



Board Report

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CONSTRUCTION COMMITTEE AUGUST 20, 2020

SUBJECT: WESTSIDE PURPLE LINE EXTENSION SECTION 1 PROJECT

ACTION: APPROVE RECOMMENDATIONS

RECOMMENDATIONS

CONSIDER:

- A. AMENDING the Life-of-Project (LOP) budget by \$200,000,000 for the Westside Purple Line Extension Section 1 Project (Project) of \$2,778,879,593 to \$2,978,879,593 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), and
- B. AUTHORIZING the use of \$200,000,000 representing unused Expo Phases 1 and 2 funds for the proposed LOP Budget increase.

ISSUE

The Project has entered the sixth year of its nearly nine year expected duration and is 63% complete as of June 30, 2020. To date, 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 unexpected conditions and additional requirements have impacted the LOP Budget. The Project is in the process of determining any impacts that these same issues may have on the Project schedule.

The Project will continue to assess any and all future Project risks, and the impacts that these risks may have on the LOP Budget and Project schedule.

To address the project cost contingency drawdowns detailed below, fund ongoing construction, third party and professional services expenses, and restore some unallocated contingency, staff recommends a total LOP budget increase of \$200 million at this time.

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 stations 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.

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’s tunneling specialists worked with federal representatives to have legislation changed in 2006, so that subway alternatives could be considered.

To date, over 84% of the tunnel length between Wilshire/Western and Wilshire/La Cienega Stations has been completed, as well as the excavation of the three stations. Metro gives credit to the contractor, Skanska, Traylor and Shea (STS), for safely tunneling under these challenging conditions.

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 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 \$5,000,000, for an alternative design for the site placement of the Division 20 MOW and NRV Building.

DISCUSSION

When the LOP Budget was adopted in July 2014, the project cost contingency was established at \$320.6 million. The amount included allocated contingency to cover anticipated but unknown contract modifications to be issued by Metro as applicable to specific contracts. As of June 30, 2020, the remaining project cost contingency balance is \$35.4 million. The remaining contingency balance is projected to be 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 contingency balance remaining is below the 3% project reserve threshold of \$83.4 million. The 3% threshold process was adopted by the Board in 2012 as an indicator to the Board to when it became necessary for a Project to drawdown on contingency below the reserve threshold

amount to cover Project costs.

The project cost contingency drawdowns to date can be summarized into four major categories.

Third Party Requirements (\$31.2M) that include, but are not limited to the following:

- At the Wilshire/La Brea Station, there were changes requested by LADWP (Power) to a room that contains their high voltage equipment. Plus, LABOE requested additional utility supports to hang the various utilities from the temporary steel deck beams (\$1.4M).
- At the Wilshire/La Cienega Station, a Memorandum of Agreement (MOA) was required between Metro and the City of Beverly Hills in order to define the requirements for STS to work within the City limits, as Section 1 was the first Metro Project that would be constructed in the City of Beverly Hills. The MOA negotiations began in advance of the award of Contract C1045, but the MOA was executed after contract award. Contract award was not deferred to allow for the inclusion of the MOA into the contract, because to do so would have delayed the completion date of the Project. Changes were also requested by SCE to a room that contains their high voltage equipment. In addition, modifications were required to be performed on the emergency generator enclosure in order to allow placement of the required ventilation gratings in the sidewalks (\$21.4M).
- In all areas along the alignment additional instrumentation was required to monitor utilities in the street and buildings along Wilshire Boulevard from any settlement due to tunneling and station construction due to third party concerns (\$8.4M).

Differing Site Conditions (DSCs) (\$68.4M) that include, but are not limited to the following:

- At the Wilshire/Western Tunnel Boring Machine (TBM) Retrieval Site, the existing station blast relief shaft geometry was not as shown on the as-built drawings, plus there was a waterline break due to an existing deteriorated pipe (\$0.3M).
- At the Wilshire/La Brea Station, additional water was encountered during station excavation and a difference in expected geology caused an increase in efforts to be expended in order to be able to dewater and excavate the station to the required subgrade depth. In addition, due to changed locations and extra concrete encasement of various utilities in the street, the ability to excavate the station box and to install the required support of excavation needed to safely excavate was negatively impacted. Due to the above, the duration required to fully excavate the station, an activity critical to be able to start tunneling was extended. Metro issued a Contract Modification (MOD) to advance some of the excavation activities to minimize the DSC caused delays. The advancement MOD recovered over four months of the critical path impact (\$33.8M).
- At the Wilshire/Fairfax Station, the expected depth of the special Paleo excavation zone was deeper than was expected. This special Paleo excavation zone required STS to only excavate in six-inch lifts which is much shallower than normal excavation and more time consuming. In addition, during the decking operations some LADWP (Power) duct banks were slightly higher than expected and interfered with the street decking. The duct banks

needed to be re-worked to provide the required clearance to install the street deck beams (\$5.7M).

- At the Wilshire/ La Cienega Station, a difference in geology caused additional dewatering wells, well points, and trench drains to be installed in order to be able to dewater and excavate the station to the required subgrade depth. Due to the above, the duration needed to fully excavate the station, critical to be able to accept the TBMs when they enter the station from the east, was extended. Metro issued a MOD to advance some of the excavation activities to minimize the DSC caused delays. The advancement MOD recovered over two months of the critical path impact (\$27.8M).
- At Tunnel Reach 3 (Wilshire/Fairfax to Wilshire/La Cienega), an oil well was discovered very close to the current tunnel alignment near Crescent Heights. The tunnel alignment was moved 10 feet to the south so as not to impact the existing oil well (\$0.8M).

Scope (Metro upgrades) (\$21.8M) that includes, but are not limited to the following:

- Changes were issued in order to keep certain aspects of the Project up to date with current Metro standards. The C1045 Contract was executed in 2015 causing some of the Contract scope of work to be out of date. Various changes to systems, signage, and lighting have been issued. In addition, horizontal directional drilling was introduced to locate any potential anomalies in conflict with the tunnel alignment prior to the TBM arriving at the anomaly. Improvements were made to the two tunnel crossovers located at the Wilshire/La Brea and Wilshire/La Cienega Stations to allow for better passenger service (\$21.8M).

Safety (\$19.6M) that includes, but are not limited to the following:

- At the Wilshire/Western Station, the Project will be tying into the existing train control system. As the manufacturers of the new and existing train control systems are different, the Project was notified by the existing train control manufacturer after the award of Contract C1045, that special precautions need to be taken and extra equipment is required to be installed to keep the two systems safely operating together (\$5.9M).
- At Tunnel Reach 3 (Wilshire/Fairfax to Wilshire/La Cienega), there was a potential for existing underground methane and hydrogen sulfide gases to migrate towards the street and under the buildings when the TBMs were passing in this area. Studies were conducted, and a mitigation plan was developed and implemented to minimize the potential of migrating gas (\$13.7M).

Given the challenging conditions encountered, the Project has proactively implemented schedule mitigation modifications to keep the Project on schedule. These include the following:

- At the Wilshire/La Brea Station, the excavation was advanced to mitigate some of the delays associated with actual water/soil conditions. Also, a center muck shaft was established to advance portions of the excavation due to impacts the existing utilities had on the movement of muck to the La Brea muck shaft.
- At the Wilshire/Fairfax Station, Metro assumed the role of Engineer of Record so as to minimize the delays and proposed additional scope of work by STS (avoided) associated with

the excavation of the tar sands in the station box.

- At the Wilshire/La Cienega Station, the excavation was advanced to mitigate some of the delays associated with the actual soil conditions encountered. In addition, the station concreting was advanced to allow additional critical station construction to be completed while waiting for the TBMs to arrive from the Wilshire/Fairfax Station.
- Along the tunnel alignment, horizontal directional drilling (HDD) was instituted to minimize any delays to the tunneling operations due to unknown anomalies (such as oil wells) being in the path of the TBMs. The HDD process located an anomaly (possible oil well) at the Wilshire/Crescent Heights intersection, which allowed the tunnel alignment to be slightly changed early enough to cause very little impact to the Project. The HDD process has also located an anomaly at the Wilshire/San Vicente intersection that will require mitigation efforts and has some schedule impact, but much less than if the HDD was not conducted and if the TBMs encountered the anomaly without the start of any early intervention.

STS has submitted a claim concerning impacts on its ability to complete the Project early. Metro has disputed this claim and it will be subject to a dispute resolution process (subject to the Board's approval). Since Metro is disputing this claim, the requested amount in this Board Report does not include any amounts for this claim.

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 2021 have been requested through the fiscal year 2021 budget development, to be adopted at the September 2020 Board meeting. Until then, fiscal year 2020 budget, authorized through continuing resolution, provides the necessary funds for the first quarter in fiscal year 2021, 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. The project cost, prior to the proposed cost increase, is included and funded in the 2019 Long Range Transportation Plan Financial Forecast. With respect to the \$200,000,000 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 value engineering, shorter segment, and reductions to other Metro projects in the corridor and subregion, and has determined these are not feasible, and that additional local funding resources, which are to be considered prior to Metro's countywide funding, are potentially available. The Policy analysis recommends \$200,000,000 of unused project funds from Expo Phases 1 and 2, as available funding sources in the Long Range Transportation Plan Financial Forecast that can address the \$200,000,000 cost increase.

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 \$200 million

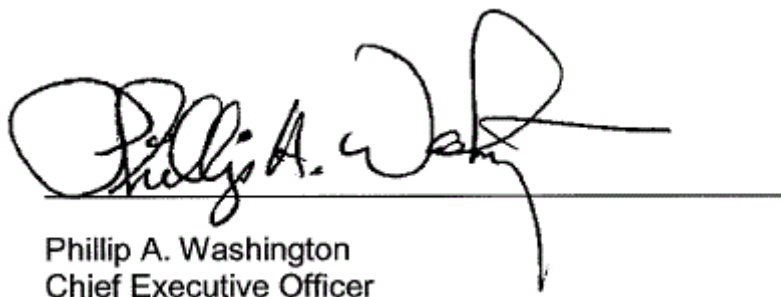
Prepared by:

James Cohen, Executive Officer, Project Management (323) 900-2114

Rick Wilson, Executive Officer, Program Control (323) 900-2113
Craig Hoshijima, Deputy Executive Officer, Countywide Planning (213) 418-3384
Sameh Ghaly, Sr. Executive Officer, Project Management (213) 264-0693

Reviewed by:

Richard Clarke, Chief Program Management Officer (213) 922-7557
James de la Loza, Chief Planning Officer (213) 922-2920
Debra Avila, Chief Vendor/Contract Management Officer, (213) 418-3051



Phillip A. Washington
Chief Executive Officer