



Board Report

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CONSTRUCTION COMMITTEE MAY 20, 2021

SUBJECT: WESTSIDE PURPLE LINE EXTENSION SECTION 1 PROJECT

ACTION: APPROVE RECOMMENDATIONS

RECOMMENDATION

CONSIDER:

AMENDING the Life-of-Project (LOP) budget by \$150,000,000 for the Westside Purple Line Extension Section 1 Project (Project) from \$2,978,879,593 to \$3,128,879,593 using the fund sources as summarized in Attachment A, consistent with the provisions of the Board-adopted Measure R and Measure M Unified Cost Management Policy (Attachment B).

ISSUE

As outlined at the August 2020 Board meeting, Section 1 is being constructed in complex and extremely challenging geologic conditions that include subsurface gases (methane and hydrogen sulfide) and asphalt saturated ground, or “tar sands” in the areas surrounding the La Brea Tar Pits. The presence of these soil conditions previously prevented tunneling in this area until more technological advanced tunneling methods were developed. Metro tunneling specialists worked with federal representatives to have legislation changed in 2006, so that subway alternatives could be considered.

In addition to the above natural geologic challenges, Section 1 also faced man made underground obstacles. Old, abandoned oil wells were located along the alignment. Since their precise locations were not known, additional investigations and efforts were implemented to insure there were no incidents involving the Tunnel Boring Machines (TBMs) and these wells. Such an incident could cause damage to the TBMs or an unplanned release from the oil wells. Horizontal Directional Drilling (HDD) in combination with the use of a Magnetometer (a first of its kind of operation) was implemented to search for the abandoned oil wells and any other metal objects (anomalies) that may be in or very close to the tunnel alignment. Section 1 did find both abandoned oil wells and other metal objects that would have impacted the tunneling operations. The tunnel alignment was shifted ten feet at one location to avoid an assumed oil well. Anomalies were also discovered in both tunnel alignments at the intersection of Wilshire/San Vicente. These anomalies were safely removed with no injuries to the miners or major impacts to the traffic flow on the surface. More details of the Wilshire/San Vicente anomaly mitigation efforts, including cost impacts and schedule impacts to the

Project follow in this report.

The Project has entered the seventh year of its 10 year expected duration and is 69% complete as of March 31, 2021.

As was reported and addressed at the August 2020 Board meeting, the Project has experienced higher than expected differing site conditions, an increase in third party and safety requirements, and changes in scope related items. These conditions and additional requirements were known to impact the LOP budget, but what wasn't known in August 2020 were the impacts that these same issues would have on the Project schedule. Also, what impacts any future new risks may have on the Project schedule and LOP budget.

One differing site condition that has significantly impacted the Project in terms of cost and schedule over the past year has been the Wilshire/San Vicente anomaly. Potential oil well locations close to the tunnel alignment were identified in the Project documents by a circular zone within a 200 foot radius without an exact known or verified location. The Wilshire/San Vicente intersection was one of these locations and as required by contract, the contractor was to provide an investigation to determine if any oil wells existed.

The zone closest to the Wilshire/San Vicente intersection was cleared by Horizontal Directional Drilling (HDD). However, during the clearance of the tunnel alignment for oil wells by the HDD method, an anomaly was discovered just outside the potential oil well zone. Five vertical magnetometer readings were also taken north and south of each tunnel alignment in the general area of the anomaly. Upon review of the horizontal and vertical magnetometer data, unknown potential anomalies were identified by the contractor. The anomalies were shown at tunnel depth (55 ft to 75 ft), potentially near or in the tunnel alignments. There is no method to pinpoint the exact anomaly location without major open cut excavation from the surface. Given the location, an open cut excavation was not feasible.

The remedial method chosen to mitigate this unforeseen condition was to install a chemical grout block surrounding each tunnel (45 feet in length) so that in the event an anomaly is encountered while tunneling, it would be feasible to remove it by hand mining from outside the tunnel boring machine (TBM) while keeping the surrounding ground stable. While the chemical grout blocks were being installed, the two TBMs remained parked east of the Wilshire/San Vicente intersection.

To address the impacts that the anomaly is having on ongoing construction and the Project schedule, staff recommends a total LOP budget increase of \$150 million. This increase will fund newly identified contract changes associated with the anomaly, address new issues and risks, and provide additional contingency as shown in Attachment C.

BACKGROUND

Section 1 of the nine-mile Westside Purple Line Extension Project is the first of three sections that

has been designed and is currently under construction as part of the Los Angeles County Metropolitan Transportation Authority (LACMTA) Measure R Program. Section 1 extends the existing Purple Line by 3.92 miles beginning at the Wilshire/Western Station. From this station, the twin tunnel alignment travels westerly within the existing Wilshire Boulevard right-of-way with station locations at the intersections of Wilshire/La Brea, Wilshire/Fairfax, and Wilshire/La Cienega. All three of the station boxes are located within the Wilshire Boulevard right-of-way with station portals extending to off-street entrances. Two of the stations, Wilshire/La Brea and Wilshire/Fairfax, are within the jurisdiction of the City of Los Angeles and the Wilshire/La Cienega Station is within the City of Beverly Hills jurisdiction.

On July 24, 2014, the Board authorized an LOP budget of \$2,773,879,593 for the Project and authorized the Chief Executive Officer to award a 107-month design/build contract (C1045), subject to the resolution of timely protests, to Skanska, Traylor and Shea (STS). The contract was awarded on November 4, 2014 and the Notice to Proceed was issued on January 12, 2015.

Metro procured and awarded three contracts for advance utility relocations within the construction limits of each of the three future stations and constructed an exploratory shaft adjacent to the future Wilshire/Fairfax Station to observe ground conditions, all prior to the award of Contract C1045.

Metro also procured and awarded a design/build contract to provide the final design and construction of a new Maintenance-of-Way (MOW) and Non-Revenue Vehicle (NRV) Building at the south end of the existing Division 20 Yard (Location 64). On February 26, 2016, the Board authorized an increase to the LOP budget, in the amount of \$5 million, for an alternative design for the site placement of the Division 20 MOW and NRV Building.

On August 20, 2020, the Board authorized an increase to the LOP budget in an amount of \$200 million to address higher than expected differing site conditions, an increase in third party and safety requirements, and changes in scope related items. The Wilshire/San Vicente anomaly was identified as a potential change to the Project at that time, but the extent of the scope of work needed to safely tunnel through the intersection, and the risk that it would have to the Project schedule were not fully known.

DISCUSSION

When the LOP budget was increased by \$200 million in August 2020, the project cost contingency was increased to \$170 million. The amount included allocated contingency to cover anticipated contract modifications to be issued by Metro as required. The Wilshire/San Vicente anomaly was acknowledged as a potential change to the Project in the LOP budget increase request, but the impacts associated with the anomaly to on-going/follow-on construction and the Project schedule are more profound than estimated. As a result, it is projected that the current contingency balance is insufficient to carry the Project through to revenue service, considering the outstanding pending

changes, potential changes, and remaining issues that need to be concluded on the Project.

The Federal Transit Administration (FTA) will conduct a formal risk assessment of the Project after tunnel mining through the anomaly is complete. This milestone was achieved in late March 2021. The Board will be briefed of the results of FTA's risk assessment.

STS has submitted claims concerning impacts on its ability to complete the Project early, impacts to the tunneling operations between Wilshire/La Brea and Wilshire/Fairfax Stations, and impacts to steel fabrication and delivery. Metro has disputed these claims and they will be subject to the dispute resolution process (subject to the Board's approval). Since Metro is disputing these claims, the requested amount in this Board Report does not include any amounts for these claims.

Also, not included in this request 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.

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, anticipated to be adopted at the May 2021 Board meeting. Until then, fiscal year 2021 budget provides the necessary funds, under Project 865518 Westside Purple Line Extension Section 1, and in Cost Center 8510 (Construction Project Management).

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 \$150,000,000 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 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 segment, and has determined these are not feasible. The source of funds to address the LOP increase is Measure R Transit Capital (35%). The Measure R in the Expenditure Plan that is allocated to the Project and other components of the subway is already fully utilized. Measure R expended on the Crenshaw/LAX will be used instead, and this amount will be exchanged with Proposition A 35% funds. Proposition A and C cannot be expended on the Project. Metro staff will concurrently work with the subregions to provide the required 120 day written notification and seek formal approval from the governing body for use of the subregional equity program as a reimbursement or funding source for future expenditures. Should the subregion not approve the use of the funds, Metro staff will return to the Board with an update on the funding sources and a fiscal impact analysis of the use of these funds for the project.

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 Policy defines a cascading list of actions that can be taken. Because the Project is so far along, actions such as value engineering or changes in scope are no longer feasible. Additional funding is the only option.

IMPLEMENTATION OF STRATEGIC PLAN GOALS

Recommendation supports Strategic Plan Goal #1 - Provide high-quality mobility options that enable people to spend less time traveling.

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 Cost Allocation for \$150 million

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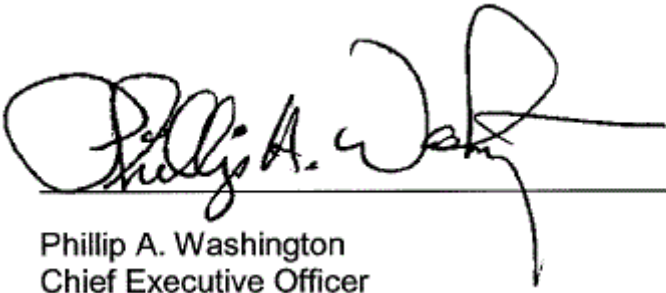
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