



Memorandum

Date: 09.25.15

RE: Citizens Advisory Committee
September 30, 2015

To: Citizens Advisory Committee

From: Eric Cordoba – Deputy Director for Capital Projects

A handwritten signature in blue ink, appearing to read 'Eric Cordoba'.

Subject: **INFORMATION** – Update on Cost Review of Transbay Transit Center and Downtown Extension

Summary

The Transbay Transit Center (TTC) project, one of the signature Prop K projects, is being built in two phases: Phase 1 is the TTC building, bus ramp, and related improvements, and Phase 2, known as the DTX, is the downtown extension of commuter rail service into the new TTC, accommodating both Caltrain and high speed trains. In 2013, the Transbay Joint Powers Authority (TJPA) conducted a full cost and schedule Risk Assessment Workshop for Phase 1. As result, in July 2013, the TJPA Board approved a revised Phase 1 budget of \$1.899 billion, an increase of \$310.4 million over the May 2010 baseline. On July 9, 2015, TJPA staff briefed its Board on an additional Phase 1 budget increase of \$246.92 million, for which they were planning to seek approval at the September Board meeting. Subsequently, at its July 22 board meeting, the Metropolitan Transportation Commission (MTC) directed its staff to perform a cost and risk review of both project phases and asked TJPA to cooperate with MTC staff, the Transportation Authority, and City staff in this effort. At its July 28 meeting, the Transportation Authority Board approved some conditions as part of a right-of-way action requested by the TJPA, reinforcing the need for the aforementioned parties to participate in the MTC cost review and to work together on a solution to close the Phase 1 funding gap. At its September 9 Programming and Allocations Committee meeting, MTC staff presented preliminary findings for the Phase 1 cost review, including several strategies for cost containment and a recommendation to increase the budget by \$48-\$250 million above the estimated \$247 million increase proposed by TJPA staff. All parties continue to collaborate on a cost and funding solution to enable timely completion of Phase 1 and are working to complete the Phase 2 cost review within the 90 day deadline. This memo provides a status update on the cost review effort.

BACKGROUND

Headed by the Transbay Joint Powers Authority (TJPA), the Transbay Transit Center Program also known as the Transbay Transit Center/Caltrain Downtown Extension (TTC/DTX) consists of three interconnected elements: replacing the outmoded terminal with a modern terminal; extending Caltrain 1.3 miles from Fourth and King Streets to the new TTC at First and Mission Streets, with accommodations for future high-speed rail service; and creating a new transit-friendly neighborhood with 3,000 new homes (35 percent of which will be affordable) and mixed-use commercial development. TJPA was created in April 2001 by the City and County of San Francisco (City), the Alameda-Contra Costa Transit District (AC Transit), and the Peninsula Corridor Joint Powers Board in order to design, build, operate and maintain the project. The TTC will be the northern terminus of the

California high-speed rail corridor between San Francisco and Los Angeles. The project is being built in two phases: Phase 1 is the TTC building, bus ramp, and related improvements, and Phase 2 is the DTX. TJPA is moving forward with Phase 1, but Phase 2 is essentially on hold due to a significant funding gap. TTC/DTX is the largest project in the Prop K Expenditure Plan, which designates up to \$270 million (in 2003 dollars) for this purpose. The Expenditure Plan specifies that the TTC and the DTX are to be built as a single integrated project. The total program budget is currently estimated at \$4.5 billion in year-of-expenditure dollars.

In July 2013, the TJPA Board approved a revised Phase 1 budget of \$1.899 billion, an increase of \$310.4 million over the May 2010 baseline. On July 9, 2015, TJPA staff briefed its Board an additional Phase 1 budget increase of \$246.92 million, for which they were planning to seek approval at the September Board meeting. At its July 22 board meeting, the Metropolitan Transportation Commission (MTC) directed its staff to perform a cost and risk review of both project phases within ninety days and asked TJPA to cooperate with MTC staff, the Transportation Authority, and City staff in this effort. At its July 28 meeting, the Transportation Authority Board approved some conditions as part of a right-of-way action requested by the TJPA, reinforcing the need for the aforementioned parties to participate in the MTC cost review and to work together on a solution to close the Phase 1 funding gap. Those conditions asked TJPA to cooperate fully in the MTC cost review; to only amend the Phase 1 budget and funding plan based on funds identified by the September TJPA Board meeting in order to allow the cost review to be completed and presented to MTC; and to continue working with all the funding partners on a funding plan to close the Phase 1 shortfall, including any associated financing costs.

DISCUSSION

The purpose of this memorandum is to provide the Citizens Advisory Committee (CAC) with an update on the cost review effort lead by MTC for both phases of the program.

At the MTC's September 9, 2015 Programming and Allocations Committee meeting (chaired by Supervisor Wiener), MTC staff presented the preliminary findings for the Phase 1 cost review, including several strategies for cost containment and a recommendation to increase the budget by an additional \$48-\$250 million over the estimated \$247 million increase proposed by TJPA staff in order to increase the likelihood of completing the project within the revised budget. Attachment 1 is the presentation given to the Programming and Allocations Committee. The sections below provide some additional detail and describe next steps. The draft Phase 1 cost review report is still being refined and has not yet been released publicly.

Phase 1 Budget and Cost: The current Phase 1 budget approved on July 2013 is shown in Table 1 on the following page.

Table 1. Transbay Transit Center Capital Costs in Millions	
Planning and Design	\$217
Construction	\$1,340
Real Estate	\$84
Other Services	\$110
Other Costs	\$55
Program Contingency	\$93
Approved Baseline Budget Total	\$1,899

As of July 2015, the project had committed to \$1,141.63 million of costs against the previously authorized budget of \$1.899 billion. An additional \$27.68 million was recommended and approved for award of the time-sensitive Topping Slab trade package during the September 10, 2015 board meeting, bringing the total to \$1,169.31. The breakdown of these costs is shown in the table below:

Table 2. Awarded to Date (direct costs in millions)	
Transit Center	\$ 1,028.43
Utility Relocation	\$ 20.84
Demolition Old Terminal	\$ 15.48
Temporary Terminal	\$ 20.65
Bus Ramp	\$ 56.23
Subtotal Award through July 2015	\$ 1,141.63
Recommended for Award September 2015	\$ 27.68
Total Award through July 2015	\$ 1,169.31

Interim Phase 1 Cost Review Recommendations: The cost review approached the evaluation of Phase 1 project cost increases on two fronts: 1) evaluating the project's cost performance history and 2) reviewing the project risks in order to determine an appropriate level of contingency going forward. In their first step, the cost review team reviewed the scope of the project, identifying the scope of work already awarded and completed, the past differences between cost estimates and actual bids, change orders, the construction packages that have yet to be awarded, and the associated soft costs, including construction manager/general contractor (CM/GC) costs, the program reserve, and contingency.

The overall findings are as follows:

- The CM/GC contract has unusual features: Webcor/Obayashi, a Joint Venture, was retained to perform construction management and general contracting (CM/GC) services for TJPA. However, in contrast to common industry practice for a CM/GC, they are not self-performing any of the construction and did not negotiate a Guaranteed Maximum Price for project delivery.

Instead, they negotiated services that include preconstruction review and bid preparation, procurement and sub-contract negotiation and management, quality assurance and control, and conflict resolution between subcontractors.

- Past cost increases were caused by several factors: The engineers' cost estimates were inadequate; they omitted some scope items, used low unit costs, and underestimated some quantities. Most importantly, they did not account for the complexity of implementation, leading to optimistic production rates. In addition, the project's complex and unique design features reduced the pool of qualified bidders which, combined with the very hot San Francisco construction market, created a very difficult bidding environment.
- The budget had a low program-wide contingency: The complexity of the project, together with the congested work site and tight schedule, mandate higher contingencies than customary. Based on the contracts remaining to be awarded, the cost review team recommended adding a minimum of \$48 million to the project contingency. This number is based on applying 30% contingency to the contracts with known bids/costs but not yet awarded, applying a \$180% contingency to the IP network contract to be awarded in 2016, and adding a 5% contingency to the remaining soft costs of \$117 million. The remaining construction work to be awarded and their status are reflected in Table 3 on the following page.
- The proposed budget has a 30% confidence level: The interim findings were that the risk register generally follows best practices, but that the proposed project contingency is at a 30% confidence level, rather than at the 50-80% level more commonly used. From this analysis, MTC's initial recommendation suggested an increase to the 50% confidence level. As shown on slide 11 of the MTC presentation (Attachment 1), the cost and risk review findings suggest the need for another \$48 million to \$244 million on top of the TJPA's \$247 million increase, resulting in a new total Phase 1 cost of \$2,194 to \$2,390.
- The project needs additional cost control measures: MTC cost review team suggested the creation of a Configuration Management Board, composed of senior TJPA staff and the funding partners for the review and approval of all proposed contract changes.
- The TJPA should investigate the possibility of establishing a Guaranteed Maximum Price (GMP) with the CM/GC: As previously mentioned, the CM/GC contract under which the facility is being constructed lacks a GMP, one of the most common and beneficial elements of that type of contract.

Table 3. Remaining Bid Packages to Be Awarded			
TTC construction trade package	July 2015 costs (M)	Current costs (M)	Status
7.6 Topping Slab	\$27.68	\$27.68	Award approved on Sept 10, 2015
Metal Colum Covers (CCO)	\$6.50	\$6.59	Negotiated
8.6 Metal Ceiling	\$28.30	\$26.41	Negotiated
8.7 Glass floors (CCO to 8.11)	\$10.00	\$16.80	Negotiated
13.1 Roof Top Park Landscaping	\$33.28	\$32.28	Negotiated
Roof Top Park Electrical / Mechanical (CCO to 10.4)	\$13.50	\$22.00	Negotiated
17.1 Signage / Graphics / Directory (Design-Build)	\$3.47	\$3.47	Negotiated
Overhead Contact system (Muni) (CCO 10.4)	\$7.85	\$7.85	Negotiated
1.5 IP Network	\$20.00	\$20.00	To be awarded in 2016
Art	\$2.18	\$2.18	Negotiated design – build assist
Total to complete	\$152.76	\$165.25	

Funding: Concurrently with the MTC cost review, the funding parties are working with TJPA to identify funding sources and develop a funding and financing plan to address the Phase 1 funding gap, which have to be in place before the TJPA Board adopts a new budget and funding plan.

Another challenge will be securing financing for the project. All of the potential funding sources identified to date to fund the gap will not become available in time to meet the project needs. TJPA is exploring possible sources for a bridge loan.

One source of concern is that both funding sources being considered for closing the gap, the proceeds from the sale of parcel F and proceeds from the Mello Roos special district, were slated for funding Phase 2, the DTX. Without the DTX the Transbay project will never reach its full potential.

Next Steps: Staff from MTC, the San Francisco Mayor's Office, the San Francisco Controller's Office, the Transportation Authority, and TJPA are working to finalize the Phase 1 cost review and concurrently to address the funding and financing needs.

Over the next few weeks the cost review will concentrate on Phase 2, review of the DTX budget., with the intent of wrapping up all these efforts within the 90 day timeline set by MTC and before the end of the calendar year to keep the TTC project on schedule. We will provide another update to the CAC when more information is available (anticipated at the October or November/December CAC meeting).

ALTERNATIVES

None. This is an information item.

FINANCIAL IMPACTS

None. This is an information item.

RECOMMENDATION

None. This is an information item.

Attachment:

1. MTC presentation to the Programming and Allocations Committee on September 9, 2015

Transbay Transit Center Phase I: Cost Review

Programming and Allocations Committee

September 9, 2015



METROPOLITAN
TRANSPORTATION
COMMISSION

Summary of July Commission Action

- At its July 22nd meeting, the Commission:
 - Approved partially releasing MTC’s interest in the 568 Howard property, making this small portion available for inclusion in a TJPA land sale known as Parcel F
 - Received an update from TJPA on a proposed budget increase to the Transbay Transit Center Phase 1 project

July 2013 Approved Budget	July 2015 Proposed Budget
\$1,899 M	\$2,146 M

- Directed staff to perform a project cost and risk review for both phases of the Transbay Transit Center project - to understand scope changes, cost increases

Approach for Cost/Risk Review

1. Phase 1 Cost and Risk Review (Subject of today's presentation)

- Clarify project scope
- Assess cost exposure in two ways: cost review and risk review

2. Phase 2 Cost Review – An assessment of the Phase 2 scope, cost estimate, and delivery model

- Working in cooperation with TJPA staff and SF City staff

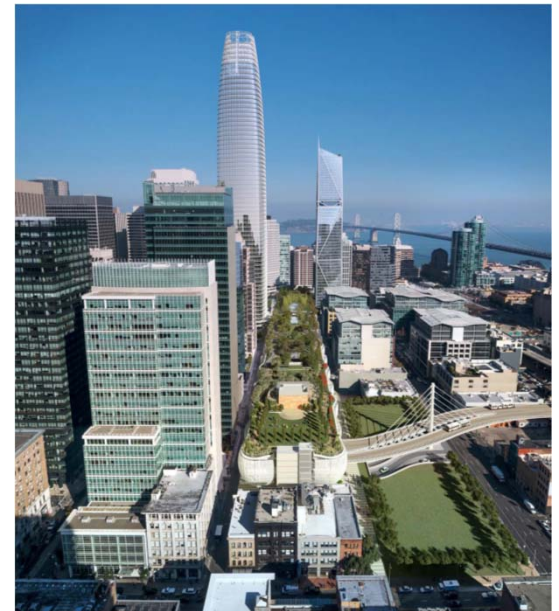
Phase 1 Budget Update

- In July, TJPA staff proposed a budget revision identifying a \$247m funding shortfall
- Proposed covering part of shortfall with Parcel F sale
- Bus storage and rooftop park possibly delayed
- TJPA canceled the Parcel F auction, will work directly with prequalified firms
- Plan to award one construction contract in September, budget action likely later this fall

TTC Phase I Budget (\$ millions)			
Phase I Program	Current Budget	TJPA Staff Proposed Budget	Shortfall
Construction	\$ 1,258.23	\$ 1,423.83	\$ (165.60)
Soft Costs	\$ 579.53	\$ 588.94	\$ (9.41)
Contingencies/ Reserve	\$ 61.64	\$ 133.54	\$ (71.90)
Total	\$ 1,899.40	\$ 2,146.31	\$ (247)
Potential Strategies to Address Shortfall			
<i>Additional Funding</i>			
Parcel F Proceeds (Reassigned from Phase 2)			160
Other Fund Sources (Not committed)			86
Sub total			247
<i>Delay Scope</i>			
Rooftop Park			57
Bus Storage Facility			19
Reduce Program Reserves			11
Sub total			87

Phase 1 Review: Scope

- Phase 1 includes design and construction of:
 - Transbay Terminal including Rooftop Park and Underground Train Box,
 - Temporary Terminal,
 - Bus Ramps, and
 - Bus Storage
- Plus Utility Relocation, Old Terminal Demolition, Right of Way Acquisition, and construction mgmt.
- 50 trade packages for Terminal and Bus Ramp construction
- Most major contracts have now been awarded or negotiated, except IT network and Bus Storage Facility
- Rooftop Park and Bus Storage may be delayed due to budget pressures



Approach #1: Cost Review

- Scope of Review
 - Past differences between estimates and actual bids/change orders
 - Construction packages remaining to be awarded
 - Soft costs, Construction Manager/General Contractor (CM/GC) costs, and reserve/contingency levels
- Overall Findings
 - Past cost increases attributed to several factors
 - Recent bids have been 179% over estimates (total)
 - CM/GC contract has unusual features
 - Soft costs generally in line with expectations

Cost Review Recommendations

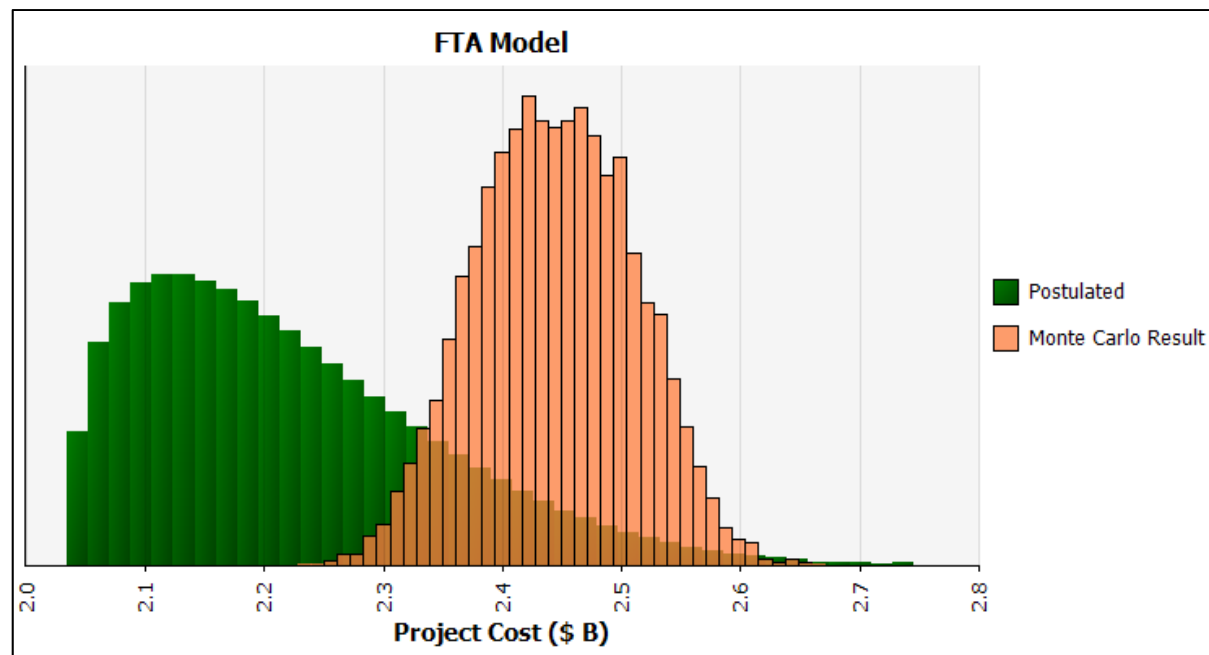
- For contracts remaining to be awarded, add \$48 Million in contingency:
 - Apply a 30% minimum contingency to the contracts with known bids/costs but not yet awarded in 2015
 - Apply a 180% contingency to the IP Network contract (2016)
 - Apply a 5% contingency on the remaining soft cost budget of \$117 million
- Additional recommendations for cost control going forward:
 - Implement funding partners process to review and approve change orders.
 - Consider a Maximum Price Guarantee with CM/GC for the remaining construction contracts to ensure cost certainty.

Approach #2: Risk Review

- Scope of Review
 - Project risk management practices and models
 - Did not review all inputs to risk register or models
- Findings
 - Risk Register generally follows best practices, though risks having a cost impact do not appear to be quantified
 - TJPA uses two methods of quantitative risk modeling: “Top Down” and “Bottom Up” Cost Risk Analysis
 - Proposed budget is at a 30% confidence level; 50-80% generally more appropriate

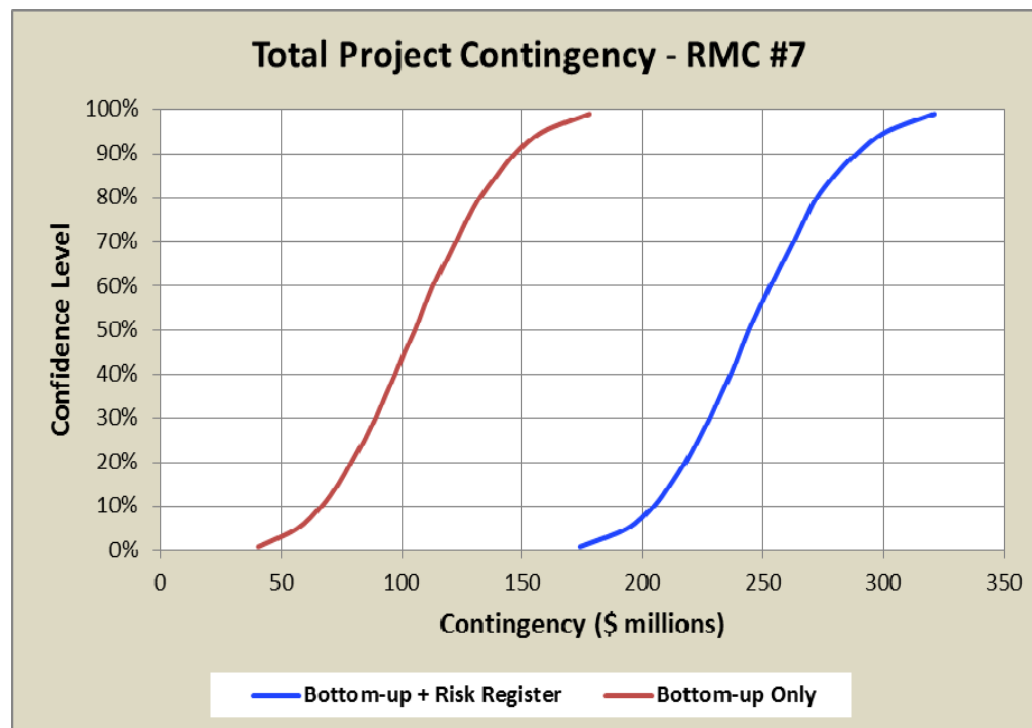
Risk Review Findings

Comparing Postulated Distribution and Computed Distribution



Risk Review Findings

Additional contingency based on risk models



Risk Review Recommendations

- **Recommendations**

- Focus on “bottoms up” risk analysis model for contingency
- Consider a method of cost risk analysis that accounts for costs from the risk register
- Consider adding contingency at a higher confidence level, at least 50%

Additional Contingencies at Confidence Levels (\$ Millions)

Confidence Level	Bottom-up + Risk Register	Bottom-up Only
30%	228	89
50%	244	105
70%	263	122

Summary: Phase 1 Budget Exposure

- Based on both cost and risk analysis approaches, additional budget would be prudent

Phase 1 Budget

	(\$ millions)
Approved budget (2013)	\$1,899
Proposed new request (July 2015, TJPA)	\$247
Proposed new total (July 2015, TJPA)	\$2,146
Potential additional exposure (Sept. 2015, MTC)	\$48-244
New Total	\$2,194-\$2,390

Next Steps

- Receive feedback from this Committee
- Proceed with cost review of Transbay Transit Center Phase 2
- Continue to work with TJPA and funding partners to identify additional funding/financing and cost control strategies to successfully deliver full scope of Phase 1 project and be positioned to implement Phase 2