



# Memorandum

**Date:** 09.01.16 **re:** Citizens Advisory Committee  
September 7, 2016

**To:** Citizens Advisory Committee

**From:** Eric Cordoba – Deputy Director for Capital Projects 

**Subject:** **INFORMATION** – Major Capital Projects Update – Transbay Transit Center and Downtown Rail Extension

## Summary

The Transbay Transit Center and Downtown Extension (TTC/DTX) 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 is the downtown extension of commuter rail service into the new TTC, accommodating both Caltrain and high-speed trains. On June 9, the Transbay Joint Powers Authority (TJPA) Board adopted the final revised budget for Phase 1 in the amount of \$2.3 billion. At that same meeting, staff presented a comprehensive Phase 2 update with a refreshed cost estimate. The TJPA Board directed staff to proceed with the work required to advance Phase 2 (see separate agenda item requesting Prop K funds). The 1.95-mile rail extension will be constructed principally below grade using cut-and-cover and mined tunneling methods underneath Townsend and Second Streets. The design includes a new underground station at Fourth and Townsend Streets and six structures for emergency egress and ventilation along the alignment. The current estimate for Phase 2 (DTX) is \$3.9 billion. There is an aspirational open-for-use date of 2025, which is predicated on securing funding in a timely manner and a construction period of seven years, starting in December 2018. The proposed funding plan includes Passenger Facility Charges that are subject to approval by the California High-Speed Rail Authority and Caltrain boards. Construction of Phase 1, the TTC, is well underway. As of the end of July, Phase 1 was 65% complete. Although at one time it appeared that completion was going to be three months late, the contractor has been successful in its recovery efforts and it now looks like construction will reach substantial completion on schedule and within budget. TJPA has started planning for the facility's commissioning, with bus service scheduled to begin in December 2017.

## BACKGROUND

Headed by the Transbay Joint Powers Authority (TJPA), the Rebuilt Transbay Terminal Program also known as the Transbay Transit Center/Caltrain Downtown Extension (TTC/DTX) consists of three interconnected elements: replacing the former outmoded terminal with a modern terminal; extending Caltrain 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 3,500 new homes in the Transbay Development Area (35% 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, an underground BART/Muni pedestrian connector, extension of the TTC to accommodate an Intercity

Bus Facility, train box fit-out (Caltrain and high-speed rail station elements with the TTC train box) and related elements.

TJPA is well underway with Phase 1, but Phase 2 has been essentially on hold due to a significant funding gap. On June 9, the TJPA Board adopted the final revised budget for Phase 1 in the amount of \$2,259,400,000. At that same meeting, staff presented a comprehensive Phase 2 update with a refreshed Phase 2 cost estimate. The TJPA Board directed staff to proceed with the work required to advance Phase 2. Accordingly, a limited notice-to-proceed was issued to Parsons Transportation Group in June for continued preliminary engineering of the DTX. A Prop K sales tax allocation request for \$6,774,400 for the completion of this effort will be presented today as a separate agenda item.

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 \$6.1 billion in year-of-expenditure dollars.

## DISCUSSION

The purpose of this memorandum is to provide the Citizens Advisory Committee (CAC) with a project delivery update focusing on Phase 2, the DTX and related elements. The DTX will extend Caltrain commuter rail from its current terminus at Fourth and King Streets and deliver California High-Speed Rail Authority's (CHSRA's) future high-speed rail service to the new TTC. The 1.95-mile rail extension will be constructed principally below grade using cut-and-cover and mined tunneling methods underneath Townsend and Second streets. The design includes a new underground station at Fourth and Townsend streets and six structures for emergency egress and ventilation along the alignment. A detailed Scope of Work is included as Attachment 1. A report documenting the findings of a high-level project delivery options study was presented to the TJPA Citizens Advisory Committee and Board in July. The study reviewed both traditional and alternative project delivery options and evaluated which would best meet the needs of TJPA and stakeholders for delivering the Phase 2 infrastructure. Although, based on the report it appears that Design-Build would be the best delivery method, at least for the main contract, TJPA staff is going to wait until June 2017, when the current design effort will be complete, to make a recommendation on the delivery method.

**Budget:** The current estimate for Phase 2 is \$3.9 billion, up \$900 million from the 2013 cost estimate, mostly due to escalation, contingencies, and additional elements, such as the underground BART/MUNI pedestrian connector between Mission and Market Streets to the Embarcadero Station and turnback tracks. The cost estimate is based on a refresh performed by the TJPA and its consultants and a cost review performed by the Metropolitan Transportation Commission (MTC). It is predicated on securing multiple sources of funding between 2017 and 2019 and a construction period of seven years, starting in December 2018. A new bottom-up estimate will be developed as part of the proposed effort by Parsons Transportation Group. It is scheduled for completion in May 2017. A more detailed version of the current cost estimate is included as Attachment 2.

<b>2016 Phase 2 Cost Estimate</b>	<b>Cost (Millions)</b>
Construction	\$1,504
Design Contingency	\$211
<b>Subtotal Construction</b>	<b>\$1,715</b>
Escalation (5%)*	\$583
<b>Construction Cost</b>	<b>2,298</b>
Right of Way	\$266
Programwide** (22.5%)	\$517
<b>Program Cost</b>	<b>\$3,082</b>
Construction Contingency (10%)	\$230
Program Reserve (15%)	\$462
<b>Subtotal Contingency and Reserve</b>	<b>\$692</b>
<b>Total Program Cost</b>	<b>\$3,774</b>
BART Pedestrian Connector (\$110M direct cost + \$51M escalation and contingency)	\$161
<b>Total Program Cost</b>	<b>\$3,935</b>

\*Escalation reflects a Revenue Service date of December 2025. If the project is delayed, TJPA estimates that the cost will increase an average of \$217 million per year.

\*\*Reflects program-wide costs such as administration, management, legal, etc.

**Funding:** The table below shows the proposed funding plan, introduced to the TJPA Board at its June 9 meeting. It contains funding elements, such as a new San Francisco sales tax (e.g. proposed November 2016 Charter Amendment and/or amendment and extension of the current Prop K sales tax), Federal Transit Administration (FTA) New Starts, regional contributions (anticipated bridge toll increase) and Passenger Facility Charges (PFC), that have yet to be committed. The PFC are preliminary numbers that are subject to approval by the CHSRA and Caltrain boards. PFCs were identified in the original 2004 Environmental Impact Statement/Report as a potential funding source. TJPA staff have had some exploratory discussions, but no material discussions with Caltrain and CHSRA staff have taken place yet.

The TJPA continues to work to identify additional funding sources and secure commitments for proposed sources. Plan Bay Area, the Regional Transportation Plan, includes the DTX as one of the region's top two priorities for New Starts funding, along with BART to San Jose. We are working with TJPA to reaffirm that commitment through the update of Plan Bay Area that is underway, an effort supported by the project's strong showing in MTC's Plan Bay Area project performance evaluation (i.e., it was a "high performer").

<b>Phase 2 Potential Funding (in \$ millions)</b>	<b>Total Funds</b>	<b>Net Proceeds after Debt Financing</b>
Committed Transportation Authority Sales Tax (Prop K)	\$83	\$83
Committed San Mateo County Sales Tax	\$19	\$19
Committed MTC/BATA Bridge Tolls	\$7	\$7
Committed Regional Transportation Improvement Program	\$18	\$18
Transit Center District Plan-Mello Roos*	\$275 - \$375	\$275-\$375
Tax Increment Residual (After TIFIA repayment)	\$665 - \$735	\$200 - \$340
FTA New Starts	\$650	\$650
New MTC/BATA Bridge Tolls	\$300	\$300
Future San Francisco Sales Tax or other local funds	\$350	\$350
Future California High-Speed Rail Funds	\$557	\$557
Land Sales (Block 4)	\$45	\$45
Passenger Facility Charges **or Maintenance Contribution	\$2,510 - \$8,025	\$865 - \$1,920
<b>TOTAL POTENTIAL FUNDS</b>	<b>\$5,479 - \$11,164</b>	<b>\$3,369 - \$4,664</b>

\* Range is based on different economic forecasts of the timing of development.

\*\* Range reflects low and a high end testing of scenarios that vary the level of the PFCs.

**Schedule:** The DTX schedule shown below is aspirational. It is based on a goal to have the DTX ready to receive high-speed rail service when it comes up the Peninsula in 2025. The schedule is predicated on obtaining full funding by December 2019.

<b>DTX Delivery Schedule*</b>		
	<b>Start</b>	<b>End</b>
Approve Supplemental EIR		December 2016
Complete Update of 30% Design	July 2016	May 2017
Complete Development of Funding Plan		May 2017
Select Delivery Method		June 2017
Secure Funding	July 2017	December 2019
Property Acquisition	July 2017	December 2019
Complete Design and Bid Documents	July 2017	July 2019
Advertise and Award Advance Construction Packages	July 2018	December 2018
Advertise and Award Main Construction Package	July 2019	December 2019
Advertise and Award BART Connector and Other Construction Packages	July 2020	December 2020
Construction**	December 2018	December 2025

\*Schedule is based on traditional Design-Bid-Build delivery method

\*\*Construction period includes early construction

**Transit Center Building Status:** Construction of Phase 1, the terminal building, is well underway. As of the end of July, Phase 1 was 65% complete. Although at one time it appeared that completion was going to be three months late, the contractor has been successful in its recovery efforts and it now looks like construction will reach substantial completion on schedule and within the revised budget. Structural concrete work will be completed in September 2016, together with the remainder of the miscellaneous steel. Work is progressing on the exterior awning and glazing in parallel with the mechanical, electrical, and plumbing systems. TJPA has started planning for the facility's commissioning by activating the commissioning team, which is reviewing submittals and commissioning plans for the various elements and engaging with the commissioning agent. Meetings are also taking place with the various transit agencies that will use the terminal to plan the start of operations. The Activation Plan for getting the building systems tested and running in order to be ready for tenants and the public, is scheduled for completion in January 2017. Bus Service is scheduled to start in December 2017.

**Disadvantaged Business Enterprise (DBE)/Small Business Enterprise (SBE) Program:** A DBE/SBE goal for the DTX has not been established yet. Over the life of the Program, TJPA has thus far achieved 9% DBE participation and 20% SBE participation in its contracting.

**Challenges and Opportunities:** The biggest challenge by far is funding. Work on Phase 2 has been on hold due to a significant funding gap. The proposed funding plan, although it has a series of major assumptions, presents a good framework for securing funding. The possibility for alternative project delivery options to enhance financing options and/or otherwise accelerate delivery, particularly in conjunction with related High Speed Rail opportunities in the corridor, also exists. The Transportation Authority, the City and County of San Francisco, and other funding partners are working with TJPA to advance strategies to secure the funding for Phase 2. Another issue is coordination with the Planning Department's Railyard, Alternatives, and I-280 Boulevard Feasibility Study (RAB), which is looking at potential alternative alignments for the Downtown Extension in the context of a comprehensive land use vision. The Planning Department anticipates releasing further findings and recommendations for next steps by the end of 2016.

**Oversight Protocol:** The TJPA and the Transportation Authority have agreed on an Oversight Protocol that will apply to both phases of the project. The protocol sets the framework for a partnership between the two agencies for the purpose of achieving the shared goal of on time and on budget delivery of a quality project for both the TTC and the DTX. The intent is to integrate the SFCTA Project Management Oversight representative (SFCTA PMO) into the TJPA Project Management Team's (IPMT) processes and protocols to serve as a resource to the team in addition to performing a traditional oversight role. The protocol is included as Attachment 3.

#### **ALTERNATIVES**

None. This is an information item.

#### **FINANCIAL IMPACTS**

None. This is an information item.

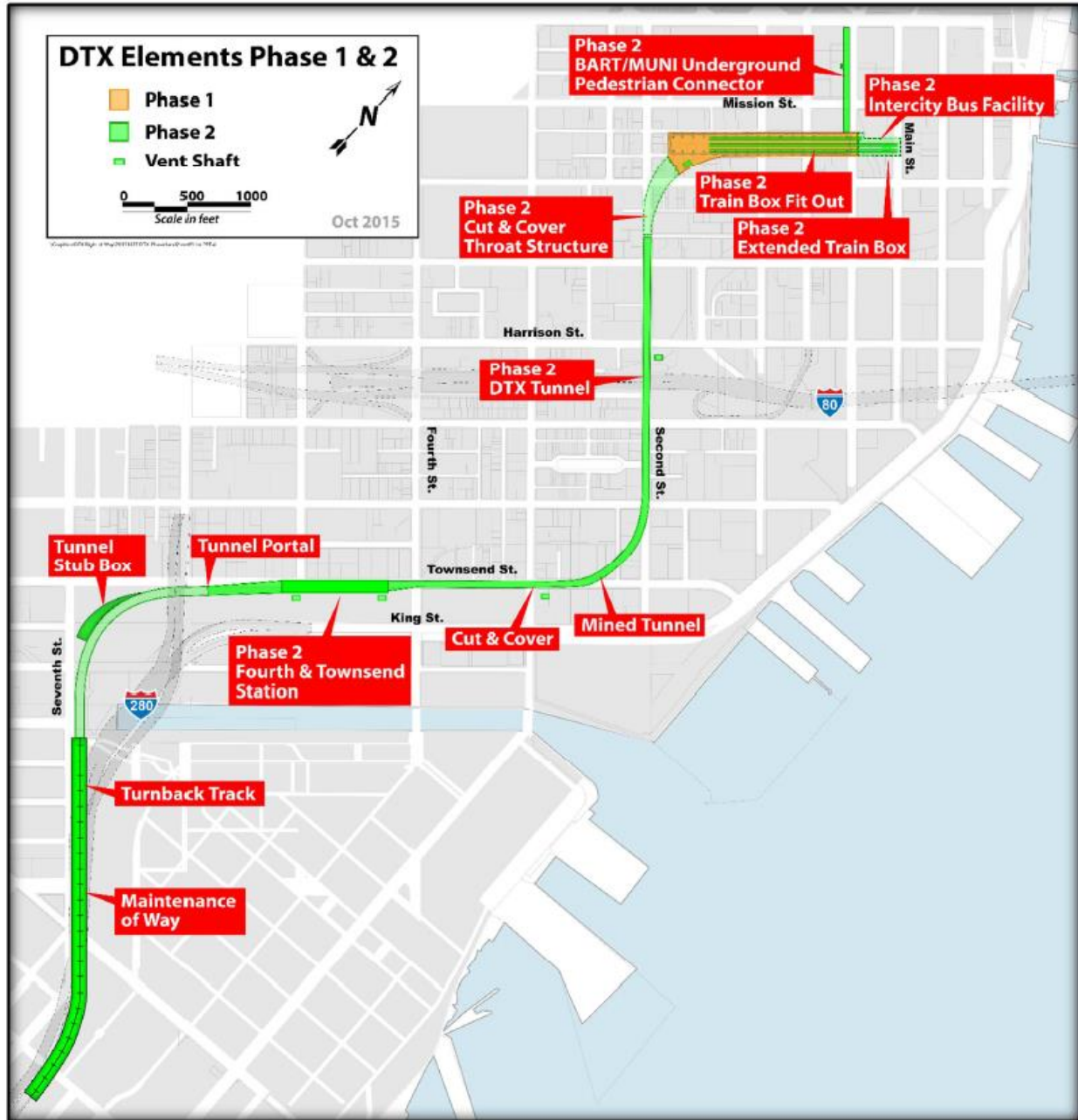
#### **RECOMMENDATION**

None. This is an information item.

Attachments (3):

1. Phase 2 Scope Elements
2. Detailed Cost Estimate
3. Oversight Protocol

## Attachment 1: Phase 2 Scope Elements



The current Transbay Transit Center (TTC) Phase 2 project is comprised of the following elements:

1. Extension of the TTC Train Box to accommodate longer high-speed rail trains.
2. Extension of the Building between Beale and Main Streets to accommodate the Intercity Bus Facility.
3. Ventilation Shafts and Emergency Egress Structures (at 4th & Townsend Street Station, 3rd & Townsend Street, 2nd & Harrison Street, and TTC).
4. Train Box Fit-Out (Caltrain and high-speed rail station elements within the TTC Train Box).

## **Attachment 1: Phase 2 Scope Elements**

5. BART Pedestrian Tunnel Connector.
6. Second Street Cut-and-Cover Throat Structure between Clementina Street and the TTC train box.
7. Mined tunnel between Townsend Street and Clementina Street.
8. Townsend Street Cut-and-Cover tunnel between Fourth Street and Second Street.
9. 4th and King Caltrain Yard.
10. Underground Fourth and Townsend Street Station.
11. Retaining wall and U-wall to approach underground 4th and Townsend Streets Station.
12. Tunnel Stub Box to accommodate future grade separation by Caltrain and high-speed rail.
13. Maintenance of Way and Turnback Track (within existing Caltrain right-of-way) south of Hooper Street.
14. Systems, including Overhead Contact Systems (OCS), Train Control, and Fire/Life/Safety and Communications are not shown, but are included in the Phase 2 scope together with utility relocations.



## Attachment 2 – Detailed Cost Estimate

### 2016 Phase 2 Cost Estimate (in year of expenditure dollars)

	Direct Costs	Design Contingency	Total Cost
<b>Phase 2 Construction</b>			
<b>DTX</b>			<b>\$1,467,777,900</b>
Segment 10 Fourth and King Surface Station and Yard Upgrade	\$0		\$0
Segment 9 At Grade Trackway	\$707,000		\$707,000
Segment 8 U-Wall Segment	\$57,906,000		\$57,906,000
Segment 7 Cut and Cover West of Fifth St	\$92,220,000		\$92,220,000
Segment 6 Cut and Cover Fourth & Townsend Underground Station	\$123,721,000		\$123,721,000
Segment 5 Cut and Cover East of Fourth St	\$82,069,000		\$82,069,000
Segment 4 NATM Mined Tunnel	\$387,981,000		\$387,981,000
Segment 3 Cut and Cover Throat Structure	\$151,037,000		\$151,037,000
Segment 2 Transit Center	\$889,000		\$889,000
Trackworks	\$82,775,000		\$82,775,000
Systems	\$92,662,000		\$92,662,000
Allowances	\$90,162,000		\$90,162,000
Design Contingency		\$199,551,900	\$199,551,900
Allowance for Properties Demolition	\$3,000,000		\$3,000,000
Tunnel Stub Box	\$99,876,000	included	\$99,876,000
DTX Vent Structures (heighting of structures)	\$3,222,000	included	\$3,222,000
<b>Transit Center Building (TCB)</b>			<b>\$247,203,907</b>
Transit Center Fit Out	\$150,255,780	\$7,512,576	\$157,768,356
Allowance for RVA for above at 5%	\$7,512,789		\$7,512,789
Train Box Extension	\$55,631,840	\$2,782,176	\$58,414,016
Allowance for RVA for above at 5%	\$2,781,592	\$514,738	\$3,296,330
IBF - PCPA 95% CD Estimate item 2.3 plus 16.8% for escalation to 2016	\$12,582,864	\$629,552	\$13,212,416
Allowance for IBF Escalator and Elevator from Beale street to Below Grade Train Box	\$5,000,000		\$5,000,000
Allowance for Main Street Utility Relocation	\$2,000,000		\$2,000,000
<b>Subtotal DTX and TCB Construction excluding escalation</b>	<b>\$1,503,991,865</b>	<b>\$210,990,942</b>	<b>\$1,714,981,807</b>
DTX and TCB Construction Escalation at 5% to mid construction (2023)			\$583,257,836
<b>Subtotal DTX and TCB Construction including escalation</b>			<b>\$2,298,239,643</b>
ROW**			\$266,200,000
Programwide @ 22.5% of above excluding ROW			\$517,103,920
<b>Subtotal Program Costs</b>			<b>\$3,081,543,562</b>
Construction Contingency @ 10%			\$229,823,964
<b>Program Reserve @ 15% of Subtotal Program Costs</b>			<b>\$462,231,534</b>
<b>Total Program Cost excluding BART/Muni Pedestrian Connector</b>			<b>\$3,773,599,061</b>
BART/Muni Pedestrian Connector - Direct Construction Cost	\$109,525,767	included	\$109,525,767
BART/Muni Pedestrian Connector - Escalation			\$37,249,236
BART/Muni Pedestrian Connector - Construction Contingency			\$14,677,500
BART/Muni Pedestrian Connector Total Cost			\$161,452,503
<b>Total Program Cost including BART/Muni Pedestrian Connector</b>	<b>\$1,613,517,632</b>	<b>\$210,990,942</b>	<b>\$3,935,051,564</b>

\* Total Contingency/Reserves is \$903 million or 29.3% of Total Program Costs excluding BART/Muni Pedestrian Connector

\*\* ROW number was last updated with the 2013 Phase 2 cost estimate

## Attachment 3

### SFCTA OVERSIGHT PROTOCOL FOR THE TRANSBAY TRANSIT CENTER AND CALTRAIN DOWNTOWN EXTENSION

This oversight protocol sets the framework for a partnership between the Transbay Joint Powers Authority (TJPA) and the San Francisco County Transportation Authority (SFCTA) for the purpose of achieving the shared goal of on time and on budget delivery of a quality project for both the Transbay Transit Center (TTC) and the Caltrain Downtown Extension (DTX). The intent is to integrate the SFCTA Project Management Oversight representative (SFCTA PMO) into the TJPA Project Management Team's (TPMT) processes and protocols to serve as a resource to the team in addition to performing a traditional oversight role. In order to add value to this partnership, the SFCTA agrees that its PMO will have the appropriate technical, project management skills, and background to perform its duties. All SFCTA costs related to the PMO services will be borne by the SFCTA.

1. The TJPA Project Management Team (TPMT) will have an open door policy and work closely with the SFCTA PMO, who will have access to project Section Managers and available information through TJPA staff. The SFCTA understands that some information will be confidential and commits to honor that confidentiality by not sharing or divulging any information so defined.
2. The SFCTA PMO will attend all appropriate progress meetings with the TPMT, to stay abreast of all project activities and when warranted, may also attend, as observer, partnering sessions and progress meetings with the contractor. The TPMT will provide a list of current and anticipated regularly scheduled meetings, and the SFCTA PMO and TPMT will jointly determine the meetings that would be most useful.
3. Subject to FTA and FRA concurrence, the SFCTA PMO will also attend meetings with the FTA and FRA and its PMOCs.
4. The TPMT will make available to the SFCTA PMO all project deliverables, reports, plans, procedures, and progress and cost reports for review and comment, which will be performed within the stipulated review period and submitted to the TPMT for consideration. Should the SFCTA PMO not provide comments by the due date, the TPMT may assume that they are not forthcoming.
5. The SFCTA PMO will review progress and cost reports and provide comments.
6. The SFCTA PMO will participate as an observer in consultant selection panels and proposal/bid reviews.
7. The SFCTA PMO will monitor quality through regular discussions with the TPMT and the TJPA Quality Assurance Manager.
8. The SFCTA PMO will be a member of the Risk Management team and participate in all Risk Management meetings and receive copies of the original risk register, its monthly updates, and reports.
9. For the DTX, the TPMT will institute a Configuration Management Board (CMB), with the SFCTA PMO as voting member, to review all proposed changes, regardless of whether they are owner, designer, or contractor originated, to determine merit, agree on quantum, and ultimately authorize all changes for the project. The SFCTA agrees that its PMO will have the appropriate technical and Project Management background and will not have veto power.

Recognizing that the TTC construction is well underway, and in lieu of establishing a new body for the TTC, voting participation by the SFCTA PMO in the existing change order review group will fulfil this requirement.

10. The SFCTA PMO will provide support to the TPMT on funding and financing issues, including proactively identifying grants and other funding opportunities.
11. The SFCTA PMO will review and approve project invoices submitted to the SFCTA and assure that they are processed in a timely manner.
12. The SFCTA PMO will assist the TPMT with development of grant amendments and funding requests which are submitted to the SFCTA for approval