

**Board Report**

File #: 2021-0765, **File Type:** Contract**Agenda Number:** 27.

**CONSTRUCTION COMMITTEE
FEBRUARY 17, 2022****SUBJECT: DIVISION 20 PORTAL WIDENING TURNBACK FACILITY INCREASE****ACTION: APPROVE RECOMMENDATIONS****RECOMMENDATION**

AMEND the Life-of-Project (LOP) budget by \$75,000,000 for the Division 20 Portal Widening Turnback Facility (Project) from \$801,749,577 to \$876,749,577 using the fund sources (Attachment A), consistent with the provisions of the Board-adopted Measure R and Measure M Unified Cost Management Policy (Attachment B).

ISSUE

Division 20 Turnback Facility is a highly complex project to provide a turnback facility that enables trains to operate at reduced headways. The Purple Line Section 1 Project (PLE1), obtained a Full Funding Grant Agreement (FFGA) from the Federal Transit Administration (FTA) that commits to reduced headways consistent with Metro's planned service levels. The Division 20 Turnback Project will allow Purple Line trains to turn back quickly and meet planned service levels and the FTA requirements. In order to achieve the reduced headways, modifications to the Division 20 Yard are being implemented, including major modifications to track, civil work, power and train control systems.

Significant issues with the design have generated changes and delays to the project. In addition to challenges with the design, the Division 20 scope of work has increased due to the complex nature of working in an operating yard over 30-years old. The Project's location over an old industrial site, its multiple interfacing projects, third-party requirements and the need to reconfigure the structural features of a 100-year-old bridge, have led to cost and schedule increases that were not anticipated as part of the original contract. The Project has not exceeded the Life of Project Budget (LOP) and has funded the changes with the contingency that was provided in the original LOP.

Due to these additional costs, the project has nearly depleted the contract contingency (see detailed discussion on remaining contingency in the Risk Analysis Section of this Report). This Board Action requests authorization to replenish contingency, which is critical to funding key change orders that have been submitted by the contractor and are directly related to moving forward with contract work

through an approximate one-year construction period. Completing the project through additional phases will bring the construction to a more advanced condition where staff can evaluate status of design changes and unforeseen site conditions and return to the board to report on any additional funding requirements that have been identified.

BACKGROUND

Per the project's Full Funding Grant Agreement (FFGA) for Section 1 of the Westside Purple Line Extension (WPLE), Metro is committed to achieving the capability to operate service at four-minute headways on the future Metro Purple Line. As a result of reduced headways, Metro will need to coordinate headways for Purple and Red Lines in the shared trunk portion of the tunnel system from Wilshire Vermont Station through 7th and Metro and Union Station.

The Metro Red/Purple Line trains "turn-back" at Union Station, reversing direction from east to west. The current minimum headway that can be achieved at Union Station is approximately four-minute service for combined Purple/Redline service (or seven-and-a-half minutes on the branches), but that will become impracticable and less efficient once the Westside Purple Line Extension begins operating and more trains are using the same tracks.

At present, non-revenue Metro Red/Purple Line trains proceed south of Union Station and through the portal just south of the US 101 Freeway before entering a complex set of switches in the Division 20 rail yard. To produce a clear benefit to current and future operations by increasing train speeds and ensuring system reliability, the existing tunnel portal must be widened to accommodate additional tracks and switches that diverge to become the turnback and yard leads.

In addition to the turnback facility, the Purple Line 1, Purple Line 2 and Purple Line 3 projects will add train vehicles to the Metro Fleet, generating a need for increased storage capacity in the Red/Purple Line Yard. Storage tracks are being constructed North and South of the First Street Bridge as part of the Division 20 Project. Complex switching and train movements must be integrated with the Turnback Facility to enable trains to move from storage onto the main line and into service through the Portal.

To install the new turnback facility and new storage for train vehicles, the current power substation for the yard must be relocated and upgraded to meet the power requirements for the Turnback Facility and added storage. Twelve different Construction Phases will be needed as geometry and alignments are modified for relocating and upgrading track, power, utilities and train control systems in different locations in the yard. The Contractor must maintain 24/7 operations with each phase requiring safety testing and formal turnback procedures before trains can be returned for in-service operations.

Finally, construction and pre-revenue testing of the portal widening and turnback facility must be coordinated in accordance with PLE Section 1 schedule for opening for Revenue Service.

Major project elements include portal widening, power relocation and upgrades, First Street Bridge modifications and seismic upgrade, installation of turnback facility and storage tracks, train control

and signaling systems installation and integration.

DISCUSSION

Construction is progressing well on the Division 20 Project. Coordination is productive between the Project Team, Metro Operations and the Contractor. The Project has successfully completed a major milestone consisting of a 100-hour closure of the Red Line Yard to upgrade the Microlock Operating System under which all trains move and are routed to and from the Main Line tracks. Civil work, power and utility relocations are moving forward and work on the First Street Bridge is advancing to completion.

Although construction is progressing, there have been numerous Contract Change Orders from the beginning of the contract due to issues with the design that have impacted cost and schedule. Further, the complex nature of working in an older yard, its location over an old industrial site, interfacing projects, third-party requirements and reconfiguring the 100-year-old First Street Bridge, have led to additional contract changes that were not anticipated as part of the original contract.

1. Design Changes

Since the approved LOP date and initial Issued for Bid (IFB) design was released, 1157 Requests for Information were received from the contractor and 84 Contract Change Orders to address related cost and schedule impacts. Design changes occurred so frequently, that the project team and designer slowed the project, held meetings and workshops to focus solely on reconciling and making corrections to the design. Resulting Contract CO 20 was the result, consisting of 43 separate changes and a \$43.3M cost impact. Numerous additional design changes have been identified and are being tracked under various Change Orders.

2. Yard Operation Requirements Not Identified Prior to Bid

Design changes to the contract after award include: Addition of temporary vehicle cleaning platforms, adjacent system infrastructure for expanded train car inspections, addition of crossovers within the yard to improve connectivity to yard facilities, modification of special trackwork to accommodate supplier for a reduced delivery duration, reduction in third rail gaps at special trackwork to maintain train movements under worst case scenarios, addition of traction power switches within the tunnel east of Union Station to facilitate train movements within the yard, development of backup access for train delivery to accommodate Metro's train cars' fleet increases, implementation of additional yard signage at interlockings, modifications proposed by the contractor to accommodate construction staging, construction sequence movement of trains and equipment so that operations can continue on a 24/7 basis.

3. Power Upgrade

A complete power upgrade and relocation of the Yard TPSS Substation has introduced additional complexity to work in the yard, significant excavation for vaults and duct banks, and

making adjustments for design conflicts. The location of the current Yard TPSS substation conflicts with track installation for the turnback facility. Multiple changes on First Street Bridge have created temporary conflicts for track alignments which must be constructed prior to relocation of existing TPSS. Completing First Street Bridge, installing new track alignments, and cutting over of the new power substation and power system have become the critical path due to interrelated design changes.

4. Adjacent Projects

There are 8 adjacent interfacing projects to the Main Line Contract: Regional Connector (RC), Metro Center Project (MCP), Link Union Station (LinkUS), Purple Line Section 1, South Yard signal upgrades, South Yard Expansion/Permanent Cleaning Platforms, early demolition and ductbank construction project, and TPSS procurement project. Recent changes in schedule or scope in a number of these projects have directly impacted Division 20 construction activities, schedule, and phasing.

Relevant impacts to infrastructure design include: modifications at the yard's portal area to address multiple changes in the alignment of Link US, design modifications to First St. Bridge and Gold Line power and fiber systems, new system connections built during construction by Regional Connector, revisions in systems' equipment layout/locations/connections at the Division 20 Yard Tower to accommodate competing space and connection needs of interfacing projects, revisions to the design to accommodate newly constructed systems' infrastructure at the southern end of the yard, and accommodation for the addition of maintenance platforms at the new storage areas as a separate interfacing project

5. Working on an old industrial site

Division 20 project site was an old industrial facility, a larger than anticipated volume of hazardous material has been excavated and hauled away by contract change order. Much of the project site where HazMat has been discovered, was not tested prior to bid because it was originally covered by a building owned by a private developer. Historical documents were used to identify hazardous materials and determine volumes for the contract bid documents. Presence of the building and ownership by a private developer did not allow for field testing of the area. Actual quantities of hazardous materials have exceeded the volumes identified in the documents, and multiple change orders have been required as the material has been excavated and removed.

6. First Street Bridge

Design modifications resulted when the designer did not identify embedded rail within First Street bridge deck. Deteriorations in the bridge condition were not visible from the surface and only became apparent as the bridge's construction work has progressed. Resulting repairs, not contained in the original contract documents, have been extensive and have caused time delays that were not anticipated in the original contract schedule. In addition, new requirements by the City of Los Angeles to install continuous bridge displacement and crack monitoring stations have resulted in more design changes during construction.

7. Third Party requirements:

LADWP has required the development of temporary traffic control plan for the use of LADWP to carry their system upgrades within Santa Fe Ave

Metro Operations has identified unforeseen revisions that are required to the location of the CCTV video at the yard tower, to the UPS locations in Room 279 to reflect the new location of the UPS, and to the communication plans to reflect the equipment to be placed in Room 303.

Regional Connector has included multiple temporary routings that were unforeseen for Regional Connector connections from First Street bridge to Gold Line TPSS and the yard tower.

Metro Operations requiring temporary cutover of the existing Gold Line negative and positive feeders and communication fiber conduit at the First Street bridge intermediate pylon and Bent 16 to accommodate revised construction staging due to changes at the First Street Bridge.

Underground Utilities have generated changes to the TPC contract for work that was needed under a prior enabling utility contract to expedite Division 20 work.

LADWP has generated changes to the design to reflect LADWP requirements for 3 alternative options for Division 20 TPSS rectifier transformer replacing the conformed document rectifier transformer, the development of load flow simulation for replacement option with 6.1% transformer-rectifier regulation, and the preparation of related design deviation requests.

Seismic upgrades to the First Street Bridge extending across the LA River have generated changes to the original contract by addition of concrete infill walls requested by UPRR.

As construction progresses, the project is coming out of the ground, so the early phase environmental issues are expected to decrease. Installation and activation of the Yard Microlock system has been successful, and work is proceeding well on the next phase track relocations. Challenges arising from the condition of the First Street Bridge are now almost resolved, and this will contribute to increased momentum of the project in the coming months. Based on lessons learned to date, Metro has added procedures that are focused on increasing efficiencies and taking advantage of opportunities to save costs and mitigate delays, including workshops to support quality assurance, added senior level oversight from the designer, and additional Metro technical resources to help review designer responses.

A Risk Analysis has been completed to evaluate the cost and schedule impacts caused by the Change Orders identified in this board report. Projections have been applied to the current volume and the anticipated volume of changes based on the complexity of the work to be completed through the next construction phase. A projected breakdown of additional contingency funded through this requested LOP increase is shown in Attachment C.

A statistical Model has been applied, and an estimate generated for additional funding (Attachment A) required to advance the construction beyond 30% to a point where evaluation of design issues, differing site conditions and related cost and schedule risks can be accurately quantified.

The Model provides confidence levels for the recommended LOP increase needed to advance the work for approximately one-year. Staff will return to the Board at the end of this period after undertaking a thorough risk analysis, with recommendations if any additional funding is required.

Risk Analysis

Given the above discussion, much of the initial work on the project has been change order work that has been funded by project contingency. Approximately 95% of the initial \$93.9 M of unallocated contingency included in the project budget has been depleted. In accordance with Metro Board policy, expenditures have not exceeded the funding authorized in the Life of Project Budget, but additional change order work has been submitted by the contractor and is awaiting authorization in order for critical path elements to move forward. Maintaining sufficient contingency to address the risks of additional changes caused by the many complexities of this project will also be critical to advancing construction through FY 23. A Statistical Analysis has been performed to define an LOP increase that replenishes contingency and determines funding needs for the next phases of construction. The Model developed a projection of the additional funds needed over a range of confidence levels (see table below).

Confidence Level	FY 23 LOP Increase
10%	\$ 59,740,113
15%	\$ 61,499,957
20%	\$ 62,985,155
25%	\$ 64,293,906
30%	\$ 65,475,404
35%	\$ 66,563,867
40%	\$ 67,574,561
45%	\$ 68,557,278
50%	\$ 69,583,347
55%	\$ 70,663,370
60%	\$ 71,804,205
65%	\$ 73,018,356
70%	\$ 74,324,681
75%	\$ 75,743,360
80%	\$ 77,314,158
85%	\$ 79,096,563
90%	\$ 81,207,034

EQUITY PLATFORM

The Division 20 C1136 Mainline contract will support the Purple and Red Line system by increasing service frequency, reliability and access for communities that use the Metro transit system along both alignments for housing, jobs, educational, medical and entertainment needs. These service upgrades positively impact riders of the system from marginalized communities that travel along Red and Purple Line Corridors by increasing access, capacity, and reliability to meet these essential travel needs. The contract has Small Business Enterprise (SBE) commitments of 19.34% and Disadvantaged Veteran Business Enterprise (DVBE) commitments of 3.31%, and the contract modifications requested in this report do not change the level of commitments. Current level of participation is 5.60% SBE and 2.71% DVBE. The majority of the SBE scope is trackwork and the Project must complete the underground heavy civil and utility work first before the trackwork begins. There are 3 more years left in the contract to achieve the 19.34% SBE and 3.31% DVBE commitments.

DETERMINATION OF SAFETY IMPACT

This Board action will not have an impact on established safety standards for Metro's construction projects.

FINANCIAL IMPACT

Funds required for fiscal year 2022 have been requested through the fiscal year 2022 budget development, adopted at the May 2021 Board meeting. Since this is a multi-year capital project, the Chief Program Management Officer and the Project Manager will be responsible for budgeting costs in future fiscal years.

Impact to Budget

The sources of funds for the recommended actions are local and other funds that are eligible at the time of expenditure.

Multiyear Impact

The sources of funds for the Project are capital funds identified in the recommended Funding/Expenditure Plan as shown in Attachment A. With respect to the \$75,000,000 increase, Attachment B shows the Measure R and Measure M Unified Cost Management Policy (the Policy) analysis and funding strategy required for cost increases to Measure R and Measure M Projects.

To comply with the Policy of the Metro Board of Directors, Metro staff has evaluated potential offsetting cost reductions, including scope reductions, value engineering, shorter segments.

Because the project is so far along, these actions are no longer feasible.

This report identifies additional funding resources consistent with the Policy approved by the Board in 2018. Attachment B provides a detailed discussion of the Policy. In summary, the Policy was developed in recognition that some projects would need additional funding and the Policy provides a consistent and equitable process to ensure that any financial impacts are limited to the local area where the project is located and not have a region-wide impact.

The source of funds to address the LOP increase are Measure R Transit Capital (35%) for WPLE, made available from additional New Starts funding.

IMPLEMENTATION OF STRATEGIC PLAN GOALS

The recommendation supports Strategic Plan Goal #1 - Provide high-quality mobility options that enable people to spend less time traveling. Deliver outstanding trip experience for all users of the transportation system. Enhance communities and lives through mobility.

ALTERNATIVES CONSIDERED

The Board may choose to not move forward with amending the LOP budget. This is not recommended as Metro will be unable to provide funding to complete the Project according to the current schedule

NEXT STEPS

Upon approval by the Board, the LOP budget will be amended accordingly per the recommendation..

ATTACHMENTS

Attachment A - Funding/Expenditure Plan

Attachment B - Measure R and Measure M Unified Cost Management Policy Analysis

Attachment C - Projected Breakdown of Project Contingency Use

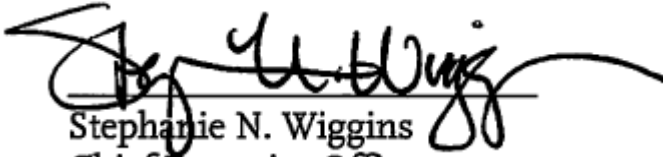
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ATTACHMENT A
 DIVISION 20 PORTAL WIDENING TURNBACK FACILITY
 LOP INCREASE FEBRUARY 2022
 Funding/Expenditure Plan
 (Dollars in Millions)

Capital Project No. 865519	Prior LOP	Prior	FY22	FY23	FY24	FY25	New LOP	% of Total
Uses of funds								
Construction	518.10	194.60	100.36	90.00	87.00	63.35	535.31	61.06%
Right-of-Way	101.60	101.54	-	-	-	-	101.54	11.58%
Professional Services	88.20	71.50	30.40	21.00	21.00	21.00	164.90	18.81%
Contingency (<i>LOP increase</i>)	93.90	-	35.00	40.00	-	-	75.00	8.55%
Total Life of Project Cost:	\$ 801.80	\$ 367.64	\$ 165.76	\$ 151.00	\$ 108.00	\$ 84.35	\$ 876.75	100.00%
Sources of Funds ¹								
TIRCP	69.21	4.77	-	16.88	47.55	-	69.21	7.89%
SB1 Local Partnership Program	50.00	16.88	37.51	35.08	43.79	-	133.26	15.20%
Measure R 35% ²	682.60	345.98	128.25	99.04	16.66	84.35	674.28	76.91%
Total Life of Project Funding:	\$ 801.81	\$ 367.64	\$ 165.76	\$ 151.00	\$ 108.00	\$ 84.35	\$ 876.75	100.00%

1. Funding sources subject to change based on availability and eligibility of funds at the time of expenditure.

2. Measure R amount subject to change based on actual debt interest charged to Westside PLE per the 2011 Fiscal Responsibility Policy.

ATTACHMENT B

Division 20 Portal Widening Project

Measure R and Measure M Unified Cost Management Policy Analysis

Introduction

The Measure R and Measure M Unified Cost Management Policy (the Policy) was adopted by the Metro Board of Directors in June 2018. The precursor Measure R cost management policy was adopted in March 2011. The intent of the Policy is to inform the Metro Board of Directors regarding cost increases to Measure R- and Measure M-funded projects and the strategies available to close a funding gap. The Division 20 Project (the Project) is subject to this policy analysis as it is considered an integral part of the Westside Purple Line Extension (WPLE) Section 1, Section 2, and Section 3 projects, which are Measure R- and Measure M-funded.

The life of project (LOP) budget for the Project was last approved by the Board in November 2019 at \$801,749,577. The Project is subject to the Policy analysis now due to a proposed \$75,000,000 (9.4%) increase to the LOP budget. Funding for the cost increase may be needed through FY 2026. This analysis recommends trade-offs required by the Policy to identify the funds necessary to meet the cost increase.

Measure R and Measure M Unified Cost Management Policy Summary

The adopted Policy stipulates the following.

If a project cost increase occurs, the Metro Board of Directors must approve a plan of action to address the issue prior to taking any action necessary to permit the project to move to the next milestone. Shortfalls will first be addressed at the project level prior to evaluation for any additional resources using these methods in this order as appropriate:

- 1) Scope reductions;
- 2) New local agency funding resources;
- 3) Value Engineering;
- 4) Other cost reductions within the same transit or highway corridor;
- 5) Other cost reductions within the same subregion; and finally,
- 6) Countywide transit or highway cost reductions or other funds will be sought using pre-established priorities.

Scope Reductions

The Project cost increase is due to issues with the design that have impacted the cost and schedule. Any attempt to identify and negotiate agreeable reductions to the scope may result in further delays and potential additional costs. Because of this, we recommend moving to the next step.

New Local Agency Funding Resources

Local funding resources (i.e., specific to the affected corridor or subregion) are considered in the next step as opposed to countywide or regional sources so as not to impact the funding of other Metro Board-approved projects and programs or subregions in the County.

The Project is eligible for Measure M and Measure R funding and is currently allocated a portion of the total \$4,074,000,000 of Measure R funding that is identified in the Measure R sales tax ordinance Expenditure Plan for the Westside Subway Extension.

The Project is in the Central City Area but serves the Metro Red and Purple Line which are within both the Central City Area and Westside Cities subregions. Local funding resources from both subregions and cities within the subregions could be considered for the cost increase.

Funding Within the Corridor

No other surplus or otherwise available funding has been identified from other Metro projects on the Metro Red and Purple Line corridors.

Subregional Programs and Local Agency Contributions

Measure M has funding for a transit-eligible Subregional Equity Program (SEP) in the Central City Area and Westside Cities subregions. The Measure M Expenditure Plan includes \$235 million for the Central City Area SEP and \$160 million for the Westside Cities SEP. The Metro Board previously approved funding plans that include SEP funding from the San Gabriel Valley subregion to address a \$126 million cost increase on Gold Line Foothill Extension, South Bay and Central City Area subregions to address a \$90 million cost increase on Crenshaw/LAX Transit, Central City Area and Westside Cities subregions to address a \$150 million cost increase on Westside Purple Line Extension Section 1, and Central City Area subregion to address a \$11.9 million cost increase on Eastside Light Rail Access (Gold Line). However, motion #2021-0435 from June 2021 states that, henceforth, the Policy is amended to eliminate the Subregional Equity Program from consideration to address project funding shortfalls during construction. Because of this motion, the SEP is not considered for the Project cost increase.

Local Agency Contributions

The cities with Project stations are expected to contribute funding to the Project as part of the 3% local agency funding assumption included in the Measure R and Measure M ordinances. The cities are generally not responsible for cost increases to the projects and are not considered as a source of funding for the Project cost increase.

Measure M, as well as Measure R and Propositions A and C, provide “local return” funding to Los Angeles and Beverly Hills. However, prior Board actions relating to the Twenty-Eight by '28 Initiative and funding for the cost increase to Gold Line Foothill Extension to Pomona did not support use of local return, and it is presumed these funds would not be available for the cost increase to the Project.

State and Federal Funding (Discretionary)

The FTA has previously granted the WSE Section 2 and Section 3 projects \$1.187 billion and \$1.3 billion respectively through the New Starts program. The March 2021 federal American Rescue Plan Act increased the New Starts grant on Section 2 and 3 by a combined \$151,855,538. The increase in New Starts can make Measure R funding available that is currently programmed on WSE Section 2 and Section 3 to address the cost increase on the Project. Additional State or federal discretionary funding (where Metro would compete for the funding) is not probable, given the Project has experienced a cost increase and the design/build contract is already awarded.

Value Engineering

The Project cost increase is due primarily to design changes that have increased the cost and extended the schedule. Any attempt to identify and negotiate agreeable value engineering may result in further delays and potential additional costs. As a result, we recommend moving to the next step.

Other Cost Reductions within the Same Transit or Highway Corridor, or within the Same Sub-region

The cities receive funding through the Call-For-Projects, the competitive grant program that is funded and managed by Metro for the benefit of LA County cities, transit operators, and State highway projects that was last held in 2015. At times the funding for certain projects in the Call-For-Projects is "de-obligated" if not spent within a reasonable timeframe and this can be a funding source for other uses. Currently there is not a meaningful amount of de-obligated funds available unless the cities choose to terminate an existing project, and all other projects are moving through their respective development process.

Countywide Cost Reductions and/or Other Funds

If new local agency resources are not allocated to the Project cost increase, regional or countywide funding could be considered. These funds are being programmed for uses in Metro's financial forecast, during the timeframe when funds are needed for the Project cost increase. Eligible sources of countywide funding include Proposition A and C (allocated to the portion of the Project that is not attributable to "new subway"), General Fund, and Lease Revenues.

State and Federal Funding (Formula)

Metro receives quasi-formula funding from the State through the Regional Improvement Program (RIP) and Local Partnership Program (LPP). This is considered regional funding as it can be applied countywide to both transit and highway spending. The most recent 2022 RIP has zero funding available for new Metro projects. Nevertheless, Metro determined in December 2021 it would request an advance of future RIP shares for mobility improvement projects associated with the I-710 North project. LPP is already programmed for the Project. Future LPP funding is allocated for other projects in Metro's financial forecast.

Metro receives federal formula funding from the Congestion Mitigation and Air Quality (CMAQ) Improvement Program and the Surface Transportation Block Grant Program (STBG). Metro's apportionments from these programs are expected to increase from the 2021 Bipartisan Infrastructure Law. Unfortunately, the Project is not eligible for federal funding because it was not environmentally cleared under the National Environmental Policy Act (NEPA).

Recommendation

Metro staff recommends the use of \$75,000,000 of additional New Starts, which will make available an equal amount of Measure R Transit 35% for the proposed \$75,000,000 LOP budget increase.

ATTACHMENT C
 DIVISION 20 PORTAL WIDENING TURNBACK FACILITY
 PROPOSED LOP INCREASE FEBRUARY 2022
 Projected Breakdown of Contingency Expenditures

LOP INCREASE	Description
\$75,000,000	<ul style="list-style-type: none"> ◦ Contract C1136: Portal Wall, Ductbanks, Trackwork, Systems and Systems Integration Testing, 1st Bridge, Adjacent Projects, Third Party requirements, Schedule Impacts ◦ Metro Staff at Gateway and field offices who perform oversight in various disciplines. ◦ Engineering - Design support during construction (DSDC) <ul style="list-style-type: none"> - TY LIN Contract AEAE66758000: Design and Engineering - SecoTrans Contract AE47810E0128: Systems Engineering ◦ CMSS - ANSER: Construction Management Support Services procured to support Metro staff in oversight of specific areas of project construction disciplines such as field inspectors, resident engineer, engineers and other construction support. ◦ Program Management Support Services (PMSS) - KTJV support services including project controls estimating. ◦ 3rd Party Coordination <ul style="list-style-type: none"> - City and County of Los Angeles administration and services - Freight and Rail Line coordination adjacent to Division 20 ◦ Claim Support Services - Arcadis Inc.: claims support consultant to assist with preparing documentation and analysis in support of Metro's defense against claims submitted by the contractor. ◦ Labor Compliance Monitoring: Consultant companies monitor the construction contractor compliance with project labor agreement and DBE requirements. ◦ Legal Services: Procured legal services to assist project management. ◦ Auditing Services: Consultant companies conduct labor compliance audits of main professional services and construction contracts. ◦ QA Test Lab Services: Consultant companies provide materials verification testing and inspections services. ◦ Escalation and Inflation cost impacts.
\$75,000,000	Total LOP Increase

**Division 20 Board Report 2021-0765
February 2022**

DIVISION 20 LOP INCREASE

DIVISION 20 PORTAL WIDENING TURNBACK FACILITY

RECOMMENDATION:

AMENDING the Life of Project (LOP) budget by \$75,000,000

Current LOP: \$801,749,577 Revised LOP \$876,749,577

BACKGROUND

- Purple Line Full Funding Grant Agreement (FFGA) for PLE1 requires capacity for 4-minute headways.
- Metro's commitment to meet the terms of the FFGA, existing portal must be widened and a turnback track constructed
- PLE 1, 2 and 3 will add vehicles to the Metro Fleet, requiring increased Yard storage
- Original contract includes substantial upgrades to power the new turnback and vehicle storage.



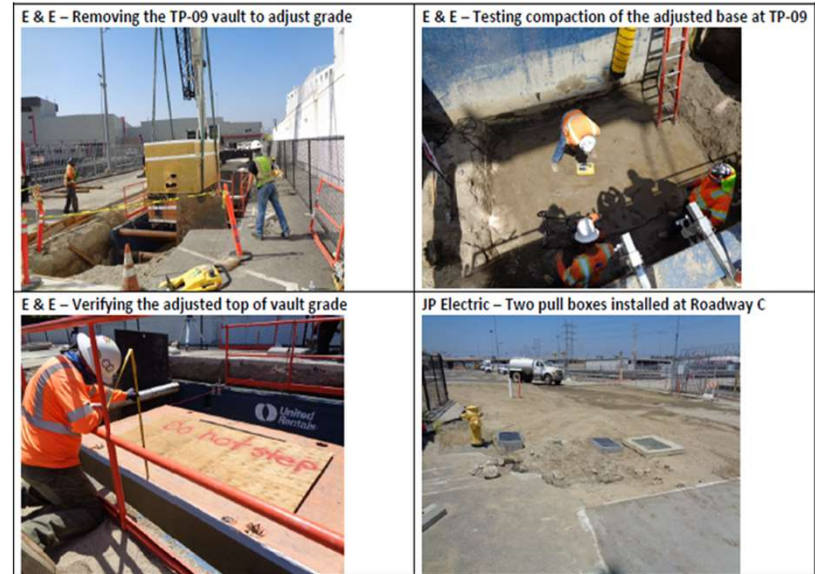
DIVISION 20 PORTAL WIDENING TURNBACK FACILITY

ISSUE

- Multiple Changes not anticipated in the original Div 20 bid documents have accelerated expenditure of project contingency.

DISCUSSION

- Multiple design issues
- D20 yard is over 30-years old causing repairs and replacement of equipment
- Old industrial site, excessive removal of hazardous materials
- Multiple interfacing projects have caused delays and construction challenges
- 3rd-Parties, City of Los Angeles, Utilities
- First St Bridge is 100-years old and required unforeseen repairs



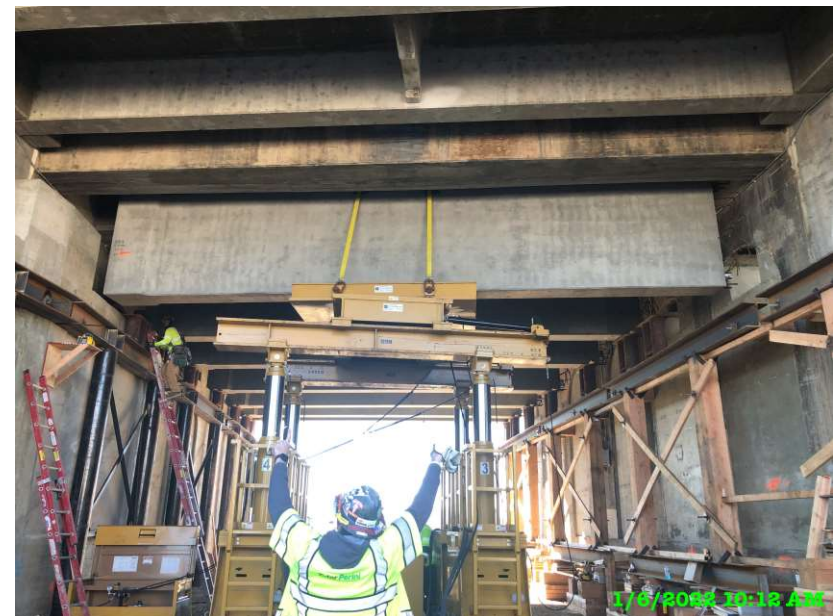
DIVISION 20 PORTAL WIDENING TURNBACK FACILITY

RISK ANALYSIS

- Currently, the project is about 30% complete, 95% of the original \$93M of contingency expended
- Contractor has submitted Requests for Change that will require an LOP increase
- A risk analysis has been developed to determine project funding needs through FY23, based on current costs, change orders and burn rate
- Staff will return to the Board once construction has been advanced through additional phases and status of design changes and unforeseen site conditions can be accurately evaluated

MODEL RESULTS

- The model calculates a range of projected costs through FY2023 based on confidence levels (See Table 1).



DIVISION 20 PORTAL WIDENING TURNBACK FACILITY

RISK ANALYSIS RESULTS

Cost Risk Analysis Model – Results of the risk analysis with Confidence Levels are summarized in Table 1 below.

Confidence Level	FY 23 LOP Increase
10%	\$ 59,740,113
15%	\$ 61,499,957
20%	\$ 62,985,155
25%	\$ 64,293,906
30%	\$ 65,475,404
35%	\$ 66,563,867
40%	\$ 67,574,561
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65%	\$ 73,018,356
70%	\$ 74,324,681
75%	\$ 75,743,360
80%	\$ 77,314,158
85%	\$ 79,096,563
90%	\$ 81,207,034

Table 1

FUNDING FOR THIS LOP INCREASE REQUEST

- The use of \$75,000,000 of additional New Starts funding will make available an equal amount of Measure R Transit 35% for this proposed increase
- LOP budget increase actions to address the cost increase are evaluated using the Measure R and Measure M Unified Cost Management Policy
 - Metro Project team has added procedures to increase efficiencies, save costs and mitigate delays
 - Workshops, addition of Designer resources, addition of Metro technical resources

