Los Angeles County
Metropolitan Transportation
Authority
One Gateway Plaza
3rd Floor Board Room
Los Angeles, CA

Metro

Board Report

File #: 2019-0787, **File Type:** Budget **Agenda Number:** 37.

CONSTRUCTION COMMITTEE
NOVEMBER 21, 2019

SUBJECT: 7TH AND METRO STATION RADIO REPLACEMENT

ACTION: APPROVE RECOMMENDATION

RECOMMENDATION

INCREASE the Life of Project (LOP) Budget for the Regional Connector Concurrent Non-FFGA Activities Project, capital project number 861228 by $6,450,000 to a total amount of $46,441,168. This will address critical radio system interface requirements at 7th & Metro.

ISSUE

The existing radio system at 7th & Metro station is more than 25 years old and is obsolete. The age and obsolescence of this life-expired equipment could present possible safety risks to Metro's rail operations due to potential reliability and intermittent maintenance issues. The radio infrastructure ("head-end") at 7th & Metro is uniquely critical to Metro's rail system as it currently serves the Metro Red, Purple, Blue, and Expo lines, including operations, maintenance, security and emergency response radio channels. Moreover, this location is critical to the forthcoming operation of the Regional Connector line, facilitating extension of rail service to Azusa and East Los Angeles.

The Regional Connector Project, in collaboration with Metro Operations and Corporate Safety, have studied how to integrate a new radio system into Metro's existing radio infrastructure, including the extension of new Regional Connector radio channels into the existing station and tunnels. Staff have concluded that it is not practicable to achieve this integration, in compliance with the revised Metro Rail Design Criteria (MRDC), without a complete replacement of the existing radio system at 7th & Metro.

With the understanding that the existing infrastructure requires replacement and that seamless radio operation is essential for operational safety along the Regional Connector, Expo and the Blue Line tunnel, it is recommended that the Regional Connector Project execute contract modifications to design, procure, install and test a new "head-end" radio system at 7th & Metro.

DISCUSSION

Metro Blue Line service to 7th & Metro commenced in 1991, with Section 1 of the Metro Red Line opening for revenue service at the station in 1993. The 7th & Metro Station includes existing radio transmission and reception equipment (i.e., a "head end") to service the Metro Blue, Red, and Purple

lines, including radio channels for operations, maintenance, Metro Security and emergency response & law enforcement. The existing system was expanded in 2012 to add two Metro Operations channels to accommodate the Expo line.

Metro Corporate Safety conducted a condition assessment in 2016 and concluded that replacement of the existing head-end was needed due to the system's age, condition, and risk of inability to repair. A reliable head-end was critical to rail operations safety, incident & emergency response, and to maintenance ability. The recommendations put forth by Corporate Safety are being included in a future radio replacement project for the Red/Purple lines

The Regional Connector Project is installing a radio system for the new tunnels & stations, including a new radio head-end at the 1st & Central/Little Tokyo station. This new radio system will be expanded to include channels for Gold Line Operations that do not currently exist at 7th & Metro or within the existing Metro rail tunnels. It was realized that it would be impractical to expand the radio system at 7th & Metro as required utilizing the existing head-end equipment. This was primarily due to the existing equipment being obsolete, the liability and risk of damaging existing equipment, and a determined inability to achieve seamless radio operation through the connected underground rail systems. Therefore, a modified approach was proposed which included a complete replacement of the existing 7th & Metro head-end to serve as the main communication system, with the second head-end being installed at the new 1st & Central station under the Regional Connector project serving as the 'hot-standby' system. This redundancy is required to meet the recently updated Metro Design Criteria.

By performing this work in conjunction with the Regional Connector Project, system and equipment compatibility and consistency is provided, to the advantage of operations, maintenance and emergency services. Additional cost efficiencies can also be realized by combining the work with similar work already underway by the Project.

Thus, these planned enhancements to the radio system will extend radio channels into the existing infrastructure, replace life-expired equipment due for replacement, and potentially mitigate operational safety risks by improving system continuity and redundancy.

DETERMINATION OF SAFETY IMPACT

The approval of this Work Scope and LOP Budget increase will allow Metro to address potential operational safety concerns, while improving overall service quality and system reliability. The new radio head-end will replace an obsolete system to provide for seamless operation between the new and existing infrastructures and additional operating and emergency responder channels throughout the tunnels and stations.

FINANCIAL IMPACT

Adoption of Recommendation will increase the LOP Budget for Project no. 861228 (Concurrent non-FFGA Activities Project) by $6,450,000 to the total amount of $46,441,168. The concurrent non-FFGA Activities are for projects related or being performed by the Regional Connector project, but

part of the base scope of that project. The $300,000 required in FY20 for the radio system upgrade is included in FY20 adopted budget. The Project Manager and Chief Program Management Officer are responsible for budgeting for all costs associated with 7th & Metro radio system in the future.

Impact to Budget

The additional $6,450,000 is funded with Measure M State of Good Repair 2%. This is an appropriate source for the upgrade of an existing radio system at 7th & Metro head-end.

IMPLEMENTATION OF STRATEGIC PLAN GOALS

Approval of the recommended action is consistent with Metro Strategic Plan Goal 1: providing high-quality mobility options that enable people to spend less time traveling.

ALTERNATIVES CONSIDERED

The Board may decline to approve the recommended actions. Staff do not recommend this alternative because potential safety concerns with the existing station and tunnels would not be addressed and there is a risk of not receiving CPUC approval once the Regional Connector is completed due to the inability to achieve seamless radio operation through the connected underground rail systems.

NEXT STEPS

Upon approval by the Board, Staff will complete negotiations with the Regional Connector contractor and execute a contract modification under authorization delegated to the CEO for the work to be installed and commissioned during pre-revenue operations period.

ATTACHMENTS

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

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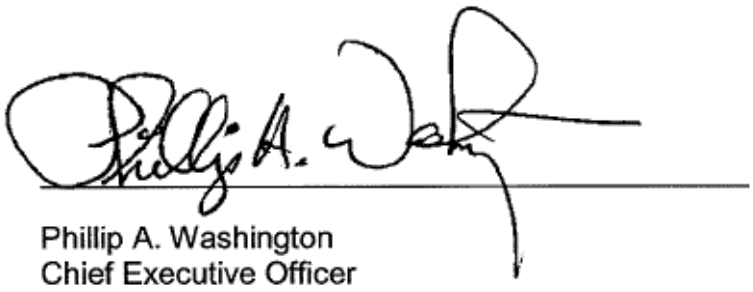

Phillip A. Washington
Chief Executive Officer

ATTACHMENT A

FUNDING PLAN
REGIONAL CONNECTOR CONCURRENT NON-FFGA ACTIVITIES PROJECT
LIFE OF PROJECT BUDGET (LOP)
(DOLLARS IN MILLIONS)

Capital Project 861226	Prior	FY20	FY21	FY22	FY23	LOP Total	% of Total
Uses of Funds							
Construction	0.0	0.0	0.0	0.0	0.0	0.0	0.0%
Systems (7th/Metro)	0.0	0.3	4.6	1.5	0.0	6.5	13.9%
Right of Way	22.5	15.0	0.0	0.0	0.0	37.5	80.7%
Professional Services	0.4	0.2	0.2	0.2	0.3	1.2	2.6%
Unallocated Contingency	0.0	0.3	0.4	0.5	0.2	1.3	2.8%
Total Uses	**22.8**	**15.7**	**5.2**	**2.2**	**0.5**	**46.4**	**100.0%**
Source of Funds							
Local Sources							
Measure R - Rail Capital General Improvements (2%)	0.0	10.5	0.0	0.0	0.0	10.5	22.6%
Lease Revenues	0.0	5.0	0.6	0.7	0.5	6.7	14.3%
Repayment of Capital Project Loans (Fund 3562)	22.8	0.0	0.0	0.0	0.0	22.8	49.2%
Measure M - Metro State of Good Repair (2%)	0.0	0.3	4.6	1.5	0.0	6.5	13.9%
Total Local Funds	**22.8**	**15.7**	**5.2**	**2.2**	**0.5**	**46.4**	**100.0%**
Total Sources	**$22.8**	**$15.7**	**$5.2**	**$2.2**	**$0.5**	**$46.4**	**100.0%**

ATTACHMENT B

Regional Connector Concurrent Non-FFGA Activities

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 potential cost increases to Measure R-funded projects and the strategies available to close any funding gaps. The Regional Connector Concurrent Non-FFGA Activities Project (the Project) is subject to this policy analysis.

The Regional Connector Concurrent Non-FFGA Activities Project was created in April 2014 at the time the design-build contract was awarded and initial Life-of-Project (LOP) budget set for the Regional Connector Project. The Project is a component of the Regional Connector Project and was created due to constraints on costs that are not eligible under the New Starts full funding grant agreement that has been awarded to the Regional Connector Project.

The LOP requires an increase of $6,459,000, from $39,991,168 to $46,441,168. 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 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. Increases will be measured against subsequent actions on cost estimates taken by the Metro Board of Directors, including the determination of the LOP. 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 sub-region; and finally,
6) Countywide transit or highway cost reductions or other funds will be sought using pre-established priorities.

The Policy analysis considers options for the Project as well as the related Regional Connector Project.

Scope Reductions

Given that the goal of the Regional Connector Project is to provide seamless travel between two points, it is not possible to shorten the project. The two end points of the project (Little Tokyo/Arts District Station and 7th Street/Metro Center Station) are 1.9 miles apart and there is no possible way to shorten the segment between these points that is consistent with the Locally Preferred Alternative and the operational objectives of the project. We therefore recommend moving to the next step.

New Local Agency Funding Resources

The Project is located in the City of Los Angeles and the Central City Area subregion (as defined in Measure M). These entities have local return, Multi-Year Subregional Program, and other transportation funding that is eligible for the Project. However, given the name of the Project includes "Regional" and is intended to benefit the Metro rail network, the local agency funding is not being considered for the cost increase.

Value Engineering

The Regional Connector Project has undergone several reductions, including the removal of the 5th/Flower Street Station. Further reductions would likely substantially delay the project or result in a project not consistent with the Locally Preferred Alternative. As a result, we recommend moving to the next step.

Other Cost Reductions within the Same Transit Corridor

The corridor of the Project includes Exposition Light Rail Transit, Gold Line Foothill Extension, and the Gold Line Eastside Extension. The Exposition Light Rail Transit Phase II (Expo II) and Gold Line Foothill Extension have been completed and have no savings or surplus which could be transferred to the Project. The Expo II project did realize Measure R savings, but the Board has directed those savings to the Westside Subway Section 2 project (see Board report #2016-0379). In addition, the Expo II project was partially debt financed with Measure R bonds, and the Board-adopted "Measure R Fiscal Responsibility Policy" requires that any interest for the project is repaid from the surplus. The Foothill Extension II, now ending in Pomona, does not have available funding, as it has been shortened due to cost increases from the initial terminus in Claremont, and has required the use of subregional and State grant funding. While the Gold Line Eastside Transit Corridor Extension Phase II is in the same corridor, the funding for this project is outside of the timeframe needed for the Project.

Other Cost Reductions within the Same Sub-region

The Regional Connector Project is located within the Central, or Central City Area Subregion. Given that the project will create continuous corridors between several subregions (Central, Gateway, San Gabriel Valley, and Westside), we are recommending that any remaining funding shortfall for the Project be dealt with at the Countywide level.

Countywide Cost Reductions and/or Other Funds

The Project is eligible for Measure R 35% Transit funds, but these have all been allocated to the Regional Connector Project. The Project is not eligible for Proposition A

and Proposition C as much of the Project is deemed “new subway” and not allowed under the Act of 1998 (Note: Staff is investigating the potential to allocate a portion of the Regional Connector Project to above-ground rail). The Project is eligible for Measure R Rail Capital General Improvements 2%, Metro Lease Revenues, Measure M State of Good Repair 2%, and Repayment of Capital Project Loans Fund 3562. A combination of the funds is recommended to address the increase in the Project LOP.