

**THIS STAFF REPORT COVERS CALENDAR ITEM NO.: 8
FOR THE MEETING OF: March 20, 2008**

TRANSBAY JOINT POWERS AUTHORITY

BRIEF DESCRIPTION:

Recommendation of a Baseline Budget for Phase 2 of the Transbay Transit Center Program (Program) in the amount of \$2,996,000,000 in year of expenditure (YOE) dollars.

SUMMARY:

In March of 2006, a recommended Program implementation strategy involving a two-phased construction approach was presented to the Transbay Joint Powers Authority (TJPA) Board of Directors. The implementation strategy recommended the construction of the above-grade Transit Center Building, Building Foundation Elements, Bus Ramps, Temporary Terminal and Bus Storage Area in Phase 1, utilizing available funding. Phase 2 of the Program would involve two primary elements: 1) the construction of the Caltrain Downtown Extension (DTX) and 2) the Transit Center below-grade train box and train station. Phase 2 construction would begin once funding is available. The implementation strategy permits bus operations at the new Transit Center within the timeframe specified within the Cooperative Agreement between the City and County of San Francisco, the TJPA, and the State Department of Transportation. Due to funding availability, the construction of Phase 2 is estimated to lag Phase 1 commencement of construction by a period of at least several years. The phased implementation strategy allows for earlier construction of the above-grade transit center using non-escalating grant revenues when they have the greatest value. This plan optimizes revenue use and project delivery.

Since the approval of the Final EIS/EIR (FEIS/EIR), significant engineering work has been conducted on the rail extension portion of Phase 2. While the cost estimate for the rail station component of the Transbay Transit Center (TTC) has not changed significantly, the cost estimate for the DTX has been refined and the scope has been modified to maintain rail operations more cost-effectively. The proposed Baseline Budget for Phase 2 of \$2,996 million in year of expenditure (YOE) dollars is the result of the iterative engineering work completed to date.

This report provides a summary of the components included in the Phase 2 cost estimate. Once adopted, this Baseline Budget will be the benchmark against which cost performance will be measured.

Staff and consultants have developed a roadmap for fully funding the Phase 2 program. Approximately \$1 billion in committed and planned revenues have been identified for Phase 2. This report outlines a strategy for obtaining the remaining new funds necessary to complete the program. As a part of this strategy, the TJPA is actively pursuing funding to build the below-grade train box in the Transit Center as part of Phase 1.

EXPLANATION:

Background of Cost Estimates

In March 2006 the presentation to the TJPA Board on the phased implementation strategy included the FEIS/EIR program level Phase 2 cost estimate of \$2,376 million in YOES. A DTX programwide cost of \$1,246 million in 2005 dollars was included within the initial FEIS/EIR Phase 2 cost estimate.

A DTX Preliminary Engineering (PE) interim cost estimate was prepared that was significantly greater than the escalated FEIS/EIR figure of \$1,246 million. This estimate is known as the Developed Locally Preferred Alternative (DLPA) and was developed to assess the reliability of the original FEIS/EIR estimate and to understand general scoping costs for the project during early project design development.

In May of 2006, the DLPA estimate and an explanation for the differences between the FEIS/EIR and DLPA estimates were presented to the Board. In June of 2006, when the Board adopted the phased implementation strategy, the Board also approved a recommendation that the DTX team embark upon a value management (VM) study to investigate and quantify reductions in the cost of the DTX. The cost for DTX would be updated following the Board's consideration of the VM study conclusions.

In April of 2007, preliminary results of the VM study were presented to the Board with a recommendation for the adoption of a Refined Locally Preferred Alternative (RLPA) concept for DTX. The RLPA configuration included many significant recommendations from the VM study. The DTX RLPA was approved by the Board in April 2007.

Since April of 2007, the conceptual engineering of the DTX RLPA has continued with a goal of preparing the Phase 2 Baseline Budget for DTX and Transbay Transit Center rail station. During this time, engineering work continued to refine the DTX cost estimate and develop cost saving strategies. In December of 2007, the DTX RLPA Program level estimate was calculated at \$1,802 million in 2007 dollars. The total Phase 2 cost estimate in 2007 dollars, including the reallocation of costs from Phase 1 and adjustments to the cost for the Transit center below-grade construction and associated owner's costs, was \$2,332 million.

An industry review was conducted to assess the most probable ongoing annual levels of escalation to the end of construction under the current Phase 2 schedule. The escalation associated with the Phase 2 construction has been estimated at approximately \$664 million, resulting in a Phase 2 cost of \$2,996 million in YOE dollars.

The following chart summarizes the results of the engineering analysis for the Phase 2 cost estimate from the FEIS/EIR to the recommended Baseline Budget.

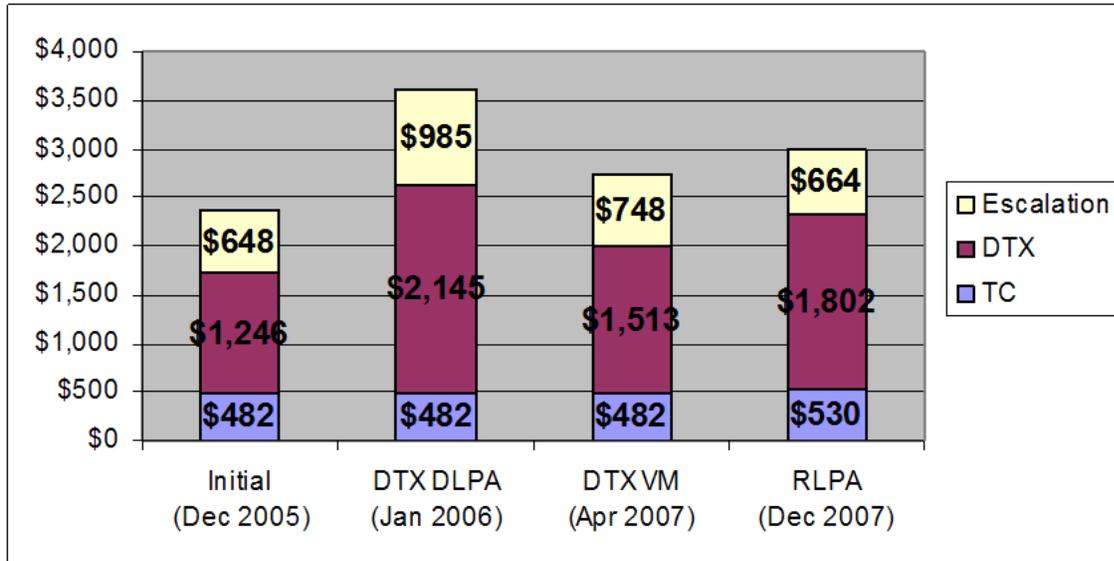


Figure 1: Phase 2 Cost Estimate Development

Recommended Phase 2 Baseline Budget

The Baseline Budget presented herein is for Phase 2 only. Phase 2 comprises the following facilities of the Transit Center Project and the DTX RLPA Project:

- engineering and design of the DTX;
- acquisition of private parcels and below-grade easements necessary for construction of the DTX (including near-term right-of-way preservation);
- construction of the DTX to extend the rail lines from the existing Fourth and King Street Station to the new Transit Center building;
- construction of the below-grade train station portion of the new Transit Center and the below-grade train station at Fourth and Townsend streets; and
- upgrade to the existing Fourth and King Street Station and provision of train storage at the existing Caltrain Yard.

There are four main factors underlying the changes reflected in the recommended Baseline Budget relative to the preliminary cost estimate based on the FEIS/EIR. The majority of the cost changes are related to the DTX component of the Phase 2, as the rail station scope and costs have not changed as significantly. The factors are as follows:

1. Significant differences in scope between the FEIS/EIR estimate and the RLPA estimate.
2. Additional scope allowances and increases in Programwide costs included in the RLPA estimate arising from design development and cost management workshops.
3. Changes to the Phase 2 schedule based on the adopted implementation strategy.
4. Reallocation of certain right-of-way costs from Phase 1 to Phase 2 of the Program for clarification purposes.

Each of these cost items is discussed separately in the following sections.

Scope Differences between the DTX FEIS/EIR and DTX RLPA Estimates

The escalated FEIS/EIR Program-level cost estimate for the DTX reported in March 2006 was \$1,246 million (YOE). The escalated FEIS/EIR figure has been retained in presentations of projected Phase 2 costs until an updated DTX RLPA cost estimate was completed and a Phase 2 Budget could be adopted.

In January 2006, based on the DTX engineering work, the Program-level DLPA cost estimate for the DTX was in excess of approximately \$900 million more than the FEIS/EIR estimate. This analysis prompted the recommendation to initiate the VM study in order to reduce costs. Considerable work was completed to identify the most cost effective means of constructing the DTX while retaining the desired level of system performance.

Reconciliation was performed to identify the reasons for the differences in construction and Program costs between the FEIS/EIR and DLPA estimates for DTX. The reconciliation identified a number of principal contributors to the construction cost differential, including:

- The cost of the mined tunnel and Townsend Street cut-and-cover tunnels in the FEIS/EIR estimate were based upon a two-track DTX mainline. The DLPA estimate reflected the FEIS/EIR-approved three-track DTX mainline.
- The DLPA estimate includes a lowered mined tunnel profile to account for the potential presence of seismic tiedown anchors which may have been a result of mandated seismic upgrades following the Loma Prieta Earthquake of 1989, and poorer than anticipated rock quality on the radius between Townsend and Second streets. With limitations on the maximum gradient for rail operation, the lowering of the mined tunnel profile resulted in deeper and longer cut-and-cover approach structures.
- The DLPA estimate provided for a large underground storage structure within the Caltrain Yard area, which was introduced by the operator.
- The DLPA estimate included conservative assumptions for the anticipated quantity of hazardous materials, as the corresponding design study had yet to be initiated due to lack of funding availability. In addition to the quantity assumptions, sharp increases in unit prices for material disposal were projected in the DLPA estimate.
- The DLPA estimate included a more conservative estimate for communications systems as the design study had yet to be initiated due to delay in funding during conceptual engineering.
- The DLPA estimate included several other significant cost items that were omitted or underrepresented in the FEIS/EIR estimate, including tunnel emergency egress shaft, shoring of excavation support walls, dewatering, siteworks and waterproofing.
- The DLPA estimate carried a higher level of allocated design/construction contingency than the FEIS/EIR estimate.

Finally, as many of the Programwide costs are direct percentages of the construction cost, increases in the construction costs resulted in corresponding increases in Programwide cost

elements, which contributed to the differential between the FEIS/EIR and the DLPA cost estimates for DTX.

Scope Refinement to DTX

As noted previously, the TJPA embarked on a Value Management study following the adoption of the phased implementation strategy. The DTX VM study resulted in significant cost reductions from the DLPA estimate. The recommendations implemented to date have included the removal of the underground storage at the Caltrain yard, the deferral of the tail tracks until required by the implementation of High Speed Rail, revisions to the communications systems, reductions in tunnel clearances, refinements in proposed construction means and methods for the mined and cut-and-cover tunnels, and a revised construction management approach to limit the number of contract packages and assist with schedule compression. These changes maintain the full functionality and effectiveness of the DTX rail operations.

In concert with the VM study, the DTX conceptual engineering continued to be developed, and a series of budget management workshops were conducted with the goal of ensuring the ultimate sufficiency of the Phase 2 Baseline Budget. Through the refinements of the DTX engineering concepts following the Board adoption of the DTX RLPA in April 2007 and the budget management workshops, a number of additional scope items have been included in the RLPA estimate. These items include improvements to the Fourth and King Street Station in lieu of the underground storage structure, construction of the Muni Central Subway interface at the intersection of Fourth and Townsend streets, relocation of the Muni overhead contact system on Townsend Street, the preservation of historic building facades at Second and Howard streets, an allowance for relocating Caltrain overhead contact systems and signaling equipment during DTX construction (assuming an electrified Caltrain service is in place before completion of DTX construction), an increased allowance for subsurface utility relocations, inclusion of additional environmental mitigation, and the addition of a second pour for the direct fixation track slab.

In addition to the identified construction cost allowances, increases in Programwide costs have also occurred, arising from both the increased construction costs and increases in Program insurance, permits, and testing and commissioning costs.

Construction Cost Escalation

The construction market in the San Francisco Bay Area has been very active over the last several years resulting in increased prices for construction material and labor. It has also had the overall effect of making bid prices less competitive. In addition to the Bay Area market, national and international markets have been affected by well-publicized high rates of escalation for certain commodities such as structural steel. To recognize this impact over the last two years, an annual 8% escalation rate was applied to construction costs in 2006 and 2007.

More recently pricing pressures have started to ease with the slowdown in the economy. Therefore, future escalation has been projected at a rate of 4% per year.

Reallocation of Costs between Phase 1 and Phase 2

As mentioned in the staff report for the Phase 1 Baseline Budget, presented to the Board on November 16, 2007, the cost of purchasing the 80 Natoma Street site was split equally between Phase 1 and 2. Also the cost of the early procurement of certain properties along Second Street to preserve right-of-way for the DTX was moved from Phase 1 to Phase 2. These changes were made to clarify the distinction between Phase 1 (TTC building and rail foundations) and Phase 2 (DTX and TTC rail station).

Recommended Baseline Schedule

The proposed Phase 2 Baseline Budget is based on the availability of full funding for the Phase by January 2010. The key milestone dates in this schedule follow:

- Full Funding Commitment – January 2010
- Award contract for final design – June 2010
- Start utility relocations – 2011
- Start tunnel construction – 2012
- Start track installation – 2015
- Start testing and commissioning – 2017
- Caltrain operations begin – 2018

Funding Roadmap for Phase 2 Baseline Budget

To date, approximately \$1 billion in committed and planned revenue has been identified for Phase 2. This includes local sales taxes, bridge tolls, land sales revenues, and TIFIA loan funds. In the very near term, committed revenues will be used to fund the continuation of Preliminary Engineering for DTX as well as preserve right-of-way necessary for DTX.

Staff has prepared a roadmap for obtaining the approximately \$2 billion in new funding required for Phase 2. The following table provides a summary of the new Phase 2 revenue sources. Staff will continue to update this roadmap as additional opportunities arise.

POTENTIAL FUNDING SOURCES FOR TRANSBAY PROGRAM PHASE 2 - CALTRAIN DOWNTOWN EXTENSION

	Revenue Range (Estimates in \$ millions, YOY)		Description
<i>Public/Private Partnerships</i>			
PPP Financing and/or Design-Build Contracting	tbd	tbd	Agreement with consortium of designers, construction contractors, and financial institutions to share cost and schedule risk of the project

Local Sources			
Mello Roos/CFD surrounding TTC	\$ 75	\$ 125	Creation of a Community Facilities District for properties surrounding the TTC. Fees paid fund infrastructure such as TTC/DTX.
Upzoning Around 4th and King	\$ 175	\$ 225	Increase building heights and densities in the 4th and King area with potential Mello Roos/CFD and/or tax increment funding
Prop K Tier 2 Funding	\$ 30	\$ 50	Prop K Expenditure Plan identifies Priority 2 funding for projects when sales tax receipts meet "medium forecast" (most likely to materialize).
Congestion Pricing	\$ 75	\$ 100	Creation of a zone in downtown SF where autos would be charged a fee to operate or peak period pricing on toll bridges.
Regional Sources			
San Francisco Impact Developer Fee for Regional Transportation Projects	\$ 75	\$ 100	Additional TIDF levied on all new downtown development. One- time per square foot fee for regional transportation programs serving SF, such as DTX, BART.
Regional Climate Change (or Gas Tax)	\$ 250	\$ 300	Regional climate impact fee of ten cents per gallon on motor vehicle fuel. Funds would be allocated to projects that reduce congestion and greenhouse gas emissions.
Increase Bridge Tolls	\$ 150	\$ 250	Additional toll on state-owned bridges, similar to RM-2
State Sources			
High Speed Rail Bond	\$ 450	\$ 600	Statewide bond measure to fund \$9 billion in HSR construction. To be matched with federal and private funds.
Prop 1B State Local Partnership	\$ 10	\$ 20	Provides dollar for dollar match to local funds in projects
Prop 1C TOD and Infill	\$ 40	\$ 75	Statewide competitive grant programs for transit oriented development and housing infill projects
Federal Sources			
Federal Funding Opportunities	\$ 275	\$ 500	Climate Change bills, Reauthorization of the Transportation Bill, Environmental legislation, Homeland Security Grants, rail funding
TOTAL POTENTIAL AVAILABLE	\$1,605	\$2,345	

Discussions with local, regional, State, and Federal stakeholders regarding potential funding sources have been ongoing. TJPA staff will seek multiple sources concurrently, as several new revenue sources will be required to fully fund Phase 2. As funding is committed, the first priority for its use will be to fund construction of the below-grade train box as a part of Phase 1. In addition, the plans and engineering work for Phase 2 will be maintained in a “shelf-ready” status in order to take advantage of new funding opportunities as they arise.

Some funding programs listed for Phase 2 are more advanced than others. For example, sources such as the California Proposition 1C funds have been passed by the voters. The TJPA will participate in the competitive grant program established by the legislation. Other sources will require a future vote. For these sources, TJPA will seek to dedicate the planned revenue to the TTC Program prior to the election.

Should significant new funding become available soon, elements of Phase 2 may be accelerated in order to minimize the effects of cost escalation on the overall Program.

RECOMMENDATION:

Adopt Baseline Budget for Phase 2 of the Transbay Transit Center Program in the amount of \$2,996,000,000 in year of expenditure dollars.