



Metro

Los Angeles County
Metropolitan Transportation Authority

One Gateway Plaza
Los Angeles, CA 90012-2952

213.922.2000 Tel
metro.net

December 21, 2021

TO: DISTRIBUTION

FROM:  SAMEH GHALY
SR. EXECUTIVE OFFICER/PROJECT MANAGEMENT

SUBJECT: CRENSHAW/LAX TRANSIT PROJECT
NOVEMBER 2021 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 November 2021.

If you have any questions regarding this report or its supporting information, please contact Brittany Zhuang, Director, Project Control at (213) 424-7512.

SG: ts

Enclosure

Crenshaw/LAX Transit Project



Metro[®]

CRENSHAW/LAX TRANSIT PROJECT

MONTHLY PROJECT STATUS REPORT

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

NOVEMBER 2021

TABLE OF CONTENTS

	Page No.
PROJECT OVERVIEW	2-8
EXECUTIVE SUMMARY	9-15
PROJECT UPDATE	
• PROJECT SCHEDULE	
PROJECT SUMMARY SCHEDULE	16
PROGRESS SUMMARY	17
PLANNED VS. ACTUAL PROGRESS	17
KEY MILESTONES SIX-MONTH LOOK AHEAD	18
MAJOR EQUIPMENT DELIVERY STATUS.....	19
CRITICAL PATH.....	20
PROJECT SCHEDULE CONTINGENCY DRAWDOWN.....	21
RISK MANAGEMENT NARRATIVE.....	22
• PROJECT COST	
PROJECT COST STATUS & ANALYSIS.....	23-24
COST CONTINGENCY DRAWDOWN AND ANALYSIS.....	25
SUMMARY OF CONTRACT MODIFICATIONS.....	26
DISADVANTAGED BUSINESS ENTERPRISE (DBE).....	27
PROJECT LABOR AGREEMENT (PLA)	28
FINANCIAL/GRANT	29
PROJECT STAFFING.....	30-31
REAL ESTATE.....	32
QUALITY ASSURANCE	32
ENVIRONMENTAL	32
CONSTRUCTION AND COMMUNITY RELATIONS.....	33
CREATIVE SERVICES	33
SAFETY AND SECURITY.....	34
CHRONOLOGY OF EVENTS.....	35-36

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. These accommodations are not funded by the Crenshaw/LAX Transit Project but are paid for by the Airport Metro Connector (AMC) project.

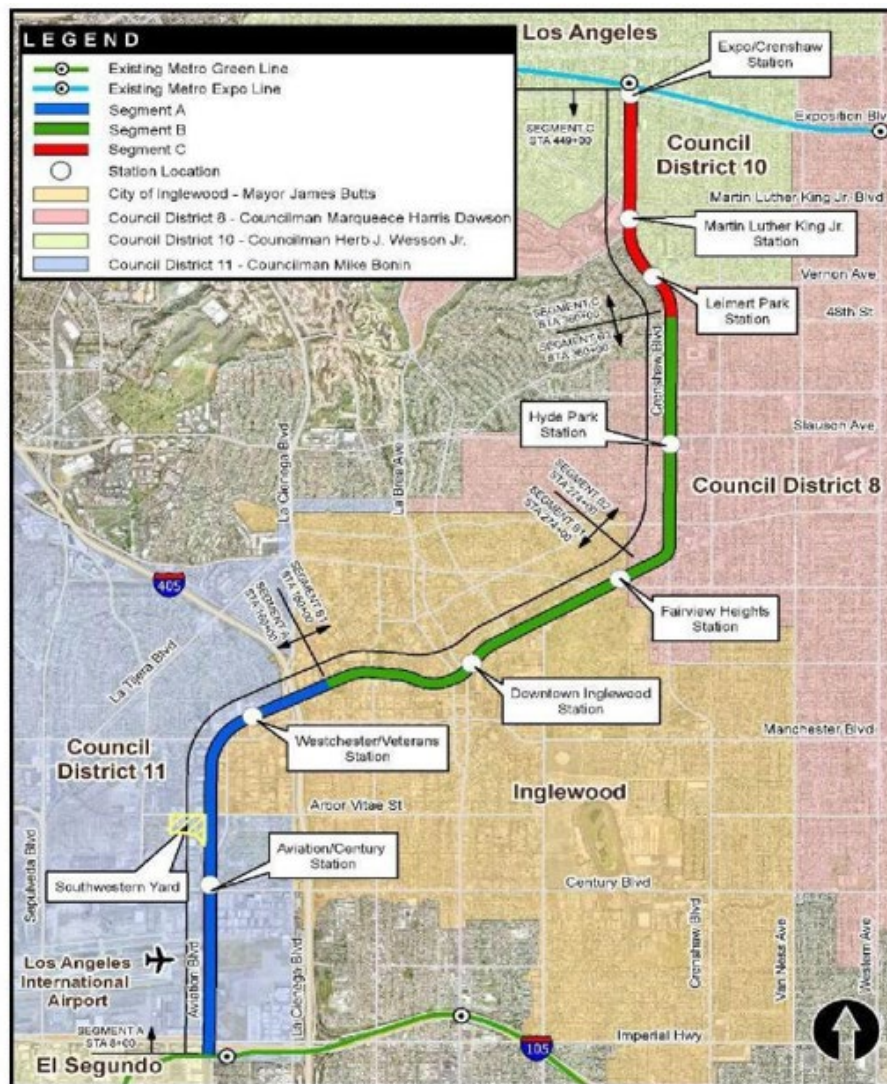
The alignment is comprised of a double-tracked rail line consisting of sections of at-grade in-street, at-grade within railroad right-of-way, aerial, and below-grade guideway sections, eight stations, park and ride facilities at two locations, utilities, landscaping, roadway improvements required by the project and a maintenance & storage facility (Southwestern Yard).

The project alignment consists of three Segments A, B and C:

- Segment A stretches from south at C Line (Green), underground structure 1, areal station at Century/Aviation to at grade Westchester/Veteran station.
- Segment B, includes 3 at grade stations (Downtown Inglewood, Fairview Heights and Hyde Park) and underground structure 3 to 48th street portal.
- Segment C, includes the remaining north portion of the project from underground portal structure 4, three underground stations Leimert Park, Martin Luther King and Exposition.

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 light rail vehicles (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/contact rail, 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 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 (22) Crenshaw cars are currently in revenue service on the C Line (Green) and A Line (Blue). In coordination with the mainline contractor, the contractor KINKISHARYO INTERNATIONAL, LLC of Light Rail Vehicle Contract P3010 completed most of

the onboard vehicle verification testing planned for segments A, B, and C and awaiting full access for final software verification on all Segments and WSCC train control SIT-1 testing.

Rail Operations Center (ROC)

The existing functional operations at the ROC has 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 completion of continued field testing (LFAT, iLFAT and SIT-1). Metro has completed all System Integration Test Phase 2 (SIT-2) procedures and identified key personnel to manage and perform tests. Preparations are being made to start SIT-2 testing of completed sub-systems, by location, and started on CCTV system and planned for telephone and intrusion detection systems that are available. Rail Activation coordination of weekly meetings continue between WSCC, sub-contractors, CPUC, Metro management, Operations and ROC teams. Metro management continuing with coordination meetings in support of ongoing and upcoming SIT-2. ROC continues to observe some of the project sub-systems as they are being tested. Metro is coordinating support efforts with WSCC and LKC. ATC connectivity to ROC trouble shooting continues by WSCC and LKC. The current forecast is for the contractor to complete Substantial Completion in Winter 2021. Metro will complete Phase 2 System Integration Testing, Pre-revenue Operations, Fire Life Safety Certification and California Public Utility Commission Certification leading to Revenue Service and opening to the public in Summer 2022.

Fare Collection

A notice-to-proceed was issued on January 30, 2018, to the existing Metro Universal Fare Collection System (UFCS) contractor, Cubic Transportation Systems (CUBIC), to procure UFCS equipment for the Crenshaw/LAX Project eight stations. The equipment has been manufactured and put in storage locally for the Crenshaw/LAX Project stations.

The Universal Fare Collection System (UFCS) contractor Cubic and mainline contractor WSCC are continuing to coordinate remaining wire terminations at all locations. The underground station Ticket Vending Machines (TVM) cladding installation were completed by WSCC. Fare gates, swing gates, and ticket vending machines (TVMs) installation are mostly complete working on punch list items. Wiring termination coordination in to control rooms are continuing at various stations. CUBIC has confirmed communication with ROC and continues to resolve issues with WSCC. Final programming and activation would be done prior to Revenue Service.

Program Management

The Walsh Shea Corridor Constructors (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 (CO-223.1) 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 installation, considerable testing 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 new issues discovered during testing continue to impact the completion schedule and any potential mitigation and recovery plans.

WSCC in their October 2021, monthly schedule update reflects a WSCC Systems Substantial Completion forecast date of December 15, 2021. Metro is concerned that the current schedule forecast from WSCC does not reflect all the remaining work (retesting, test reports, ATC connectivity, etc.) prior to substantial completion and continues to reflect slower than planned progress every month without effective mitigation efforts made by WSCC or their subcontractors. Metro is also concerned that WSCC is not applying the right resources and field force on a timely manner to complete the remaining discrepancies, prerequisite, troubleshooting of issues, for timely completion of 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 Life of Project (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 Standard Cost Code (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.

Metro's Project Team is coordinating progress with operations, mainline contractor, and ROC management team to ensure all requirements, including procedures, integrated testing and test reports are in place to support ongoing and upcoming System Integration Testing Phase 2 (SIT-2). Coordination of weekly meetings are continuing to address and prepare for start of SIT-2 testing including test procedures, test plan, durations, and staffing requirements. Metro SIT-2 team are continuing to monitor progress of required pre-requisites as they are successfully tested, and test reports are approved. Metro started SIT-2 testing of the CCTV system at the end of November 2021. WSCC currently is working on establishing interface connection from the train control system to ROC and CCTV and SCADA systems are already visible from ROC. Details of needed support staff from Design Build contractor during SIT-2 are agreed to including acceptance of qualified support staff resumes from WSCC and their subcontractors. The current forecast is for the contractor to Substantially Complete in Winter 2021. Metro then would complete Phase 2 System Integration Testing, Pre-revenue Operations, Fire Life Safety Certification and California Public Utility Commission Certification leading to opening to the public in Summer 2022.

Walsh-Shea Corridor Constructors (WSCC) is continuing with system's Local Field Acceptance Testing (LFAT), and Integrated LFAT (iLFAT), and systems integration testing (SIT-1) at various locations on the project. The WSCC/ Engineering Economics Inc. (EEI) commissioning

agent continues the coordination, planning, and startup and LFAT process of the remaining open items for the underground structures, stations mechanical Emergency Ventilation Fans (EVF), mechanical and plumbing systems which are in BIM-360 for tracking and resolution.

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 as needed, including vehicles with operators for testing. Metro Management, WSCC Contractor, CPUC and Operations are meeting weekly to coordinate, manage, and support the Project testing and activation.

EXECUTIVE SUMMARY

The Project has achieved 99.5 % 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 with engineering in support of construction, installation, testing and commissioning. The engineering support during construction is identified as a concern in the project due to extensive repair, rework and field issues resolutions required (for more details see Key Concerns 3,9 and 10), affecting construction due to the remaining items, finishes (cladding mostly complete), plinth gap repair (completed), Station speakers (completed), electrical and mechanical (emergency fans/dampers) trouble shooting of discrepancies and testing (EVOP, EGOP ongoing), system's work and testing including SIT-1 are ongoing. WSCC continues to support coordination and resolution of engineering issues including submittals, studies, re-design, NCR's, fire life safety (FLS) issues, test reports, etc.

Construction Status

Design - Build Contract C0988 Mainline Contractor

WSCC continues construction, installation and testing 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 in field inspection, punch list and acceptance process and continuing with station finishes (signage, cladding, ceiling panels, etc.), systems installation and testing (LFAT, iLFAT and SIT-1). The three underground stations remain at various levels of completion with emphasis on electrical/mechanical verification testing, systems testing, finish work inside the stations continuing, entrance structures and plaza finishes are mostly complete.

WSCC is continuing with the system's Local Field Acceptance Testing (LFAT), and Integrated LFAT (iLFAT), and systems Integration testing at various locations on the project including trouble shooting of discrepancies and retesting. The WSCC/EEI commissioning agent continues the coordination, planning, and startup process of the remaining open items for the underground structures and stations mechanical (Emergency Ventilation Fans (EVF), and plumbing (Sump pumps, Etc.).

Trackwork and OCS/OCR are mostly completed, including the OCS counterweight rework. All segments are energized and under WSCC track allocation control. Wayside train control installation is mostly complete along the alignment including in the underground stations and tunnels and in the process of establishing (trouble shooting and repairs continue) connection to the Rail Operations Center (ROC). Systems installations are mostly complete and continuing with systems LFAT's, iLFAT and SIT-1.

WSSC and Metro continue to coordinate with other agencies, cities and utility companies (power, water, gas, and communication) at various locations as needed.

Progress on the installation and testing is proceeding as follows:

- Finish works are mostly complete at all stations.
- Testing of mechanical equipment and electrical systems is mostly complete and remaining issues are identified, tracked in BIM-360 and being addressed. Any potential retesting and adjustments identified during testing (Discrepancies) and troubleshooting continued and retesting (LFAT, iLFAT, SIT-1) are planned and performed as needed.
- UG3 tunnel booster fan air flow is implemented by WSSC, and the final corrective measures procedures are being finalized and coordinated with Metro.
- Underground emergency ventilation fans (EVF) trouble shooting of remaining issues are being tracked in BIM-360, addressed and retested as needed.
- Completion of mechanical interface with SCADA continue to be verified during ILFAT at each location.
- CCTV installation and testing is complete at all locations including the connectivity to ROC and Metro started SIT-2.
- Contract P3010 contractor KINKISHARYO INTERNATIONAL, completed onboard vehicle verification testing as planned for Segments A, B and C and awaiting project wide access for final verification of final onboard software and vehicle certification.
- ATC connection to ROC trouble shooting continues and issues are being addressed, requiring coordination between several subcontractors, hardware and software adjustments. Train control connectivity to ROC has not been established yet.
- Coordination meeting with Rail Operations Center, Metro Operations, SIT-2 and Contractor are setup weekly in preparation support ongoing and upcoming SIT-2. Additional rail activation coordination meetings are setup that include WSSC and their subcontractors to address test reports including SIT-2 test support and availability.
- Universal Fare Collection System (UFCS) contractor Cubic and mainline contractor WSSC are continuing to coordinate remaining wire termination at all locations. Fare gates, swing gates, and ticket vending machines (TVMs) installation are mostly complete working on punch list items. Wiring termination coordination in to control rooms are continuing at various stations. Cubic has confirmed communication with ROC and continues to resolve issues with WSSC.
- Systems field walk, verification inspection and punch list process are continuing by locations and subsystems and all items are added to BIM-360 with priority for tracking and resolution.

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.

WSSC in their October 2021 monthly schedule update reflects a WSSC Systems Substantial Completion forecast date of December 15, 2021. Metro is concerned that the current schedule

forecast from WSCC, does not reflect all the remaining work (discrepancies, retesting, test reports, ATC connectivity to ROC, etc.) and continues to slip and reflect slower than planned progress every month without effective mitigation efforts made by WSCC. There are still considerable discrepancies, troubleshooting, testing, retesting activities and open items (BIM-360) left to be completed by WSCC. This includes rework prerequisite activities 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	12/15/21	-735

To date, the design and construction changes for WSCC related to base scope represent approximately 14.3% of the contract value which includes 4.1% funded by other Metro projects using the services of the alignment design-builder Contract C0988. Metro has issued credit change orders which has reduced the percentage of changes per contract value. Metro anticipates future changes initiated by Metro will include “credit” changes.

Key Management Concerns

No. 1: WSCC Construction Schedule Progress

Status/Action

WSCC has submitted October 2021 Monthly Schedule Update which reflects a WSCC Substantial Completion (SIT-1) forecast date of December 15, 2021, and Systems Substantial completion date of December 15, 2021. Metro is concerned that the current schedule forecast from WSCC, continues to slip due to field issues and reflect slower than planned progress every month without effective mitigation efforts made by WSCC. Potential mitigation proposed by WSCC such as increased work crews, double shift, and overtime, has been limited by WSCC or their subcontractors. There are still work activities and prerequisites to testing left to be completed by WSCC. This includes rework (ATC connectivity system to ROC, etc.) and prerequisite construction work to allow follow-on subcontractors to complete 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 November 2021, there was a contingency replenishment of \$553,000 which decreased the remaining contingency to \$10.4 million. The remaining contingency is 0.5% of total project current forecast and 13.9% of total project cost-to-go.

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

Activities completed include test procedures, MSE wall repair, power coordination studies, station speakers, and deviation requests. There are engineering support activities during construction and testing such as test reports, submittals, re-submittals, requests for information (RFI), NCR's, FLS issues, OCS balance weight anchor stainless steel rope fraying, including new field issues that are impacting the field work progress. Most of the known issues, including punch list items and discrepancies are put in the BIM-360 (Building Information Modeling 360) for tracking and resolution. The impact is creating delays and potential inefficiencies to construction, systems work, testing, start-up, commissioning, LFAT and iLFAT. New and unresolved existing issues including failed tests (discrepancies) requiring investigation, trouble shooting, design support and resolution are continuing to affect progress in all areas of the project schedule including systems communication, OCS acceptance, Etc. Issues requiring engineering investigation, analysis, RFI's, procurement are continuing to affect the work progress in the field.

**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 vehicle testing, and various stations communication systems work such as emergency fans, Train Control connectivity to ROC and fire alarm systems and testing. There are still new issues being identified, as testing continues, which are impacting planned follow-on work by subcontractors in the underground stations and tunnels. The impact of these issues continues to cause schedule slippage and inefficiencies, and delays. Other discrepancies are being identified as testing continues. Contractor's prerequisite work needs to be completed expeditiously to allow follow-on subcontractor work to be expedited to minimize effect of slow schedule progress. The Emergency Management Panel (EMP) screens issues have been resolved, plinth gap, OCS counterweight rope damage have been completed and MSE Wall-202L completed and sites restored. Metro is also concerned that WSCC is not applying the right resources and field force on a timely manner to complete the remaining testing, trouble shooting of issues, for timely completion.

**No. 5: 3rd Party Coordination and Impact on follow up activities.
Status/Action**

Multiple areas of work along the alignment require close coordination with 3rd Party Agencies. Metro is working with WSCC and resolving issues as quickly as possible. There are no major issues remaining and meeting are setup as needed. Issues related to permanent power energization have been resolved and utility company equipment has been energized. Permanent distributed power is complete and temporary power is removed from all locations. This item is not considered a major concern at this time.

**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 continued to be 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. Project experienced a surge in Dec-2020 and Jan-2021 with over 30 cases reported. The number of COVID-19 cases were trending down, with only few isolated cases reported since March 2021 through November 2021. This item is not considered a major concern at this time but is being monitored and guidelines emphasized.

No. 7: MSE Wall 202L Settlement and Movement
Status/Action

Construction activities around MSE Wall 202L movement were suspended pending detail analysis of the cause of movement and mitigation measures. The train control and vehicle testing were impacted by MSE Wall-202L movement which impacted any vehicle movement near the wall. The jet grouting repair work was completed in February 2021 and the restoration of AC-cap, ballast, track work, train control and OCS registration were also completed in March 2021. Train testing was allowed to resume in March 2021. WSCC is continuing to monitor the wall for any changes or movement (No issues reported). This item is not considered a major concern at this time.

No. 8: Emergency Management Panel (EMP) Display Omissions by WSCC
Status/Action

Several key components of EMP screen display of emergency hatch alarm and ventilation scenarios were omitted by WSCC. Metro and WSCC have worked together and have resolved all the safety concerns. Coordination efforts and development of required EMP screens are resolved expeditiously by redlining the drawings. Loading of the program is complete and EMP testing is continuing. Metro and WSCC have resolved EMP screen issues and proceeding with testing at this time. Other issues with EMP are being identified, recorded and being addressed in the field. This item is not considered a major concern at this time.

No. 9: Progress Rate of Testing for Local Factory Acceptance and System Integration Testing

Status/Action

The remaining required WSCC testing effort including LFAT, Commissioning and SIT-1 is very critical and considered significant part of remaining scope of work. The actual production rate of successful testing does not support WSCC's Monthly Schedule Update or the weekly projections. The required testing effort includes LFAT, iLFAT, and SIT-1 are critical part of the schedule and key milestones. The actual production rate of testing needs to increase significantly to support WSCC's Monthly Schedule Update and their projected production plan. There is no contingency plan in place for addressing issues, trouble shooting, repairs, required repairs, retesting, and test reports, etc. Coordination between Metro systems and WSCC is continuing to narrow the difference in LFAT numbers and the SIT-1 numbers which are mostly tests with discrepancies requiring retesting. Test report progress is improving but remain significantly lagging testing.

No. 10: OCS balance weight anchor stainless steel rope damage and fraying
Status/Action

During the field inspection and joint walk between Metro and WSCC it was discovered that Overhead Catenary System (OCS) balance weight anchor ropes are damaged at various degrees. After evaluation it was determined that the OCS system needs to be evaluated and engineering solution provided to determine the cause and development of a permanent solution. All the OCS portion of the project (above grade track area) was put on hold (potentially unsafe) for operating trains at any speed and all vehicle testing was suspended in above grade portion of the project. WSCC/LKC and their specialty subcontractors have determined the cause and have developed potential permanent solution that is under HNTB (Engineer of Record) and Metro final evaluation and acceptance. LKC has replaced the ropes and completed implementation of the final solution at their own risk. This issue has caused delays, impacting completion of P3010 vehicle software verification, train control integration testing and project substantial completion.

PROJECT CONSTRUCTION PHOTOS



AVIATION STATION – Tightening fencing bolts at the Aviation Station Plaza. Facing east.



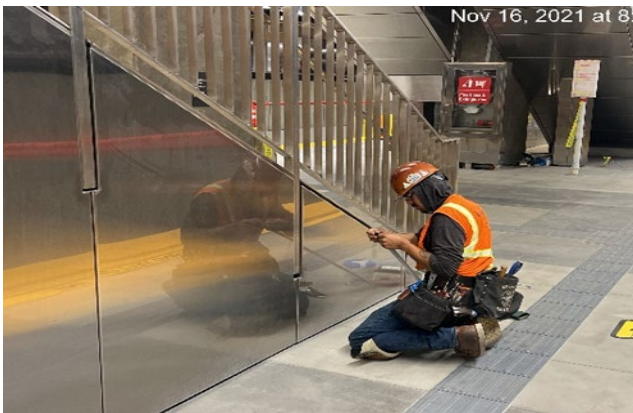
HINDRY STATION – Flagging for train testing at the Hindry crossing. Facing north.



PARK MESA STATION – Continue street restoration northbound Crenshaw Blvd between 57th St and 54th St.



EXPO STATION – Grounding ADA pole sign adjacent to the main entrance door at the plaza.



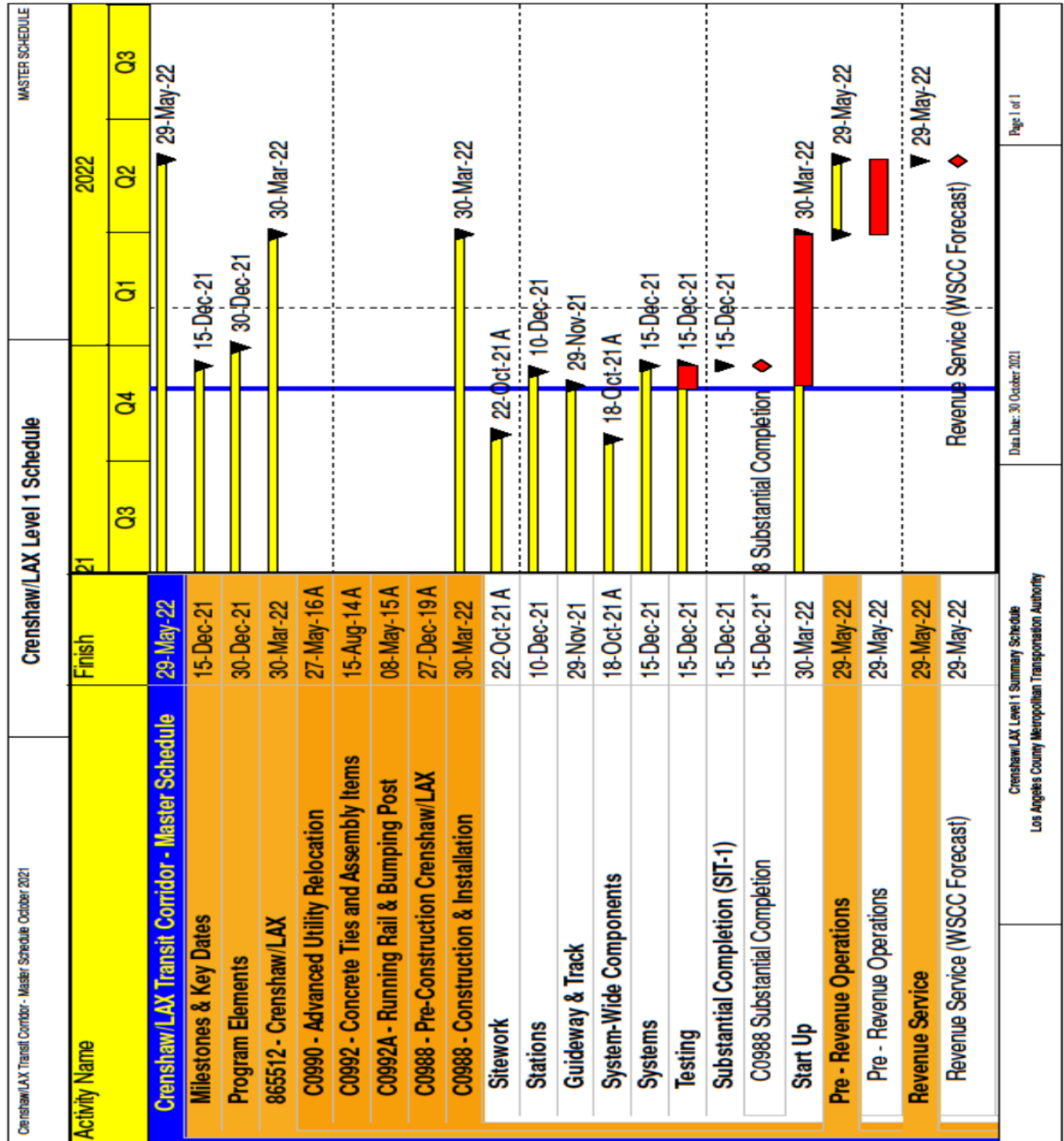
LEIMERT PARK STATION -. Continue installing stainless-steel cladding panels to Escalator 5&6 at the platform.



MLK STATION – Caulking and sealing the art glass panels around the perimeter of the main entrance plaza canopy

PROJECT UPDATE

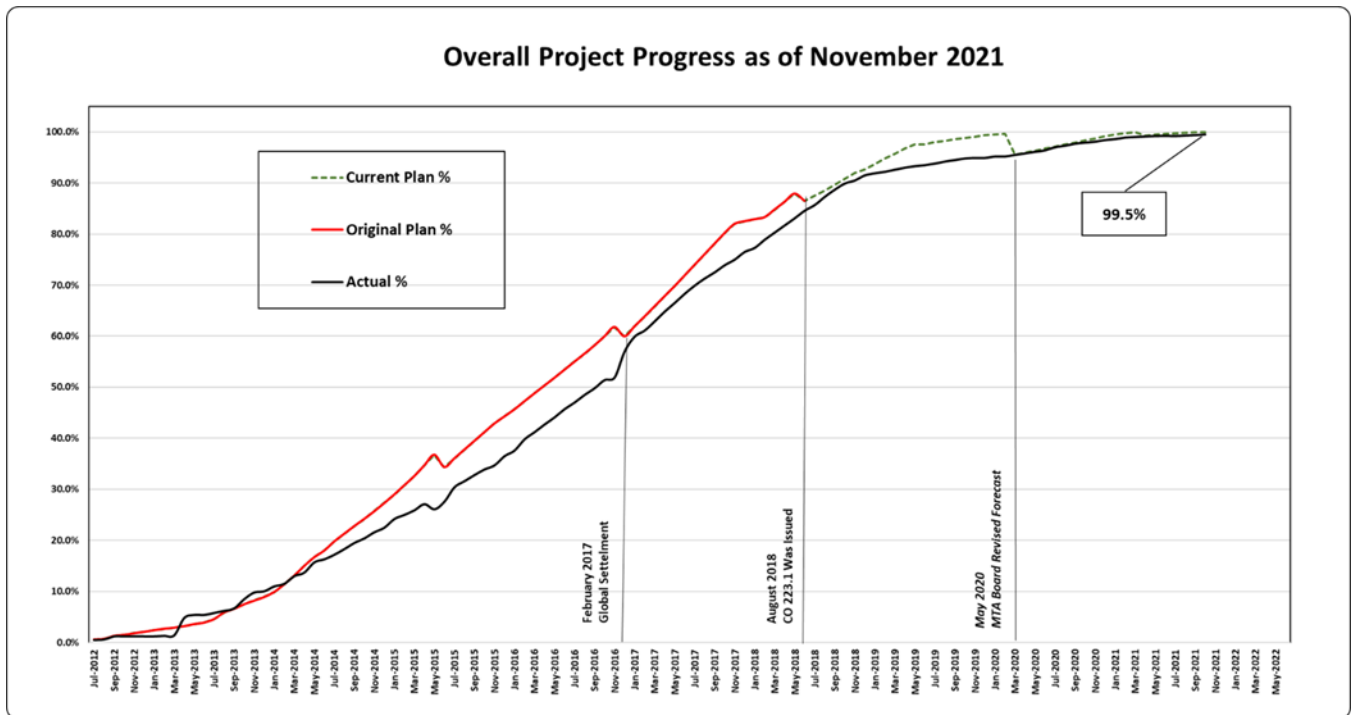
Project Summary Schedule - (WSSC Forecast)



Progress Summary

	Status	Change from Last Period	Comment
Current Revenue Service:	5/24/21	NA	
Forecast Revenue Service:	5/29/22	-30 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	99.6%	0.1%	Behind Schedule (Adjusted)
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	Nov-21	Dec-21	Jan-22	Feb-22	Mar-22	Apr-22
LFAT all Project Elevators and Escalators *	11/5/21A	◡					
Signage Installation - All Stations	11/17/21A	◡					
Metro Start SIT-2 (45 days overlap with SIT-1) *	11/29/21	◆					
WSCC Systems Substantial Completion (SIT-1) Segment A *	12/01/21		◡				
WSCC Systems Substantial Completion (SIT-1) Segment B *	12/05/21		◡				
Train Control Connectivity to ROC	12/13/21		◡				
WSCC Systems Substantial Completion (SIT-1) Segment C & End-End*	12/15/21		◡				
Resolve all FLS tracking list	12/24/21		◡				
WSCC Substantial Completion (Non-Systems) *	12/24/21		◡				
Fair Collection System Installation (Final Programming prior to RSD) *	12/31/21		◆				
P3010 Vehicle Final Onboard Verification	12/31/21		◆				
Metro Start Pre-revenue Service (Pending ATC SIT-1 & SIT-2) *	03/31/21					◆	

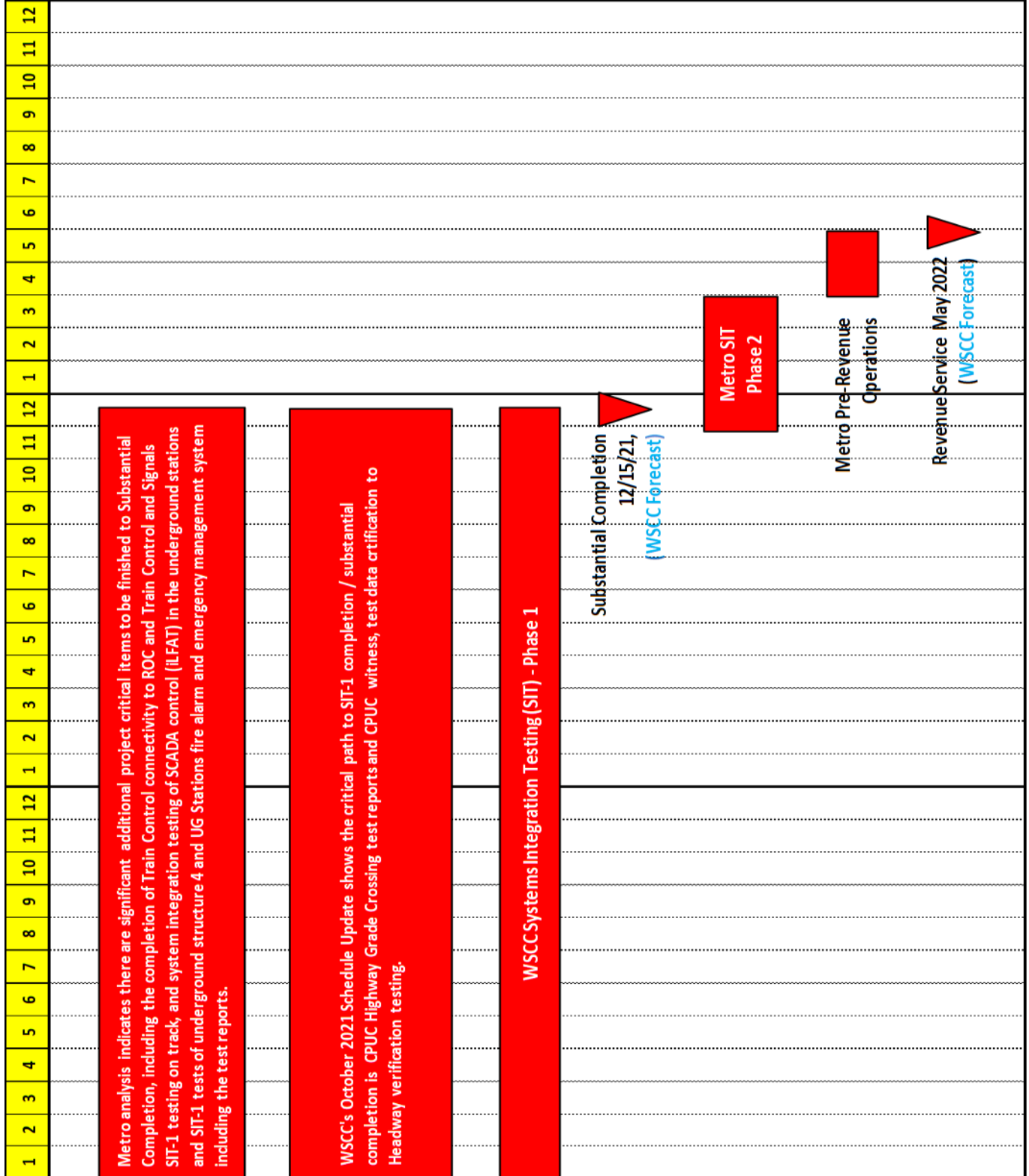
◆ MTA Staff	Ⓜ MTA Board Action	⌘ FTA (Federal Transit Administration)	▽ Utility Company
△ Other Agencies	□ C0991 D/B Contractor	○ Design Consultant	◡ C0988 D/B Contractor

"A" following date is actual and completed * New Date

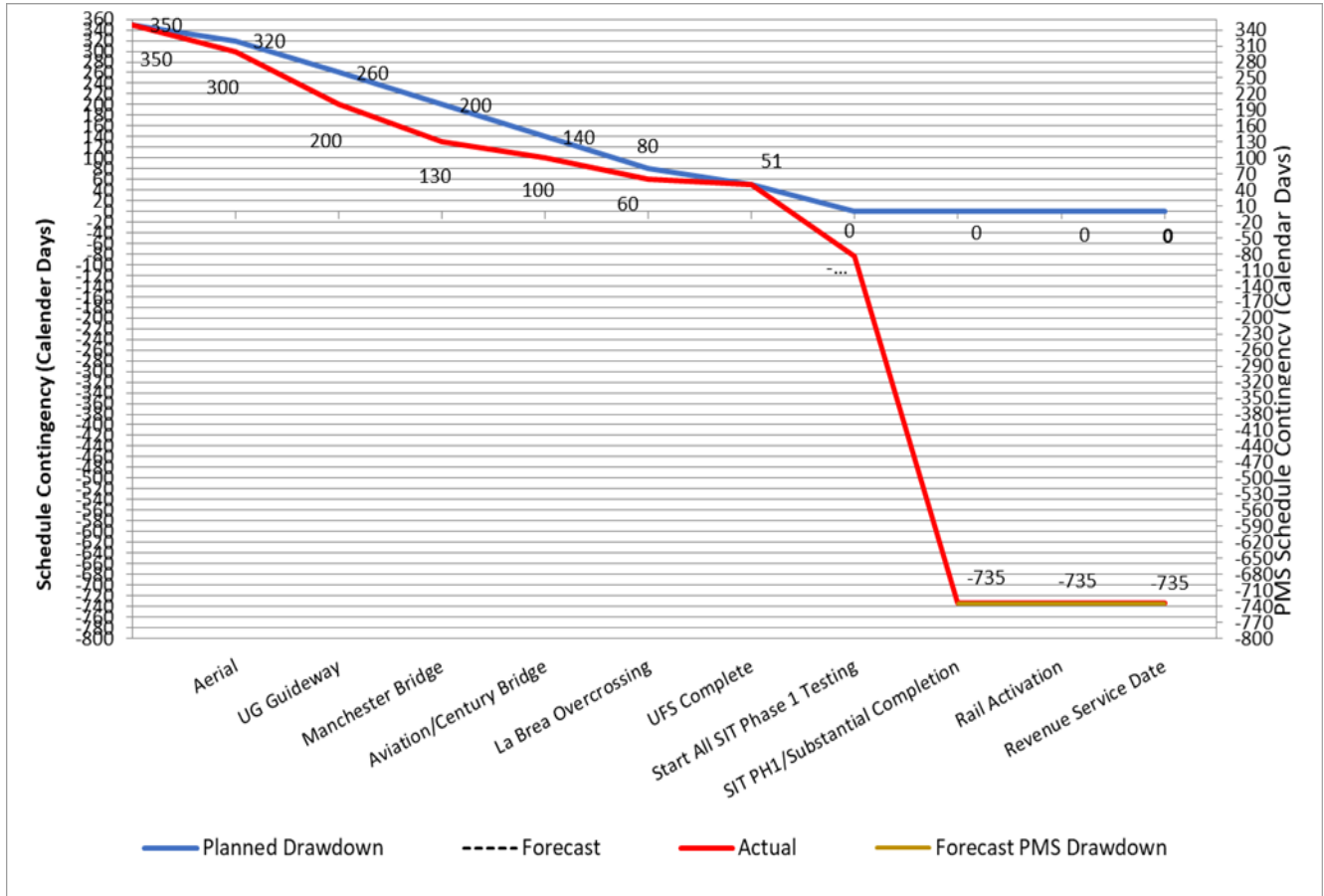
Major Equipment Delivery Status

<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)	In Progress (Prior to RSD)
<i>Mainline Contractor Equipment Delivery Requirements</i>			
Activity Name	Early Finish	Need Date	
Train Control Connectivity Software/Hardware	12/13/21		
Remaining procurements items are replacement due to damage, quality issues are tracked separately	As needed	NA	
* All the replacement items are tracked in Building Information System (BIM-360).			

Critical Path - reflects "Current WSCC Forecast"



Project Schedule Contingency Drawdown



Metro issued in August 2018 a non-compensable unilateral change order (223.1) to WSCC to extend their substantial completion milestone to December 11, 2019. Thus, performance measurement is now tracked against this date.

Risk Management Narrative

Summary of Risks

Within this reporting period no risk was closed. No new risk was added. There is a total of eight (8) risks remaining to be managed in the next reporting period. Of the Eight (8) risks, seven (7) are scored as high (10 to 20 risk rating), one (1) as medium (4 to 9 risk rating), and none (0) 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: OCR weight/Rope issues (Done), TPSS and Auxiliary Power Energization (Done), Mechanical tests including HVAC/Emergency Fans/Tunnel Booster Fans, (Mostly done, final testing and reports remains), Train Control remaining train control SIT-1 tests (Mostly done, connectivity to ROC troubleshooting continuing), Communication system testing (Ongoing), Fire alarm LFATs (Mostly complete, Final testing ongoing), Intrusion detection (Ongoing), Radio, PA speakers systems (Done), and systems integration testing (Ongoing).	16
379	20	LFAT, Procedures (Done) and Testing Schedule and Rate of Testing Progress (Ongoing)	15
380	20	SIT-1, Procedures (Done) and Testing Schedule and Rate of Testing Progress (Ongoing)	15
377	20	COVID-19 (Coronavirus) – Project Impact (Delta Variant is surging in Los Angeles)	10
368	10	Airport Metro Connector Project [Including Automatic People Mover (APM) activities over and around the track	10

Newly Identified Risks: There are no new items added to the risk register.

Closed Risks: One risk is closed in this period.

Risk Score Changes: No risk score is 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	4,578	416,388,816	0	415,336,972	4,578	416,388,817	(1,399,489)
20	STATIONS	153,906,000	-	308,067,041	-	306,205,648	0	304,435,721	(1,596,270)	306,249,901	(1,817,140)
30	SUPPORT FACILITIES SOUTHWEST YARD	66,673,000	-	66,919,206	-	66,715,509	162,780	66,532,298	(107,075)	66,715,509	(203,698)
40	SITWORK/SPECIAL CONDITIONS	235,576,000	-	404,953,359	999,050	415,838,686	160,348	394,038,811	1,393,991	415,950,362	10,997,003
50	SYSTEMS	125,132,000	-	175,073,936	572,000	174,401,289	135,254	165,733,049	524,934	175,101,300	27,364
	CONSTRUCTION SUBTOTAL (10-50)	1,052,622,000	-	1,372,801,849	1,575,627	1,379,549,947	458,383	1,346,076,851	220,159	1,380,405,888	7,604,040
60	RIGHT-OF-WAY	132,294,000	-	137,726,295	1,398	140,791,894	750	138,589,769	47,713	140,791,995	3,065,700
70	LRT VEHICLES	87,780,000	-	83,571,544	-	82,158,074	-	81,837,755	-	83,571,544	-
80	PROFESSIONAL SERVICES	273,147,000	-	501,844,251	(1,995,714)	499,503,089	3,627,761	470,298,261	285,128	507,234,791	5,390,540
	SUBTOTAL (10-80)	1,545,843,000	-	2,095,943,938	(418,689)	2,102,003,004	4,086,894	2,036,802,636	553,000	2,112,004,218	16,060,279
90	UNALLOCATED CONTINGENCY	177,157,000	-	26,507,031	-	-	-	-	(553,000)	10,446,751	(16,060,279)
100	FINANCE CHARGES	-	-	-	-	-	-	-	-	-	-
	TOTAL PROJECT 865512 (10-90)	1,723,000,000	-	2,122,450,969	(418,689)	2,102,003,004	4,086,894	2,036,802,636	0	2,122,450,969	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	-	20,022,881	-	20,022,881	-	20,022,881	-	20,022,881	-
	TOTAL PROJECTS 405512 & 465512 (ENV / PLAN'G)	26,000,000	-	25,549,031	-	25,549,031	-	25,549,031	-	25,549,031	-
	TOTAL PROJECTS 405512, 465512 & 865512	1,749,000,000	-	2,148,000,000	(418,689)	2,127,552,035	4,086,894	2,062,351,667	0	2,148,000,000	0

1. Expenditures are Cumulative through November 26, 2021.

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 various services to assist in the management and oversight of the Project.

Commitments

Commitments decreased by \$0.4 million this period to \$2,127.5 million which represents 99.0% of the current budget. The total decrease is associated with professional services.

Expenditures

Expenditures increased by \$4.1 million this period to \$2,062.4 million which represents 96.0% of the current budget. The total increase is for costs associated with design-build Contract C0988 Crenshaw/LAX Transit Corridor and professional services.

Current Forecast

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

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

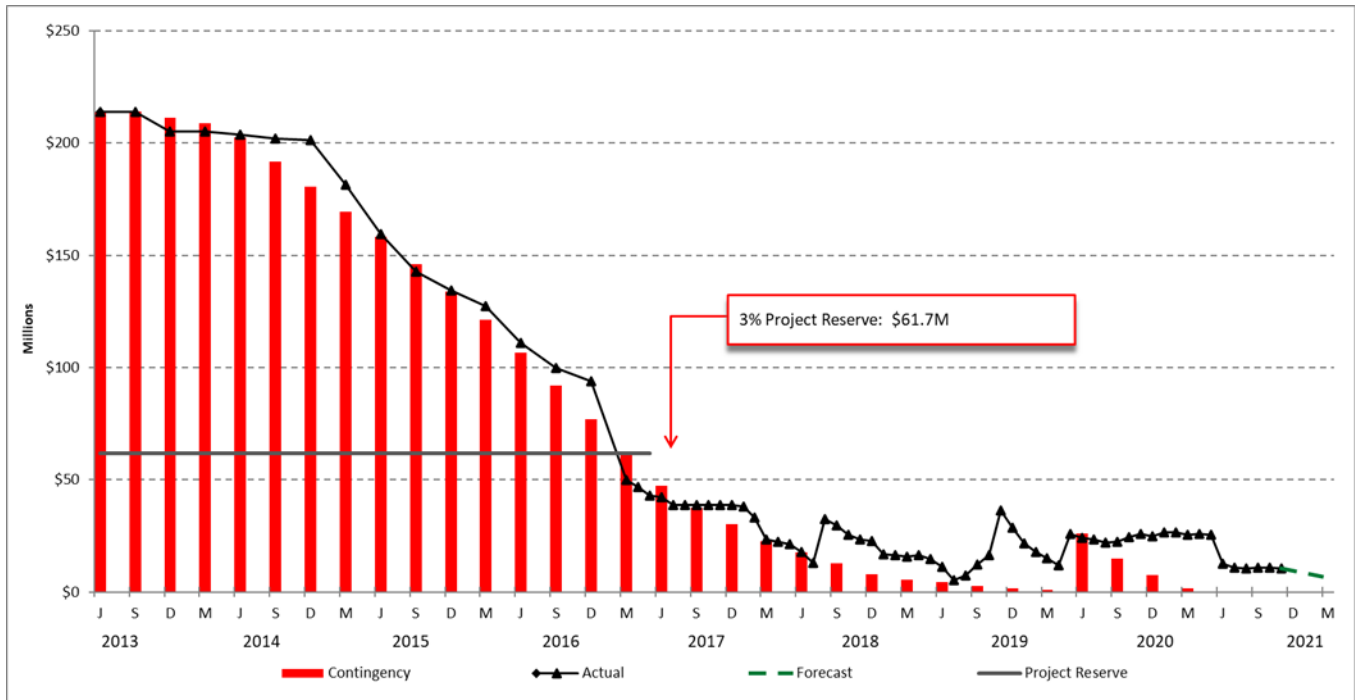
November 2021

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
	PERIOD	TO DATE	PERIOD	TO DATE	PERIOD	TO DATE	PERIOD	TO DATE	VARIANCE
405556 SYSTEMWIDE TRANSIT PLANNING	-	320,035	-	320,035	-	320,035	-	320,035	-
210090/93 FARE GATE PROJECT	-	4,891,226	-	4,391,226	-	4,391,226	-	4,391,226	(500,000)
210152 CRENSHAW/LAX BUS TRANSFER FACILITY	-	2,200,000	-	2,200,000	-	2,200,000	-	2,200,000	-
460303 AIRPORT METRO CONNECTOR	-	37,914,465	-	37,366,770	-	37,366,770	-	37,914,465	-
500013 C/LAX LAVA SCOPE OF WORK	-	581,918	-	581,918	-	581,918	-	581,918	-
405522 HIGHWAY PLANNING	-	105,457,668	-	105,457,668	-	105,402,636	-	105,457,668	-
TOTAL	-	151,365,312	-	150,317,617	-	150,262,586	-	150,865,312	(500,000)

Cost Contingency Drawdown



Cost Contingency Drawdown Analysis

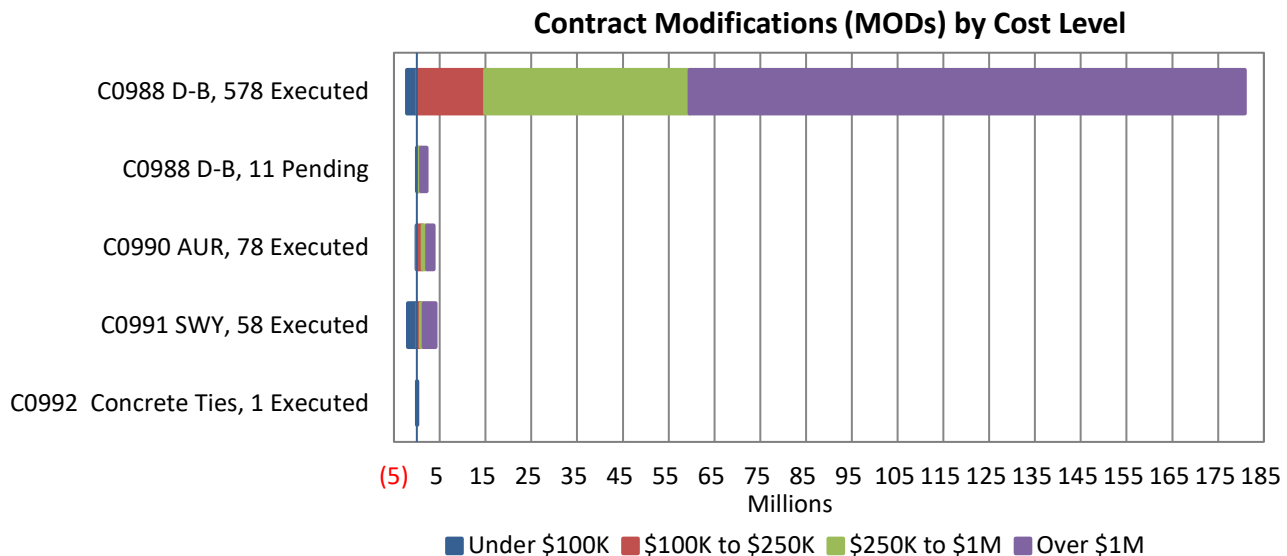
In May 2020, the Board amended the LOP budget by \$90 million, increasing the Total LOP Current Budget to \$2,148 million. The increase included \$14.2 million for additional unallocated contingency. The drawdown plan is correlated to anticipate risk trends and measures drawdown moving forward.

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, \$553,000 was drawn down from contingency. The remaining total project contingency (allocated and unallocated) is \$10,446,751.

PROJECT COST CONTINGENCY (through 26-November-2021)					
UNITS IN DOLLARS					
	Original Contingency	Previous Period	Current Period	To-Date	Remaining Contingency (Forecast)
Unallocated Contingency	173,500,000	(162,500,249)	(553,000)	(163,053,249)	10,446,751
Allocated Contingency	40,366,792	(40,366,792)	-	(40,366,792)	-
Total Contingency	213,866,792	(202,867,041)	(553,000)	(203,420,041)	10,446,751

Summary of Contract Modifications



	C0988	C0990	C0991	C0992	Total
	578 Executed	78 Executed	58 Executed	1 Executed	
Under \$100K	\$ (2,119,778)	\$ (70,251)	\$ (1,918,854)	\$ 81,738	\$ (4,027,145)
\$100k to \$250K	\$ 14,943,163	\$ 1,280,184	\$ 875,202	\$ -	\$ 17,098,548
\$250K to \$1M	\$ 44,639,974	\$ 984,662	\$ 590,334	\$ -	\$ 46,214,970
Over \$1M	\$ 121,212,403	\$ 1,417,202	\$ 2,590,000	\$ -	\$ 125,219,605
Total Contract MODs	\$ 178,675,762	\$ 3,611,797	\$ 2,136,682	\$ 81,738	\$ 184,505,978
Contract Award Amount	\$ 1,272,632,356	\$ 7,827,500	\$172,312,695	\$ 2,161,297	\$ 1,454,933,848
% of Contract MODs	14.04%	46.14%	1.24%	3.78%	12.68%

Five hundred and seventy-eight (578) changes with a total value of \$178.7 million have been executed since the award of Contract C0988. There are an additional twelve (11) changes with a total value of \$2.01 million pending the administrative approval process.

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

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

One (1) change with a value of \$81,738 was executed for the 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 October 2021)

- **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** - Contract DBE Committed Dollars divided by Total Contract Value for Design or Construction. **\$29,700,639 (20.00%)**
- **Current DBE Participation - Total amount** **\$30,425,178 (20.79%)**
 paid to date to DBEs divided by the amount paid to date to Prime.

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 **\$307,482,205 (23.67%)**
- **Current DBE Participation - Total amount** **\$360,504,066 (28.60%)**
 paid to date to DBEs divided by the amount paid to date to Prime (\$1,299,328,843)

Three hundred seventy-three (373) Construction subcontractors have been identified to-date

PROJECT LABOR AGREEMENTS (PLA)

Contract C0988 Crenshaw/LAX Transit Corridor Design-Build

(Reported Data as of October 2021)

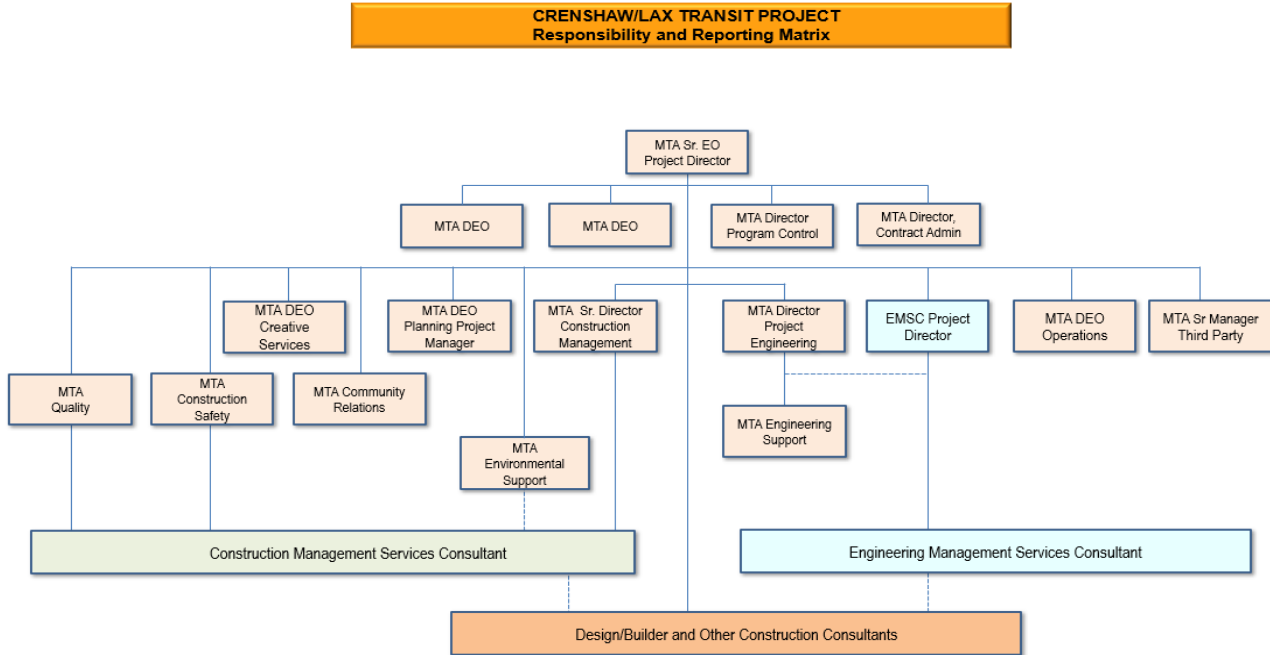
- **Targeted Worker Goal** – Construction work to be performed by residents from Economically Disadvantaged Area of LA County **40.00%**
- **Targeted Worker Current Attainment** **59.98%**
- **Apprentice Worker Goal** – Construction work to be performed by Apprentices **20.00%**
- **Apprentice Worker Current Attainment** **23.64%**
- **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** **10.31%**

FINANCIAL/GRANTS

CRENSHAW \$M		STATUS OF FUNDS BY SOURCE								
NOVEMBER 2021		(A)	(B)	(C)	(D)	(D/B)	(E)	(E/B)	(F)	(F/B)
SOURCE	ORIGINAL BUDGET	TOTAL FUNDS ANTICIPATED	TOTAL FUNDS AVAILABLE	COMMITMENTS \$	%	EXPENDITURES \$	%	BILLED TO FUNDING SOURCE \$	%	
	FEDERAL - CMAQ	68.200	137.100	137.100	137.100	100%	137.100	100%	137.100	100%
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	103.307	100%	103.307	100%	103.307	100%	
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 PROG	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 PROGRAM	-	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	506.336	99%	457.453	89%	432.238	84%	
CITY CONTRIBUTION	52.400	101.707	101.707	87.023	86%	70.706	70%	60.707	60%	
GENERAL FUNDS		54.300	54.300	54.300	100%	54.300	100%	54.300	100%	
MISC. REVENUE		1.700	1.700	1.700	100%	1.700	100%		0%	
PROPOSITION C 25% HIGHWAY	148.900	392.758	392.758	392.912	100%	392.912	100%	392.912	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 35%		55.200	55.200	55.200	100%	55.200	100%	55.200	100%	
TOTAL	1,749.000	2,148.000	2,148.000	2,127.552	99%	2,062.352	96%	2,025.438	94%	
NOTES:										
1 EXPENDITURES ARE CUMULATIVE THROUGH NOVEMBER 26, 2021										
2 TOTAL NEW LOP APPROVED IN MAY 2020 IS \$2,148M.										
3 ORIGINAL BUDGET BASED ON BOARD APPROVED OCTOBER 2011 FUNDING/EXPENDITURE PLAN.										

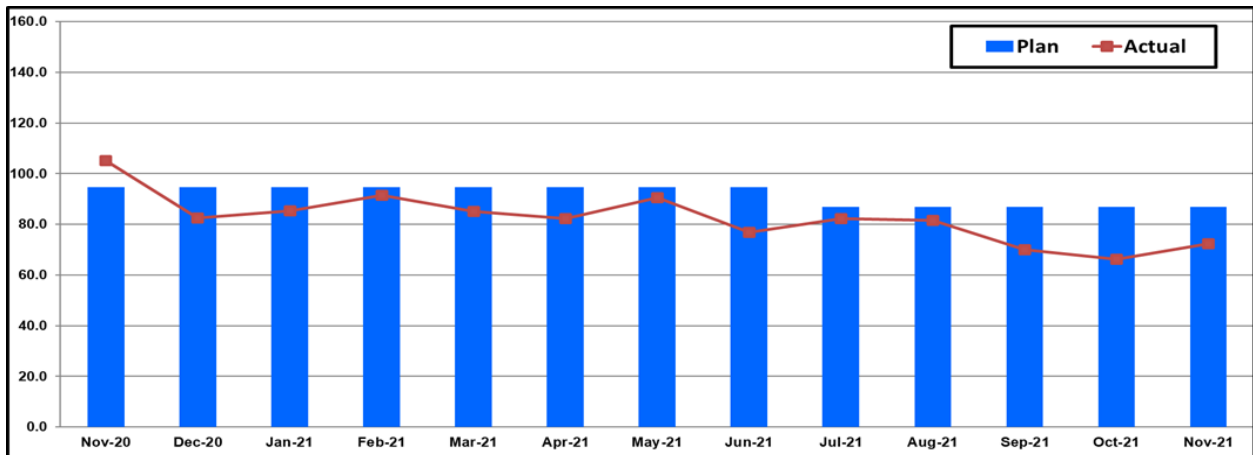
PROJECT ORGANIZATION AND STAFFING

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

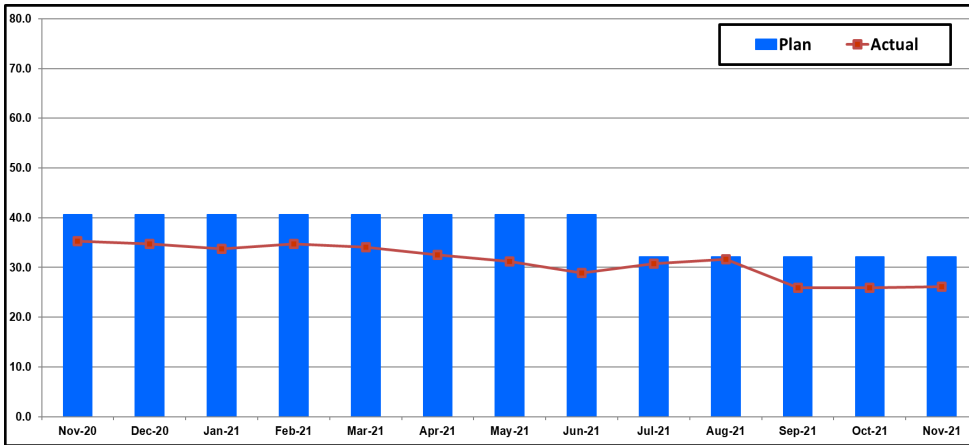


The project staffing charts have been updated with a revised FY22 staffing plan. The overall FY22 Total Project Staffing Plan averages 86.8 Full Time Equivalent (FTEs) per month consisting of 32.1 for Metro Agency staff, 44.5 for Construction Management Support Services Consultant and 10.3 for Design and Engineering Support Services Consulting staff.

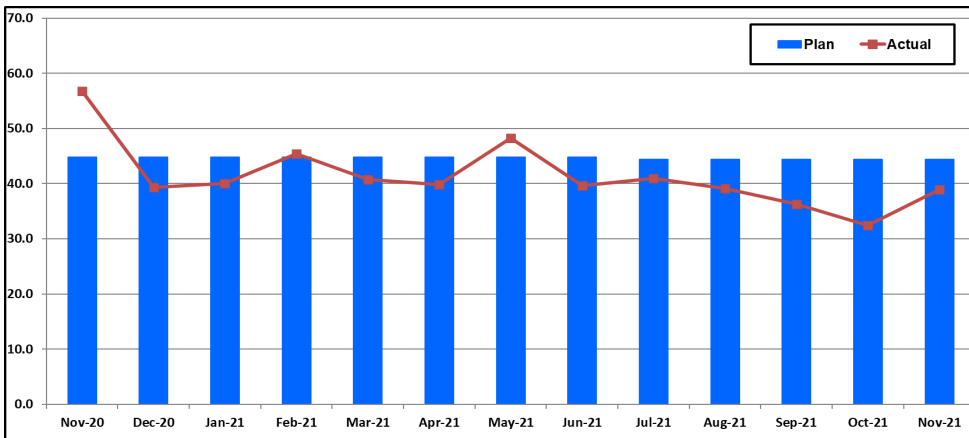
For November 2021, total project staffing were 72.4 FTEs for the month consisting of 26.1 FTEs for Metro’s project administration staff, 39.0 FTEs for Construction Management Support Services Consultant and 7.4 FTEs for Design and Engineering Support Services Consulting staff.



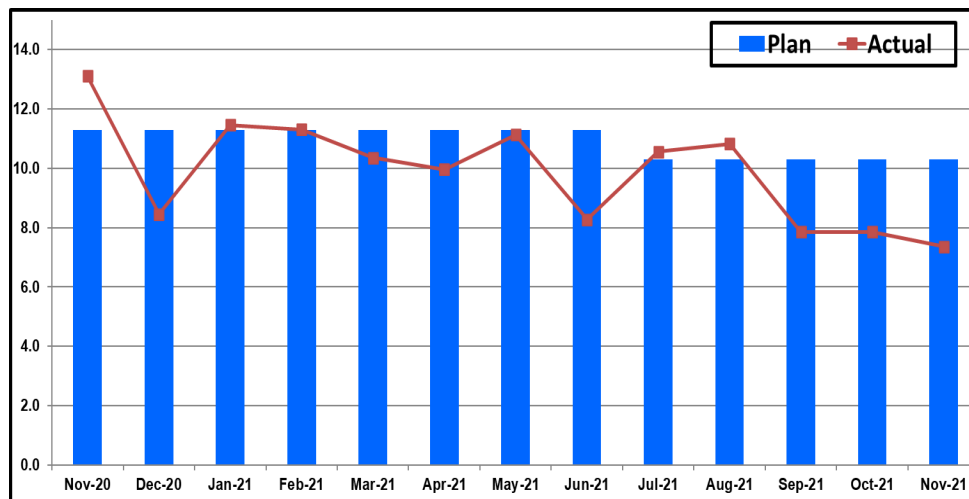
Metro Staff



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

- There is 1 active condemnation.
- There are 3 active relocation cases with final relocation claims pending.
- 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 one (1) Nonconformance Report (NCR) during this period.
- No new CWP reviews were conducted during this month.
- No new Metro Readiness Review meeting discussions were conducted during this month.
- Metro Quality participated in Internal Project Review Weekly Meetings.
- Metro's Independent Testing Lab (ITL) was not scheduled to perform verification inspections/testing during this month.

ENVIRONMENTAL

- Noise and vibration monitoring by WSCC were concluded in July 2021. There was no Metro noise and vibration spot checks during this period.
- 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 11/04/2021 and 11/19/2021. Additionally, annual EMS meeting was held on 10/27/21 and monthly EMS meeting was held on 11/23/21.
- There were no qualifying rain events during this reporting period.
- No spot check nighttime noise monitoring was performed by Metro during the reporting period.

CONSTRUCTION/COMMUNITY RELATIONS

- Continued working with WSCC and the City of Los Angeles to minimize the impacts of full street and lane closures along the Crenshaw/LAX Transit Project alignment.
- Ongoing coordination with WSCC 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.
- Ongoing coordination and partnership with first responders and city staff to address issues with homeless encampments, traffic plans and street closures.
- Ongoing outreach to stakeholders about the Implementation of the Metro Photo Enforcement Program along Crenshaw BI at intersections with at-grade crossings.
- Planning for key stakeholder briefings and community construction update meetings.

CREATIVE SERVICES

- Conducted biweekly Art Program and Signage coordination meetings with DB Contractor.
- Provided responses to Contractor close out submittals.
- Completed on site installation inspections for art glass at entrance pavilions and glass mosaic artworks.
- Conducted ongoing pre-punch signage inspection walks.
- Developed Art and Signage scope of work for inclusion in Catch-All Contract

SAFETY AND SECURITY

- Conducted Monthly All Hands Safety & Security walk/meeting with WSCC at Vernon Station Box and Alignment on 11/24/2021 and the following topics were discussed- Health, Safety and Security Staffing plan update, COVID- 19 reporting procedures and protocols, thefts along the alignment, Track Allocation, EAP Protocols.
- Participated in WSCC's daily briefings regarding lessons learned, participated in the weekly Monday Safety huddles/Safety briefings at EXPO, MLK and VERNON stations including, weekly progress/scheduled meetings where we discussed safety related issues.
- Participated in the 10:00 am Monday Internal Project Review conference call with Sameh Ghaly.
- Participated in the weekly owners 9:00 am Tuesday scheduled progress meetings.
- Participated in the weekly scheduled 7:00 am and 8:00 am Wednesday corporate safety conference call to update the safety team on safety issues and current jobsite updates.
- Monitored underground stations and alignment, participated in the weekly Monday, Wednesday and Friday safety walks with WSCC Underground Safety Manager surveying construction activities daily including weekends to ensure compliance with contract specifications.
- Total Days Away (DART) Injury Rate: Eight (8) Days Away from Work (DART) Injuries is 0.14. The National Ave is 1.5.
- Project to Date – Total Days Away Rate (561 Days Away from Work) is 12.2. (No National Published Rate.
- Contract C0988 (WSCC) completed 30,714.50 work hours with (0) recordable/Days Away from Work injury for the month of November 2021. Total Project to Date work hours is 11,272,230 with a total of one hundred and two (102) recordable incidents. The Project Recordable Rate is 1.80
- The Bureau of Labor Statistics (BLS) average recordable rate per 200,000 work hours is 2.4

CHRONOLOGY OF EVENTS

November 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.
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 (96th St. Station).

CHRONOLOGY OF EVENTS (continued)

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.