



Board Report

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Agenda Number: 49

REVISED
CONSTRUCTION COMMITTEE
JANUARY 19, 2017

SUBJECT: REGIONAL CONNECTOR TRANSIT CORRIDOR PROJECT

ACTION: ESTABLISH A REVISED LIFE OF PROJECT BUDGET TO RIGHT-PRICE THE REGIONAL CONNECTOR PROJECT

RECOMMENDATION

CONSIDER:

- A. INCREASING the Life of Project (LOP) Budget on the **Regional Connector Transit Corridor Project** by \$199 million from \$1,551,840,570 to \$1,750,840,570;
- B. AMENDING the FY17 Budget on the Regional Connector Transit Corridor Project by \$30.6 million from \$220,730,000 to \$251,330,000;
- C. AUTHORIZING the CEO to execute Contract Modification No. 74 with Regional Connector Constructors (RCC) in the amount not to exceed \$50,600,000, for delays and schedule mitigation measures, electrical and water utility relocation costs, additional fire life safety engineering and other design and construction changes, increasing the total contract value from \$1,052,391,660 to \$1,102,991,660.
- D. AUTHORIZING the CEO, as part of a one-year pilot, to negotiate and execute project-related agreements, including contract modification(s) up to the authorized Life of Project budget, to streamline project management of the Regional Connector Transit Corridor Project subject to monthly reporting requirements, that would include any pending project-related agreements, change orders/contract modifications and any significant changes to contract contingency to the Board of Directors. This action would allow the Board to see in advance all project-related agreements and change orders.

ISSUE

The Regional Connector Transit Corridor Project (Project or Regional Connector Project) is a 1.9-mile underground light rail transit subway in Downtown Los Angeles connecting the existing Metro Gold Line, Metro Blue Line, and Metro Exposition Line light rail transit systems. The Project is extremely complex as it will interface with the different system elements from the existing transit lines and is being constructed through one of the oldest and most congested areas in Downtown Los Angeles, traversing through the heart of the Financial District/Historic Core and Little Tokyo/Arts District. Accordingly, traffic mitigation, stakeholder coordination, and aging third party infrastructure are key challenges for the Project.

With 95% of the design completed, a recently-performed risk assessment with the FTA affirms that this large, unique, and complex mega Project requires additional project budget based on a more thorough analysis of Project scope and risks. In conjunction with this review, the CEO has identified the need to streamline the contract administration process for the Regional Connector Project and is requesting the authority to negotiate and execute any remaining agreements such as professional services agreements, City or utility work orders and contract modifications within the LOP budget, subject to monthly reporting to the Board.

BACKGROUND

From the outset, this Project experienced budgetary pressures from a variety of causes. These include minimal initial contingency funding for significant project risks, insufficient funding for professional, agency and third party services, increased costs due to differing site conditions related to utility relocation, cost increases from repeated litigation-related impacts and delays, cost increases due to longer than anticipated durations for plan and permit approvals, and the resultant schedule impacts and mitigation expenses from all these factors. Costs to complete multiple aspects of the project are forecast to exceed the current approved budget and are summarized by major cost element in Table 1.

The Board authorized additional funding for the Project in December 2015, at which time staff indicated that a second budget augmentation request could be forthcoming once project needs were fully identified (Attachment F). Since that time, the Project was re-sequenced to position the project for success. Despite ongoing challenges, project momentum continues to ramp up significantly in all areas. Design is now nearing completion and heavy construction work at all three stations is well underway and the tunnel boring machine (TBM) is being assembled and will begin mining operations in mid-January 2017. Work along Flower Street, while still extremely challenging, is now progressing after extensive re-sequencing. Overall, Project completion is now approaching 30% complete.

The December 2015 Board Report included a "Next Step" Section which explained that the Project would perform a formal risk assessment in conjunction with FTA, where schedule and costs would be evaluated and the results and recommendations thereafter shared with the Board. This schedule and cost risk assessment has been completed and the guidance gained has been addressed and included in the recommendations contained in this report.

The results from the risk assessment indicate that projected costs listed in this Board report are now

reasonably forecast, and the completion schedule closely correlates with a model having a confidence factor consistent with conservative FTA standards. The fact that many of the Project’s risk areas have now been well researched or are now behind the Project, adds to the high level of confidence in both the cost estimate and schedule, and therefore leads to this “right-pricing recommendation.”

The resolution of various schedule issues, payment for compensable delay due the contractor, and additional design and construction scope elements have been incorporated into a comprehensive agreement which places the responsibility for a timely construction completion with the design-build contractor. This comprehensive agreement has the added benefit of simplifying the Project by consolidating milestones and bus bridging operations to provide for a single stage opening of the line earlier than would otherwise be possible under the original two-phased opening.

DISCUSSION

The Regional Connector Project has experienced budgetary pressures from a variety of causes since the outset of the Project. These include costs for mitigating construction permitting risks, normally assumed by the contractor and responding to continuing litigation related impacts beginning with an initial temporary restraining order requiring a Supplemental Environmental Impact Report (SEIR). Two subsequent and pending lawsuits continue to impact the Project and have required work re-sequencing, adoption of inefficient work methods and have resulted in permitting delays.

Additionally, at contract award, 21 bid options were identified as a means to allow the project additional design time to investigate further cost saving measures. Some cost saving measures proved to be feasible, however not as many as had been anticipated, thereby placing additional strain on the project budget. Nine (9) bid options were later exercised totaling \$47.5 million that was not included in the original Project budget.

Furthermore the minimal funding of professional services, agency expenses, third party and master cooperative agreements (MCA) now require that the cost for each of these elements be augmented to successfully complete the Project. A narrative describing broad areas of budget variances and requirements to right-price the project is provided below.

Table 1: Summary of Budget Variances Dollar in Millions

Element Description	Original LOP	Current Budget	Current Forecast	\$ Var
Design Build Contract	927.2	1,056.4	1,138.6	82.2
3rd Party, City of LA	28.4	57.1	70.4	13.3
ROW	74.2	82.7	92.7	10.0
Professional Services (CPJV)	154.6	164.8	227.3	62.6
Other Professional Services	26.1	32.6	46.1	13.6
Community Relations Office, PMA, QA, and				
Unallocated Contingency	126.9	67.6	84.9	17.3

Design-Build Contracts. In April 2014 the Board approved an LOP budget of \$1,420 million and awarded the C0980 Design/Build Contract for \$927,226,995, which was approximately \$53 million over the design-build budget established at the time the FTA Full Funding Grant Agreement was obtained in February 2014. To reduce costs during the solicitation of Contract No. C0980, Metro assumed responsibility for obtaining all City work hour variances and permits. At the time of the C0980 contract award, the Board was informed that this assumption of risk by Metro would save up to 15% on the contract value and one year of schedule. Contingency for this added risk was not included in the LOP budget. Subsequent experience has shown that these risks are significant and have contributed to major cost and schedule impacts on the project, particularly along Flower Street, at 1st/Alameda and 2nd/Broadway. To date, these additional costs have been absorbed through contingency utilization.

In January 2014, Metro awarded Contract No. C0981R to Pulice Construction Inc. for design-bid-build delivery of advanced utility relocations (AUR) of water, sewer and electrical power lines to allow for the cut and cover construction of the stations, guideways and portals by the Project's design-build contractor. During performance of the AUR work, the AUR Contractor encountered a significant number of unknown and abandoned utilities and structures that were either not shown, or shown incorrectly on the current as-built drawings. As a result, construction progress and schedule were significantly impacted. The AUR schedule impacts threatened the progress of the C0980 contract and led to the termination for convenience of the C0981R Contract in April 2015, and the transfer of the remaining AUR work to the Design-Builder. Given the extent of the unforeseen conditions, this was the best possible decision, as the Design-Build Contractor was better positioned to perform the additional work in ways that could mitigate further substantial delays. Notwithstanding these benefits, the transfer of this work to the Design-Builder in April 2015 added to the Project cost with a significant schedule impact.

A number of schedule recovery measures were authorized by the Board in December 2015 which yielded schedule mitigation of six (6) months. The costs associated with the transfer of the AUR work and schedule recovery measures to the design-build contract was \$76,100,000 and was included in the LOP Budget increase also authorized by the Board at that time.

Despite the successful implementation of these schedule recovery measures, construction progress continued to slip due to delays in the start of construction activities resulting from litigation, a delay to the start of work in Little Tokyo in response to community concerns, and increased time for approvals of design elements. Construction progress was further impacted by the inability to receive work-hour variances, particularly along Flower Street, which added significant schedule impacts that required mitigation. Over the course of several months, it became clear that further work re-sequencing was necessary to ensure that a practical and achievable schedule was in place for the balance of the Project. Collaboration between the Project and RCC resulted in a re-baselined project schedule that now demonstrates high confidence levels with reasonable flexibility.

However, the potential for future legal actions, late approvals to begin work and the continued difficulty in receiving extended construction work hours remain as serious threats to the project schedule. To successfully complete the Project as currently scheduled, Project staff requires assistance from all parties to maintain timely design approvals, and to receive and maintain extended construction work hours. Without continued assistance, further cost and schedule impacts are to be

expected.

The collective impact of utility conflicts, construction delays and work inefficiencies, together with outstanding design and construction scope items will, subject to Board approval of Recommendation B, be addressed in a comprehensive agreement (Contract Modification No. 74) with RCC for an amount up to \$50.6 million. This comprehensive agreement includes payment for compensable time due the contractor, for the above mentioned impacts and for associated engineering costs to manage and implement the added scope. The comprehensive agreement also pays for extensive electrical relocation work at 6th and Flower streets which was not part of the original project scope. This comprehensive agreement also further simplifies the construction of the north and east Gold Line tie-ins by consolidating project milestones and bus bridging operations into a more efficient, single-stage reopening of the Gold Line, at a lower overall cost to Metro.

Third Party, MCAs and Private Utilities: Significant scope and cost growth has occurred in this element due to previously described inaccuracies in the identified location and condition of underground utilities and the level of City effort required to support the project. The current budget of \$57.1 million is now estimated to cost \$70.4 million at completion.

Professional Services (Agency, CMSS, CPJV): This cost element consists of professional services from the project's consultant teams and Metro staff including project management, construction management and design support. This element has risen by more than 41% over the course of the Project due primarily to underfunding during the out years at the time of project inception. A protracted NEPA/CEQA and preliminary design phase also consumed significant resources during the planning phase.

These "soft costs" (including the Other Professional Services described below) now represent approximately 16% of revised total project costs. This is consistent with industry standards and below the 20% goal that Metro's Program Management Department has set. The current professional services budget of \$164.8 million is now estimated at \$227.3 million at completion.

Other Professional Services: Other professional services comprise legal counsel, auditing, project management assistance and construction relations. Continuing litigation defense costs on the Project and a significant level of necessary community and construction relations support in a challenging downtown environment have been largely responsible for cost growth in this category to \$46.1 million.

Real Estate: With rising property values in the Little Tokyo area, the planned three-year extension of the Temporary Construction Easement of the Mangrove Yard is now being valued well above the anticipated rates, resulting in a projected budget impact of \$10 million. Negotiations with the City of Los Angeles (the owner of the property) are pending.

Unallocated Contingency: While the cost forecast has considered all risks known to date and which are currently being actively managed, it does not account for other potential risks which may surface over the next five years. Examples of these risks include the following items among others:

- Easements or Right of Entry delays
- Processing and approvals of designs and permit delays
- Safety certification issues or incompatibility of tie-ins related to existing Metro facilities
- Right-of-Way court awards which exceed prudent forecasts
- Schedule improvements
- Work hour variances that are delayed or revoked leading to schedule erosion
- Unknown utility or private-party encroachments impacting design or construction.

Additionally, if the above risks manifest themselves, their impacts may likewise range from mild to severe. A major element of the FTA risk assessment process discussed above is the evaluation of contingency. While the recommended contingency value of \$85M or 8% of estimated costs-to-go is lower than FTA's recommended value, total project costs are consistent with their risk findings.

Supporting Effective Project Management

The Regional Connector Project, like many Metro projects, is a fast-moving, challenging and uniquely complex design-build project. Quick decision-making is required to take advantage of cost and scheduling opportunities and to keep the project moving. A slow contract administration process is not consistent with the needs of a large, design-build project. There are limited project management resources, so the more time that project managers work on process-related activities, the less time they have solving problems. No process or too much process likely results in confusion, inefficiencies, and in some cases, conflicts. Part of the current process is the requirement to receive Board of Directors approval for project-related agreements and contract changes above a specified threshold. (On the Regional Connector Project, this threshold is for \$500,000 for agreements and \$1 million for change orders.)

On a large mega-project, the thresholds requiring approval are easily exceeded. The need to bring a project-related agreement or design-build contract modification to the Board for approval can add two months to the schedule when contractors could have started the work immediately. This time can be critical to project schedules and risks exposure to extended overhead payments due the contractor, should the project be delayed.

As mentioned in the most recent Los Angeles Construction Market Analysis Update received by the Board in September 2015, contractors have indicated that delays in processing changes to be a significant risk when working on Metro projects. As a result they have had to include contingencies in their proposals to address this risk. This delay also puts DBE subs at risk of not receiving timely payment for work performed.

The cost to the Regional Connector project for a schedule delay is \$5 million per month for a total of \$10 million for a 2 month delay. Much of this delay could be avoided if Board approval was not required prior to implementing a change.

Therefore, staff is proposing CEO authority, as part of a one-year pilot, to execute project-related agreements and change orders in any amount up to the Life of Project budget subject to monthly reporting requirements, that would include any pending project-related agreements, change orders/contract modifications and any significant changes to contract contingency. This action would allow the Board to see in advance all project-related agreements and change orders but would allow the staff the flexibility, responsibility and authority to manage this large, fast moving project consistent with the need for rapid decision-making and Project Schedule. Any change that results in a LOP budget increase would still require Board approval, which is the most critical aspect of managing projects. This approach is consistent with other transit agencies including San Jose, Seattle and Denver.

In addition, staff would continue to report on the project budget, project labor agreement and small business/disadvantaged business compliance as part of the monthly updates to the Construction Committee and the detailed monthly reports that are issued to all stakeholders including the Board.

The benefits of this action are:

- Provides staff with the flexibility, responsibility and authority to manage this large, fast moving project consistent with the need for rapid decision-making and Project Schedule
- Still requires approval for any action requiring a LOP budget increase
- Keeps the big picture focus on overall management of the Project Budget as opposed to detailed change orders
- Consistent with industry best practices for time sensitive, effective project management.

Lessons Learned: Several lessons learned on the Regional Connector project have already been adopted by the agency on other major capital projects. These include:

1. Establishing the LOP budget later in the development phase to provide sufficient time to perform a higher level of engineering that will enable Metro to better identify scope and project risks;
2. Modifying the LOP budget at project award to reflect any increases in project award costs over budget and other modifications made during the procurement process;
3. Provide sufficient schedule for the procurement and execution of Advance Utility Relocation Contracts and agency approval of permits, in anticipation of encountering changed conditions

resulting in schedule impacts.

DETERMINATION OF SAFETY IMPACT

This Board action will not have any negative impact on established safety standards.

FINANCIAL IMPACT

Upon approval of recommendation A, the LOP Budget will be increased by \$199,000,000 from \$1,551,840,570 to \$1,750,840,570 under Project 860228 - Regional Connector Transit Corridor, in Cost Center 8510 - Construction Project Management. Upon approval of recommendation B, the FY 17 budget will be amended by \$30,610,000 to a revised total of \$251,330,000 per attachment D affecting the aforementioned project and cost center. Since this is a multi-year capital project, the Chief Program Management Officer and the Project Manager will be responsible for budgeting costs for future fiscal years.

Impact to Budget

The sources of funds for \$199 million LOP increase are: Repayment of Capital Project Loans, Congestion Management/Air Quality (CMAQ) and the August Redistribution of CMAQ funds as shown in Attachment E. The proposed funding for the Regional Connector project does not negatively impact funding for operations or safety. The Measure R Cost Management Process and Policy Analysis, Attachment E, describes the process used to analyze the availability of funds for these cost and revenue assumption changes.

ALTERNATIVES CONSIDERED

The Board may decline to approve any or all of the recommended actions. This is not recommended for the following reasons:

1. If Recommendations A and B are not approved, the Agency will have a significant challenge delivering the Regional Connector Project and could place at risk the receipt of future FTA funds for other Metro projects.
2. If Recommendation C is not approved, the project will continue to seek Board approval of project-related agreements and contract modifications in accordance with current practice.

..Next Steps

NEXT STEPS

Under the terms of the Design-build contract and as part of risk sharing, Metro and the Design-Build Contractor have respective responsibilities for applying for, and obtaining, the necessary City permits, variances and approvals. Staff will continue working closely with City staff and the Council representative to obtain all necessary permits, variances, and approvals to expedite the project schedule so that Metro meets its commitment to FTA.

ATTACHMENTS

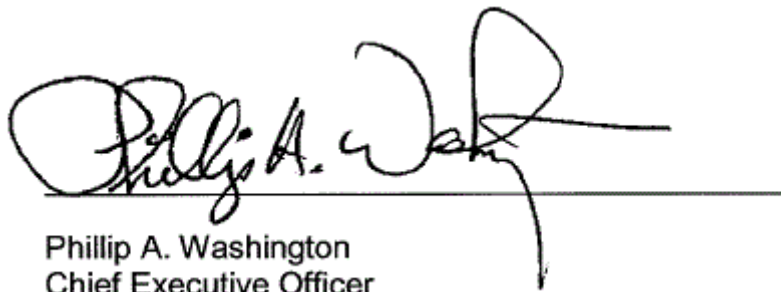
Attachment A - Procurement Summary
Attachment B - DEOD Summary
Attachment C - Contract Modification/Change Order Log
Attachment D - Funding and Expenditure Plan
Attachment E - Measure R Cost Management Process and Policy Analysis
Attachment F - Construction Committee Report dated November 19, 2015.

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