Revised Phase 1 Budget Recommendation

Transbay CAC

July 9, 2013

Transbay Transit Center

TJPA

Transbay Transit Center

Agenda

- Review of February/March Budget Discussions
- Risk & Vulnerability Assessment
- Structural Steel Bid Results
- Budget Risk Assessment
  - Contingencies & Reserve
- Recommended Budget Adjustments
- Funding Strategies
- Next Steps

Transbay Transit Center

Recap of February/March Budget Discussion

Transbay Transit Center

February/March Cost & Budget Pressures

- Increased activity in the regional construction market influencing competition, margins, and direct pricing resulting in cost pressure on the remaining scope of construction

- 2012 Risk and Vulnerability Assessment (RVA) update resulted in Design Guidance Criteria (DGC) with associated costs of $56.8 million

- *Remaining Program Reserve and contingencies need to be increased to address the RVA, steel bid, market recovery, and ensure project completion*

Transbay Transit Center

Cost Mitigation and Containment

- Value Engineering efforts and identification of deductive alternates have generated more than $100 million in cost reductions and savings; $35.8 million identified in past year

- The scope of the remaining construction trade packages provides limited opportunity for additional Value Engineering or significant scope reduction

- *Exhausted cost reduction and containment opportunities*

Transbay Transit Center

February/March Budget Evaluation (millions)

Project Costs	Feb/Mar Status	Tentatively Proposed
Temporary Terminal	$25.7	$25.7
Bus Storage	$24.7	$24.8
Demolition (Exist and Temp Term)	$16.8	$16.8
Utility Relocation	$29.5	$29.4
Transit Center Building Design	$168.7	$181.9
Transit Center Building Construction	$902.9	$1,056.8
Bus Ramps	$53.6	$53.7
ROW Acquisition	$71.9	$72.9
ROW Support	$4.8	$4.8
Programwide	$268.9	$290.0
Program Reserve	$21.5	$46.5
TOTAL	**$1,589.0**	**$1,803.3**

Transbay Transit Center

Risk and Vulnerability Assessment

Transbay Transit Center

Risk & Vulnerability Assessment Implementation

- Performed initial 2009 Risk and Vulnerability Assessment (RVA) on conceptual design
- Updated in 2011–2012 prior to finalizing construction documents
  - Addressed design development from conceptual phase to final design phase
  - Incorporates the most current government and security industry standards, design strategies, lessons learned and intelligence gathered (DHS/S&T, DHS/BioWatch, DHS/DNDO, DHS/FEMA, NIOSH, DOS, DOD, National Counterterrorism Center, DHS/NCIS, ATF, AASHTO, ASIS, SFPD, SFFD, etc.)
  - Correct and diligent approach for a facility of this significance
  - Reflects appropriate planning and agency conscience in response to current security design standards

Transbay Transit Center

Focus of Vulnerability Assessment

- All-hazards vulnerability assessment focused on public safety
  - Natural hazards
    - Earthquake (seismic event, ground subsidence)
    - Wind (gale-force, gusts)
    - Flooding (tsunami, surging water, isolated heavy rain events, flash floods)
  - Technological hazards
    - Storing/maintaining chemical, biological, radiological agents and explosives
    - Above- and under-ground storage tanks and pipelines
    - Proximity to surface and air transportation
    - HAZMAT events
  - Manmade event
    - Criminal acts (violent crime or malicious acts of force and violence against persons or property)
    - Fire events (Trains/buses)
    - Cyber (data integrity management, supporting mass notification systems for natural, technological and manmade events to protect public safety)
    - Terrorism (vehicular approach, explosive events, chem/bio agent attack)

Transbay Transit Center

RVA Process Benefits

- Insured a multi-disciplinary approach to facility design
  - RVA and security SMEs and designers considered all elements (structure, architecture, landscape, mech/HVAC, electrical, fire protection, lighting, electronic technologies, etc.)
  - Provided official forum for security SME's, design professionals and members of SFPD and SFFD to arrive at balanced solutions
  - Ensured a comprehensive and holistic approach
- Established definitive DGC for clarity in objectives
- Developed consensus security strategy for design and informed future security management policies and procedures
- Best positions the TJPA to receive additional future federal funding
- Essential to obtaining SAFETY Act Designation/Certification

Transbay Transit Center

Additional Design Analysis and Modeling

- Additional computer-based modeling of:
  - Transit Center and Bus Ramp structures
  - Fire and smoke conditions
  - Bollard system performance
  - Communications audibility and intelligibility
  - Park lighting

Transbay Transit Center

Facility Protective Design Categories

- Bus, Train and Other Fire Event Management
- Vehicular and Pedestrian Perimeter Protection
- Radio, Cellular, and Mass Notification Communications
- Glazing Systems Hazard Management
- Structural Systems Seismic, Fire, & Explosive Performance
- Evacuation, Rescue & Recovery Pathways Survivability
- Evacuation, Rescue & Recovery Supporting Systems Operational Resiliency
- Situational Awareness, Access Control, & Intrusion Detection
- CBRN Detection and Mitigation

Transbay Transit Center

Protective Design Implications

- Significant investments representing significant liability reductions
- Represent best industry standards of practice and care
- Essential to obtain SAFETY Act Designation and Certification
- Assist in the acquisition of additional Federal funding (present and future)
- Security staffing and law enforcement incident response and crime prevention optimized

Transbay Transit Center

Facility Protective Design Categories

Design Category	Estimated Cost (millions)
Bus, Train and Other Fire Event Management	0.8
Vehicular and Pedestrian Perimeter Protection	10.0
Radio, Cellular, and Mass Notification Communications	4.5
Glazing Systems Hazard Management	2.1
Structural Systems Seismic, Fire, & Explosive Performance	0.2
Evacuation, Rescue & Recovery Pathways Survivability	2.1
Evacuation, Rescue & Recovery Supporting Systems Operational Resiliency	17.2
Situational Awareness, Access Control, & Intrusion Detection	18.3
CBRN Detection and Mitigation	1.6
Total	**$56.8**

Transbay Transit Center

Structural Steel Package

Transbay Transit Center

March Structural Steel Bid

- Five pre-qualified bidders
  - Four steel fabricator/erectors and one general contactor
  - Actively engaged in pre-proposal, QBD processes
  - Market activity contributed to bidder consolidation during process
- Received single bid of $259 M
  - Pre-qualified fabricator/erectors did not bid, but submitted sub-contractor pricing to bidding GC
- Pricing reflected a different assessment of complexity of fabrication, productivity of erection, risks, and other costs

Transbay Transit Center

Repackaging Steel CDs

- Independent procurement of critical cast structural steel nodes approved at May 20th TJPA Board Meeting
  - Cost of steel nodes below original estimate
- Prepared advanced structural steel shop drawings and enhanced support for coordination between cast node foundries, steel fabricators and general contractor
- Allowed contractors to submit pricing for West, Central, and East building sections
- Reviewed plans and specifications to clarify scope, mitigate perceived contractor risks, provide for alternate materials
- Pre-qualified three additional bidders; all general contractors

Transbay Transit Center

June 20 Steel Bid Results

- Four Bids Received
  - Original bidder and three new bidders
  - All bids within a range of 15%; two lowest bids within 2.5%
  - All bidders pursued the entire scope; significant discounts if awarded full scope
- Low Bid of $189,108,000, from Skanska – the sole bidder in original March bid
  - When combined with the cast node contract value represents a reduction in excess of $50 million from March bid
- Although essentially consistent with the revised engineers' estimate, the low bid represents an increase of $43.9 million above the cost anticipated in the February budget evaluation

Transbay Transit Center

Budget Risk Assessment

Transbay Transit Center

Budget Risk Assessment

- Initiated a formal Budget Risk Assessment with outside consultant from Gardiner & Theobald with FRA participation
- Intended to assess sufficiency of recommended contingencies and reserves for remaining project scope
- Presented findings to funding partners – FTA, MTC, SFCTA

Transbay Transit Center

Risk Assessment Processes

1. “Top-Down” approach conforming to Federal Transit Administration risk assessment Operating Guidance [FTA OG-40, May 2010]

2. “Bottom-Up” approach employing probabilistic Monte-Carlo analysis of team-identified and assessed risks

Use of two approaches substantiates assessment and increases confidence in results

Transbay Transit Center

Step 1 - Set Baseline

Calculate Stripped and Adjusted Base Cost Estimate

- Identify and remove all visible and latent contingencies
- Adjust base costs for:
  - Bids received
  - Agreed change orders and claims
  - Identified trends
  - Estimate of known cost changes (+/-)
    - Market recovery, RVA/IT allocation, etc.

Utilized as basis for both top-down (FTA) and bottom-up model analyses

Transbay Transit Center

Step 2 – Identify Risks

Purpose:

- Quantify risks using a ‘risk matrix’ including likelihood and cost and schedule impacts
- Rank risks and agree ‘greatest potential risks to project’
- Relates uncertainty to baseline estimate and schedule assumptions
- Identification of risk in project delivery cycle

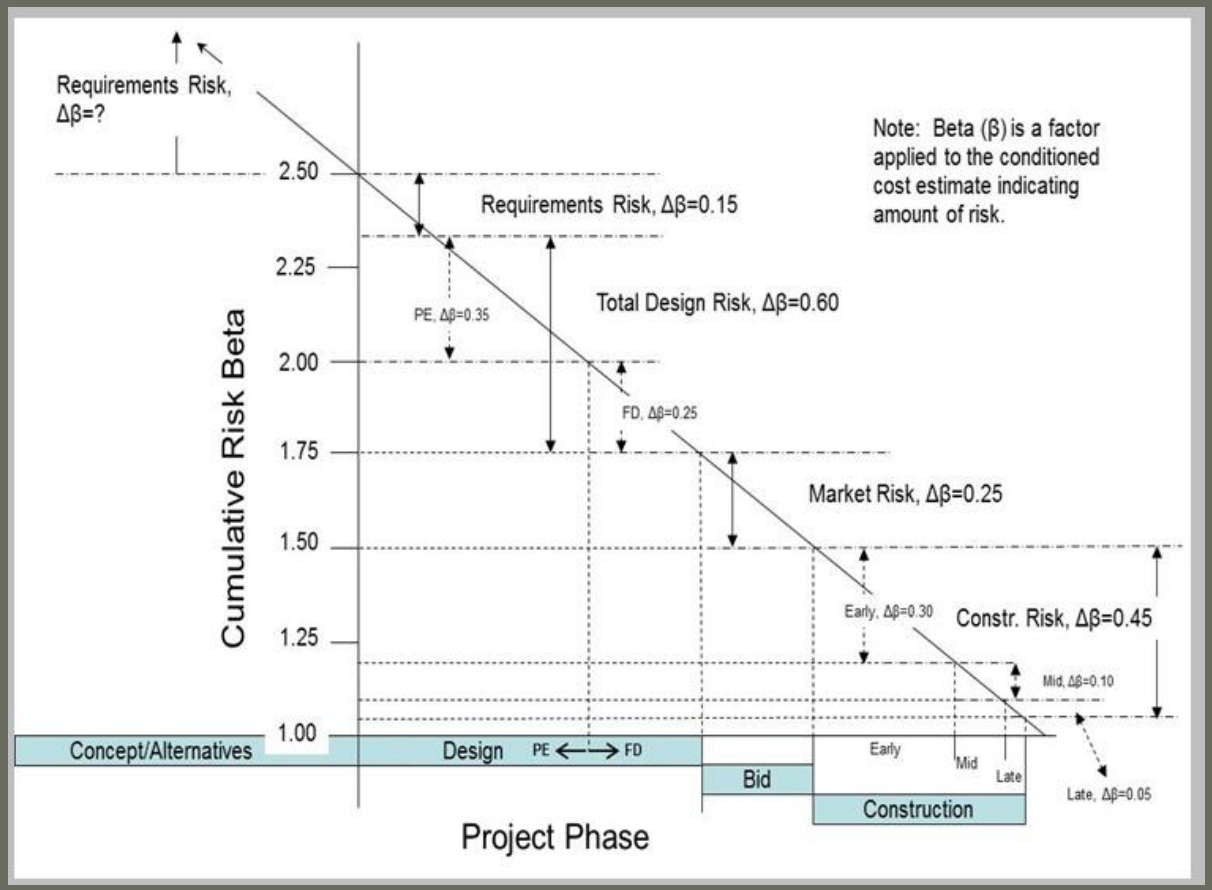
Legend	Low (1)	Med (2)	High (3)	Very High (4)	Significant (5)
Probability	< 10%	10 >< 50%	> 50%	75% >< 90%	>90%
Cost	< $250K	$250K >< $1M	$1M >< $3M	$3M >< $10M	>$10M
Schedule	< 1 Mths	1 >< 3 Mths	3 >< 6 Mths	6 >< 12 Mths	> 12 Mths
Rating	< =3	3.1-9.49		> =9.5	

Significant Risks	
High Risks	7
Medium Risks	15
Low Risks	12
Total	**34**

Transbay Transit Center

FTA Top-Down Approach

- Produce quantitative analysis by applying risk Beta factors to cost and schedule



Cost Beta model

Transbay Transit Center

Bottom-Up Approach

- Produce quantitative Monte Carlo analysis of identified risks to cost and schedule
  - Estimating Uncertainty (Rates/Quantities/Source)
  - Design development status
  - Market conditions
  - Likelihood of construction change orders
  - Potential for claims
  - Escalation
  - Schedule delay factors

Transbay Transit Center

Risk Model Results

Confidence Level	Bottom Up Risk	Top Down Risk
30%	$ 1,866	$ 1,809
35%	$ 1,881	$ 1,827
40%	$ 1,895	$ 1,847
45%	$ 1,909	$ 1,867
50%	$ 1,925	$ 1,888
55%	$ 1,940	$ 1,910
60%	$ 1,957	$ 1,933
65%	$ 1,974	$ 1,958
70%	$ 1,995	$ 1,986

Transbay Transit Center

Contingencies & Reserve

Design Contingency

- Contained within construction budget
- Meant to capture scope not reflected in preliminary design drawings
- Reduced to 0% as construction documents are completed

Construction Contingency

- Contained within construction budget
- Reserved to fund construction contract changes after award due to unforeseen conditions and other changes

CM/GC Contingency

- Contained within construction budget
- Intended to address coordination issues between trade subcontractors, schedule recovery, and related issues

Escalation

- Contained within construction budget
- Intended to cover standard construction inflation over life of Program

Program Reserve

- Independent budget category
- Reserve against all program budget requirements

Transbay Transit Center

Recommended Budget Contingencies & Reserve (millions)

Design Contingencies*	8.2
Construction Contingency*	62.5
CM/GC Contingency*	36.4
Escalation*	30.3
Program Reserve	87.5
Total Recommended Contingencies and Reserve	***$224.9***

* - Escalation and design, construction and CM/GC contingencies are included within Transit Center, Bus Ramps, and Bus Storage construction budgets

Transbay Transit Center

Recommended Budget Adjustment

Transbay Transit Center

Budget Recommendations

- Increase Transit Center Construction Budget
  - Provide for RVA
  - Recognize Market Recovery
  - Reflect steel bid results
- Increase Contingencies and Program Reserve
  - Increase total contingencies and reserves to $224.9 million consistent with recommendations of risk management evaluation
  - Increase construction contingencies to 8% of remaining construction
  - Increase program reserve to 8.5% of remaining budget to be committed
  - Adjust CM/GC Contingency
- Increase Transit Center Design and Programwide Budgets
  - Recognize trends in program support costs
  - Increase budget for additional architectural & engineering services

Transbay Transit Center

Current Budget Revision Proposal
(millions)

Project Costs	Baseline	Current	Proposed Revision
Temporary Terminal	$25.3	$25.7	$25.7
Bus Storage	$22.9	$24.7	$24.8
Demolition	$16.2	$16.8	$16.8
Utility Relocation	$65.6	$29.5	$29.4
Transit Center Design	$143.1	$168.7	$181.9
Transit Center Construction	$909.7	$902.9	$1,107.3
Bus Ramps	$40.2	$53.6	$50.4
ROW Acquisition	$71.9	$71.9	$72.9
ROW Support	$5.3	$4.8	$4.8
Programwide	$243.6	$268.9	$297.9
Program Reserve	$45.2	$21.5	$87.5
TOTAL	**$1,589.0**	**$1,589.0**	**$1,899.4**

$110.3 million in Net New Funding identified; $200.1 million in Additional Funding Required for market recovery, steel bid, RVA, and contingencies

Transbay Transit Center

Recommended Phase 1 Budget Adjustments

RVA Costs	$56.8	
Market Recovery	55.4	
Steel Bid Results	43.9	
Other Construction Costs	4.8	
Soft and Programwide Costs	35.0	
Sub-Total Direct Costs		*195.9*
Construction Contingency	29.5	
CM/GC Contingency	4.3	
Escalation	14.6	
Program Reserves	66.1	
Sub-Total Contingencies & Reserves		114.5
Recommended Budget Adjustment		*$310.4*
Net New Funding Identified		*($110.3)*
Additional Funding Required		***$200.1***

Transbay Transit Center

Funding Plan for Proposed Revised Budget

Transbay Transit Center

Net New Funding
(millions)

Increased Land Sales Values — $53
Based on 2013 "Conservative Appreciation" update of land values and likely RFP schedule

Transit Center District Plan Open Space/Impact Fees — $28.5
Fees for City Park construction included in TCDP Implementation Document

Additional Proposition K funds — $41
SFCTA recalculation of financing costs results in increased funding for projects

One Bay Area Grant Program — $6
Region's federal STP/CMAQ funds; SFCTA approved in June 2013 for bike/pedestrian elements

Regional Transportation Improvement Program — ($18.2)
No longer available during Phase I schedule based on SFCTA prioritization of other local projects and State gas tax projections

Total — **$110.3**

Transbay Transit Center

Targeted New Funding
(millions)

Additional Funding Required		
Fully funding contingencies and reserves		$200.1
Increased TIFIA loan amount		
Possible with refinance to current interest rates and lowering of debt coverage ratio		($97-129)
Federal Funding		
May include TSGP, TIGER/PRNS, or other grants		
Applied for TIGER V for Bus Storage	*$18.2*	
Applied for FY13 TSGP for Steel Connections/Columns	*$3.6*	
Total pending federal applications	***$21.8***	($21.8)
Accelerated Land Sales		
No-interest loan from funding partner based on estimated values of Parcel F and Block 4		($71 – 103)
Total Potential Additional Funding Identified		$189.8 – 253.8

Will continue to work with funding partners to identify additional sources to fully fund the Program and will seek private philanthropy at appropriate point in construction

Transbay Transit Center

Phase 2 Funding Plan

Sources (in Millions, YOE $s)	Amounts
SF Prop K	$50
San Mateo Sales Tax	$19
Regional Measure 2	$7
Land Sales **or Alternative**	$185
TIFIA Loan	$377
New Starts*	$650
New Bridge Tolls*	$300
Future High Speed Rail*	$557
New/Augmented Sales Tax*	$350
Joint Dev./Other Local*	$100
Total Revenues	**$2,596**

**Funds identified in draft Regional Transportation Plan (RTP) prepared by MTC*

Additional Alternative Funding Sources

- *Private investor loan with Mello-Roos and/or extended tax increment collection as source of repayment*
- *Ten years of extended tax increment collection could generate $50M - $100M in rough present value numbers depending upon year of expenditure*
- *Mello-Roos District formation underway, with estimates of funding between $350M - $650M (well in excess of $100M identified in RTP for "Joint Development/Other Local")*
- *Above scenarios allow majority of land sales revenues to be used to fully fund Phase 1*

Transbay Transit Center

Next Steps

- *Transbay CAC Supports Revised Phase 1 Budget*
- *Recommend Revised Phase 1 Budget to TJPA Board for Consideration/Action*
- *Recommend Structural Steel Contract for Award*
- *Pursue TIFIA loan modification and other new revenues for revised Budget*