

San Francisco Peninsula Rail Program

Memorandum

To: Executive Steering Committee

From: Alfonso Rodriguez – DTX Project Director, TJPA
Dahlia Chazan – Deputy Chief for Planning, Caltrain
Jesse Koehler – Rail Program Manager, SFCTA

Date: January 20, 2023

Re: Item 6 – DTX 20-Year Financial Plan and Project Cost Estimate

SUMMARY

The Federal Transit Administration (FTA) requires the preparation of a 20-year financial plan for projects seeking funding from the Capital Investment Grant (CIG) program for transit expansion. In February 2023, the Transbay Joint Powers Authority (TJPA) plans to submit a request to FTA to advance the Downtown Rail Extension (DTX or The Portal) into the “Engineering” phase of the CIG process. This request will be accompanied by required documentation, including the DTX project’s initial 20-year financial plan (Financial Plan). TJPA, Caltrain, and the San Francisco County Transportation Authority (SFCTA) have collaborated to prepare the initial Financial Plan, which incorporates the project cost estimate and funding plan.

At its February 9, 2023, meeting, the TJPA Board will receive a presentation on the initial Financial Plan and the project cost estimate, consistent with this memorandum. At the same meeting, the TJPA Executive Director will seek Board authorization to submit the request to FTA for entry into the Engineering phase of the CIG process. Submittal of this request and accompanying information to FTA will initiate FTA’s review of the project’s readiness to advance. The February 2023 milestone is a required precedent to the planned August 2023 date for TJPA to request CIG funds for the project.

BACKGROUND

On December 3, 2021, the FTA notified TJPA that the DTX project had been admitted into the “Project Development” phase of the CIG process. Since that time, TJPA and DTX partner agencies have continued to advance Project Development activities for the project under the terms of the San Francisco Peninsula Rail Program Memorandum of Understanding (MOU), executed in 2020.

The DTX Accelerated Work Plan, approved by the TJPA Board in April 2021, calls for TJPA to submit a formal request for FTA CIG funding in August 2023. FTA considers such requests on an annual basis, in August of each year. This request must be preceded by FTA’s approval to advance the project into the Engineering phase of the CIG process. As such, TJPA plans to submit a request in February 2023 to FTA to seek entry into the Engineering phase, with the intervening months between February and August providing for FTA review of the project’s readiness to advance. FTA requires various project information to be submitted in conjunction with the request to enter Engineering, including an initial 20-Year Financial Plan for the project. This memorandum summarizes the approach and components of the Financial Plan and reviews next steps.

FINANCIAL PLAN REQUIREMENTS AND APPROACH

FTA requires CIG project sponsors to demonstrate their financial capacity to fund the construction and operation of a proposed project, while also continuing to deliver existing operations and fund other capital needs. The Financial Plan for DTX reflects the input of both TJPA and Caltrain, as these two agencies will share in the initial operational responsibilities for the project. Although a beneficiary of the project, future California High-Speed Rail Authority (CHSRA) operations are not considered in the Financial Plan, as FTA's evaluation of the project will be associated only with the initial condition during which Caltrain will be the sole operator utilizing the facility.

Financial Plan Requirements: Consistent with FTA's guidelines, the Financial Plan must reflect the existing operating, maintenance, and capital costs of TJPA and Caltrain, as well as those of the proposed DTX project. The Financial Plan covers the 20-year period of the Agencies' operations between Fiscal Year (FY) 2022/23 and FY 2042/43, including the period of DTX delivery/construction and the initial period of Caltrain revenue service.

For the February 2023 request to enter Engineering, TJPA must demonstrate to FTA that 30 percent of the non-CIG capital funding has been committed to the project. With respect to operations and maintenance (O&M), TJPA must present a "reasonable plan to secure funding commitments" that will be necessary to fund operation of the expanded transit system in its opening year.

Approach to Development of the Financial Plan: The Financial Plan has been prepared by TJPA, in partnership with Caltrain and the San Francisco County Transportation Authority (SFCTA), and in cooperation with the Integrated Program Management Team (IPMT). The Financial Plan incorporates or relies upon related tasks identified in the MOU and the Accelerated Work Plan, including the project cost estimate, funding plan, and O&M planning.

The initial Financial Plan, planned to be submitted in February 2023, reflects the project team's current assessment of DTX's financial components, in a form consistent with FTA guidelines and requirements, as discussed further below. Inclusion of specific information, such as cost and revenue forecasts, within the February 2023 Financial Plan does not, on its own, constitute a commitment of funding or an assumption of specific responsibilities or risks by TJPA, Caltrain, or any other DTX partner agency. Such obligations and commitments are or will be codified through formal agreements executed between TJPA and partner agencies.

FTA will appoint a financial management oversight consultant (FMOC) to review the initial Financial Plan. Guided by this review, the Financial Plan and cost estimate will be revised and re-submitted to FTA as part of the August 2023 request for CIG funds. The Plan may be updated periodically thereafter in support of securing the DTX Full Funding Grant Agreement (FFGA), targeted for execution by Spring 2025.

COMPONENTS OF THE INITIAL FINANCIAL PLAN

The Financial Plan covers the period of FY 2022/23 through FY 2042/43. The Financial Plan includes the Capital Plan and Operating Plan.

Capital Plan: The Capital Plan describes the sources and uses of capital funding for TJPA and Caltrain for the proposed DTX project and for the balance of the Agencies' capital/state-of-good repair (SOGR) programs. The purpose of the Capital Plan is to demonstrate the approach of the two Agencies to deliver their existing capital programs as well as implement DTX.

The Capital Plan has been developed consistent with the below-described cost estimate and funding plan. The Capital Plan is also consistent with the project schedule and with the approved project delivery approach, both of which impact the timing of capital funding needs. The Capital Plan provides a roadmap to the timing and dedication of specific funding sources, and will be updated over time as competitive funding opportunities are identified and as specific funding commitments are made by funding agencies.

Operating Plan: The Operating Plan provides a 20-year forecast of O&M costs and funding for TJPA and Caltrain for the proposed project and for the balance of the Agencies' operations. The purpose of the Operating Plan is to demonstrate the approach of the two Agencies to operate their expanded system/facilities with implementation of DTX without compromising their ability to operate the pre-existing portions of their system. The Financial Plan reflects all operating costs associated with DTX, as described below; the initial Financial Plan does not make decisions with respect to agency responsibilities for specific operational functions or with respect to responsibilities to fund these functions. These responsibilities will be negotiated and codified through subsequent agreement(s).

With implementation of DTX, Caltrain will have an extended corridor length, specifically the new connection from south of Fourth and Townsend Station to Salesforce Transit Center (the Transit Center). The initial Financial Plan assumes a Caltrain operating plan consisting of weekday service of four trains per peak hour per direction (pphpd) to Fourth and Townsend and the Transit Center. This level of Caltrain service can be provided with the new electric multiple unit (EMU) fleet that will be introduced to the Caltrain corridor when the Peninsula Corridor Electrification Project (PCEP) is completed in 2024, without triggering a need for additional rolling stock.

Under this service scenario, a total of six trains pphpd would be provided on the Peninsula Corridor between Fourth and King/Townsend and San Jose, consistent with Caltrain's separate/existing FFGA with FTA for PCEP. Caltrain's diesel fleet would provide two trains pphpd to the surface 4th and King Station, with four EMU trains pphpd continuing to the Transit Center via the new underground Fourth and Townsend Station. This level of service to the Transit Center is being reviewed to determine if it has sufficient capacity to carry projected ridership. It is less service than Caltrain plans to provide on the remainder of the Corridor following initiation of electrified service in 2024, as required under Caltrain's FFGA for PCEP. This service level is also less than the eight trains pphpd to the Transit Center described in Caltrain's board-adopted Business Plan Moderate Growth Scenario.

PROJECT COST ESTIMATE

The capital cost estimate for DTX was last comprehensively presented to the TJPA Board in 2016, and reflected the project's then-current design and assumed implementation timeline.

Over the course of 2022 and early 2023, TJPA has prepared a comprehensive “bottom-up” cost estimate for DTX, working in consultation with the IPMT. The process to develop this estimate included the following activities:

- **Construction cost estimate**, prepared by the DTX General Engineering Consultant (GEC) based on the recently completed 30 percent design and reflecting changes to project configuration, including project modifications resulting from the DTX Phasing Study (presented to the TJPA Board in September 2021 and adopted in December 2022) and from other project development analyses;
- **Staff and consultant in-depth review** for reasonableness and completeness;
- **Independent peer review**, conducted by an independent estimating firm, which validated the GEC estimate to within just over 4 percent of direct construction cost;
- **Escalation evaluation**, including review of economic forecasts and peer review of comparator projects/agencies;
- **Risk Register and quantitative risk analysis**, to inform budgeted contingency levels, by identifying likelihood/severity of projects risks and forecasting cost/schedule impacts;

The current complete cost estimate, including locally funded costs for FTA Project Development Phase activities, is \$6.68 billion in year-of-expenditure dollars (YOES), as shown in the below table. The cost estimate is based on the current project schedule, which contemplates completion of construction and commissioning in the fall of 2032, with 2033 as the first complete year of Caltrain operations. A more detailed breakdown of the project cost estimate is provided as Attachment 1 to this memorandum.

Category	Cost Estimate (millions of YOES)
Construction Costs	\$3,716
Right-of-Way Acquisition	\$340
Program-Wide Costs (Agency Costs and Professional Services)	\$904
Design and Construction Contingencies	\$1,226
Program Reserve	\$494
Total	\$6,680

Exclusions: The capital cost estimate does not include certain items. O&M costs are considered separately, as described below. Financing costs are not included in the estimate; financing costs to be borne by the project will be determined through review and refinement of the Financial Plan. Those financing costs to be borne by the project will be included in the DTX Baseline Budget, which will be brought forward to the TJPA Board prior to the August 2023 request for CIG funds.

Costs of incremental rolling stock are not currently included in the capital cost estimate. Caltrain’s fleet procurement underway currently in support of PCEP is sufficient to provide four trains pphpd to the Transit Center, as described above. As described in the Operating Plan section, Caltrain believes six trains pphpd is the appropriate level of service to plan for DTX and, as such, is pursuing other grant funds for three of these trainsets. To the extent these grant funds are secured, the trainsets could be included in the DTX project definition, the cost of one trainset could be borne by the project, and the rolling stock costs could serve as a portion of the DTX local match. The intent is to make this decision prior to the August 2023 submittal to FTA.

Two other items are currently excluded from the capital cost estimate:

1. Maintenance of way vehicles, which will ultimately be required to complete the maintenance work outlined in the O&M section; and
2. Retrofits required for Caltrain’s vehicles to allow level boarding, which will be included in the August submittal after engineering work is completed to allow a cost estimate to be prepared.

Capital costs for the Fourth and King enabling works are included in an allowance as preliminary engineering has just now begun for this element. Risk associated with this work has been assessed and included in the quantitative risk assessment considering the level of design development and work will be completed on an operating railroad.

Estimate Review and Update: The project cost estimate will be updated during 2023, to reflect changes stemming from FTA’s review of the project and its risks. In addition, the estimate will be adjusted to reflect upcoming consideration of value engineering opportunities and any other changes to project configuration adopted in advance of the August 2023 submittal to FTA, and the TJPA Board’s adoption of a Project Baseline Budget and Schedule.

CAPITAL FUNDING PLAN

SFCTA and TJPA have prepared a funding plan for DTX, in alignment with the project cost estimate, and in consultation with IPMT and other funding partners. The DTX Funding Plan relies upon a combination of multiple sources, at a local, regional, state, and federal level. The foundation of the funding plan is a set of local funding sources, including multiple land-based sources implemented as part of the Transbay Program.

The table below summarizes the target funding amounts/ranges for major categories of capital funding. A more detailed breakdown of the Funding Plan is provided as Attachment 2 to this memorandum.

Funding Source/Category	Est. Amount / Target Range (millions of YOES)
FTA Capital Investment Grant	~\$3,300
Other Federal Programs (e.g., CRISI, Mega, FSP, etc.)	~\$600-700
State Transit Intercity Rail Capital Program (TIRCP)	\$560
High-Speed Rail (State/Federal Funds and/or CHSRA TBD)	\$550
MTC Regional Measure 3 (RM3)	\$325
Other/Future Regional Source(s)	TBD
Partner Agency Contributions to Project Dev./Engineering	\$12
Transit District Sources (CFD, Tax Increment, etc.)	~\$925
SFCTA Sales Tax (Prop K and Prop L)	~\$320
Regional Transportation Improvement Program (RTIP)	\$18
Other Local Sources	\$50
New/Expanded Local Sources and Private Sources	TBD
Total Committed/Budgeted/Planned/Potential Funding	~\$6,700

With the passage of Proposition L in San Francisco in November 2022, the DTX project can demonstrate that approximately \$1.06 billion of funding is currently committed to the project, or approximately 31 percent of the non-CIG funds required to complete the funding plan, which meets threshold required for the February 2023 request to enter Engineering. At the August 2023 milestone, 50 percent of the non-CIG funds must have committed or budgeted status. The project's current funding plan assumes the future availability of Metropolitan Transportation Commission (MTC) RM3 funds, which remain in escrow while associated litigation in State court remains unresolved.

The initial financial plan identifies a CIG request of approximately 49 percent of project capital cost, or approximately \$3.3 billion. The size of the CIG request will be finalized as part of the August 2023 request to FTA for these funds. Prior to execution of the FFGA, planned for Spring 2025, all non-CIG funding sources must be committed to the project. Non-CIG funds represent approximately \$3.38 billion, of which approximately \$1.06 billion has been secured, as described above.

Significant additional work will be required over the next 24 months to complete the funding plan and secure remaining funding commitments. This work will entail several streams of activity, including but not limited to: pursuing other competitive grants for which the project is eligible; undertaking coordinated advocacy at the state and federal levels; furthering the region's prioritization and support of the project; and developing new and/or expanded local and regional funding sources. Codifying specific funding sources will also require coordinated actions and approvals by multiple agencies' policy bodies/boards.

A particular focus in the immediate term is furthering the State's funding support for the project, by securing State TIRCP funding and by advancing coordinated work in partnership with CHSRA. There is not currently a confirmed funding source available to CHSRA to back the planned \$550 million investment to reflect the critical role of DTX in the statewide HSR system, and there is a need for continued advocacy for additional Federal and State investment, including potentially through extension of the State's cap-and-trade program beyond its current legislated expiration of 2030.

At a local level, a number of strategies to further leverage existing funding sources, such as the Transbay District Tax Increment, will be considered, along with assessment of the potential role of long-term financing mechanisms sponsored by the U.S. Department of Transportation (USDOT). Finally, the 2023 work program includes further assessment and decision-making with respect to additional value engineering opportunities, with the aim to reduce project cost.

INCREMENTAL O&M COSTS AND FUNDING

Incremental O&M costs for the DTX project in its first full year of operations (2033) have been preliminarily estimated at \$40 million per year in current-year dollars (2023\$). The below table summarizes these estimated O&M costs.

Incremental O&M Costs	Est. Annual Cost (Millions of 2023\$)
Traincrews, Supervisors, Expenses, Operations and Dispatch Management, Administration, Safety, Finance, Timetables and Tickets, and Security	\$6.9
Rolling Stock (Diesel and EMU) Maintenance, Fuel, Lubricants, and Utilities	\$5.5
Stations, Track, OCS/TPS, Equipment Maintenance, and Spare Parts	\$23.4
Insurance, Claims, Payments, and Reserves	\$1.2
Wages and Benefits	\$2.3
Professional Services	\$0.4
Other Office Expenses and Services	\$0.3
Total	\$40.0

The operating cost estimate will be further refined over the course of 2023.

Ridership Forecast: Forecasts of future Caltrain ridership with completion of DTX have been prepared by SFCTA under the guidance of FTA staff, working in cooperation with Caltrain and TJPA. Ridership forecasts assume the above-described DTX service level of four trains pphpd to the Transit Center, as well as completion of PCEP in 2024.

For project evaluation, current FTA guidance is for project sponsors to forecast long-term (~2040) ridership with the assumption of full recovery from ridership declines experienced during the COVID-19 pandemic. For purposes of the initial DTX Financial Plan, recovery of Caltrain's pre-pandemic ridership growth trend is assumed to occur incrementally. This approach is consistent with FTA guidance with respect to 2040, while also being broadly consistent with medium-term (next 10 years) scenarios for recovery of Caltrain ridership. This approach does not, however, mitigate the underlying revenue risk associated with potential long-term lag in return to historic ridership growth trends.

O&M Funding Approach: FTA does not require a fully committed O&M funding plan for candidate CIG projects to advance through the development phase toward FFGA. As discussed above, FTA requires that sponsors demonstrate a "reasonable plan to secure funding commitments" to operate the transit system in its opening year.

The initial Financial Plan accounts for incremental O&M revenue sources that can be attributed to DTX, including modest amounts of additional revenues from additional commercial opportunities at the two new rail stations, as well as additional forecasted fare revenues due to DTX-induced ridership gains. Allocation of incremental fare revenue is to be negotiated between Caltrain and TJPA, including the calculation of the increment.

The initial Financial Plan reflects a remaining O&M funding gap, which would decline over time to the extent Caltrain systemwide and DTX ridership were to return to pre-2020 trends. Still, even at pre-

COVID level, the additional fare revenue associated with DTX would not have been expected to be sufficient to fully cover the project’s additional operating costs. Several potential funding sources are under consideration to close this gap, such as a fare zone surcharge for trips originating or destined for the Transit Center. The below table summarizes the known and potential O&M funding sources for DTX.

Category	O&M Funding Sources
<i>Known Sources</i>	<ul style="list-style-type: none"> • Incremental Fare Revenue • Incremental Facility Revenues
<i>Future/Potential Sources</i>	<p>Multiple potential sources, including:</p> <ul style="list-style-type: none"> • Transit Center Fare Surcharge / Additional Fare Zone • Future local, sub-regional, or regional O&M funding measure(s) • Additional commercial revenues • Future joint development revenue • Developer contributions / TDM programs • Other future TBD

Staff will return to the ESC and TJPA Board with a more detailed O&M funding strategy report within the coming months.

Development of the initial Financial Plan for DTX is occurring in the context of major financial challenges confronting all Bay Area transit operators, including Caltrain, as federal COVID relief funds will be exhausted in the immediate term. This “transit fiscal cliff” is currently the subject of intensive regional and state-level policy development and advocacy. This future baseline funding context is reflected in the initial Financial Plan and remains a key risk for Caltrain and the DTX project. In addition, the DTX project is a major plank of the recovery strategy for San Francisco and the region, with key components of the funding plan linked to this recovery.

NEXT STEPS

At its February 9, 2023, meeting, the TJPA Board will receive a presentation on the initial Financial Plan and the project cost estimate, consistent with this memorandum. Completion of the initial Financial Plan, including the updated project cost estimate, is a major milestone for DTX, enabling the project to advance within the CIG process in pursuit of the single largest component of the Funding Plan.

At the February 9, 2023, TJPA Board meeting, the TJPA Executive Director will seek authorization to submit a request to FTA for DTX’s entry into the Engineering phase of the CIG process. Submittal of this request will initiate FTA’s formal review of the project’s readiness to advance. FTA will review the Financial Plan and other deliverables, to conduct a comprehensive assessment of the project’s cost, schedule, risk, and contingencies.

With respect to the Financial Plan, key issues for FTA’s review are expected to include, among other matters: future system-wide state-of-good repair investment levels; the O&M funding approach and baseline O&M funding need; ridership and fare revenue projections; and other key funding risks and

uncertainties. In parallel, the project team will advance value engineering studies and development of new/expanded revenue sources. These activities will result in adjustments to the Financial Plan and cost estimate, which will be re-submitted to FTA as part of the planned August 2023 request for CIG funding. Prior to the August 2023 submittal, the TJPA Board will consider adoption of the DTX baseline budget and funding plan, including reflection of the outcomes of the FTA readiness review and the ongoing work of the DTX project team.

IPMT ENGAGEMENT AND INPUT

The IPMT provided input on the cost estimate and heard a summary of the process to develop the Financial Plan at its December 16, 2022, and January 10, 2023, meetings.

ATTACHMENTS

1. DTX Cost Estimate
2. DTX Funding Plan

ATTACHMENT 1 – DTX COST ESTIMATE

DRAFT 2023 Full DTX Cost Estimate

Subject to change due to FTA review and adjustments after FTA submittal in February 2023. Baseline budget to be adopted by TJPA Board in August 2023

Category	Cost Estimate (\$m)
Utility Relocation	\$34
Demolition	\$8
Civil / Tunnel	\$2,336
Station Fit Out	\$698
Systems & Trackwork	\$526
Allowances	\$114
Subtotal Construction	\$3,716
ROW acquisition	\$340
Programwide	\$904
Design Contingency	\$856
Construction Contingency	\$370
Program Reserve	\$494
Subtotal	\$2,964
GRAND TOTAL	\$6,680

* Estimate is presented in Year of Expenditure Dollars
 **Values do not total due to rounding

ATTACHMENT 2 – DTX FUNDING PLAN

Currently Committed Funding Sources	Amount (YOES Millions)
Regional	
MTC Regional Measure 3	\$ 325
MTC Contribution to Engineering (via Prop K)	\$ 3
Local and Caltrain	
Caltrain FY22/23 Contribution to PD/Engineering	\$ 1.5
SF Sales Tax	
SFCTA Contribution to Engineering (via Prop K)	\$ 3
Other Prop K	\$ 18
Prop L	\$ 300
Transit Center District Funds	
CFD Bond Proceeds/Pay-Go (previous issuances)	\$ 32
CFD Bond Proceeds 2021B & 2022B	\$ 73
CFD Pay-Go Funds	\$ 28
CFD Future Proceeds Thru FY28/29	\$ 89
Tax Increment Bond Proceeds	\$ 114
Transit District Impact Fees	\$ 16
Developer Funds	\$ 62
Subtotal	\$ 1,064

Budgeted Funding Sources	Amount (YOES Millions)
State	
CHSRA Contribution to Engineering	\$ 3
Local and Caltrain	
Caltrain FY23/24 Contribution to Engineering	\$ 1.5
Transit Center District Funds	
Future CFD Funds	\$ 465
Additional Tax Increment Bond Proceeds	\$ 40
Land Sale Revenues	\$ 6
Subtotal	\$ 515

Planned Funding Sources	Amount (YOES Millions)
Federal	
Federal CIG New Start	\$ 3,300
Federal Non-CIG (e.g., MEGA, CRISI, FSP, etc.)	\$ 623
State	
TIRCP (Multi-Cycle)	\$ 560
High-Speed Rail (State/Federal Funds and/or CHSRA TBD)	\$ 550
Local	
Regional Transportation Improvement Program	\$ 18
Central SOMA Impact Fees and/or Other Local Source(s)	\$ 50
Subtotal	\$ 5,101

Potential/Future Funding Sources	Amount (YOES Millions)
Regional	
Regional Grants	TBD
Other Regional/County-Level Sources or Contributions	TBD
Local	
New/Expanded Transit District Sources	TBD
Other Future/Additional Local Sources	TBD
Passenger Facility Charge	TBD
Private Contribution or Investment	TBD
Subtotal	TBD
Total	\$ 6,680

Funding and Cost	Amount (YOES Millions)
Federal CIG New Start – Planned	\$ 3,300
Currently Committed Funding	\$ 1,064
Total Estimated Capital Cost (subject to refinement)	\$ 6,680

49%
31% of non-CIG

San Francisco Peninsula Rail Program Executive Steering Committee

Item 6 – Presentation of 20-year financial plan, including
Downtown Rail Extension Project Capital Cost Estimate
& Funding Plan Update

January 20, 2023



San Francisco
County Transportation
Authority

Outline

20-Year Financial Plan

- a. Components and Requirements

Downtown Rail Extension (DTX) Project Capital Cost Estimate

- a. Developing the estimate: elements, process, and cost drivers
- b. Cost estimate comparison of 2016 vs. 2022
- c. Peer-reviewed probable Cost of Construction
- d. DRAFT Feb 2023 DTX Project Cost Estimate

Capital Funding Plan

- a. Federal Transit Administration (FTA) Funding Grant Milestone 1
- b. Strategic Considerations

Operating Costs/Funding

- a. DTX Incremental O&M Costs
- b. Operating and Maintenance (O&M) Funding Approach

Next Steps

20-Year Financial Plan Components & Requirements

Capital Plan

- Describes sources/use of capital funding for TJPA and Caltrain
- Demonstrates approach to deliver existing capital programs as well as implement DTX
- For February: demonstrate commitment of 30% of non-Capital Investment Grant (CIG) funding

O&M Plan

- 20-year forecast of O&M costs/funding for TJPA and Caltrain
- Demonstrates the approach of the agencies to fund the expanded system/facilities
- For February: present "reasonable plan to secure funding commitments" to fund operation of the expanded system

DTX Capital Cost

DTX Project Cost Elements

- Construction (measured) Design (2022 \$s) – line item focused: yards of concrete, pounds of steel, feet of wire, systems elements, excavation, etc.
- Design Contingency – allowance for known unknowns at 30% design
- Escalation – to Year of Expenditure by construction package
- Construction Contingency – allowance for unknown unknowns
- ROW – estimated cost for acquisitions, easements, and relocations
- Program-wide Costs – agency staff, design, program support, construction management, insurance, legal, etc.
- Program Reserve – TJPA allowance should escalation, change orders, claims exceed limits of contingency

DTX Cost Review Process

- 30% Design Estimate - prepared by General Engineering Consultant
- Staff review - staff and Program Management/Program Controls in-depth reasonableness and completeness review
- Independent Peer Review - conducted by an independent estimating firm
- Escalation Evaluation – Metropolitan Transportation Commission (MTC) Guidance, City of San Francisco, Moody's Analytics, BART Silicon Valley Phase II, Chicago Transit Authority Red Line, LA Metro
- Risk Register - Quarterly Integrated Program Management Team (IPMT) risk assessments for likelihood and severity of cost and schedule impact, and monitoring of mitigations actions
- Quantitative Risk Analysis - Monte Carlo simulation of quantified potential cost and schedule impacts of project risks identified in the Risk Register, used to inform budgeted project contingency dollars
- IPMT Engagement - participated in risk identification and assessment, provided guidance on escalation and contingency approach

Major Cost Drivers: 2016 vs 2022

1. **Phasing Study Scope Changes (~\$529M) ↓**
2. **Project Deferral (~\$1,360M) ↑**
 1. Updated escalation and new schedule
 2. Increased construction costs (exceeding escalation assumption)
3. **Allowance for property demolition (~\$8M) ↑**
4. **Spare Parts - Facility, Systems & Trackwork (\$32M) ↑**
5. **Increased contingency and reserve (\$523) ↑**
6. **Value Engineering (to develop) for potential cost reduction ↓**

2022 Estimate: Probable Cost of Construction

Category	Cost Estimate (\$m)
Utility Relocation	\$34
Demolition	\$8
Civil / Tunnel	\$2,336
Station Fit Out	\$698
Systems & Trackwork	\$526
Allowances	\$114
Subtotal Construction	\$3,716

Peer reviewed. Includes escalation to YOE

Key Assumptions for DRAFT Feb 2023 Estimate

- Escalation – 6% for 2023, 3.5% thereafter
- Risk – based on IPMT Quarterly Risk register scoring
- Design and Construction Contingency - budgeted contingency dollars to a P65 level of confidence for completing on budget, per FTA Oversight Procedure (OP40)
- Program Reserve – 8% of total program costs (excluding program reserve)
- Program-wide Costs – 22.5% of escalated measured construction, design and construction contingency total
- Estimated cost is exclusive of financing costs, maintenance of way vehicles, level boarding vehicle retrofits, or additional rolling stock

DRAFT 2023 Full DTX Cost Estimate

Subject to change due to FTA review and adjustments after FTA submittal in February 2023. Baseline budget to be adopted by TJPA Board in August 2023

Category	Cost Estimate (\$m)
Utility Relocation	\$34
Demolition	\$8
Civil / Tunnel	\$2,336
Station Fit Out	\$698
Systems & Trackwork	\$526
Allowances	\$114
Subtotal Construction	\$3,716
ROW acquisition	\$340
Program-wide	\$904
Design Contingency	\$856
Construction Contingency	\$370
Program Reserve	\$494
Subtotal	\$2,964
GRAND TOTAL	\$6,680

* Estimate is presented in Year of Expenditure Dollars

**Values do not total due to rounding

Capital Funding Plan

Capital Funding Plan – Summary

Funding Source/Category	Estimated Amount / Target Range (millions of YOE\$)
FTA Capital Investment Grant (~49%)	~\$3,300
Other Federal Programs (e.g., CRISI, Mega, FSP, etc.)	~\$600-700
State Transit Intercity Rail Capital Program (TIRCP)	\$560
High-Speed Rail (State/Federal Funds and/or CHSRA TBD)	\$550
MTC Regional Measure 3 (RM3)	\$325
Other/Future Regional Source(s)	TBD
Partner Agency Contributions to Project Dev./Engineering	\$12
Transit District Sources (CFD, Tax Inc, Dev Funds, etc.)	~\$925
SFCTA Sales Tax (Prop K and Prop L)	~\$320
Regional Transportation Improvement Program (RTIP)	\$18
Other Local Sources	\$50
New/Expanded Local Sources and Private Sources	TBD
Total Committed/Budgeted/Planned/Potential	~\$6,700+

FTA Funding Milestone 1

Project must demonstrate commitment of at least 30% of non-CIG funds, in order to progress to FTA Engineering phase of CIG process

Funding and Cost	Amount (Millions of YOES)	
Federal CIG – Planned	\$3,300	49%
Currently Committed Funds	\$1,064	31% of non-CIG
Estimated Capital Cost (Draft)	\$6,680	

Currently Committed Sources	Amount (millions of YOES)
MTC Regional Measure 3	\$325
MTC Contribution to Engineering (via Prop K)	\$3
Caltrain FY22/23 Contribution to PD/Eng	\$1.5
SFCTA Contribution to Eng (via Prop K)	\$3
SFCTA Other Prop K	\$18
SFCTA Prop L	\$300
CFD Funds (previous issuances)	\$32
CFD Bond Proceeds 2021B & 2022B	\$73
CFD Pay-Go Funds	\$28
CFD Future Proceeds (through FY28/29)	\$89
Tax Increment Bond Proceeds	\$114
Transit District Impact Fees	\$16
Developer Funds	\$62
TOTAL	\$1,064

Capital Funding Plan – Strategic Considerations

Significant additional work in next ~24 months to complete funding plan and secure remaining funding commitments needed for Full Funding Grant Agreement (FFGA), including:

- Pursuit of competitive grants at all levels
- Coordinated state and federal advocacy
- Regional prioritization and support
- Development of new/expanded local funding sources (e.g., Tax Increment term extension)
- Consideration of financing strategies (e.g., USDOT Transportation Infrastructure Finance Innovation Act)
- Incorporation of capital cost savings from Value Engineering

Operating Costs and Funding

O&M Plan: Key Assumptions

- Includes only TJPA and Caltrain operations
 - Future CHSRA operations not reflected; FTA evaluation based on initial condition during which Caltrain will be sole rail operator
- Completion of construction and commissioning in Fall 2032
 - First complete year of Caltrain operations in 2033
- Caltrain Service Plan:
 - 4 trains per peak hour per direction (pphpd) to Fourth & Townsend and Salesforce Transit Center
 - 2 trains pphpd to surface Fourth & King Station
 - 6 trains per pphpd between Fourth & Townsend/King and San Jose
 - Service Plan subject to adjustment based on related decisions (e.g., rolling stock)
- Ridership Forecast:
 - Completion of Caltrain electrification
 - Incremental ridership recovery from COVID over medium-term (next ~10 years)
 - Long-term (~2040) forecast consistent with FTA "STOPS" model

Preliminary Draft DTX Incremental O&M Costs

Cost Element	Cost (2023\$s) M
Traincrews, Supervisors, Expenses, Operations and Dispatch Management, Administration, Safety, Finance, Timetables and Tickets, and Security	\$6.9
Rolling Stock (Diesel and EMU) Maintenance, Fuel, Lubricants, and Utilities	\$5.5
Stations, Track, OCS/TPS, Equipment Maintenance, and Spare Parts	\$23.4
Insurance, Claims, Payments, and Reserves	\$1.2
Wages and Benefits	\$2.3
Professional Services	\$0.4
Other Office Expenses and Services	\$0.3
TOTAL	\$40.0

Operating Funding Approach

- Fully-committed O&M funding plan not required for CI&G projects to advance through development toward FFGA
- At minimum, FTA requires sponsors to demonstrate “reasonable plan to secure funding commitments” to operate transit system in opening year
- Financial Plan for February submittal will reflect known operating funding sources, with a remaining O&M shortfall
- Financial Plan will identify the basket of potential future O&M funding sources to be considered for to fund operations

Operating Funding Sources (Known and Potential)

Category	Sources
Known Sources	<ul style="list-style-type: none">▪ Incremental facility revenues▪ Incremental fare revenues
Potential Additional Sources	<p>Multiple potential sources, including:</p> <ul style="list-style-type: none">▪ Transit Center fare surcharge or additional fare zone▪ Future local, sub-regional, or regional O&M funding measure(s)▪ Additional commercial revenues▪ Future joint development revenue▪ Developer contributions / Transportation Demand Management (TDM) programs▪ Other future TBD

Next Steps

- Pre-submittal engagement with FTA staff
- February 9 TJPA Board meeting
- Submittal to FTA
- Engagement with FTA, Project Management Oversight Committee, and Financial Management Oversight Committee after February submittal
- TJPA Board adoption of Capital Cost Budget and Schedule in August 2023

Questions

