification of qualified proposers followed by release of an RFP soliciting technical and price proposals with an option at Metro's discretion for best and final offers (BAFO).

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. The remaining six cars are for replacement of Metro's current fleet. The first Option 1 P3010 car was delivered in May 2017. The final P3010 car (22nd car) for Crenshaw/LAX project was delivered in September 2017, completing the Option delivery for the Crenshaw Project. All twenty-two Crenshaw cars are currently in revenue service on the

C Line (Green) and A Line (Blue). Vehicles software for Crenshaw Project is being field verified in coordination with the mainline contractor, starting with Segment A, including the C Line (Green) tie-in, and will continue to be tested for each Segment.

Rail Operations Center (ROC)

The existing functional operations at the ROC are being expanded to accommodate the central control functions associated with five new rail lines including Crenshaw/LAX Project. The Project is contributing \$3.5 million towards this expansion for Crenshaw/LAX Project.

ROC installation and testing was mostly completed in February 2020. SCADA software development is in final stages of coordination and completion pending field testing. Preparations are being made to start SIT-2 testing as soon as the CTS-Fiber backbone system is connected, tested by main-line contractor, relevant SIT-1 testing and cross connects are complete. SIT-2 testing of completed systems, by location, could start 45 days prior to SIT-1 scheduled completion.

Fare Collection

A notice-to-proceed was issued on January 30, 2018 to the existing Metro Universal Fare System (UFS) contractor, Cubic Transportation Systems, to procure UFS equipment for the Crenshaw/LAX Project eight stations. The equipment has been manufactured and is stored locally until the Crenshaw/LAX Project stations are ready for installation to commence. UFS contractor and mainline contractor are continuing to coordinate the details required for preparation, access, and installation at each station. Field coordination is continuing with issues identified and addressed with the mainline contractor.

Program Management

The WSCC contract is being managed by a team of Metro and consultant personnel jointly located at the Integrated Project Management Office (IPMO). Mott MacDonald provides engineering and design support services while Stantec, Inc., provides construction management support services. An overview of staffing is provided under the Staffing section of this report. The on-site program management team is also supported by Metro Headquarters resources to include, but not limited to, engineering, risk management, environmental, quality management, operations, and creative services departments. In addition, a Project Management Support Services (PMSS) consultant is providing resources to supplement staff.

Project Schedule:

Metro issued in September 2018 a non-compensable unilateral change order to WSCC to extend their substantial completion milestone to December 11, 2019. Project continues to fall behind the dates reset in the non-compensable unilateral change order. There is still considerable work left to be completed by WSCC. This includes rework, prerequisite construction work to allow follow-on subcontractors to complete systems installation, local field acceptance tests and systems integration tests. Field issues are being addressed but continue to impact any potential mitigation and recovery plan.

WSSC in their September 2020 monthly schedule update reflects additional delays, which push their forecast for Substantial Completion to end of March 2021. This Milestone date represents exclusion of activities that do not impact the completion of WSSC's System Integration Testing (SIT-1), such as street restoration. Metro is concerned that the current schedule forecast from WSSC, which slipped an additional 26 calendar days in one month, continues to reflect slower than planned progress every month without meaningful mitigation efforts made by WSSC. Metro is also concerned that WSSC is not applying enough labor to complete the remaining prerequisite work including substantial amount of power and control wiring, system installations and testing.

Project Budget:

In May 2013, the Metro 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 Westchester/Veterans as part of the baseline project. This Motion added \$135 million to the LOP budget which included \$80 million in uncommitted fiscal year 2014 funding and \$55 million from the City of Los Angeles. Metro reached agreement with the City of Los Angeles to cover the incremental cost of the stations above the \$80 million identified in fiscal year 2014 funding which the Metro Board approved in May 2013.

With Metro 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 Metro 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 Metro 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 Metro Board.

Due to the extension of the Project's Substantial Completion date to December 2020, the Metro Board of Directors action on May 28, 2020 increased the Life-of-Project Budget by \$90 million. The additional funding is required to provide funding for professional services that support the completion of the Project. The required support includes Metro staff and professional services consultants who provide various services to assist in the management and oversight of the Project.

Construction and Community Relations:

The Construction and Community Relations team is tasked with promoting the Project and performing public outreach within the community to keep stakeholders informed of construction activities occurring along the Project alignment. To facilitate the communication, community leadership councils have been formed which represent geographic-based constituent groups along the Project.

The Project is also engaged in social media outreach and various marketing and advertising efforts designed to keep the public informed and excited about the Project. These efforts are aimed at promoting businesses that are affected by construction

System Integration:

The Project's integration of three separate lines, each possessing distinct system technologies, presents significant challenges for both the Project and Metro. The Project is coordinating the systems interface design, construction, testing, and commissioning while the Agency maintains revenue service on the operating lines. The Crenshaw Project tie-in with the Metro Rail C Line (Green) was substantially completed and tested by August 2020. However, there are a few elements remaining to be finalized later this year.

Metro project team is coordinating progress with operations, mainline contractor and ROC management team to ensure all requirements, including procedures, are in place to support upcoming System Integration Testing Phase 2 (SIT-2).

Rail Activation:

The Project and Metro Operations recognize the extensive planning required in preparation for rail activation of the new regional light rail service the Project will enable through the south Los Angeles area. Associated detailed rail activation planning and scheduling efforts are underway. Metro Operations have completed Southwestern Yard (Division 16) rail activation and Metro Operations continues to provide support to the mainline contractor testing efforts.

EXECUTIVE SUMMARY

The Project has achieved 97.3% completion based on earned value measurements for design and construction.

The following is an overview of current design and construction activities.

Design Status

Design - Build Contract C0988 (Mainline Contractor) –

Walsh-Shea Corridor Constructors (WSCC) continues design and engineering in support of construction, installation, testing and commissioning. The design/engineering support during construction is identified as a concern and potential risk in the project due to extensive repair, rework and field issues resolutions required (for more details see Key Concerns 3 and 4, affecting all areas of construction, electrical and mechanical installation, system's work and testing). Metro and WSCC have added design staff to support coordination and resolution of engineering issues including submittals, studies, Etc.

Construction Status

Design - Build Contract C0988 Mainline Contractor –

WSCC continues construction along all areas of the alignment. The four at-grade stations, underground structures (UG1, UG3 & UG4) and all six bridge superstructures including the aerial structure concrete placements are mostly completed and continuing with finishes, systems installations and testing. The three underground stations remain at various levels of completion with emphasis on electrical, mechanical, systems, finish work inside the stations, entrance structures and plaza finishes. WSCC is continuing with system's Local Field Acceptance Testing (LFAT) at various locations on the project. The WSCC commissioning agent continue the coordination and planning process for the underground structures and stations. The required test/commissioning procedures have been submitted, reviewed and approved by Metro for the equipment in the underground stations.

Trackwork and OCS/OCR are mostly completed except for plinth repair work and rail damage repair. Above ground segments are energized and under track allocation control. Wayside train control installation continues along the alignment and progressing in the underground stations and tunnels. System installation, conduits and wiring continues in the stations for traction power, train control and various communication systems including LFAT's. WSCC and Metro continue to coordinate with utility companies (power, water, gas, water and communication) at various locations.

- Finish work continues at all stations including tiles, ceiling panels, tiles, lighting, landscaping, end devices (Speakers, cameras, smoke detectors, etc.) and plaza work.
- All TPSS sites and Auxiliary power sites are energized except for aux-power site at 104th Street. A replacement transformer is expected to be delivered and installed in October.
- At auxiliary power site (104th street), all buildings and equipment have been delivered, installed and are ready to receive power from DWP.
- Elevator installations, including roofing is mostly complete at all stations. Pre-commissioning verification checklist is continuing.

- Testing of equipment and electrical systems continues including distributing permanent power to MCC's to various parts of the stations and equipment.
- All booster fans are mostly complete with wiring and termination in the underground structures awaiting permanent distributed power availability, control wiring and other prerequisites completion for WSCC commissioning agent (EEI) to start equipment test and commission.
- Underground emergency ventilation fans (EVF) installation are mostly complete. WSCC continues with power and controls conduits and wiring at all underground stations awaiting permanent power availability to bump and commission.
- Continue wiring and termination from auxiliary power sites provide power to cross passages, radio equipment, sump pumps, ventilation, booster fans, and other systems in the cross passages and underground structures.
- Wiring and terminations of electrical systems are continuing at Leimert Park Station, Martin Luther King Jr Station and Expo Station.
- WSCC has completed Arbor Vitae track crossing and have resumed train testing.
- Radio system installation including radiax, coaxial cable, antenna and equipment installation is continuing in the underground stations and other underground structures and continued testing of radio signals.
- System integration tests, Phase 1, including running vehicles for clearance test, live wire, train control restarted in October 2020. The restart included the Arbor Vitae Street crossing.
- WSCC continues MSE Wall-202L repair mitigation measures including digging of jet grout holes and starting test grout sections.
- The fiber optic innerduct and fiber optic for CTS are installed along the alignment. Fujitsu equipment have been energized tested and connected to fibers at C Line (Green) and the E Line (Expo). Metro is coordinating efforts to complete cross-connect of various systems to CTS ring in preparation for Metro's SIT-2 pre-testing.

Cost and Schedule Summary

Metro Board of Directors action in May 2020 increased the Life-of-Project Budget by \$90 million. The increase is required due to the forecast delay of Substantial Completion to December 2020. The additional funding is required to provide funding for professional services that support the completion of the Project. Detailed cost information is provided later in this report.

WSCC this month submitted a September 2020 Schedule Update which reflects a WSCC Substantial Completion forecast date of March 31, 2021. Metro is concerned that the current schedule forecast from WSCC, which slipped an additional 26 calendar days in one month, continues to reflect slower than planned progress every month without meaningful mitigation efforts made by WSCC. Potential mitigation proposed by WSCC such as increased work crews, double shift and overtime, has not been fully implemented by WSCC. There is still considerable work left to be completed by WSCC. This includes rework, prerequisite construction work to allow follow-on subcontractors to complete systems installation, local field acceptance tests and systems integration tests.

WSCC Schedule Metrics – Mainline Contractor

	Original Contract Date	Time Extension (CD)	Current Contract Schedule	Forecast (Contractor)	Variance CD
NTP	09/10/13				
Substantial Completion including SIT-1	09/08/18	459	12/11/19	3/31/21	-476 days

To date, the design and construction changes for WSCC related to base scope represent approximately 14.4% of the contract value. Metro anticipates future changes initiated by Metro will mostly be “credit” changes.

Key Management Concerns

No. 1: WSCC Construction Schedule Progress

Status/Action

WSCC has submitted a September 2020 Schedule Update which reflects a WSCC Substantial Completion forecast date of March 31, 2021. Metro is concerned that the current schedule forecast from WSCC, which slipped an additional 26 calendar days in one month, continues to reflect slower than planned progress every month without meaningful mitigation efforts made by WSCC. Potential mitigation proposed by WSCC such as increased work crews, double shift and overtime, has not been fully implemented by WSCC. There is still considerable work left to be completed by WSCC. This includes rework, prerequisite construction work to allow follow-on subcontractors to complete systems installation, local field acceptance tests and systems integration tests.

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

Status/Action

Metro monthly monitors and reports on the drawdown of contingency. In October 2020, there was a contingency replenishment of \$2,342,152 which increased the remaining contingency to \$24.7 million. The remaining contingency is 1.17% of total project current forecast and 16.65% of total project cost-to-go.

No. 3: WSCC Design/Engineering Support during Construction, Installation and Testing

Status/Action

There are engineering/design support activities during construction (test procedures, test reports, submittals, re-submittals, requests for information, studies, NCR’s, power coordination studies and deviation requests) that are impacting the field work progress. The impact is creating potential delays to construction, systems installation, testing and commissioning. A full time HNTB (Engineer of Record) engineer is assigned to the Project to help manage and expedite issue resolution. New and unresolved existing issues requiring design support and resolution are continuing to affect schedule progress.

No. 4: WSCC Required Rework and Impact to Follow-on Subcontractors

Status/Action

Several areas of work along the alignment could not be completed due to damaged, incomplete and missing components. This has impacted and slowed down progress on various stations systems work such as radio, fire alarm systems and testing. There are still issues with field installation of conduits, layouts, and coring, which are impacting planned follow-on work by subcontractors in the underground stations. WSCC's prerequisite work needs to be completed to allow follow-on subcontractor work to be expedited to minimize effect of schedule progress. Other items such as issues with rail, plinth, switch points, MSE Wall-202, etc. are continuing to effect schedule progress.

No. 5: 3rd Party Coordination and Impact on follow on activities

Status/Action

Multiple areas of work along the alignment require close coordination with 3rd parties. Metro is working with WSCC to resolve any issues as quickly as possible. WSCC needs to mitigate any issues to avoid impact to train testing and other Project testing activities.

No. 6: COVID-19 Impact on progress of the Project

Status/Action

Construction continues as an essential service under guidelines set forth by the City of Los Angeles. Safety protocols are required and monitored. Preventive measures have been implemented and impact of COVID-19 on project progress is being monitored by WSCC and Metro. WSCC continues to submit notifications of potential impacts to work. Each impact claim will be assessed consistent with Contract terms.

No. 7: MSE-Wall 202 Settlement and Movement

Status/Action

Construction activities in the area of MSE Wall 202L movement were suspended pending detail analysis of the cause of movement. WSCC and their engineer of record have evaluated the results of their investigation and have developed a repair plan, including proposed mitigation measures. The train control and vehicle testing were impacted by MSE Wall-202L movement which impacted any vehicle movement near the wall. Two light rail vehicles were moved past the wall on July 7, 2020. This allows train testing to continue as needed north of the impacted area during the wall repair and restoration work. The repair work (jet grouting) has started but is progressing slower than planned which impacted schedule progress this month.

No. 8: EMP Screen Display Omissions by WSCC

Status/Action

Several key components of EMP screen display of emergency hatch alarm and ventilation scenarios were omitted by WSCC. This is a safety issue and needs to be addressed prior to systems operations. Metro and WSCC are working together to resolve the issue and to minimize schedule impact and address any safety concerns. Coordination efforts and development of required EMP screens are proceeding better than reported by WSCC and issues with EMP screens are being resolved expeditiously.

PROJECT CONSTRUCTION PHOTOS



Leimert Park Station – plaza, lighting, landscaping, bollards, elevator and main entrance.



Crenshaw Street restoration at 57th Street – looking southbound.



Aviation Century Station – ready for concrete placement of plaza floor.



Downtown Inglewood Station – crews installing the platform LCD Message screen.



Downtown Inglewood Station – plaza, tracks and platform.

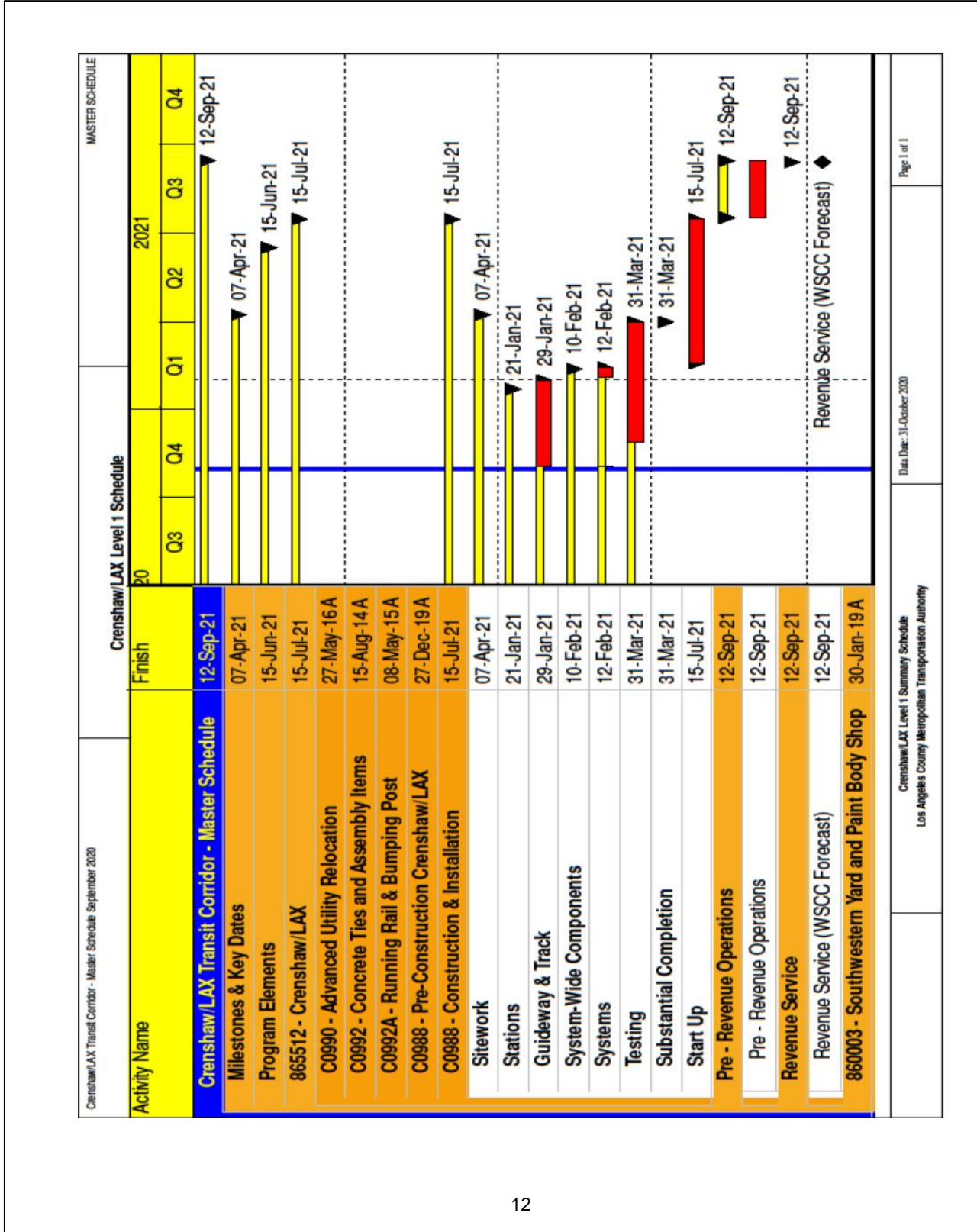


Fairview Heights Station – parking, landscaping and pedestrian Crossing..

PROJECT UPDATE

PROJECT SCHEDULE

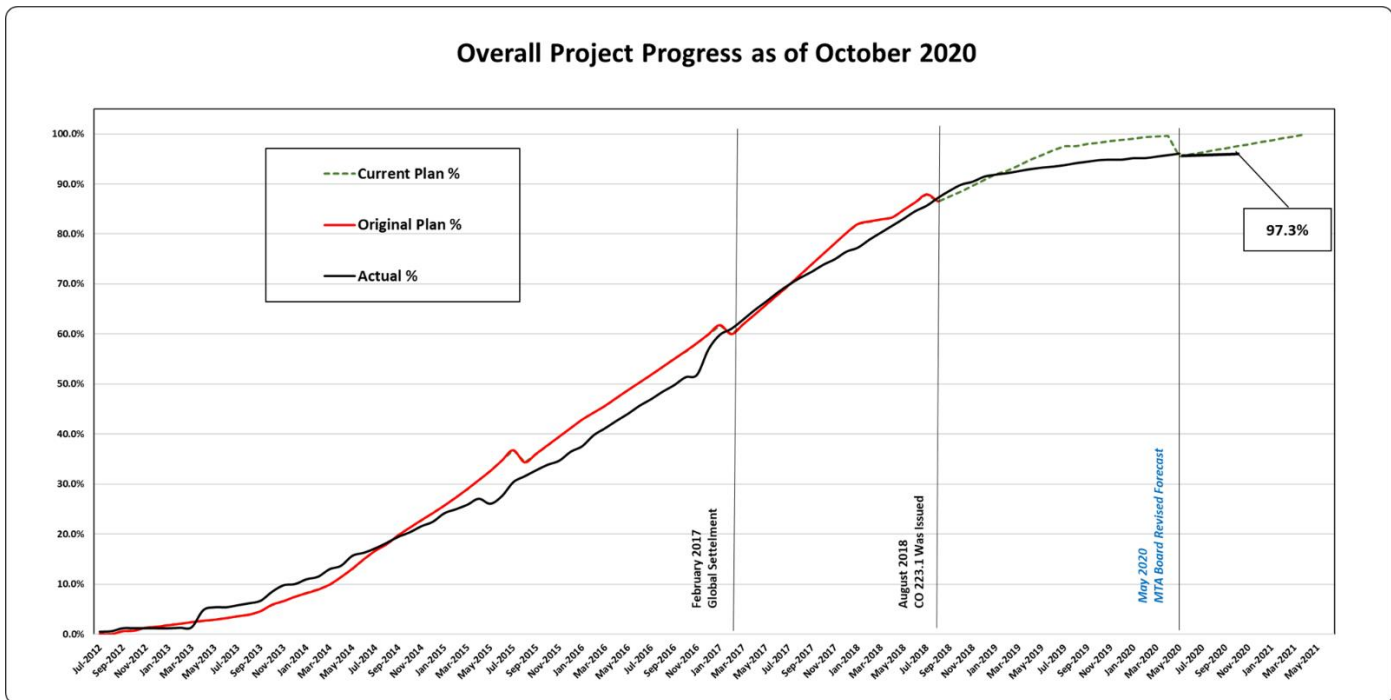
Project Summary Schedule – reflects “Current Forecast”



Progress Summary









	Status	Change from Last Period	Comment
Current Revenue Service:	5/24/2021	N/A	
Forecast Revenue Service:	9/12/2021	26 days	Forecast by Contractor
Final Design Progress:			
Contract C0988	99.8%	0.0%	Design Completed. Design Services During Construction Continues
Contract C0990	100%	None	Design Completed
Contract C0991	100%	None	Design Completed
Contract C0992	100%	None	Design Completed
Contract C0992A	100%	None	Design Completed
Construction Contracts Progress:			
Contract C0988	95.5%	0.7%	Behind Schedule
Contract C0990	100%	None	Completed
Contract C0991	100%	None	Completed
Contract C0992	100%	None	Completed
Contract C0992A	100%	None	Completed

Planned vs. Actual Progress



Key Milestones Six Months Look-Ahead

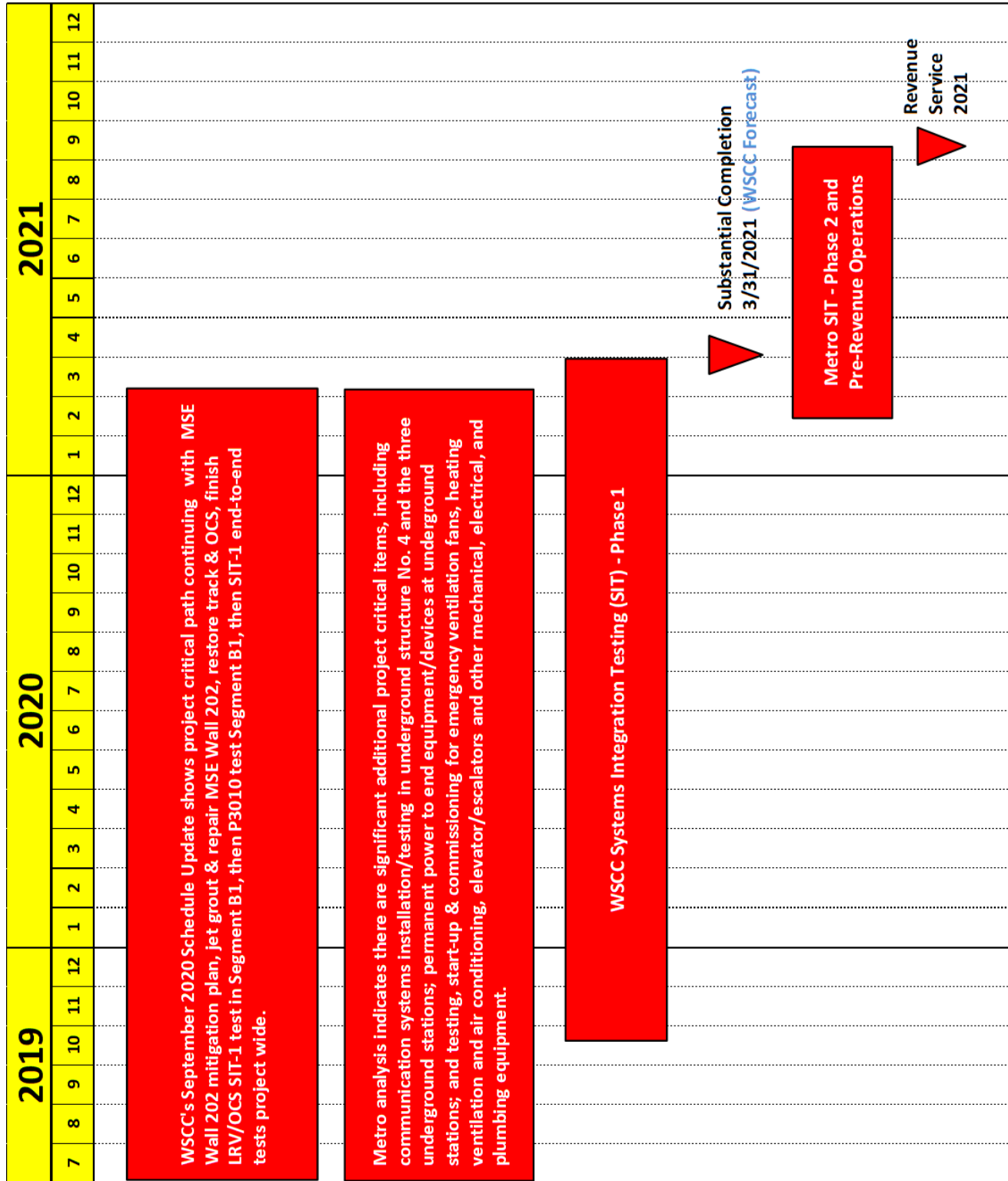
	Milestone Date	Oct-20	Nov-20	Dec-20	Jan-21	Feb-21	Mar-21
TPSS-10, LFAT Expo Energize MCC *	11/06/20		⬡				
Radio Room Ready LFAT - UG3	11/15/20		⬡				
TPSS-09, LFAT MLK Energize MCC *	11/20/20		⬡				
Aux Power at 104th St - Permanent Power Drop - LADWP - Install Equipment, Cable, Energize & test *	11/20/20		▽				
UG1 Ventilation LFAT/Commission	11/21/20		⬡				
UG4 Ventilation LFAT/Commission	12/06/20			⬡			
Ventilation Equipment - Leimert Station Installation/Testing/Commission*	12/24/20			⬡			
Commission Century/Avaiation Station Equipment	12/29/20			⬡			
Ventilation Equipment - Expo. Station Installation and Testing *	01/07/21				⬡		
Ventilation Equipment - MLK Station Installation/Testing/Commission *	01/15/21				⬡		
UG3 Ventilation LFAT/Commissioning	01/24/21				⬡		
Metro Start SIT-2 (45 days overlap with SIT-1)	02/14/21					◆	
WSCC Systems Substantial Completion (SIT-1)	03/31/21						⬡

 MTA Staff
  MTA Board Action
  FTA (Federal Transit Administration)
  Utility Company
 Other Agencies
  C0991 D/B Contractor
  Design Consultant
  C0988 D/B Contractor
 "A" following date is actual and completed
 * New Date

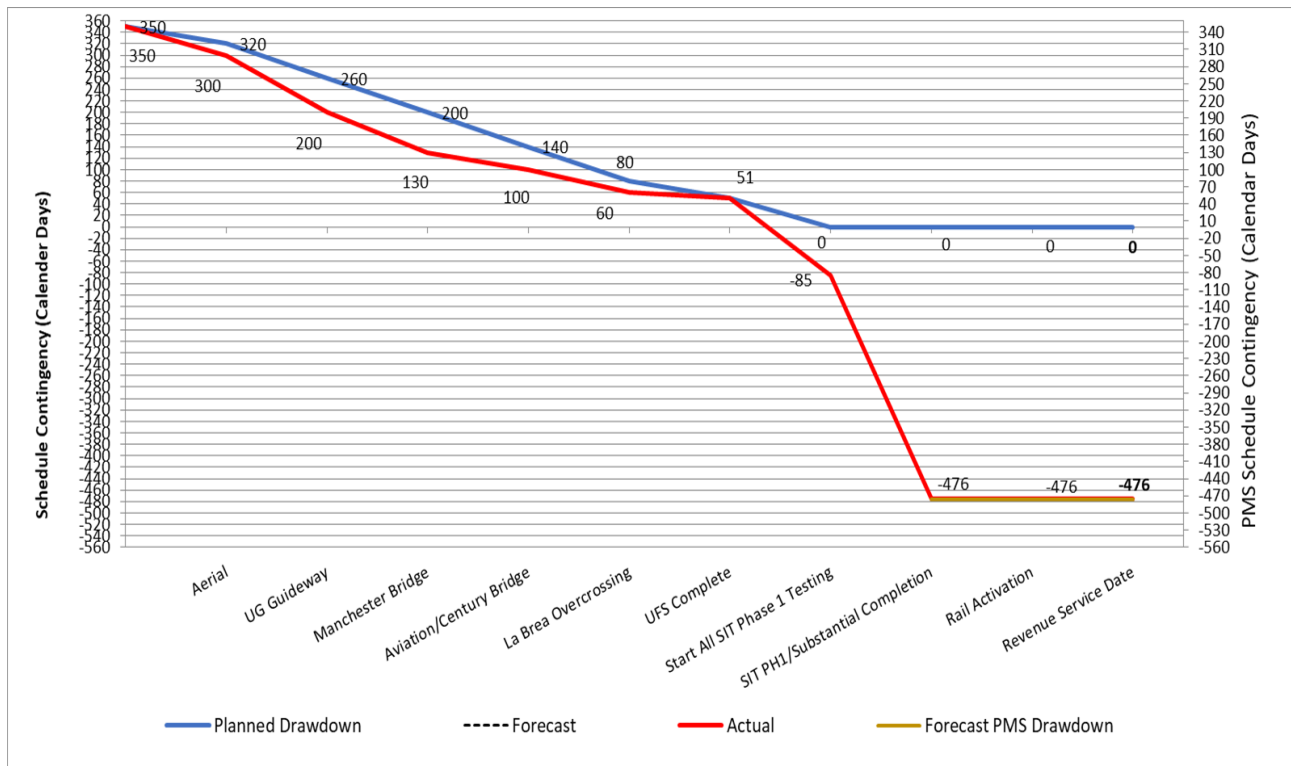
Major Equipment Delivery Status

<i>Metro Supplied Equipment</i>			
Equipment	Initial Procurement	Scheduled Delivery	Scheduled Installation
LRT Vehicles	(NTP) 8/20/12 A	Option 1 9/1/17 A	N/A
Ticket Vending Machines and Equipment	1/30/18 A	2/28/19 A (Warehoused)	TBD (Prior to RSD)
<i>Mainline Contractor Equipment Delivery Requirements</i>			
Activity Name	Early Finish	Need Date	
Fabricate, Replacement Transformer for 104 th Street Auxiliary Power site*	October 2020A	Damaged Transformer	
Fabricate, Underground Station Signage	December 2020	September 2019	
Fabricate Supervisory Kiosk @ Expo Station	January 2021	September 2019	
*Requires schedule mitigation by Mainline Contractor			

CRITICAL PATH - reflects "Current WSCC Forecast"



Project Schedule Contingency Drawdown



Metro issued in August 2018 a non-compensable unilateral change order to WSCC to extend their substantial completion milestone to December 11, 2019. Thus, performance measurement is now tracked against this new date.

RISK MANAGEMENT NARRATIVE

Summary of Risks

Within this reporting period no risks were closed. Two new risks were added. There is a total of nineteen (19) risks remaining to be managed in the next reporting period.

Of the nineteen (19) risks, eight (8) are scored as high (10 to 20 risk rating), nine (9) as medium (4 to 9 risk rating), and two (2) as low (Less than 4 risk rating).

Top Risks: The table below shows the top project risks:

Risk ID	SCC	Risk Description	Risk Rating
359	80	Extended Overhead or productivity loss claims exposure not covered by cost impacts in individual risks.	20
124	50	Main Line testing prior to pre-revenue operations may take longer than expected, resulting in increased Main Line Metro and Consultant costs and potential delay to Substantial Completion.	16
362	50	Schedule activities that are critical to completion (Trackwork, OCR/OCS, TPSS and Auxiliary Power Energization, Emergency Fans, Train Control wiring/testing and Communications equipment installation/wiring/testing, Fire Alarm including Damaged Tunnel Conduits).	16
379	20	LFAT, Procedures and Testing Schedule and Rate of Testing Progress	15
380	20	SIT-1, Procedures and Testing Schedule and Rate of Testing Progress	15
373	20	WSCC Damaged, Repair, Rework and Incomplete work including tunnel conduits (Complete), Track plinths, Communication (Fire Alarm System).	13
355	50	Issues with long lead delivery or improper planning for integration, testing and startup of Communication systems.	12
376	20	WSCC Damaged, Repair, & Rework - MSE Wall 202 movement and settlement	10

Newly Identified Risks: There are two new items added to the risk register.

Closed Risks: No risk is closed in this period.

Risk Score Changes: Four risk score are changed this period.

Actions in Next Reporting Cycle

Continuous efforts in Risk Management will be made through the following actions:

- Update the project risk register.

PROJECT COST
Project Cost Analysis

SCC CODE	DESCRIPTION	ORIGINAL BUDGET	CURRENT BUDGET		COMMITMENTS		EXPENDITURES		CURRENT FORECAST		FORECAST VARIANCE
			PERIOD	TO DATE	PERIOD	TO DATE	PERIOD	TO DATE	PERIOD	TO DATE	
10	GUIDEWAYS	471,335,000	-	417,788,306	(1,437,803)	416,535,502	407,284	414,644,343	(1,437,803)	416,535,502	185,000
20	STATIONS	153,906,000	-	308,067,041	(2,440,522)	306,172,618	1,461,952	296,014,651	(800,000)	307,813,140	546,100
30	SUPPORT FACILITIES SOUTHWEST YARD	66,673,000	-	66,919,206	-	66,855,719	-	66,062,342	-	66,919,206	-
40	SITWORK/SPECIAL CONDITIONS	235,576,000	-	404,953,359	(5,739,486)	403,467,213	1,835,449	371,163,828	(1,947,935)	405,387,536	2,562,720
50	SYSTEMS	125,132,000	-	175,073,936	77,682	174,644,090	1,020,208	157,666,500	77,682	175,387,848	52,229
CONSTRUCTION SUBTOTAL (10-50)		1,052,622,000	-	1,372,801,849	(9,540,129)	1,367,675,142	4,724,892	1,305,551,665	(4,108,056)	1,372,043,233	3,346,049
60	RIGHT-OF-WAY	132,294,000	-	137,726,295	-	137,886,194	11,476	137,562,128	-	137,886,295	160,000
70	LRT VEHICLES	87,780,000	-	83,571,544	-	83,571,544	-	81,876,859	-	83,571,544	-
80	PROFESSIONAL SERVICES	273,147,000	-	501,844,251	2,020,363	454,160,356	3,378,489	424,049,370	1,765,903	503,809,708	322,224
SUBTOTAL (10-80)		1,545,843,000	-	2,095,943,938	(7,519,767)	2,043,293,236	8,114,856	1,949,040,022	(2,342,153)	2,097,310,780	3,828,272
90	UNALLOCATED CONTINGENCY	177,157,000	-	26,056,062	-	-	-	-	2,342,153	24,689,220	(3,828,272)
100	FINANCE CHARGES	-	-	-	-	-	-	-	-	-	-
TOTAL PROJECT 865512 (10-90)		1,723,000,000	-	2,122,000,000	(7,519,767)	2,043,293,236	8,114,856	1,949,040,022	(0)	2,122,000,000	(0)
ENVIRONMENTAL/PLANNING - 405512		5,526,150	-	5,526,150	-	5,526,150	-	5,526,150	-	5,526,150	-
ENVIRONMENTAL/PLANNING - 465512		20,473,850	-	20,473,850	-	20,022,881	-	20,022,881	-	20,473,850	-
TOTAL PROJECTS 405512 & 465512 (ENV / PLAN'G)		26,000,000	-	26,000,000	-	25,549,031	-	25,549,031	-	26,000,000	-
TOTAL PROJECTs 405512, 465512 & 865512		1,749,000,000	-	2,148,000,000	(7,519,767)	2,068,842,267	8,114,856	1,974,589,053	(0)	2,148,000,000	(0)

1. Expenditures are Cumulative through October 30, 2020.

2. Expenditures exclude \$6.6 million for State Board of Equalization (SBOE) decision to tax LRT Vehicle deliveries since August 2016. Metro is appealing the decision but paid tax so as not to incur any late fees.

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

Original Budget:

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

Current Budget:

In May 2020, the Board amended the LOP budget by \$90 million, increasing the Total LOP Current Budget to \$2,148 million. This action was necessary due to the extension of the Project's Substantial Completion date to December 2020 and revenue service to commence in 2021. The LOP budget was amended to provide additional funding for professional services that are required to support the completion of the Project. The required support includes Metro staff and professional services consultants who provide services to assist in the management and oversight of the Project.

Commitments:

Commitments decreased by \$7.5 million this period to \$2,068.8 million which represents 96.3% of the current budget. The total decrease is related to decommitment of purchase orders.

Expenditures:

Expenditures increased by \$8.1 million this period to \$1,974.6 million which represents 91.9% of the current budget. The total increase is for costs associated with design-build Contract C0988 Crenshaw/LAX Transit Corridor, third party utility relocation, and professional services.

Current Forecast

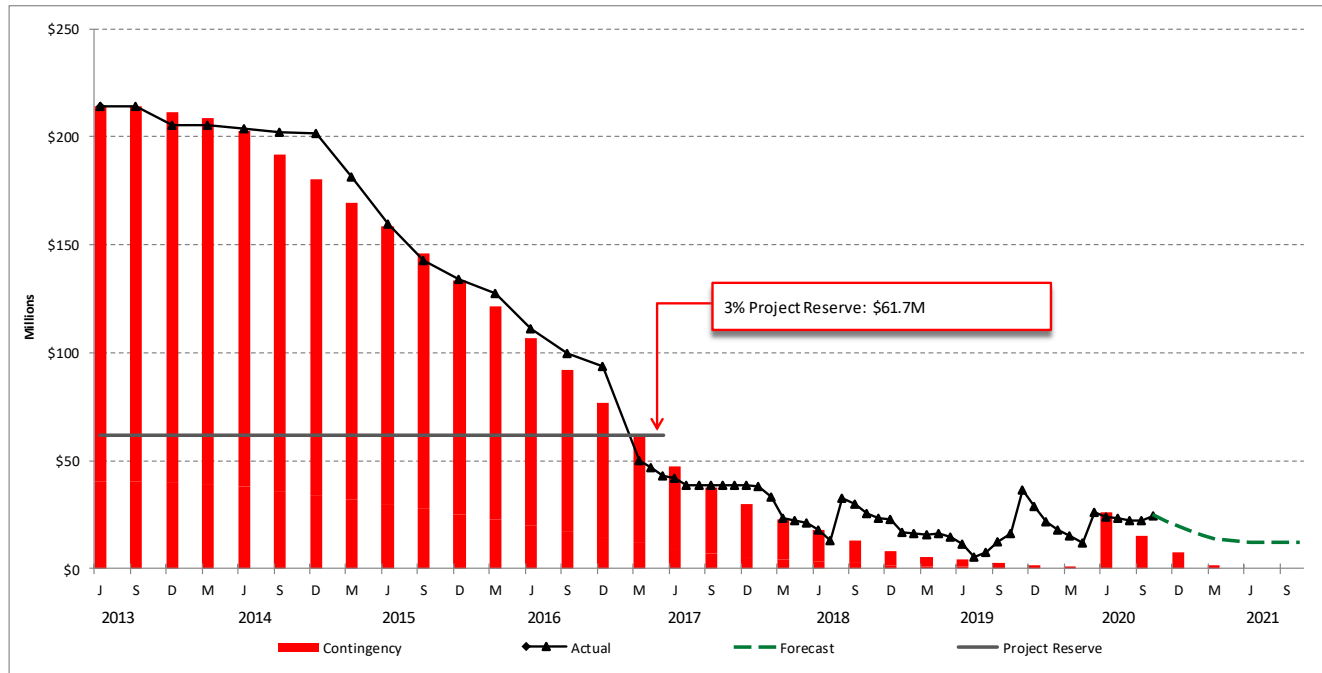
The total current forecast remains the same as the total current budget.

Non-Crenshaw/LAX Transit Project Funded Scope of Work

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

C0988 NON-CRENSHAW/LAX TRANSIT PROJECT FUNDED SCOPE OF WORK									
DESCRIPTION	CURRENT BUDGET		COMMITMENTS		EXPENDITURES		CURRENT FORECAST		FORECAST VARIANCE
	PERIOD	TO DATE	PERIOD	TO DATE	PERIOD	TO DATE	PERIOD	TO DATE	
405556 SYSTEMWIDE TRANSIT PLANNING	-	320,035	-	320,035	-	320,035	-	320,035	-
210090/93 FARE GATE PROJECT	-	4,891,226	-	4,891,226	112,084	4,469,930	-	4,891,226	-
210152 CRENSHAW/LAX BUS TRANSFER FACILITY	-	2,200,000	-	2,200,000	89,832	1,750,819	-	2,200,000	-
460303 AIRPORT METRO CONNECTOR	-	37,914,465	-	37,047,674	-	37,047,674	-	37,914,465	-
500013 C/LAX LAWA SCOPE OF WORK	-	1,575,362	-	581,918	-	520,666	-	1,575,362	-
405522 HIGHWAY PLANNING	-	105,373,900	-	105,304,836	-	105,249,804	-	105,373,900	-
TOTAL	-	152,274,988	-	150,345,688	201,916	149,358,927	-	152,274,988	-

Cost Contingency Drawdown



Cost Contingency Drawdown Analysis

In May 2020, the Board amended the LOP budget by \$90 million, increasing the Total LOP Current Budget to \$2,148 million. The increase included \$14.2 million for additional unallocated contingency. The drawdown plan is correlated to anticipate risk trends and measures drawdown moving forward.

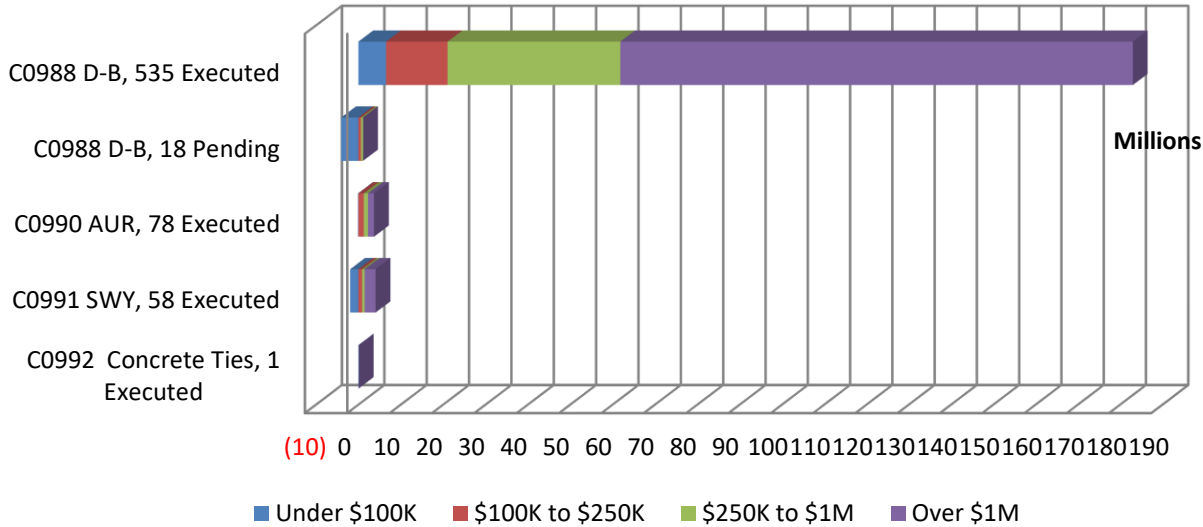
Included in the project contingency drawdown is a 3% project reserve threshold. The Board is to be notified when it becomes necessary to drawdown contingency below the project reserve line to cover project costs. This notification request was adopted by the Metro Board of Directors in September 2012. In February 2017, the project contingency drawdown curve went below the 3% project reserve level and the Board was notified.

This month, \$2,342,153 was added to the contingency. The remaining total project contingency (allocated and unallocated) is \$24,689,219.

PROJECT COST CONTINGENCY (through 30-Oct-2020)					
UNITS IN DOLLARS					
	Original Contingency	Previous Period	Current Period	To-Date	Remaining Contingency (Forecast)
Unallocated Contingency	173,500,000	(151,152,934)	2,342,153	(148,810,781)	24,689,219
Allocated Contingency	40,366,792	(40,366,792)	-	(40,366,792)	-
Total Contingency	213,866,792	(191,519,726)	2,342,153	(189,177,573)	24,689,219

SUMMARY OF CONTRACT MODIFICATIONS

Contract Modifications (MODs) by Cost Level



	C0988	C0990	C0991	C0992	Total
	529 Executed	78 Executed	58 Executed	1 Executed	
Under \$100K	\$ 6,522,929	\$ (70,251)	\$ (1,918,854)	\$ 81,738	\$ 4,615,561
\$100k to \$250K	\$ 14,518,952	\$ 1,280,184	\$ 875,202	\$ -	\$ 16,674,338
\$250K to \$1M	\$ 40,778,058	\$ 984,662	\$ 590,334	\$ -	\$ 42,353,054
Over \$1M	\$ 121,191,340	\$ 1,417,202	\$ 2,590,000	\$ -	\$ 125,198,542
Total Contract MODs	\$ 183,011,278	\$ 3,611,797	\$ 2,136,682	\$ 81,738	\$ 188,841,495
Contract Award Amount	\$ 1,272,632,356	\$ 7,827,500	\$ 172,312,695	\$ 2,161,297	\$ 1,454,933,848
% of Contract MODs	14.38%	46.14%	1.24%	3.78%	12.98%

Five hundred and thirty five (535) changes with a total value of \$183.1 million have been executed since award of Contract C0988. There are an additional fourteen (14) changes with a total credit value of \$1.85 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.

Fifty-eight (58) changes with a total value of \$2.14 million have been executed since award of Contract C0991.

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

DISADVANTAGED BUSINESS ENTERPRISE (DBE)

Contract C0988 Crenshaw/LAX Transit Corridor Design-Build

(Reported Data as of September 2020)

- **DBE Goal (Design)** – A numerically expressed percentage of funds apportioned to Design Contracts and is calculated based upon the relative availability of DBE firms as compared to all firms in the relevant geographic market area. **20.00%**
- **Current DBE Commitment** – Total DBE Committed Dollars divided by Total Contract Value for Design or Construction. **\$25,799,791 (20.00%)**
- **Current DBE Participation – Total amount** paid to date to DBEs divided by the amount paid to date to Prime. **\$30,184,313 (21.74%)**

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

- **DBE Goal (Construction)** - A numerically expressed percentage of funds apportioned to Construction Contracts and is calculated based upon the relative availability of DBE firms as compared to all firms in the relevant geographic market area. **20.00%**
- **DBE Commitment** - Contract commitment divided by current contract value for Construction **\$259,865,769 (20.00%)**
- **Current DBE Commitment** - Actual commitments as Construction work is awarded **\$290,627,130 (22.37%)**
- **Current DBE Participation** - Total amount paid to date to DBEs divided by the amount paid to date to Prime (\$1,215,211,181) **\$334,948,512 (27.76%)**

Three Hundred Forty-Six (346) Construction subcontractors have been identified to-date.

PROJECT LABOR AGREEMENTS (PLA)
Contract C0988 Crenshaw/LAX Transit Corridor Design-Build

(Reported Data as of September 2020)

- | | |
|--|---------------|
| • Targeted Worker Goal – Construction work to be performed by residents from Economically Disadvantaged Area of LA County | 40.00% |
| | 59.48% |
| • Targeted Worker Current Attainment | |
| • Apprentice Worker Goal – Construction work to be performed by Apprentices | 20.00% |
| | 24.00% |
| • Apprentice Worker Current Attainment | |
| • Disadvantaged Worker Goal – Construction work to be performed by Disadvantaged Workers whose primary place of residence is within LA County | 10.00% |
| | |
| • Disadvantaged Worker Current Attainment | 10.67% |

FINANCIAL/GRANTS

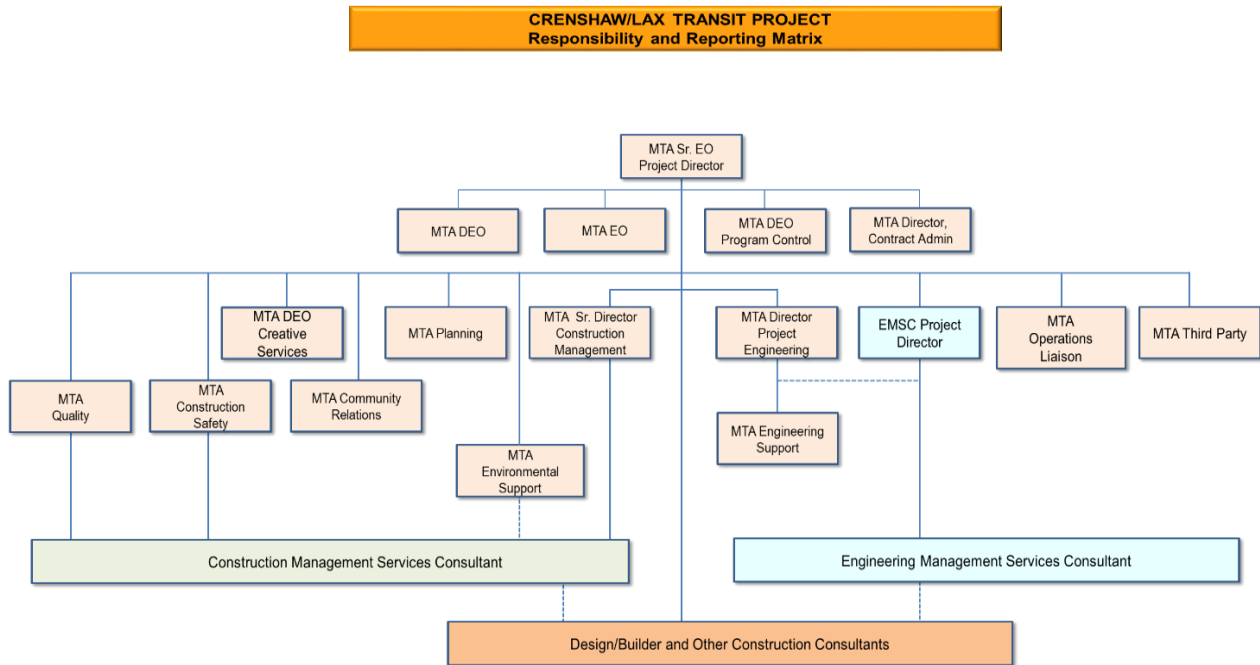
CRENSHAW										
OCTOBER 2020										
STATUS OF FUNDS BY SOURCE										
	(A)	(B)	(C)	(D)	(D/B)	(E)	(E/B)	(F)	(F/B)	
SOURCE	ORIGINAL BUDGET	TOTAL FUNDS	TOTAL FUNDS	COMMITMENTS	EXPENDITURES	EXPENDITURES		BILLED TO FUNDING		
	ANTICIPATED		AVAILABLE	\$	%	\$	%	\$	%	
FEDERAL - CMAQ	68.200	137.100	104.000	118.612	87%	114.798	84%	104.000	76%	
FEDERAL - SECTION 5309 BUS CAPITAL	8.600	8.563	8.563	8.563	100%	8.563	100%	8.563	100%	
FEDERAL - REGIONAL STP	20.000	103.116	103.116	101.374	98%	91.243	88%	91.243	88%	
FEDERAL - ALTERNATIVE ANALYSIS	1.200	1.200	1.200	1.200	100%	1.200	100%	1.200	100%	
FEDERAL - TIGER II	-	13.904	13.904	13.904	100%	13.904	100%	13.904	100%	
STATE REGIONAL IMPROVEMENT PROGRAM	36.522	36.600	36.600	36.600	100%	36.600	100%	36.600	100%	
STATE PPM	0.178	0.178	0.178	0.178	100%	0.178	100%	0.178	100%	
STATE PROP 1B PTMISEA	201.200	128.950	128.950	128.950	100%	128.950	100%	128.950	100%	
STATE PROP 1 B LOCAL PARTNERSHIP	-	49.529	49.529	49.529	100%	49.529	100%	49.529	100%	
MEASURE R - TIFIA LOAN	545.900	545.900	545.900	545.900	100%	545.900	100%	545.900	100%	
MEASURE R 35%	661.100	512.445	512.445	512.445	100%	489.037	95%	432.502	84%	
CITY CONTRIBUTION	52.400	101.707	101.707	43.558	43%	43.558	43%	40.707	40%	
GENERAL FUNDS		54.300	54.300	54.300	100%	54.300	100%	54.300	100%	
MISC. REVENUE		1.700	1.700	1.700	100%					
PROPOSITION C 25% HIGHWAY	148.900	392.758	392.758	391.979	100%	391.979	100%	391.979	100%	
PROPOSITION C 40% DISCRETIONARY	-	0.000	0.000	-	-	-	0%	-	0%	
PROPOSITION A 35% RAIL CAPITAL	4.800	4.850	4.850	4.850	100%	4.850	100%	4.850	100%	
MEASURE M		55.200	55.200	55.200	0%					
TOTAL	1,749.000	2,148.000	2,114.900	2,068.842	96%	1,974.589	92%	1,904.405	89%	

NOTES:

- EXPENDITURES ARE CUMULATIVE THROUGH OCTOBER 31, 2020
- TOTAL NEW LOP APPROVED IN MAY 2020 IS \$2,148M.
- ORIGINAL BUDGET BASED ON BOARD APPROVED OCTOBER 2011 FUNDING/EXPENDITURE PLAN.
- EXPENDITURES EXCLUDE \$6.6 MILLION FOR STATE BOARD OF EQUALIZATION DECISION TO TAX LRT VEHICLE DELIVERIES SINCE AUGUST 2016 (METRO APPEALING DECISION BUT PAID TAXES TO NOT INCLUDE LATE FEES).

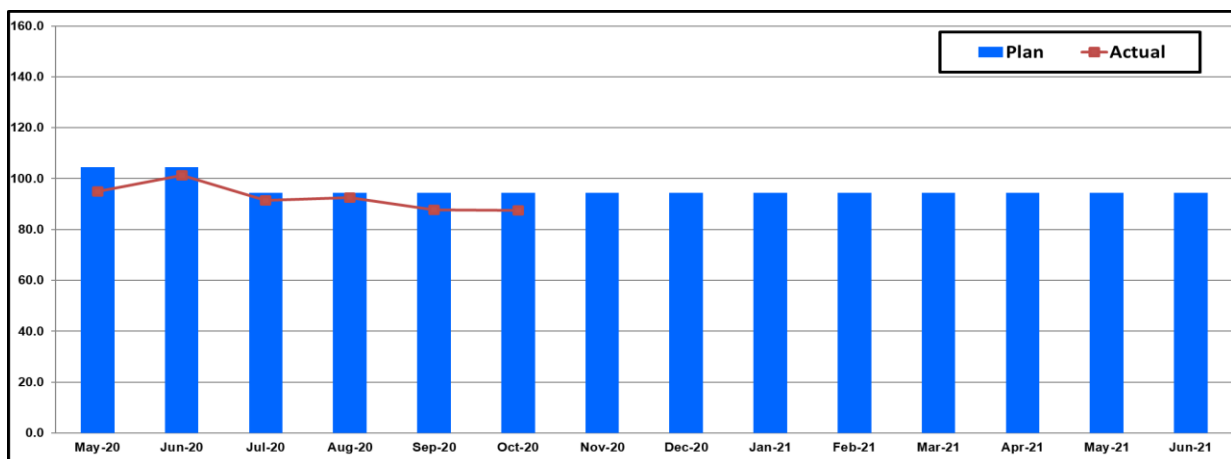
PROJECT ORGANIZATION AND STAFFING

The design-build contract is being managed by joint team of Metro and consultant personnel jointly located at the Integrated Project Management Office (IPMO).

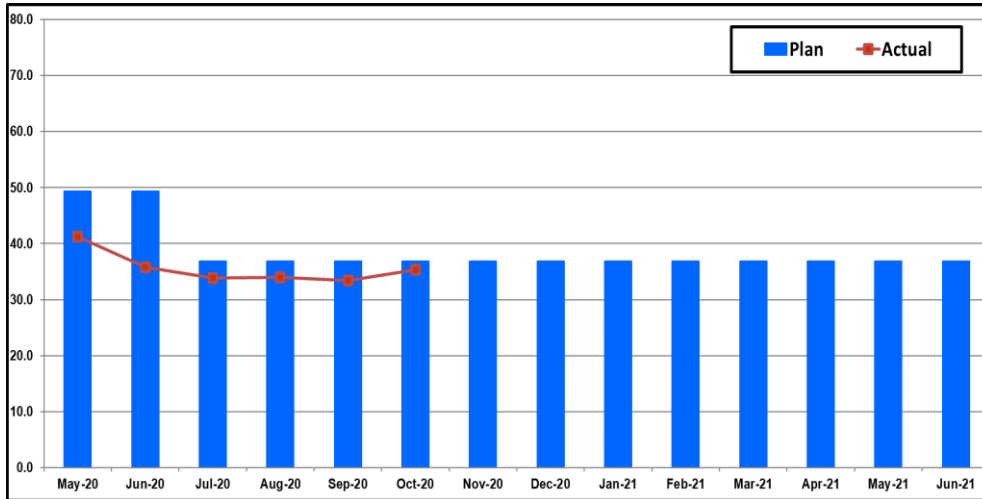


The project staffing charts have been updated with a revised FY21 staffing plan. The overall FY21 Total Project Staffing Plan averages 94.5 Full Time Equivalent (FTEs) per month consisting of 36.9 for Metro Agency staff, 46.3 for Construction Management Support Services Consultant and 11.3 for Design and Engineering Support Services Consulting staff.

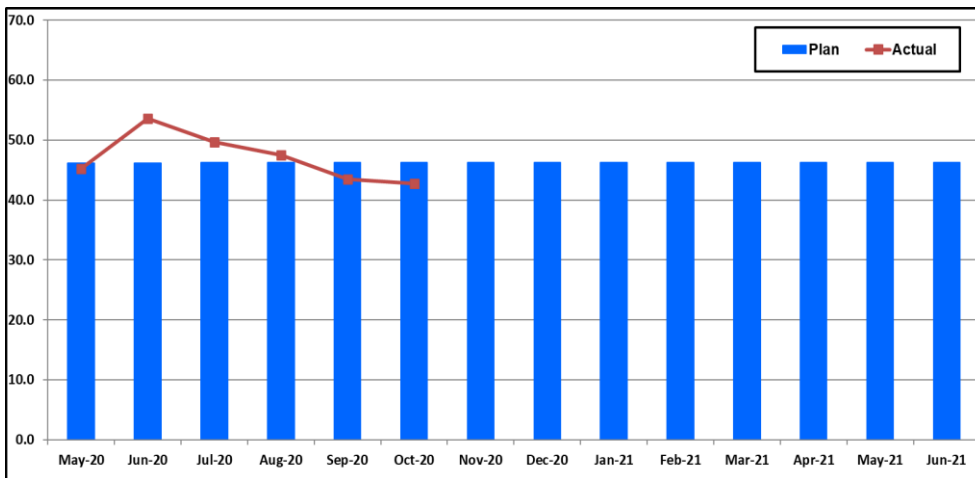
For October 2020, total project staffing were 87.6 FTEs for the month consisting of 35.3 FTEs for Metro’s project administration staff, 42.7 FTEs for Construction Management Support Services Consultant and 9.6 FTEs for Design and Engineering Support Services Consulting staff.



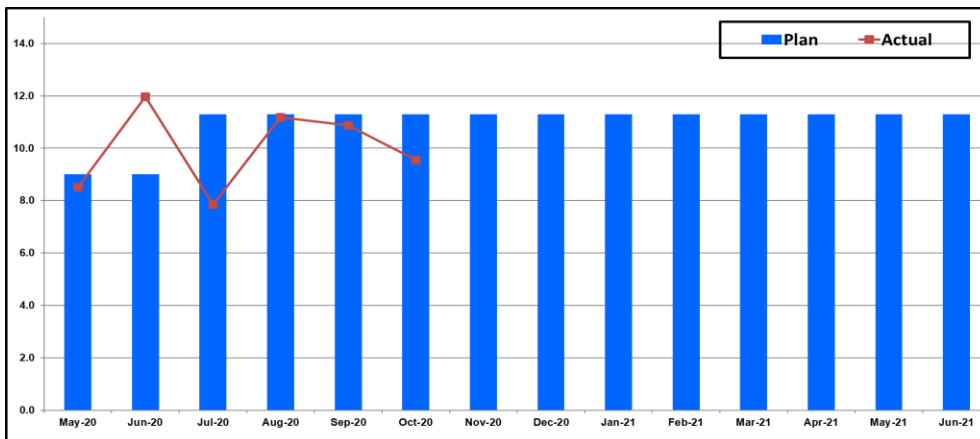
Metro Staff



CM Support Services Staff (Consultant)



Engineering Services Staff (Consultant)



Staffing by Group

The opposing graphs represent planned vs. actual staffing levels by group.

Metro staffing includes full time staff located in the IPMO as well as part-time support located at Gateway Headquarters.

Staffing plans are developed for each fiscal year based on project needs.

REAL ESTATE

- Metro has obtained Right-of-Entry (ROE) agreements for most properties requiring access due to revised construction schedule.
- Metro is working on initiating process for Street Vacations / Dedications.

QUALITY ASSURANCE

- Attended weekly Quality Team Meetings with WSCC Lead Quality personnel.
- Obtained weekly update for items related to City of Los Angeles Bureau of Contract Administration (ConAd)
- WSCC Quality issued four (4) Nonconformance Reports (NCRs) during this period.
- Metro Quality reviewed the CWPs for MSE Wall #202 Jet Grouting & OCS Pole Foundation.
- No Readiness Review meetings were conducted during this period.
- Metro Quality participated in Internal Project Review Weekly meetings.
- Metro Quality reviewed procedures and participated in project closeout meetings.
- Metro's Independent Testing Lab (ITL) performed verification inspections and tests during this month.

ENVIRONMENTAL STATUS

- Noise and vibration spot checks continue to be conducted weekly at multiple sensitive locations, and at locations of new activities along the project alignment.
- SWPPP inspections of all project areas were conducted weekly by WSCC and spot checks by Metro to observe site conditions and report on performance of stormwater protection Best Management Practices and overall housekeeping.
- No fugitive dust complaints were received during the reporting period.
- EMS and Environmental Compliance Progress meetings were held during this reporting period on 10/08/20 and 10/22/20.
- There were no qualifying rain events during the reporting period.
- Spot check nighttime noise monitoring was performed by Metro on 10/01/20, 10/09/20, 10/13/20, and 10/14/20, 10/16/2020, and 10/17/2020. Nighttime noise exceedances were observed on two nights (10/16 and 10/17) by Metro environmental inspectors. WSCC personnel were informed of the exceedances and corrective actions were taken.
- Asbestos containing material (ACM) conduit piping was encountered on 8/12/20 on the northeast corner of 104th/Aviation during potholing for the traffic signal foundation for Pole 9. The conduit was found to be retired AT&T conduit and was okayed for removal. WSCC Environmental collected samples and confirmed the piping was ACM transite pipe with only 3-4 feet of removal needed. On 8/20/20, during the attempted removal of the ACM pipe, contaminated soil and two additional ACM conduits were encountered. The soil was sampled and found to be unsuitable for reuse onsite. ACM pipes were not removed per recommendation from AT&T, contaminated soil unsuitable for reuse will be properly disposed of at a later date.
- This ACM pipe and contaminated material is still in-situ as WSCC redesigns this work as requested by AT&T.

CONSTRUCTION/COMMUNITY RELATIONS

- Continued working with WSCC to minimize the impacts of lane and street closures along the Crenshaw/LAX Transit Project.
- Circulated bilingual public notice for project construction activities. The notices are distributed via-email, social media networks, and hand delivered to key stakeholders.
- Continued coordinating with WSCC to mitigate impacts to businesses and residents along the Crenshaw/LAX Transit Project.
- Ongoing coordination with WCSS and Metro Bus Operations to plan for bus detour routes to accommodate lane reductions and closures required to implement construction activities.
- Continued outreach to area stakeholders including the LAX area regarding ongoing construction activities, mitigation measures and train testing.
- Continued outreach to key stakeholders and community organizations via-phone calls and emails. Ongoing planning for virtual community construction update meetings and presentations to key stakeholder groups.
- Ongoing coordination and partnership with first responders and city staff to address issues with homeless encampments, traffic plans and street closures.

CREATIVE SERVICES

- Participated in weekly Art Program and Signage coordination meetings with DB Contractor
- Coordinated RFI responses for sign fabrication
- Reviewed sign installations
- Identified potential locations for future Leimert Park Station for plaque installation
- Reviewed Aviation Art Fence Control Sample
- Reviewed Glass Mosaic Art Submittals for Substrate, Grout and Edging.

SAFETY AND SECURITY

- Conducted Monthly All Hands Safety & Security meeting with WSCC on 09/24/2020 and the following topics were discussed- Track Allocation, incident review, staffing plan update, Covid 19 reporting procedures, ventilation, Energization and weekend work.
- Participated in WSCC's daily briefings regarding lessons learned, participated in weekly Monday Safety huddles/Safety briefings at EXPO, MLK and VERNON stations, weekly progress/scheduled meetings where we discussed safety related issues.
- Participated in the Wednesday weekly corporate safety conference call to update the safety team emphasis on coverings and shields and construction activities.
- Monitored underground stations and alignment and participated in the weekly Monday, Wednesday and Friday safety walks surveying construction activities daily including weekends to ensure compliance with contract specifications.
- Total Days Away (DART) Injury Rate: Six (6) Days Away from Work (DART) Injuries is 0.1. The National Ave is 1.7.
- Project to Date – Total Days Away Rate (561 Days Away from Work) is 12.2. (No National Published Rate).
- Contract C0988 (WSCC) completed 104,443.47 work hours with (2) recordable/Days Away from Work injury for the month of September 2020. Total Project to Date work hours is 10,301,956.8 with a total of one hundred and two (102) recordable incidents. The Project Recordable Rate is 2.00
- The Bureau of Labor Statistics (BLS) average recordable rate per 200,000 work hours is 2.5

CHRONOLOGY OF EVENTS

October 2011	Board approved the Life-of-Project Budget of \$1.749 billion.
December 30, 2011	Received Record of Decision from FTA.
March 12, 2012	Received Statement of Qualifications 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.
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.
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.
August 21, 2014	Substantial Completion issued for Advanced Utility Relocations Contract C0990.

CHRONOLOGY OF EVENTS (Continued)

May 28, 2015	The Board awarded Contract C0991 Division 16: Southwestern Yard to Hensel Phelps/Herzog JV. Also increased by \$22.0 million the Life of Project Budget for the Southwestern Yard Project to a new amount of \$307.2 million.
May 28, 2015	The Board approved Design Option 3 for the track alignment to accommodate the future Metro Connector Transit Station (96 th St. Station).
June 29, 2015	Issued Notice to Proceed to Hensel Phelps/Herzog JV, Contract C0991 Division 16: Southwestern Yard.
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).
April 6, 2017	The northbound tunnel boring machine completed mining with the hole thru at Leimert Park Station.
June 15, 2018	Restoration of the road over the three underground stations along Crenshaw Blvd. commenced at Leimert Park Station area and the at-grade transition section.
January 30, 2019	Substantial completion was achieved by the Southwestern Yard (Division 16) Contract C0991 Contractor, Hensel/Phelps/Herzog JV.
May 28, 2020	The Board amended the Life-of-Project budget by \$90 million for a new total of \$2,148 million. The Project Schedule was revised to reflect a 2021 revenue service date.