



Board Report

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Agenda Number: 36.

**CONSTRUCTION COMMITTEE
APRIL 21, 2022**

**SUBJECT: FISCAL YEAR 2023 PROGRAM MANAGEMENT ANNUAL PROGRAM EVALUATION
DESCRIPTION**

ACTION: RECEIVE AND FILE

RECOMMENDATION

RECEIVE AND FILE status report on FY23 Program Management Annual Program Evaluation.

ISSUE

The Annual Program Evaluation (APE) is a priority initiative created to evaluate Metro’s capital program annually. Given the challenges of managing a multi-billion-dollar capital program, a comprehensive review of the risks associated with the costs and schedules of the program is conducted on an annual basis. This report summarizes the results of the FY23 APE review performed by Program Management.

BACKGROUND

Los Angeles Metro Program Management is delivering the largest transportation infrastructure program in the country. The Program Management department implemented the Annual Program Evaluation initiative in 2016 to provide transparency into the performance of capital projects. The Program Management department mission statement is “together we build World Class transportation to transform the quality of life in our communities.”

In support of the mission statement, the APE initiative is a comprehensive evaluation of Metro’s capital program, including Transit, Highway, and Regional Rail projects. As part of the process, staff reviewed and updated project costs and schedules to current conditions, challenges, and risks. Any changes to project budgets/schedules and the reasons for the adjustments are to be reported to the Board annually for approval. In addition, APE serves as a project management tool bringing greater consistency, transparency, and discipline to better manage and deliver Board-approved projects. The APE is a dynamic tool, which is updated annually as projects move toward completion and any changes approved by the Board are incorporated.

DISCUSSION

On February 24, 2022, there was a Motion by Directors Butts, Dutra and Najarian, Item No. 34, Construction Market Analysis:

“Move to Instruct the CEO and staff to return to the Board in the upcoming fiscal year Annual Program Evaluation:

1. With an assessment of what construction projects can reasonably continue without facing new budget shortfalls prior to their completion [...]”

In response to the Motion, Metro staff has revised the FY22 APE’s prior format of funded through current phase to show current cost and schedule forecast, funding availability, and mitigation measures for each project.

FY23 Results

Program Management is responsible for a portfolio of projects comprising more than 75 projects in total. The FY23 APE, Program Management focused on new projects, and projects that will carry-over through FY23, with project costs estimated at \$5 million or greater. Program Management staff evaluated 32 projects for the APE, including 8 Major Transit Construction projects, 13 Other Transit Capital projects, five Highway projects, and six Regional Rail projects (see Attachment A presentation for a complete project listing), which total approximately \$23.6 billion. The total program size has increased 13.1% from \$20.6 billion in FY22 to \$23.7 billion in FY23.

The major focus remains on managing the projects within the Board-approved life of project (LOP) budgets and schedules established for these projects. A summary of the potential adjustments requiring future Board approval to Metro’s capital program in FY23 is reported in the FY23 Program Management APE presentation.

Challenges

Market factors arising from the ongoing recovery from the COVID pandemic and Ukrainian conflict continue to escalate project related costs. Updated economic projections indicate that this will continue into 2022/2023 and supply chain issues and labor impacts will continue to be potential cost and schedule drivers. In addition, with the significant number and size of Program Management projects and the accelerated implementation schedule for delivering Metro’s capital program. Metro’s capability and capacity to deliver multiple complex projects on-time and within budget creates unprecedented challenges to project delivery.

Efforts to improve, innovate, and increase our capabilities to deliver projects are essential. Program challenges include:

- Market Conditions
- Project Delivery Method
- Scope Issues
- Unforeseen Conditions

Strategic Initiatives

Program Management continues to implement various strategic initiatives to bring improved planning,

consistency, transparency, and discipline to project delivery. The key initiatives for Contracting Strategy and Cost Containment include:

- Organization
 - Re-evaluate Metro Staff / Consultant Ratio
 - Best Practices Review
- Processes
 - Material supply initiatives
 - Implement stage gate lifecycle project readiness reviews
 - Increase focus on program and project cost/schedule/risk
 - Update controls processes and contingency levels
 - CEO board delegated authority
- Contract Documents
 - Adapt contract documents to contract delivery method
- Mitigation Measures
 - Risk
 - Update Risk Profile and Contingency Through Stage Gate Process
 - Third Party and Utilities
 - Differing Site Conditions - Geotechnical and Environmental
 - Scope
 - Improve Scope Definition and Risk Transfer Prior to Pricing
 - Design Criteria
 - Professional Services Soft Costs
 - Schedule Delays

FINANCIAL IMPACT

The FY23 Program Management APE report does not have any specific budgetary or financial impacts. The APE report serves as an annual and early notice instrument to assess the scope, cost and schedule risk items affecting the respective projects under the oversight of Program Management. Risk items affecting scope, cost and schedule are identified on a project-by-project basis within the APE Presentation.

Should any of the potential project risks affecting scope, cost and schedule parameters be realized, the Chief Program Management Officer will return to the Board with separate recommendations to address the identified risks and adjust the project cost and/or schedule accordingly.

EQUITY PLATFORM

While the APE encompasses 32 separate projects with project-specific community engagement activities and equity impacts, the program can generally categorize projects into the following six groups for a high-level equity assessment of anticipated benefits and considerations.

Major Transit Capital

These 8 mega-capital projects support transit access and connectivity through new construction and expansion across Los Angeles County. While specific project areas vary in demographics, land use, and jurisdiction, these projects are all intended to improve access to key destinations, such as jobs, health care, school, and neighborhood amenities, via high-quality transit. Other potential anticipated equity benefits include reduction in single occupancy vehicle use and reliance, improved air quality, and reduction in household transportation costs. Any needed mitigation strategies are determined and implemented at the project-level.

Multi-modal Capital

These five capital projects are anticipated to expand multi-modal options for travelers through a variety of interventions, including light rail, active transportation infrastructure, and high-occupancy vehicle lane improvements. While project types and geographies vary, the shared impact is anticipated to diversify modes and costs of travel choices. In particular, transit and active transportation infrastructure enhancements are anticipated to improve safety for people walking and rolling. Any needed mitigation strategies are determined and implemented at the project-level.

Assets Capital

Capital improvements for five Metro asset projects will serve Metro employees as well as the public. These projects will update equipment and other assets, which are anticipated to maintain safe working conditions for Metro employees and minimize disruptions to project and service delivery for Metro riders. Specifically, the Transit Learning Center is an exciting resource for a new generation of potential Metro workforce members to gain skills and connections for future career opportunities.

Infrastructure Capital

Infrastructure maintenance and improvements contribute to safe and accessible conditions for Metro riders and the general public, including soundwall protection, wayfinding, grade and modal separation, and transit station upgrades. These four capital projects are anticipated to have minimal, if any, equity impacts.

Regional Rail

Similar to the Major Transit Capital projects and Multi-modal Capital Projects, the six projects that fall under the Regional Rail capital program are anticipated to expand transit and other multi-modal choices for travelers in Los Angeles. Anticipated improvements include improved station access, increased rail capacity, and safer right-of-way improvements between different modes. Any needed mitigation strategies are determined and implemented at the project-level.

Highways

The four Highway capital projects are anticipated to improve conditions for travelers and the surrounding project areas of existing highway corridors via soundwall protection, high-occupancy vehicle lane expansion, highway safety design, and some multi-modal infrastructure. These projects are not anticipated to encroach on surrounding communities or further burden neighborhoods adjacent to existing highways.

Future fiscal year APE updates will continue to assess the capital program for equity benefits and impacts.

IMPLEMENTATION OF STRATEGIC PLAN GOALS

Recommendation supports Strategic Plan Goal #1 - Provide high-quality mobility options that enable people to spend less time traveling. This will be accomplished by planning and delivering multiple capital projects on time and on budget.

NEXT STEPS

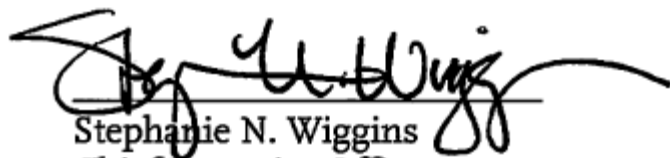
Program Management will request the resources required for project delivery success through the FY23 Budget process for Board approval. Project managers will work to deliver projects safely, on-time and within the Board-approved budgets. Staff will continue to provide the Board with monthly updates on the project status throughout the year. The next FY24 Program Management APE report will be presented to the Board in Spring 2023.

ATTACHMENTS

Attachment A - FY23 Annual Program Evaluation PowerPoint

Prepared by: Julie Owen, Senior Executive Officer, (213) 922-7313

Reviewed by: Bryan Pennington, Chief Program Management Officer, (213) 922-7449

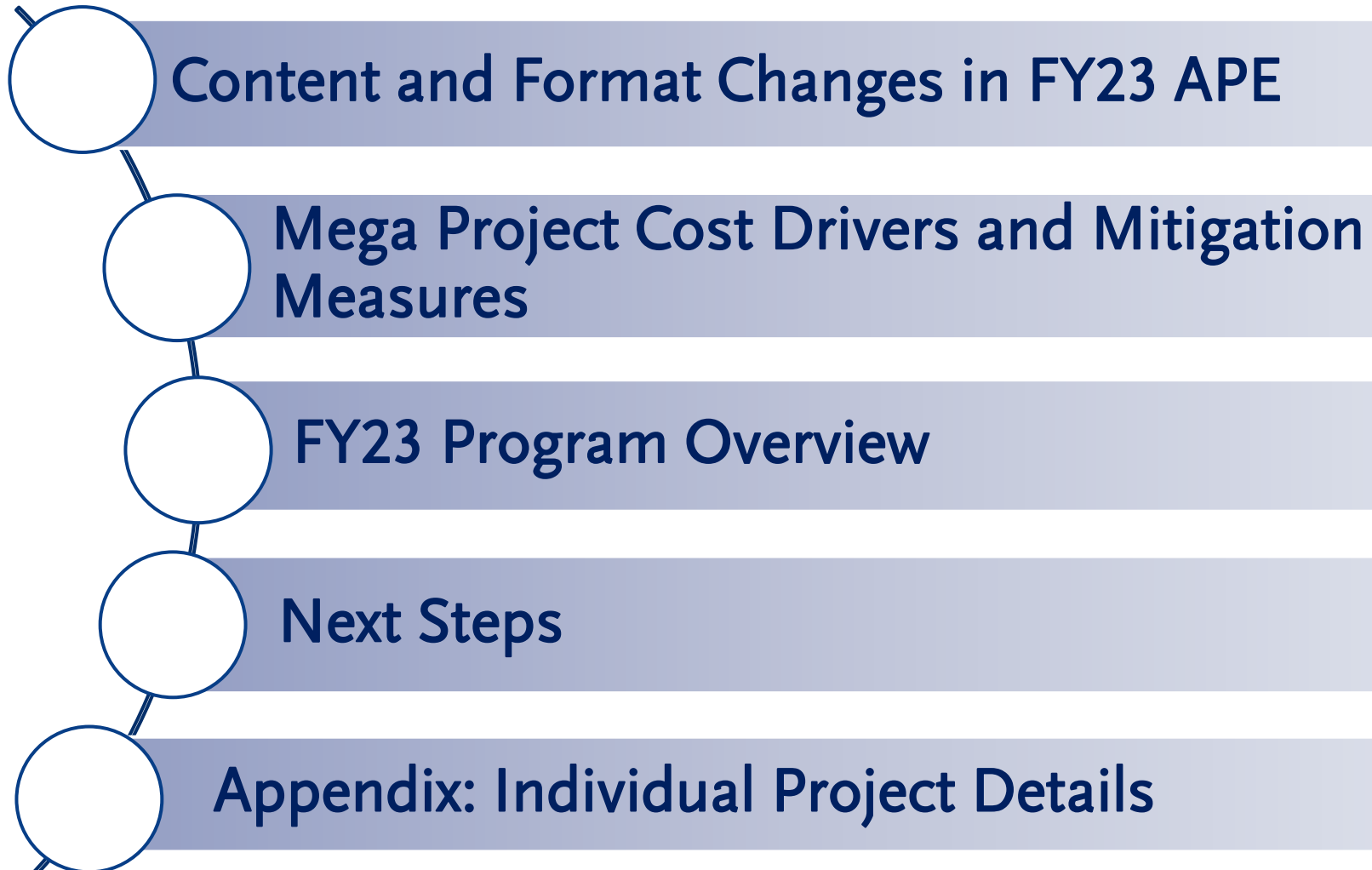


Stephanie N. Wiggins
Chief Executive Officer

Fiscal Year 2023
Program Management
Annual Program Evaluation



Presentation Overview



Activity Since Last APE

- April 2021 – Board FY2022 Annual Program Evaluation
- June 2021 – **Eno Transit Case Study – Saving Time and Making Cents**
- August 2021 – CEO Contractor **Industry Outreach**
- September 2021 – CEO Agency Re-Organization
- September 2021 Board – **Construction Market Analysis**
- November 2021 – Roll-Out **Alternative Delivery** Contract Documents
- February 2022 – Board Motion Construction Market Analysis



Content and Format Changes in FY23 APE

Board Motion

- Motion by Directors Butts, Dutra and Najarian on February 24, 2022, Item No. 34, Construction Market Analysis:
*“Move to Instruct the CEO and staff to return to the Board in the upcoming fiscal year Annual Program Evaluation: 1. **With an assessment of what construction projects can reasonably continue without facing new budget shortfalls prior to their completion[...]**”*

APE content

- Update of project capital cost estimates to current conditions, cost to complete, and including price trends and changes
- Analyze project capital costs in relation to national transit project trends
- APE results in the FY23 Budget review and adoption by the Board
- In response to the Motion, **Metro staff has revised the prior format of funding through current phase to show current project estimated cost and schedule forecast, funding availability and mitigation measures for each project**

Typical Mega Project Key Cost Drivers



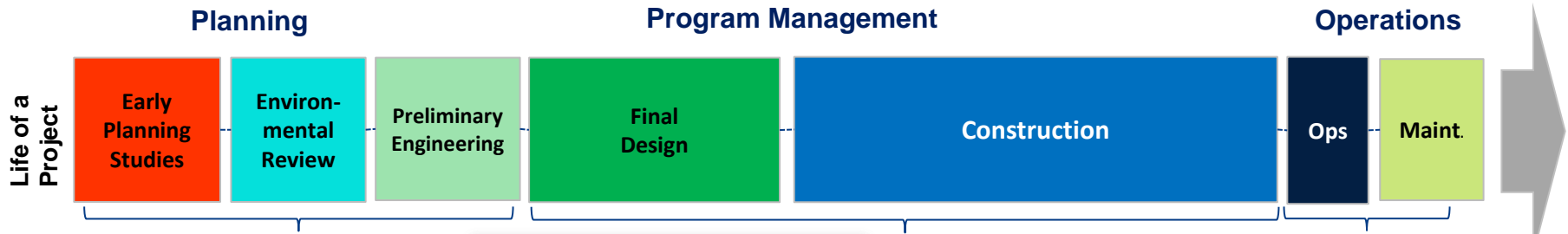
Market Conditions

Project Delivery Method

Scope Issues

Unforeseen Conditions

Metro Capital Investment Experience/Challenges



Life of Project Budget change to initial baseline¹ by environmental



Scope and Market Condition² ≈12%+

Unforeseen conditions environmentally (utility, geo-, structure, community impact) created change order during construction¹, ≈12%+

1. Recent Project Experience based on Greenline AMC, Regional Connector, Crenshaw, PLE 1,2&3
2. Program Management Oral Report, "Construction Market Trend", February 2022

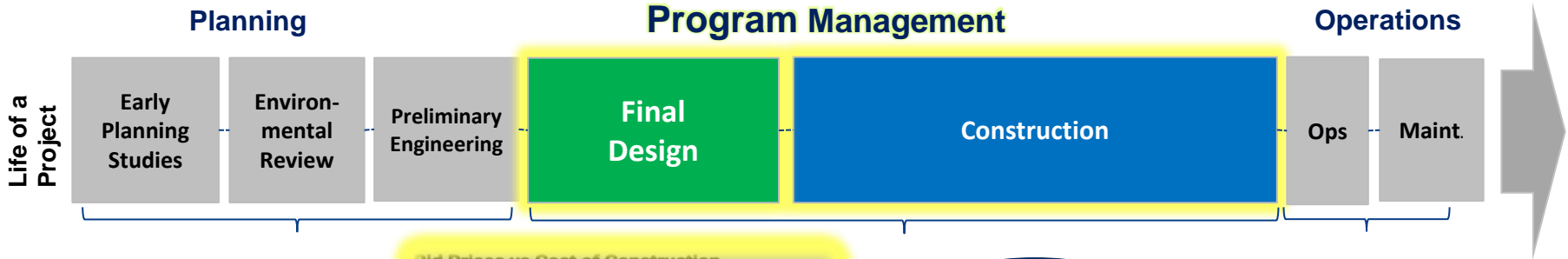


Unplanned interoperability with existing system integration and operation readiness¹, ≈6%+



Increase over sales tax baseline estimate by 60%+ experienced so far

Metro Capital Investment Experience/Challenges



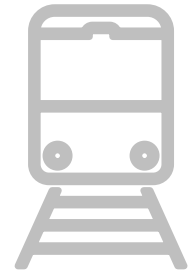
Life of Project Budget change to initial baseline¹ by environmental

30% +



Scope and Market Condition² ≈ 12%+

Unforeseen conditions environmentally (utility, geo-, structure, community impact) created change order during construction¹, ≈ 12%+



Unplanned interoperability with existing system integration and operation readiness¹, ≈ 6%+

1. Recent Project Experience based on Greenline AMC, Regional Connector, Crenshaw, PLE 1,2&3
2. Program Management Oral Report, "Construction Market Trend", February 2022

Increase over sales tax baseline estimate by 60%+ experienced so far

Construction Market Outlook for 2022 Pre-Ukraine

- Inflation likely to remain high this year
- **Material prices in 2022 will likely reach the peak prices of 2021**
- Construction escalation is **forecasted between 4% to 6% for 2022**
- **Challenges continue in 2022:**
 - Supply chain disruptions
 - High construction materials and services costs
 - Labor shortages
 - COVID-19 variants
 - **Ukraine conflict**

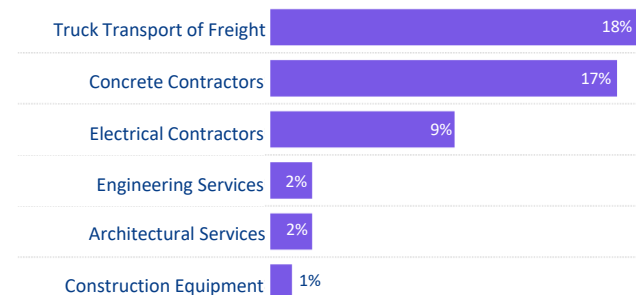
AGC Workforce Survey Results

86% of contractors are having a hard time filling positions

72% of contractors have difficulty finding quality workers

61% of contractors say shortage of workers resulting in delays

Labor-Related Construction Cost Increase in the Past Year



Source: Bureau of Labor Statistics

Project Delivery Method & Scope Issues

2021 Construction Market Analysis Findings:

- The scale of effort for megaprojects nationwide has more unforeseen challenges with construction durations lasting nearly a decade, and historically overrun cost and schedule objectives.
- Traditional projects have a greater risk of cost overruns that do not fully account for the risk uncertainties and complexities.
- Thus, **the industry is presently favoring alternative delivery such as construction management/general contractor (CM/GC) and progressive design-build** instead of more traditional design-bid-build (DBB) and design-build (DB).

Strategic Initiatives & Mitigation Measures

Key Initiatives for Contracting Strategy and Cost Containment

Organization	Streamlined Processes	Contract Docs
<ul style="list-style-type: none">• Staff/Consultant Ratio• Best Practices Continuous Improvement	<ul style="list-style-type: none">• Material Supply Initiatives• CEO Delegated Authority• Stage Gate Reviews• Update Controls Processes and Contingency levels• Cost/Schedule/Risk	<ul style="list-style-type: none">• Adapt Contract for Alternative Delivery Approaches

Mitigation Measures

Risk Issues	Scope Issues	Schedule Delay
<ul style="list-style-type: none">• Third Parties and Utilities• Differing Site Conditions<ul style="list-style-type: none">○ Geotechnical○ Environmental	<ul style="list-style-type: none">• Scope Definition/Betterments• Metro Rail System Design Criteria• Professional Services Soft Costs	<ul style="list-style-type: none">• Function of Risk and Scope Issues

FY23 \$23.7B Program

33
Projects

APE focuses only on those capital projects, managed by Program Management, with a total project cost greater than \$5M:

- 22 Transit Construction Projects
- 6 Regional Rail Projects
- 5 Highway Modernization Projects

\$23.7B
Program

Overall Program dollars increased 13.1% from \$20.6 billion in FY22 to up to **\$23.7 billion in FY23**. In addition to the projects in APE, Program Management manages/oversees 40+ projects less than \$5M. **There are approximately 75+ total projects being managed by Program Management throughout the fiscal year.**

Benefits

- Measure M will expand regional access to high-quality transit options.
- Equity Focus Communities households within 10-min. walk increased with Measure M
- Capital investment of Measure M anticipated to increase LA County's gross regional product
- The 2020 LRTP also forecasts an 81% increase in transit trips and 19% decrease in greenhouse gas emissions.

Metro Project Completion Summary

80% of active construction projects, as listed below, were or will be completed on time.

Project Completion in FY22

Patsaouras Plaza Busway Station

Fuel Storage Tank Program (FY20 - FY22)

Light Rail Transit Freeway Stations Sound Enclosures

Willowbrook/Rosa Parks Improvements

Project Completion Planned in FY23

Regional Connector Transit Project

Crenshaw/LAX Transit Project

Sound Wall Package 11/North Hollywood

Eastside Access Improvements

Division 1 Improvements/6th & Central Downtown LA Industrial District

Bus Facility Maintenance Improvements & Enhancements Phase III

FY23 New Projects and Potential LOP Increase

**Potential FY23
LOP Budget
Increase**

Purple Line Extension Section 3 – Local Funded Non-FFGA

**Partial LOP for
Pre-
Construction
Services**

East San Fernando Valley Transit Corridor

Orange (G) Line Bus Rapid Transit Improvements

I-105 Express Lanes

**New Projects
with Planned
Adoption of
LOP Budget**

I-605 South Street Interchange Improvement

Doran Street and Broadway/Brazil Grade Separation Project

Division 1 Street Closure

Mega Projects Overview

PROJECT LISTING	FUNDING TO DATE (in Mil.)	EST. COST RANGE (in Mil.)	% COMPLETE
Major Transit Construction			
Crenshaw/LAX Transit Project	\$2,148.0	\$2,148.0	99%
Regional Connector Transit Project	\$1,755.8	\$1,755.8	90%
Westside Purple Line Extension Section 1 Project	\$3,128.9	\$3,128.9	75%
Westside Purple Line Extension Section 2 Project	\$2,440.9	\$2,440.9	49%
Westside Purple Line Extension Section 3 Project	\$3,223.6	\$3,243.6	33%
Sub-total:	\$12,697.2	\$12,717.2	

- High risk due to project duration, complexity, and ground conditions.
- Associate potential schedule impacts.
- Market conditions affects in FY23.
- Based upon project risk profile and market conditions the costs may increase up to 5% this year.

Alternative Project Delivery Overview

PROJECT LISTING	FUNDING TO DATE (in Mil.)	EST. COST RANGE (in Mil.)	% COMPLETE
Alternative Project Delivery			
LINK Union Station Project	\$950.4	\$950.4	15%
Metro G Line Bus Rapid Transit (BRT) Improvements	\$391.0	\$392.0-\$476.0	5%
East San Fernando Valley	\$1,596.6	\$2811.0-\$3,575.0	2%
I-105 Express Lanes Segment 1	\$150.0	\$175.0	1%
Sub-total:	\$3,088.0	\$4,328.4-\$5,176.4	

Alternative Project Delivery

- Initial award for design and pre-construction services only.
- Opportunity to optimize project scope with available funding.
- Construction pricing at 100% design.
- Board approval required to enter into construction.

Shovel Ready Projects Overview

PROJECT LISTING	FUNDING TO DATE (in Mil.)	EST. COST RANGE (in Mil.)	% COMPLETE
Shovel Ready Project Development			
Brighton to Roxford Double Track Project	\$97.2	\$310.0	5%
Doran Street and Broadway/Brazil Grade Separation Project	\$6.4	\$190.0	3%
Doran Street Active Transportation Project	\$19.3	\$19.3	3%
Lone Hill to White Double Track Project	\$8.2	\$130.0	3%
Sub-total:	\$131.1	\$649.3	

- Projects being progressed towards shovel ready status.
- Projects implemented by phase within existing funding.
- Concurrently seek additional funding for subsequent phases.

Greater Forecast / Watchlist Projects Overview

PROJECT LISTING	FUNDING TO DATE (in Mil.)	EST. COST RANGE (in Mil.)	% COMPLETE
Forecast Greater Than Funding			
Gold Line Foothill Extension Phase 2B Project	\$1,532.9	\$1,532.9	40%

- Forecast greater than funding project – project has enough funding for the existing segment but needs additional funding to complete full alignment.

PROJECT LISTING	FUNDING TO DATE (in Mil.)	EST. COST RANGE (in Mil.)	% COMPLETE
Projects on Watchlist			
Division 20 Portal Widening Turnback Facility	\$876.7	\$876.7	31%

Projects On Track Overview

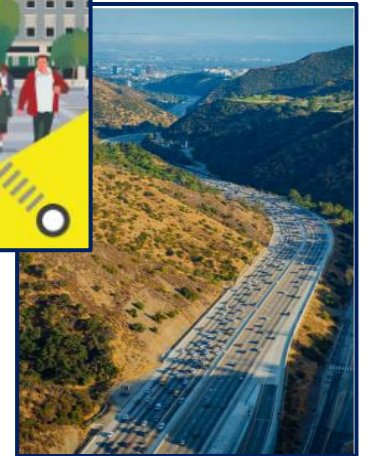
PROJECT LISTING	FUNDING TO DATE (in Mil.)	EST. COST RANGE (in Mil.)	% COMPLETE
Projects On Track			
Willowbrook/Rosa Parks Station Improvement (closeout)	\$128.3	\$128.3	100%
Metro Blue Line Track and System Refurbishment (closeout)	\$102.3	\$102.3	100%
Bus Facility Maint. Improv. & Enhancemt. Phase III (closeout)	\$21.7	\$21.7	100%
Patsaouras Plaza Bus Station Construction	\$50.9	\$50.9	99%
Soundwall Package 11 /North Hollywood	\$102.5	\$102.5	93%
Metro Blue Line Signal System Rehabilitation	\$119.0	\$119.0	90%
Metro Center Street Project (ESOC)	\$130.7	\$132.7	52%
Rosecrans/Marquardt Grade Separation Project	\$156.4	\$156.4	42%
Metro Eastside Access Improvements Project	\$29.7	\$29.7	35%
I-710 Early Action Soundwalls Package 2	\$9.4	\$9.4	27%
Airport Metro Connector Project	\$898.6	\$898.6	23%
I-605/South Street Interchange Improvement	\$23.1	\$23.1	19%
I-5 North County Enhancements Project	\$679.3	\$679.3	4%
Rail to Rail Corridor Active Transportation Connector Project	\$116.0	\$140.0	0%
Soundwall Package 10 / Pasadena	\$50.9	\$50.9	0%
Systemwide Signage	\$24.1	\$24.1	0%
Transit Learning Center	\$20.0	\$20.0	0%
Sub-total:	\$2,662.9	\$2,688.9	

- Directly responds to slide 4, Motion by Director Butts et al.
- Projects on track for FY23.

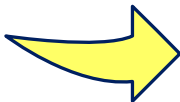
Metro Transit Capital Program Summary

Planned Transition from Countywide Planning to Program Management in FY23:

- North Hollywood to Pasadena Bus Rapid Transit Project
- Centinela Grade Separation
- Chatsworth Station ADA Improvements
- Burbank Airport-South SOGR/ADA Improvements



Next Steps

-  Project Managers to manage project scope, budget, and schedule for quality, on-time and within budget delivery.
-  Maintain resources and staffing needed to manage and support project delivery.
-  Present project-specific Life-of-Project budgets for Board review and adoption.
-  Seek additional revenue sources needed to fulfill funding commitment required to build and deliver projects.

APPENDIX – INDIVIDUAL PROJECT DETAILS





MAJOR TRANSIT CONSTRUCTION PROJECTS



Crenshaw/LAX Transit Project

Original
LOP
\$1,749.0M

Current
LOP
\$2,148.0M

Current
Forecast
\$2,148.0M

Change in Forecast
Completion
Fall 2019 to
Summer 2022

Project
Complete
99.6%



Crenshaw/LAX Transit Project

Cost: No additional anticipated LOP increase in FY23. Current risks may require a future LOP increase as noted below.

Schedule: Considerable testing, rework, troubleshooting, discrepancies to complete systems and begin systems integration testing (SIT) phase 2 Contractor working toward substantial completion.

Mitigation Measures: Negotiating phased substantial completion to begin SIT phase 2 early.

Accomplishments:

- Contractor enhanced and strengthened project management team.
- All the issues and punch list items are tracked in a single data base (BIM-360).
- Metro Started System Integration Testing from Rail Operation Center (ROC).

Challenges/Risks:

- Contractor not applying sufficient specialty work force to complete the remaining work.
- Contractor must complete remaining complex electric and systems tests and test reports prior to substantial completion.
- Additional funding for Metro staff may be required if contractor progress continues to slip.
- REA claim was received and is being evaluated by Metro claim team.

Regional Connector Transit Project

Original
LOP
\$1420.0M

Current
LOP
\$1,755.8M

Current Forecast
LOP
\$1,755.8M

Forecast
Completion
Fall 2022

Project
Complete
90%



Regional Connector Transit Project

Cost: No additional anticipated LOP increase in FY23. Current risks may require a future LOP increase as noted below.

Schedule: No change.

Mitigation Measures: 1. Deferred select elements of the first Substantial Completion milestone to afford access of the Guideway to Metro Operations to initiate Rail Activation activities; 2. Augmenting technical resources through consultancies to assist with systems integrated testing activities.

Accomplishments:

- Most project sites at street level west of the Little Tokyo/Arts District Station have been restored with final scope elements expected to continue through the coming months.
- Backfill and restoration of Alameda and 1st Street, together with restoration of the Mangrove Site have begun and are expected to continue through the summer.
- Efforts now focused on comprehensive systems integrated testing leading to Substantial Completion.
- Metro Operations are engaged with planning, familiarization, training, and direct support of the Project; Rail Activation and Start-up forces are mobilizing.

Challenges/Risks:

- Contractor reports qualified resources are difficult to secure/retain with recent spikes in COVID-19.
- Supply chain delays with a host of commodities have manifested with significant schedule impacts claimed by the contractor; a request for relief from these delays has been received with the contractor citing COVID-19 as the unavoidable cause of the delays.

Westside Purple Line Extension Project



Westside Purple Line Extension Section 1

<u>Original LOP</u>	<u>Current LOP</u>	<u>Current Forecast</u>	<u>Forecast Completion</u>	<u>Project Complete</u>
\$2,773.9M	\$3,128.9M	\$3,128.9M	Fall 2024	75%

Cost: No additional anticipated LOP increase in FY23. Current risks may require a future LOP increase as noted below.

Schedule: Schedule slipped due to San Vincente tunnelling anomaly.

Mitigation Measures: Continued monitoring of critical and near-term critical path activities. Future opportunities to build schedule contingency will be reviewed and implemented as they are recognized.

Accomplishments:

- Complete cross passage concrete work, Complete track installation (Reaches 1, 2 & 3), Roof concrete placement complete at all 3 Stations. Permanent power available at Wilshire/Brea Station. Permanent power ready to energize at Wilshire/Fairfax Station.

Challenges/Risks:

- Due to the impacts associated with the Reach 3 tunnel anomaly, there is a possibility that the Revenue Service Date (RSD) will not achieve the FFGA target date of October 31, 2024. The current schedule forecast for RSD is Fall of 2024.
- The current project budget does not include cost exposures from Metro disputed contractor claims. These disputed claims will be subject to the dispute resolution process (subject to the Board's approval). Also, not included are change requests related to COVID-19. Under the force majeure clause of the contract, compensation is not granted during a pandemic, only extensions of time to the contract are allowable.

Westside Purple Line Extension Section 2

<u>Original LOP</u>	<u>Current LOP</u>	<u>Current Forecast</u>	<u>Forecast Completion</u>	<u>Project Complete</u>
\$2440.9M	\$2,440.9M	\$2,440.9M	Fall 2025	49%

Cost: No anticipated LOP increase in FY23. Current risks may require a potential LOP increase.

Schedule: Original baseline schedule milestones are still being maintained and monitored.

Mitigation Measures: Closely monitoring cost exposures and schedule slippages.

Accomplishments:

- Completed tunnel excavation in reach 5 (from Century City Constellation Station to Wilshire/Rodeo Station).
- Walked TBMs thorough Wilshire/Rodeo Station and started tunneling final tunnel reach towards La Cienega.
- Completed 72% of invert slab and first level wall placements at Wilshire/Rodeo Station
- Started excavation of Century City Constellation station.

Challenges/Risks:

- Concurrent delays with excavation of Century City Constellation Station and tunnels may potentially impact the Project's current Substantial Completion date.

Westside Purple Line Extension Section 3

<u>Original LOP</u>	<u>Current LOP</u>	<u>Current Forecast</u>	<u>Forecast Completion</u>	<u>Project Complete</u>
\$3,223.6M	\$3,223.6M	\$3,243.6M	Spring 2027	32.8%

Cost: \$20M LOP increase to concurrent non-FFGA project due to VA real estate agreement. Not eligible for existing contingency under FTA FFGA terms.

Schedule: Metro to discuss and agree with C1152 Stations Contractor on a recovery schedule to mitigate current 245 days of negative float due to the VA Steam Line relocation.

Mitigation Measures: Implement agreed recovery schedule and further reduce negative float through acceleration due to the VA Steam Line relocation.

Accomplishments:

- Tunnels Contract: Both Tunnel Boring Machines are in full mining production.
- Stations Contract: Complete final design, significant SOE piling completed in both stations, start decking.

Challenges/Risks:

- Remaining ROW negotiations could require longer negotiations and result in schedule delay and increased project cost.
- Interfaces between Tunnels and Stations contract.
- Added scope contemplated for hi-rail vehicle storage.



ALTERNATIVE PROJECT DELIVERY PROJECTS

Link Union Station (LINK US)

Design Phase <u>Budget</u>	Available <u>Funding</u>	Current Forecast <u>LOP Budget</u>	Change in Forecast <u>Completion</u>	Project <u>Complete</u>
\$176.0M	\$950.4M	\$950.4M	2028	15%

Cost: TBD (Pending pricing from CMGC Contractor)

Schedule: TBD (Pending schedule from CMGC Contractor)

Mitigation Measures: Implementing construction manager/general contractor project delivery to encourage contractor collaboration and optimization of the design, scope, pricing and schedule.

Accomplishments:

- Phase A CMGC Contract to be awarded in Spring 2022.
- Received Board approval on Resolution of Necessity (RON) for two properties on Commercial Street in June 2021 and deposited funds for the full acquisitions shortly after.



Challenges/Risks:

- Agreement with BNSF on the West Bank for the construction of run-thru tracks.
- Third Party for Utility Relocations in time for construction of run through structure.
- Street Vacation with the City of Los Angeles.
- Preliminary Risk Register has been developed and will be updated once CMGC Contractor comes on board.

G Line (Orange) Bus Rapid Transit Improvements

Design Phase <u>Budget</u>	Available <u>Funding</u>	Current Forecast <u>LOP Budget</u>	Change in Forecast <u>Completion</u>	Project <u>Complete</u>
\$35.6M	\$391.0M	\$392.0M - \$476.0M	Summer 2025 to Winter 2026	5%



G Line (Orange) Bus Rapid Transit Improvements

Cost: Increase in estimated costs due to added gated intersection scope and stormwater capture scope (*not in original Expenditure Plan*), with additional application of market-based escalation.

Schedule: Change in completion date due to pivot to Progressive Design Build delivery method which required board action and development of new contract.

Mitigation Measures: Implementing progressive design build project delivery to support potential cost reduction strategies and encourage contractor collaboration and optimization of the design, scope, pricing and schedule.

Accomplishments:

- Completed installation and testing of Pilot Gate project.
- Completed Industry Review; finalized Progressive Design Build contract & RFP documents.
- Near completion of Advanced Utility Relocation at Sepulveda, Vesper and Sylmar.

Challenges/Risks:

- New technology to be developed for gate activation/platooning for bus transit; potential for future Public Utility Code requiring approval for gates with bus operations.
- Traffic impacts/mitigation due to gates.
- Right of way acquisitions and major utility relocations & interface with fleet services.
- Integration with Sepulveda and ESFV Transit Corridor projects.
- Maintaining existing bus operation during construction.
- City Agency review and approval time may delay project schedule.

East San Fernando Valley Transit Corridor

Design Phase
Budget
 \$198.2M

Available
Funding
 \$1,596.6M

Current Forecast
LOP Budget
 \$3,575.0M

Forecast
Completion
 Summer 2028

Project
Complete
 2%



East San Fernando Valley Transit Corridor

Cost: Pending FTA concurrence through Expedited Project Delivery (EPD) grant process. Includes added cost/schedule and risk driven contingency through market-based cost escalation and FTA's initial risk assessment. Added cost and schedule may be reduced as design advances and risk items are resolved. Upon EPD grant, FTA will issue an FFGA with project specific requirements.

Schedule: 2028 completion date under review. FTA risk assessment reflects 2030 completion.

Mitigation Measures: Pursuing federal funding through FTA expedited project delivery program. Implementing progressive design build project delivery to encourage contractor collaboration and optimization of the design, scope, pricing and schedule.

Accomplishments:

- Preliminary Engineering at 30-60%. Submitted in November 2021
- EPD grant; FTA to decide on EPD application April 2022; Award of Construction Management Support Services Contract (April/May 2022).
- P3 Solar and Storage Equipment for MSF (August 2022).
- Award of Advanced Utility Relocation (AUR) contractor for DWP Design 1 (October 2022).

Challenges/Risks:

- Utility issues (especially DWP) impacting project cost/schedule; ROW acquisition schedule may affect Contractor construction approach; differing site conditions unknown at time of design – further due diligence required.
 - Business Owners impacts during construction.
 - Securing funding gap among federal, state and local funding sources.
-

105 ExpressLanes

Design Phase
Budget
 \$81.0M

Available
Funding
 \$150.0M

Current Forecast
LOP Budget
 \$175.0M

Forecast
Completion
 Summer 2028

Project
Complete
 1%



105 ExpressLanes

Cost: Segment 1 estimated at \$175.0M and the entire \$150.0M SB1 grant will be used to fund Segment 1.

Schedule: No change.

Mitigation Measures: Project will be delivered by segment. Pursuing Federal grants, TIFIA loan, and revenue bonds backed by toll revenue as part of funding plan. Implementing Construction Manager/General Contractor (CM/GC) project delivery to support potential cost reduction strategies and encourage contractor collaboration and optimization of the design, scope, pricing and schedule.

Accomplishments:

- Design of Segment 1 started. 35% design submitted and reviewed by Caltrans
- All other contract procurement in progress: 1) Segment 2/3 Design. 2) Roadside Toll Collection System (RTCS). 3) Program Management Support Services (PMSS). 4) CM/GC.

Challenges/Risks:

- Measure M/State SB 1 grant funds 40-50% of project cost, funding plan relies on future TIFIA loan and/or revenue bonds to be repaid by toll revenue.
 - Accelerated design schedule for Segment 1 to meet SB1 requirements to issue construction contract by December 2023, which requires close partnership with Caltrans.
 - Multiple contracts on the project require close coordination.
 - Close coordination required with Metro rail operations to minimize disruption to C line.
-



SHOVEL READY PROJECT DEVELOPMENT

I-210 Median Concrete Barrier Replacement

<u>Design Phase</u>	<u>Available</u>	<u>Current Forecast</u>	<u>Change in Forecast</u>	<u>Project</u>
<u>Budget</u>	<u>Funding</u>	<u>LOP Budget</u>	<u>Completion</u>	<u>Complete</u>
\$22.5M	\$0M (Const)	\$150M (Const)	July 2029 to October 2027	20% (Design)

Cost: The construction cost was reduced from \$270M to \$150M from scope reduction that replaces the barrier of the most vulnerable 1-mile S-curve portion of the I-210 alignment.

Schedule: Due to the scope change, the anticipated completion, based on the current high-level schedule, is Oct 2027 that is earlier than the previous completion date of July 2029.

Mitigation Measures: Metro working with CALTRANS on application for TCEP funds for the construction phase of the project; submitted DRAFT applications to CALTRANS for review.

Accomplishments:

- Caltrans - management on-board with Metro's proposed no-widening design philosophy; installing traffic signs, etc. along I-210 to mitigate possibility of future median barrier breaches; investigating other improvements like high-friction surface for truck lanes, continuous striping at S-curve and lowering truck speed limit to further mitigate the possibility of future median barrier breaches.

Challenges/Risks:

- Obtaining Caltrans approval (timely); concurrence from Pasadena and Arcadia, and Metro Operations (Gold Line)); putting low-cost measures in to facilitate deferral of barrier construction.
- Challenge to minimize the impact to each mode of transportation (road and rail) and local cities.
- Need to secure funding for remaining portion of the project.

Brighton to Roxford Double Track Project

Design Phase <u>Budget</u>	Available <u>Funding</u>	Current Forecast <u>LOP Budget</u>	Change in Forecast <u>Completion</u>	Project <u>Complete</u>
\$19.2 M	\$97.2M	\$310.0 M	2027	5%

Cost: \$1.2M to account for out-of-scope services in order to be consistent with latest ESFV project and other design condition changes.

Schedule: one year extension to factor in delays to segment 3 while awaiting ESFV project recommendations.

Mitigation Measures: Issue contract modification and additional technical analysis in-progress. Staff will continue to look for local, state TCEP, and federal TIGER, INFRA, and Rail Infrastructure and Safety funding for construction.

Accomplishment:

- The design packages were divided into four segments to align with rail modeling and grants.
- Secured \$77.3M for segment 1, Brighton to McKinley through a TIRCP grant
- Board Approval for additional Segment 3 technical analysis through the ESFV project.

Challenges/Risks:

- Significant changes to existing conditions or betterment third party requests.
- Obtaining construction funding for segments 2, 3 and 4.



Doran and Broadway/Brazil Grade Separation Project

<u>Design Phase</u> <u>Budget</u>	<u>Available</u> <u>Funding</u>	<u>Current Forecast</u> <u>LOP Budget</u>	<u>Forecast</u> <u>Completion</u>	<u>Project</u> <u>Complete</u>
\$4.0M	\$6.4M	\$190.0M	2030	3%

Cost: No Change.

Schedule: No Change.

Mitigation Measures: Staff will continue to look for local, Section 190 grant, INFRA and federal Railroad Safety Infrastructure improvement and TIGER grants for construction.

Accomplishments:

- Metro approval for contract modification to take final design work to take grade separated projects to a shovel ready level.
- US Army Corp agreement for geotechnical work and drainage improvements executed
- 60% final design plan submittal completed

Challenges/Risks:

- Obtaining construction funding of \$180M for the improvements for the grade separation.



Doran Street Active Transportation Project

Design Phase	Available	Current Forecast	Forecast	Project
<u>Budget</u>	<u>Funding</u>	<u>LOP Budget</u>	<u>Completion</u>	<u>Complete</u>
\$3.0M	\$19.3M	\$19.3M	2025	3%

Cost: No Change.

Schedule: No Change.

Mitigation Measures: Not Applicable.

Accomplishments:

- ATP cycle 4 funding approval.
- US Army Corp approval for geotechnical work and drainage improvements.

Challenges/Risks:

- Working in an environmentally sensitive area
- Obtaining US Army Corp approval for work over the Verdugo Wash.



Lone Hill to White Double Track

<u>Design Phase Budget</u>	<u>Current Design Phase LOP</u>	<u>Total Project Forecast</u>	<u>Forecast Completion</u>	<u>Project Complete</u>
\$8.2M	\$8.2M	\$130.0M	2027	3%

Cost: No Change.

Schedule: No Change.

Mitigation Measures: Staff will continue to look for local, state TCEP, and federal TIGER, INFRA, and Rail Infrastructure and Safety funding for construction.



Accomplishments:

- Preliminary Engineering completion and approval to start final design work.

Challenges/Risks:

- Shovel Ready to seek funding for enhanced Metrolink service in support of the Brightline West Rancho alignment.
- Cities can elect not to proceed with quiet zone ready infrastructure and request sound walls as mitigation.



FORECAST GREATER THAN CURRENT FUNDING

Gold Line Foothill Extension Phase 2B

**Original
LOP**
\$1,406M

**Current
LOP**
\$1,532.9M

**Current
Forecast**
\$1,532.9M

**Forecast
Completion**
Spring 2029 to
Summer 2026

**Project
Complete**
40%



Gold Line Foothill Extension Phase 2B

Cost: Project segmented to Pomona. Remaining segment is seeking funding to complete the project.

Schedule: Due to unfavorable economic conditions affecting bid prices, the alignment contract was restructured to terminate in Pomona, reducing the completion date with the alignment ending in Montclair.

Mitigation Measures: Seeking additional funding to complete the project.

Accomplishments:

- The Contractor Kiewit Parsons Joint Venture (KPJV) have completed work at more than half of the grade crossings, completion of the freight track relocation and started work on all bridges.
- The design of the 9 mile, 4 Station extension is substantially complete.
- First of the four new light rail stations is under construction at Glendora.
- CPUC has approved 49 of 49 grade crossings.

Challenges/Risks:

- The contract option to extend the existing contract to Montclair expired on 10/7/21; the Construction Authority is negotiating a possible one-year extension of this “Montclair Option”.
 - Securing funding for remaining initial proposed alignment to Montclair.
-



PROJECTS ON WATCHLIST

Division 20 Portal Widening Turnback

**Original
LOP**
\$801.7M

**Current
LOP**
\$876.7M

**Current
Forecast**
\$876.7M

**Change in Forecast
Completion**
Spring 2024 to
Winter 2025

**Project
Complete**
31%



Division 20 Portal Widening Turnback

Cost: No additional anticipated LOP increase through FY23. Current risks may require a future LOP increase as noted below.

Schedule: Change in completion date due to change orders related to design issues, differing site conditions. Key change orders are critical path to be addressed prior to base contract work

Mitigation Measures: Currently prioritizing construction activities, working with contractor to update project schedule

Accomplishments:

- West Portal Wall Construction; MOW Track Removals
- Microlok II (new train control hardware and software) installed and accepted by Metro Operations.
- First Street Bridge - Footings and Reinforcing under construction.
- 37 girders for First Street Bridge casted, girders being installed in first of 4 bays.
- Traction Power Substation - Fabrication under way; Contract 65% complete -Major vaults, ductbanks installed and prepping subgrade for grounding grid installation.
- Shoofly coordination and installation.

Challenges/Risks:

- Coordination in Active Rail Yard - Rail Operations must remain active and still execute multiple cutovers.
 - Adjacent Projects Coordination (MCP, Link US, RCC, PLE Rail Welding Yard, Center Street).
 - Unknown Conditions (Differing Site Conditions - DSCs - includes unknowns and utilities).
 - 1st Street Bridge existing structural integrity and rehabilitation.
 - Procurement of Long Lead Items: Very Large power substation, 60+ turnouts, Continuous Welded Rail, Signal Materials, and Bridge Materials, and Supply Chain Impacts on resources.
-



PROJECTS ON TRACK WITHIN AFFORDABILITY

Soundwall Package 11

Original LOP	Current LOP	Current Forecast	Forecast Completion	Project Complete
\$89.2M	\$102.5M	\$102.5M	Summer 2022	93.2%

Cost: No cost change in FY23.

Schedule: No schedule change in FY23.

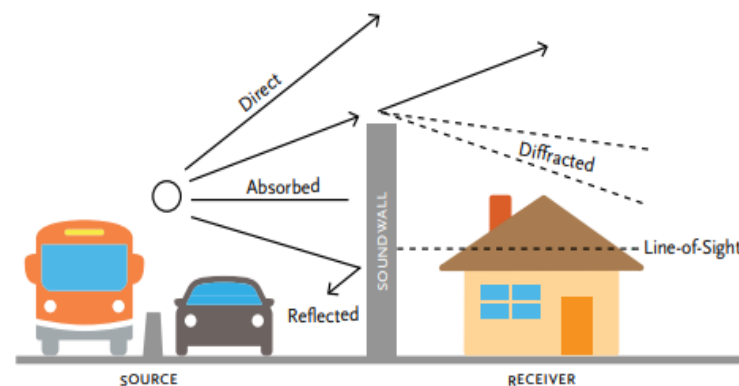
Mitigation Measures: Not Applicable.

Accomplishments:

- Issued NTP for Soundwall Package 11 in December 2017 (FY18 Q2)
- Period of Performance is 1,460 days (48 months)
- Went to Board for LOP increase January 2021
- Substantial Completion: February 2022 (FY22 Q3)
- Punchlist / All construction complete: April 2022 (FY22 Q4)
- Contract Close-out: July 2022 (FY23 Q1)
- Project Close-out: June 2023 (FY23 Q4)

Challenges/Risks:

- None at this time.



Metro Center Street Project

<u>Original LOP</u>	<u>Current LOP</u>	<u>Current Forecast</u>	<u>Forecast Completion</u>	<u>Project Complete</u>
\$ 112.7M	\$130.7M	\$132.7M	2023	51.9%

Cost: Due to the COVID-19 financial constraints in 2020, the project underwent severe scope and cost reduction to fit the grant funds. The Metro Board approved the \$130.7 million LOP for the design and construction of the building only. There is an additional interest earned of approximately \$2 million since October 2020, staff will return to the Board for the increase of LOP to \$132.7 million.

Schedule: The anticipated project completion is late 2023 due to ongoing labor shortages and supply chain delays from COVID-19 pandemic impacting construction schedule.

Mitigation Measures: Staff is pursuing State and Federal Transit Security Grant Program grant funding opportunities for \$30 million to connect the MCP to the enterprise & SCADA networks, implemented by phases

Accomplishments:

- Issued D/B Contract Notice to Proceed (NTP) on 11/17/20.
- Met state funding deadline to expend \$38 million by 3/2021.

Challenges/Risks:

- To make the MCP fully operational to serve all rail and bus network, an additional funding of \$30 million needed for enhanced emergency management, SCADA, communication and security system functions for the Emergency Security Operations Center which will be implemented by phases, pending available grant funds.



Rosecrans/Marquardt Grade Separation Project

Original
LOP
\$156.4M

Current
LOP
\$156.4M

Current
Forecast
\$156.4M

Forecast
Completion
2025

Project
Complete
42%

Cost: No Change.

Schedule: No Change.

Mitigation Measures: Not Applicable.



Accomplishments:

- Metro Real Estate has effective orders of possession (OP) on all properties.
- 100% Final Design was completed in May 2021.
- Early demolition work began in November 2019 and the remaining demolition activities started in November 2021 and are in progress.

Challenges/Risks:

- Contractor's means and methods for haul routes and delivery of material/equipment to the site may vary from City of Santa Fe Springs process and result in increased costs.
- BNSF may not be able to approve Absolute Work Windows (AWWs), for pre-cast girder erection, due to internal factors.

Airport Metro Connector

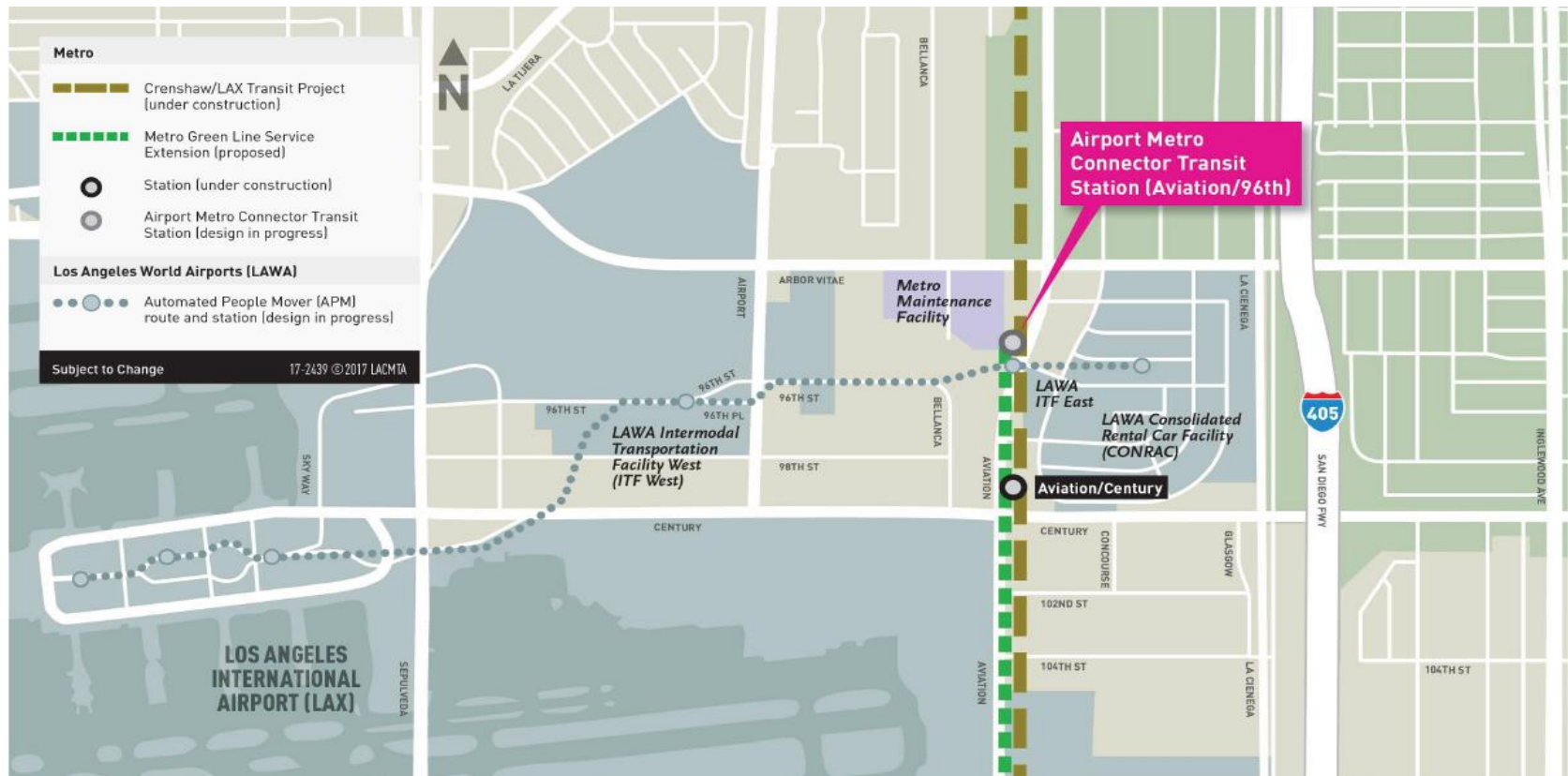
Original
LOP
\$898.6M

Current
LOP
\$898.6M

Current
Forecast
\$898.6M

Change in Forecast
Completion
Fall 2024

Project
Complete
22.5%



Airport Metro Connector

Cost: No Change.

Schedule: No Change.

Mitigation Measures: Not Applicable.

Accomplishments:

- Early Works Contract (Demolition, grading and installation of turnbacks) – Contract awarded and NTP issued on May 12, 2021. Demolition and Grading were completed October 2021.
- Main AMC Construction Contract – Contract awarded and NTP issued on October 25, 2021. Construction expected to begin Spring 2022.

Challenges/Risks:

- Negotiations of the Hertz Property/Right of way.
- CLAX construction delays and as-built conditions as AMC Station Construction starts.
- Interface with CLAX SIT-2 and current adjacent LAWA Projects.



I-5 North County Enhancements Project



Current
LOP
\$679.3M

Available
Funding
\$679.3M

Forecast
Completion
Summer 2026

Project
Complete
3.7%

Cost: No Change.

Schedule: No Change.

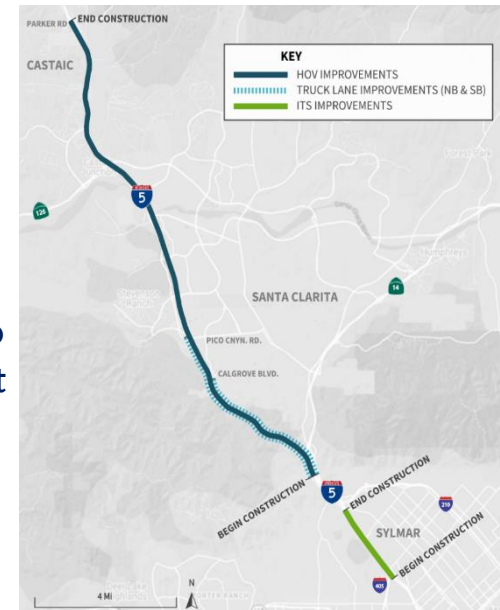
Mitigation Measures: Not Applicable.

Accomplishments:

- Secured \$47M in INFRA - Federal Funding
\$247M in TCEP - SB1 State Funding
- Construction Support Services Contract awarded to Hill Intl Aug 2020
- Bids Issued Nov 2020, Bids Received Feb 2021; LOP Approved by Metro Board Mar 2021; Contract Award to OHL USA July 2021; NTP for Project August 23, 2021; Construction Start Oct 2021; Anticipated Substantial Completion Jul 2026.

Challenges/Risks:

- Managing Contract with Metro processes and satisfying Caltrans requirements/oversight.
- Coordinating with other Stakeholders: FHWA, City of Santa Clarita, LA County, CHP, NPS, CDFW.



Rail to Rail Active Transportation Corridor

<u>Original LOP</u>	<u>Current LOP</u>	<u>Current Forecast</u>	<u>Forecast Completion</u>	<u>Project Complete</u>
\$ 116.0M	\$116.0M	\$140.0M	Winter 2024	0%

Cost: Staff working on funding agreement with City of LA for work within public ROW. *LOP will be adjusted commensurate with final value of funding agreement.*

Schedule: No Change.

Mitigation Measures: Not Applicable.

Accomplishments:

- Final Design complete and approved for construction by City and County of LA.
- Metro entered into a Voluntary Clean-up Agreement with DTSC.
- Abandoned rail equipment demolition and limited soil remediation completed August 2021.
- Construction Bids Received 7/2021; Contract Awarded 12/2021, NTP issued 01/2022.
- Metro Board approved Life of Project Budget January 2022.

Challenges/Risks:

- Additional requirements: City of Los Angeles to the south side of Slauson Ave; at 67th Ave & 11th Ave; and Union Pacific require reevaluation of design/construction scope east of Compton Ave.
 - Unforeseen subsurface conditions in the Public ROW intersections.
 - Worksite Traffic Control Plans must be completed by Metro ahead of Contractor's schedule.
 - Coordination and redesign effort in support of City's Slauson Connect project.
 - Third party expenditures with City of LA much higher than forecasted in preliminary design.
-

Soundwall Package 10



Original
LOP
\$50.9M

Current
LOP
\$50.9M

Current
Forecast
\$50.9M

Forecast
Completion
Winter 2026

Project
Complete
0%

Cost: No Change.

Schedule: No Change.

Mitigation Measures: Not Applicable.

Accomplishments:

- Secured \$48.6M in HIP - Federal Funding
- Constructability Review Complete
- Construction Cooperative Agreement Executed
- CSSC Contract has been awarded.

Challenges/Risks:

- Encroachment Permit from City of Pasadena is Conditional

