Phase 1 Budget Update

March 12, 2013

Transbay Transit Center

TJPA

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Agenda

- Phase 1 Budget Development and Evolution
- Risk & Vulnerability Assessment
- Design, Bidding and Construction Schedule
- Contingencies & Reserves
- Recommended Budget Adjustments
- Funding Strategies

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Phase 1 Budget Development & Evolution

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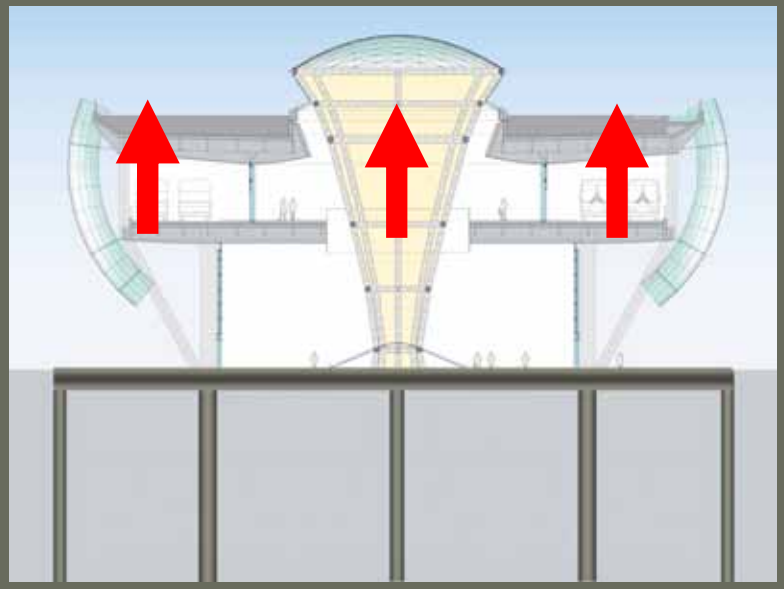
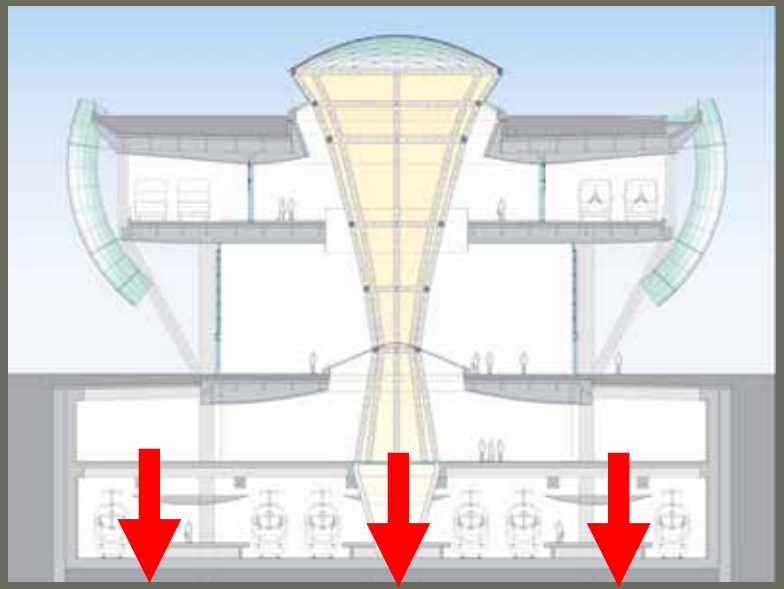
Basis of November 2007 $1,189M Budget

The Phase 1 Baseline Budget of $1,189M was adopted in November 2007 based on:

- Top-down construction with below grade structure deferred





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Basis of November 2007 $1,189M Budget

The Phase 1 Baseline Budget of $1,189M was adopted in November 2007 based on:

- Top-down construction with below grade structure deferred
- Construction costs estimates based on HOK design scheme
- Park not included

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Phase 1
Budget Evolution

- After award of Pelli design contract Concept Validation effort incorporated features not included in original Phase 1 scope & estimates:
  - Design competition architectural vision
  - Five acre rooftop park
  - Geothermal and grey water systems
  - Natural lighting and ventilation
  - LEED Gold Certification rather than LEED Silver
- Costs maintained within the original $1,189M baseline budget through Value Engineering efforts with PCPA and the CMGC

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Phase 1
Budget Evolution

- Constructability review and VE efforts in the Schematic Design Phase identified challenges of 'top-down' construction approach and identified program savings if the rail levels could be constructed in Phase 1
- $400 million ARRA grant provided the opportunity to:
  - Mitigate program risk
  - Construct a rail ready facility
  - Improved ground floor design
  - Save $100 million in overall program costs
  - Defer land sales allowing for market recovery
  - Create an additional 12,000 jobs; a total of 48,000 in Phase 1
- *May 2010 – Revised Baseline Budget of $1,589M adopted by TJPA Board*

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Cost Mitigation and Containment

- Under TJPA and PMPC direction, CMGC constructability review and cost estimation and design team VE efforts have generated significant cost reductions that have helped to maintain program costs within budget
- $100 million in program savings realized through change to bottom-up construction
- *Since design inception more than $100 million in additional Phase 1 Value Engineering savings and deductive alternates have been developed and incorporated in the design documents*

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Value Engineering Efforts and Bid Alternates

- Eliminating two skylights
- Eliminate bus deck enclosure
- Refining the structural design
- Refining the park landscape design
- Switching to metal ceiling systems
- Changing fascia materials
- Simplifying storefront glazing and light column floor at Grand Hall
- Eliminate terrazzo floor at bus deck
- Monolithic sidewalk concrete
- Eliminate Beale Street elevator vestibule
- Alternate architectural finishes
- Simplified lighting solutions
- Alternate paving materials at park

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Value Engineering Efforts and Bid Alternates

- The scope of remaining construction trade packages provides limited little opportunity for Value Engineering or significant scope reduction
- Increasing activity in regional construction market resulting in cost pressures that contribute to recommended budget adjustments on current scope of construction
- Cost reduction and containment inadequate remedies to address the known and potential budget challenges

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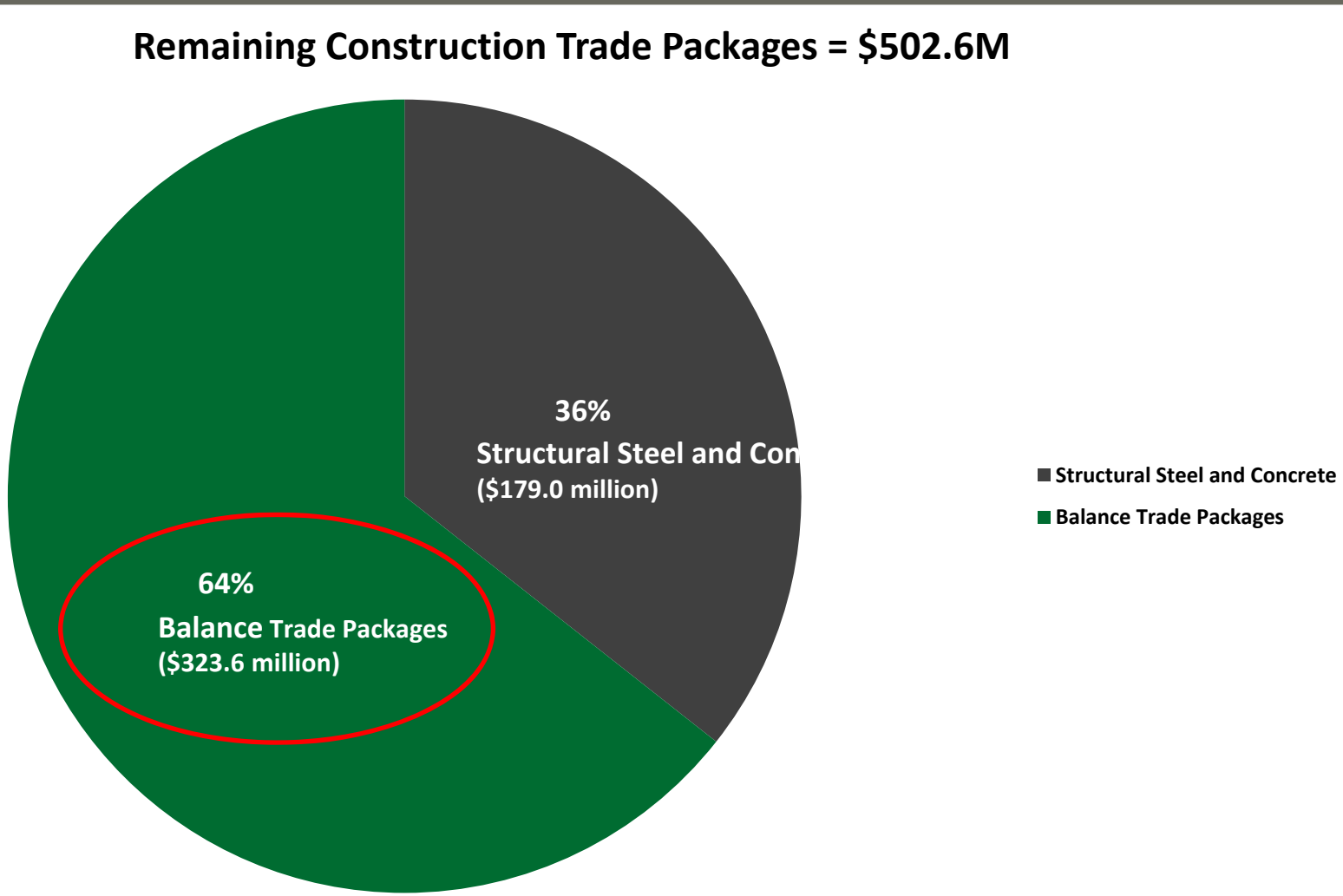
Remaining Construction Trade Packages



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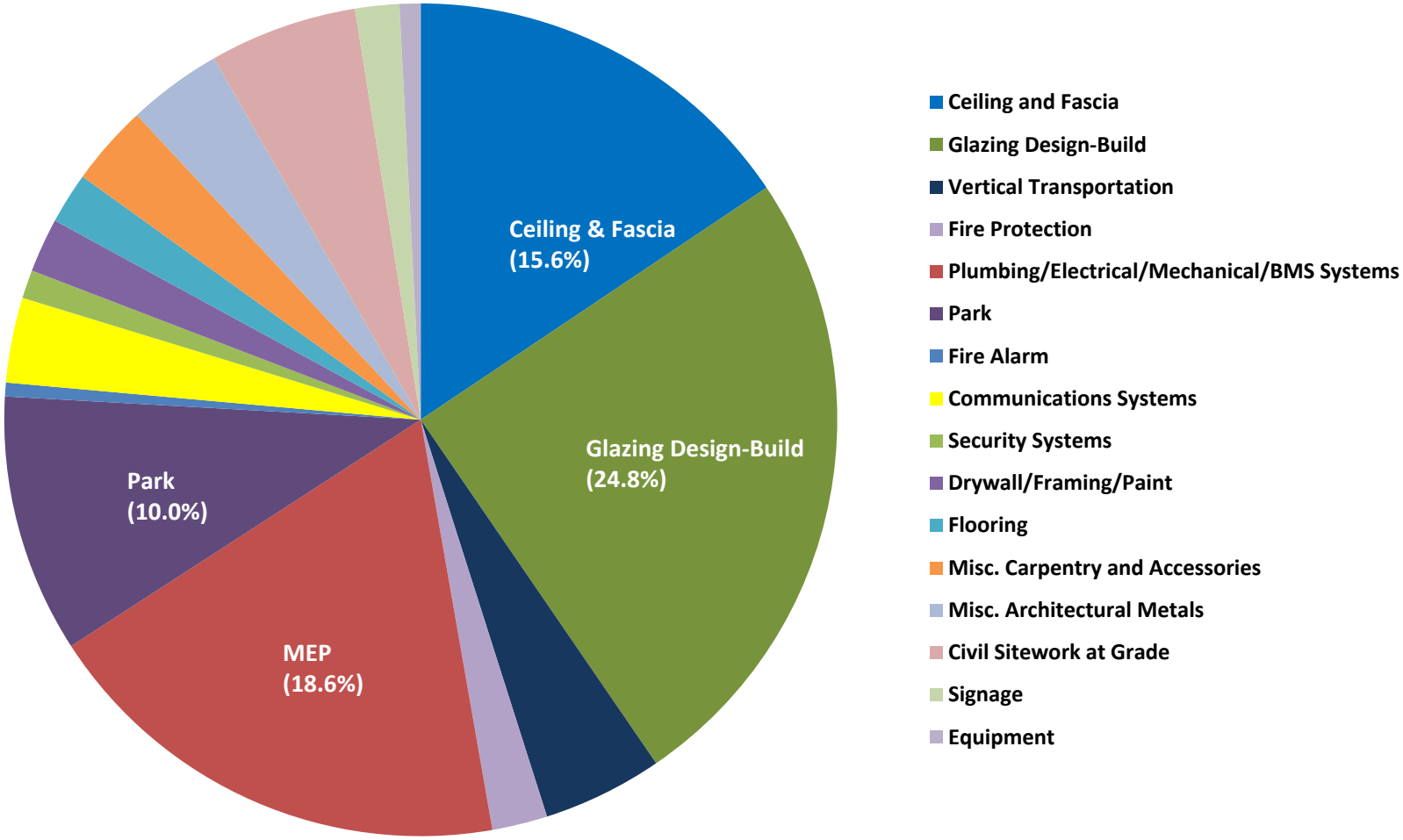
Remaining Construction Trade Packages

TCB Construction Balance Trade Packages = $322.3 million



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May 2010
$1,589M Budget

Project Costs	TOTAL (millions)
Temporary Terminal	**$25.3**
Bus Storage	**$22.9**
Demolition (Exist and Temp Term)	**$16.2**
Utility Relocation	**$65.6**
Transit Center Building Design	**$143.1**
Transit Center Building Construction	**$909.7**
Bus Ramps	**$40.2**
ROW Acquisition	**$71.9**
ROW Support	**$5.3**
Programwide	**$243.6**
Program Reserve	**$45.2**
TOTAL	**$1,589.0**

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Risk and Vulnerability Assessment

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Protective Design Evolution

- Challenges to create safe and secure spaces have changed dramatically in last 20 years
- Conventional crime prevention is no longer an acceptable design standard of care
- Terror threats have overturned the protective design paradigm
- The planning, design and construction process has been reconstituted for projects of significance
- Adherence to “best practices” is essential
- Limit liability exposure
- Support SAFETY Act designation

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TJPA Response

- Proactive planning: Safety and security have been in the program from inception
- Retained world class design, engineering, risk assessment professionals, and security SMEs
- Performed peer reviews of significant event responses
- Engaged in a rigorous, government best practice process to assess and address vulnerabilities
- Highly structured process involving knowledgeable and certified firms and subject matter experts

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Implementing Risk Assessment

- Performed initial 2009 Risk and Vulnerability Assessment (RVA) on conceptual design then updated in 2011 – 2012 prior to finalizing construction documents
  - Update initiated in 2011 and completed in 2012
  - 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

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Risk Assessment Guidelines & Standards

- BIPS 06/FEMA 426, Reference Manual to Mitigate Potential Terrorist Attacks Against Buildings (2011)
- FEMA 452, A How-To Guide to Mitigate Potential Terrorist Attacks Against Buildings (2005)
- DHS, National Infrastructure Protection Plan (2009)
- GSA/ISC, Security Design Criteria for New Federal Office Buildings and Major Modernization Projects (2010)
- DOD, Unified Facility Criteria (UFC) Minimum Antiterrorism Standards for Buildings (2012)
- CrimeCap Index, San Francisco, (2011)
- The Lipman Report (October 15, 2010)
- Numerous others

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RVA Process Benefits

- Insured a multi-disciplinary approach to designing a safe facility
  - 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

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SAFETY Act

- Passed as part of the Homeland Security Act of 2002
- Purpose is to eliminate or minimize tort liability should lawsuits arise after an act of terrorism
- Program operated by the U.S. Department of Homeland Security (DHS)
- Typically used by anti-terrorism technology engineers, vendors, and personal security services
- Also applicable to new building facilities

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Benefits of SAFETY Act Designation/Certification

- In the event of act of terrorism and resulting litigation against the TJPA:
  - Claims may only be filed in Federal court
  - Liability claims against the TJPA capped at the DHS-determined limits of liability insurance
  - Punitive damages are barred
  - Plaintiff's recovery is reduced by amounts the plaintiff receives from "collateral sources" (e.g., insurance benefits), thereby reducing the overall exposure of the TJPA

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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

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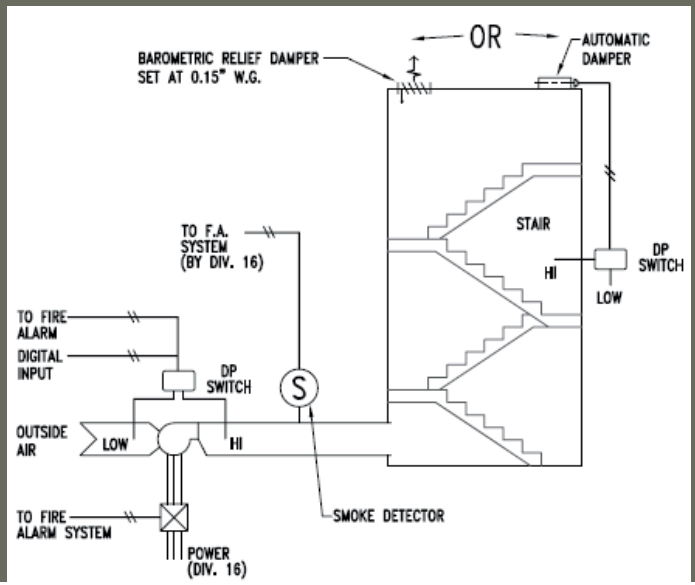
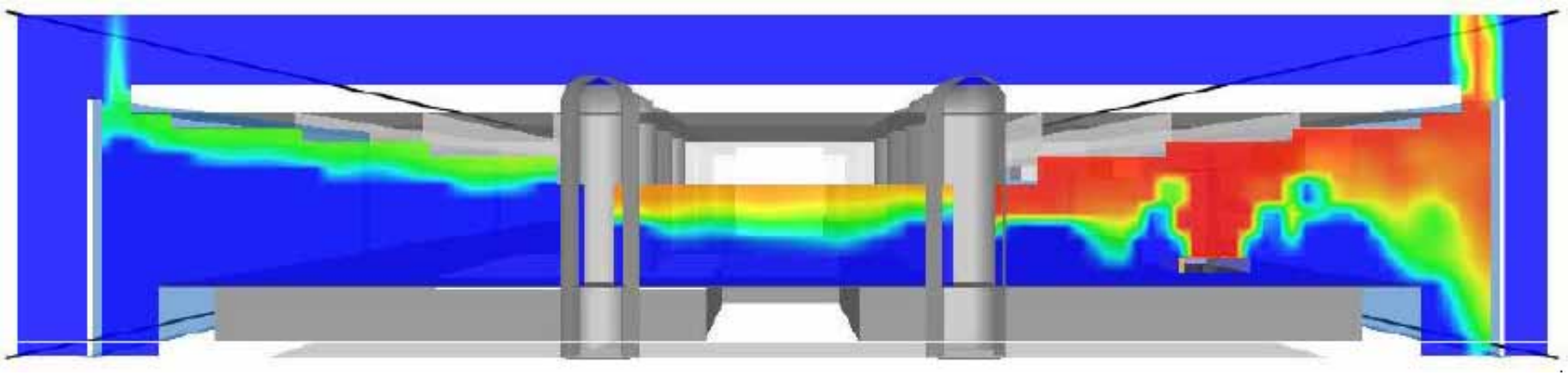
Incorporating Protective Design Features: Bus and Train Fire Management

- Computer modeling of fire and smoke conditions
- Significantly enhance smoke and fire detection, fire suppression and smoke control systems
- Informed by SFFD, Amtrak, NFPA, & 3 groups of fire SMEs





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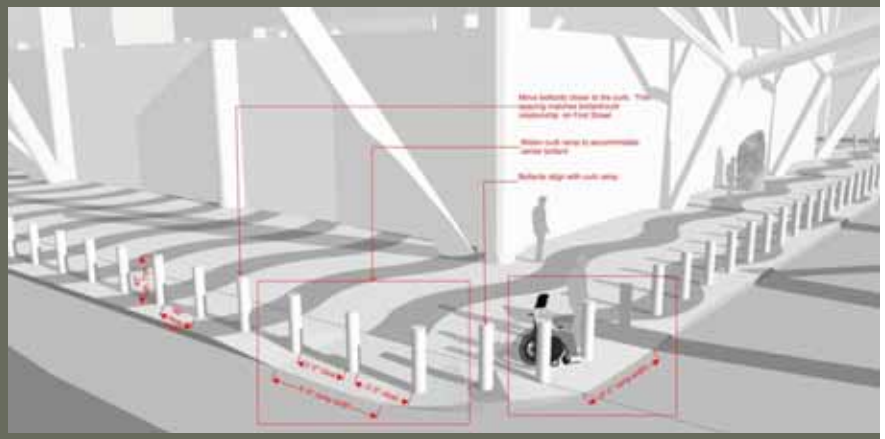
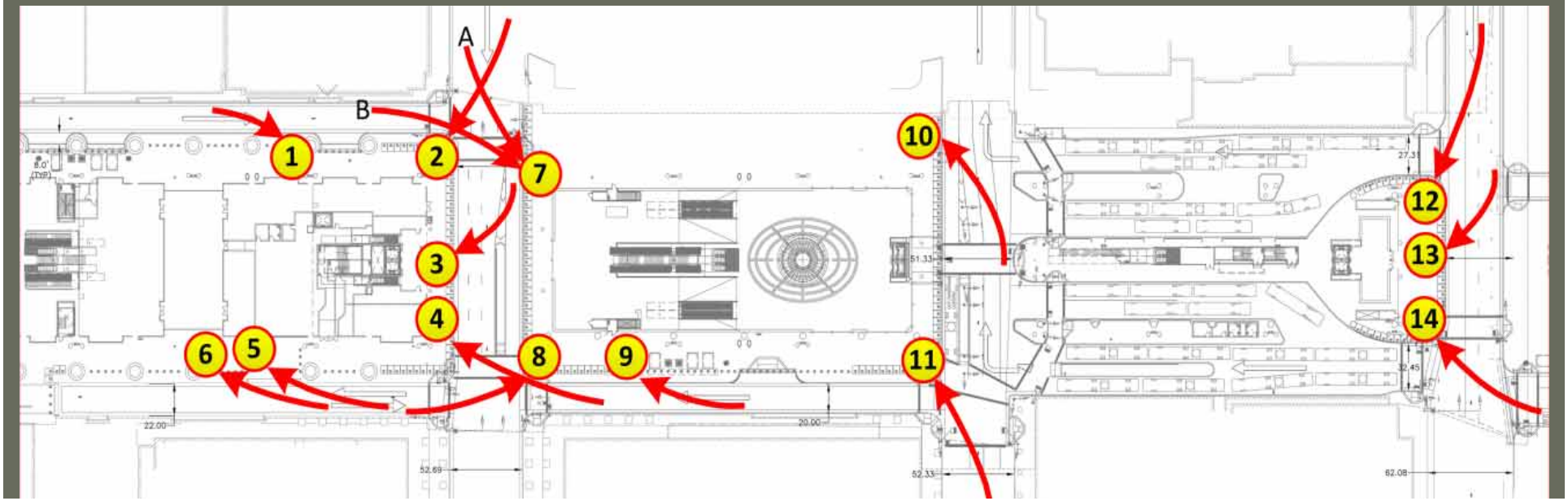
Incorporating Protective Design Features: Managing Exterior Threats

- Computer based modeling
- Enhanced protective perimeter
- Increased standoff, increased bollard ratings, additional operable barriers and pedestrian closures





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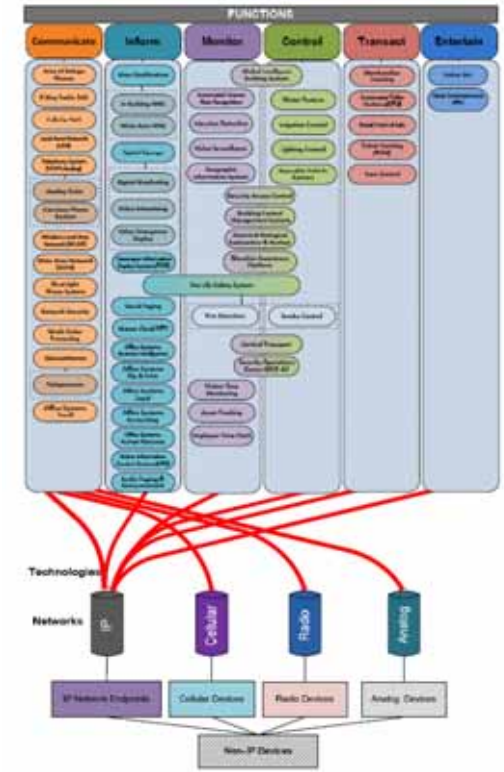
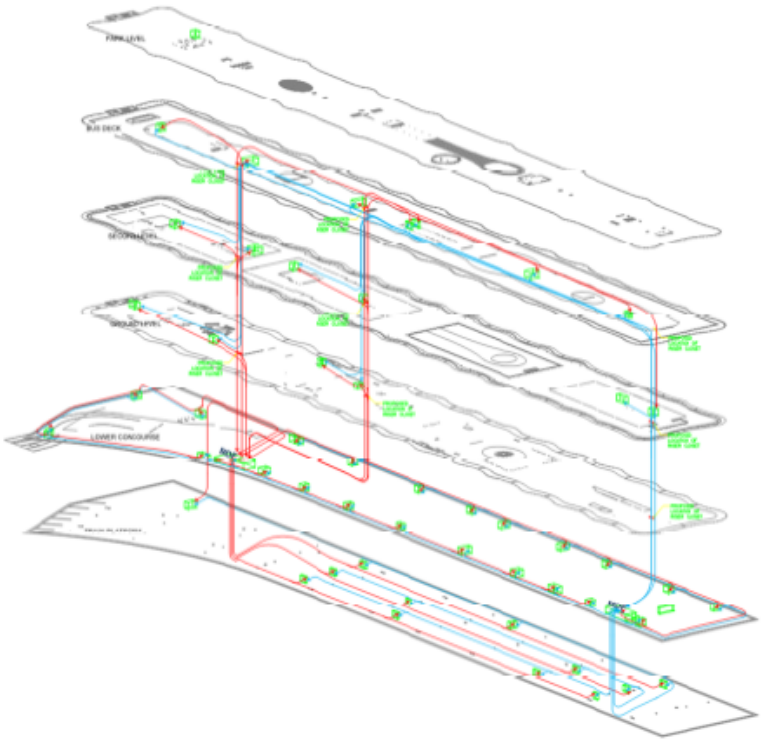
Incorporating Protective Design Features:
Communications and Incident Response

- Implement Converged IT Network to support audible & visual paging, emergency responder interoperability, cellular communications, wireless communications, and Mass Notification System





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Incorporating Protective Design Features:
Communications and Incident Response

- Centralized state-of-the-art Security Operations Center and backup
- Primary and backup Fire Command Center

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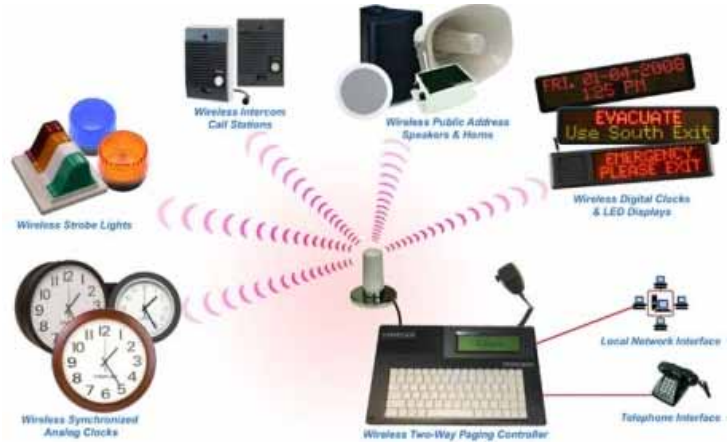
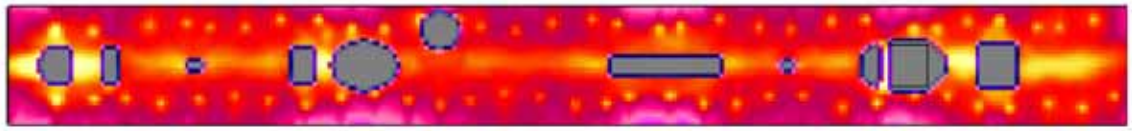
Incorporating Protective Design Features:
Communications and Incident Response

- Creation of a Mass Notification System
- Computer-based modeling to ensure communications audibility and intelligibility



On-Building Design – STI Plan View

(15) Reinkus-Heinz Iconyx IC8 and (2) Reinkus-Heinz Iconyx IC16 steerable loudspeaker arrays placed on buildings



Pylon Design – STI Plan View

(63) K-Array Kobra KK50 loudspeaker arrays concealed in the pylons

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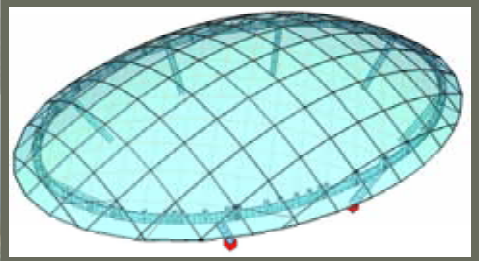
Incorporating Protective Design Features: Glazing Systems

- Enhanced glazing retention and support systems modeling and analysis
  - Floors, skylights, curtain walls, and interior finishes



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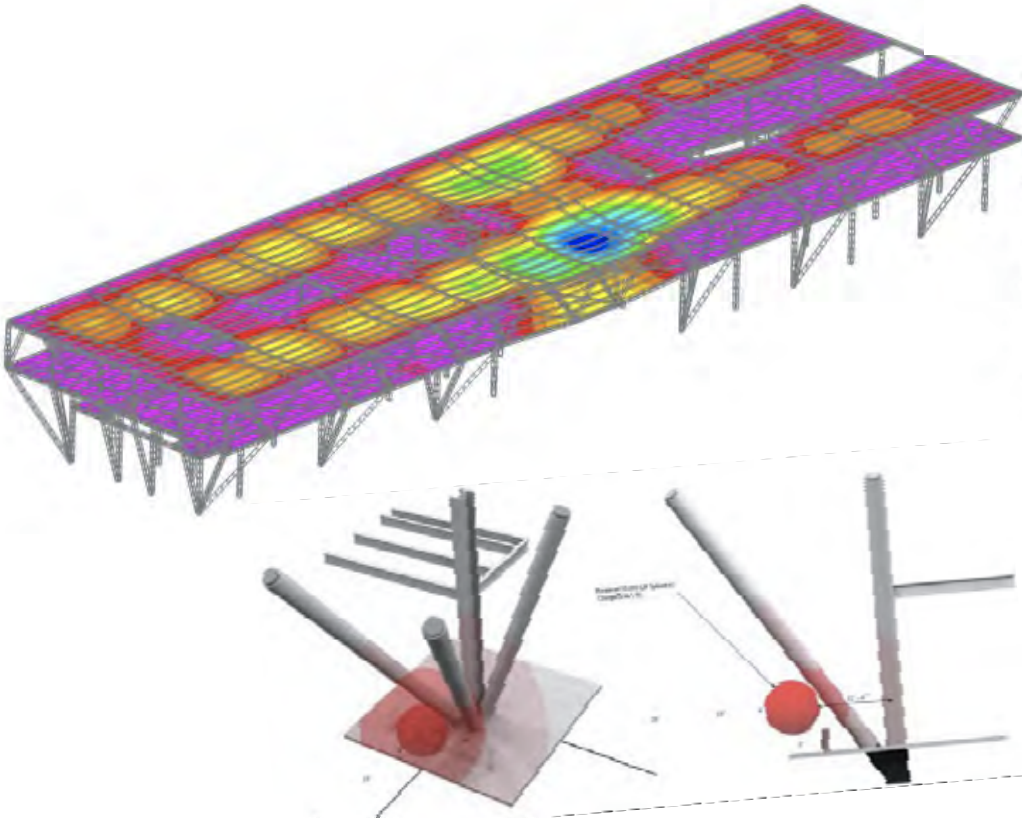
Incorporating Protective Design Features: Structural Evaluation

- Additional computer modeling and analysis
- Robust structure



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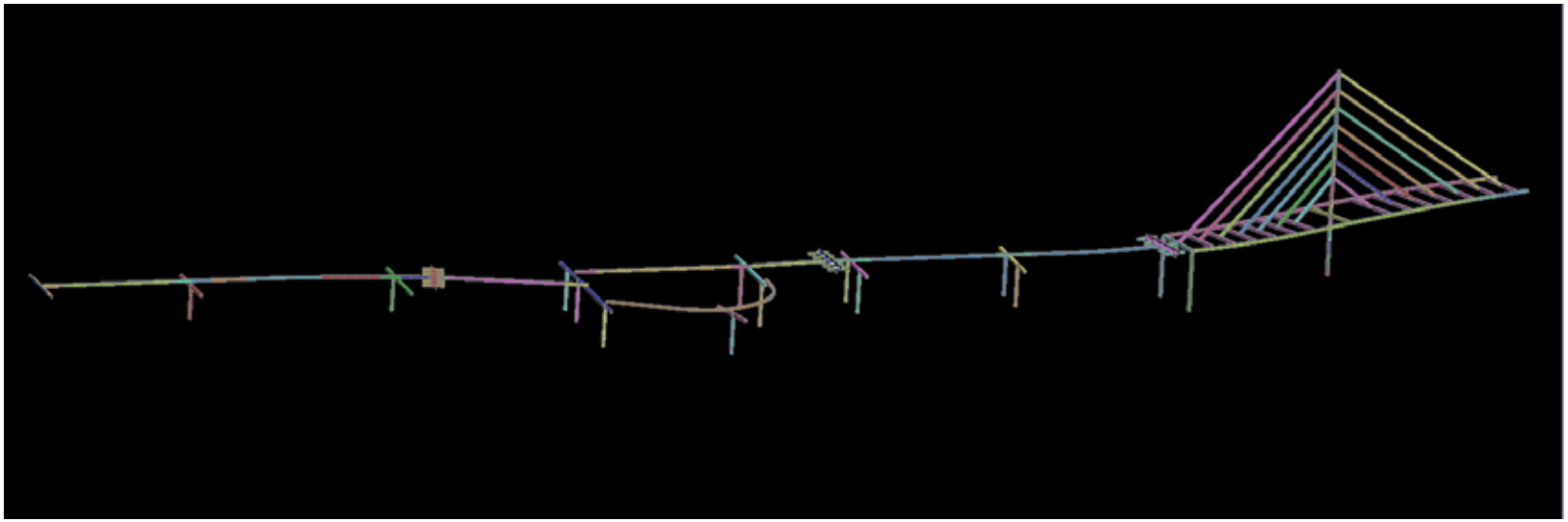
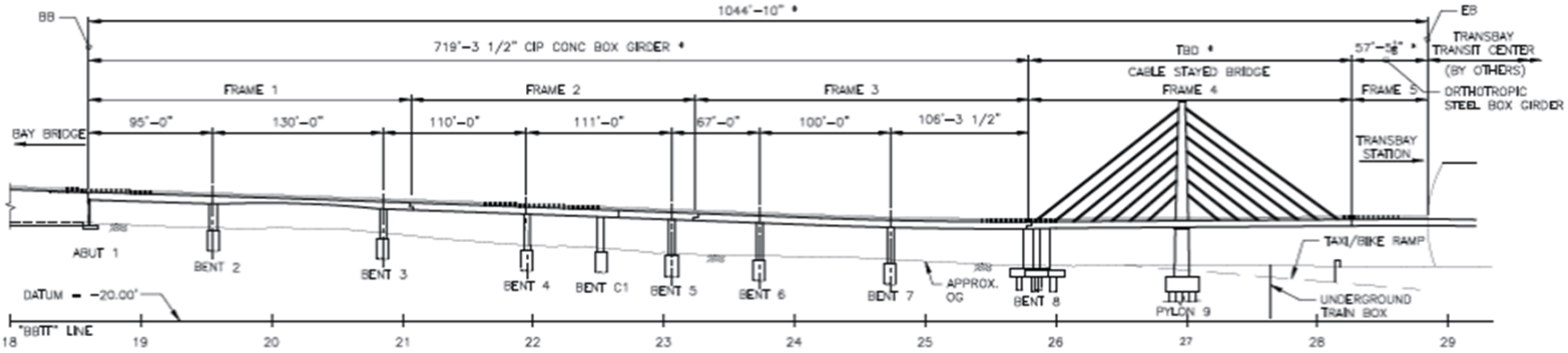
Incorporating Protective Design Features: Bus Ramps Structural Evaluation

- Additional computer modeling and analysis





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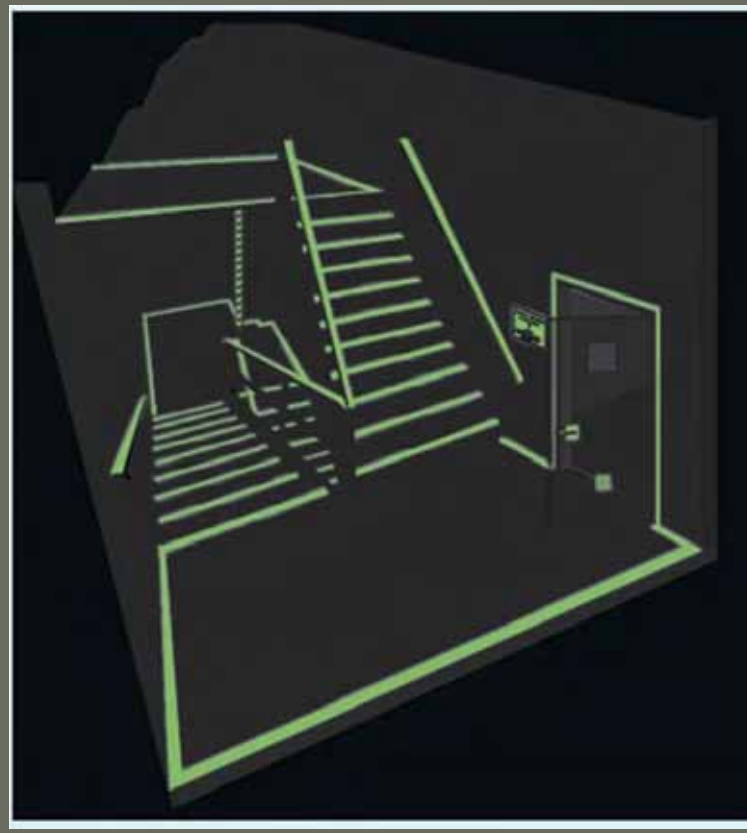
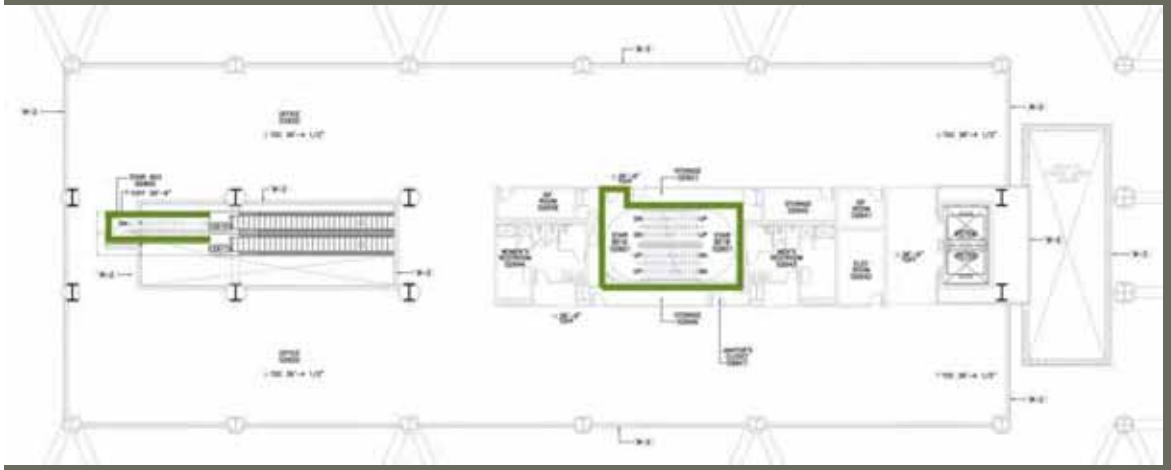
Incorporating Protective Design Features: ERR Stairs and Passageways

- Evacuation, Rescue, and Recovery
  - Enhanced emergency stairwell survivability for egress and emergency responder reentry informed by computer modeling
  - Improved lighting
  - Improved wayfinding





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Incorporating Protective Design Features: ERR Systems Survivability

- Enhanced Evacuation, Rescue, and Recovery (ERR) systems and features for operational survivability
- Hardened and secured critical ERR systems rooms

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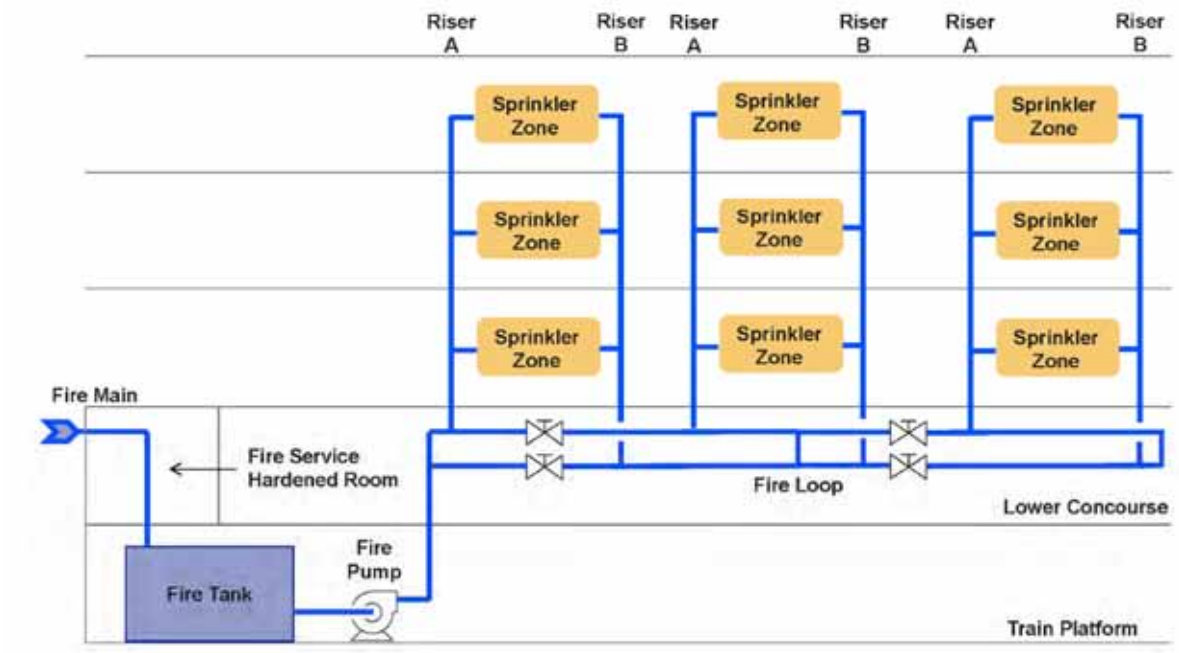
Incorporating Protective Design Features: ERR Systems Survivability

- Enhanced Evacuation, Rescue and Recovery (ERR) systems and features for operational survivability
  - Fire sprinkler loop
  - Improved fire suppression system
  - Improved fire alarm survivability



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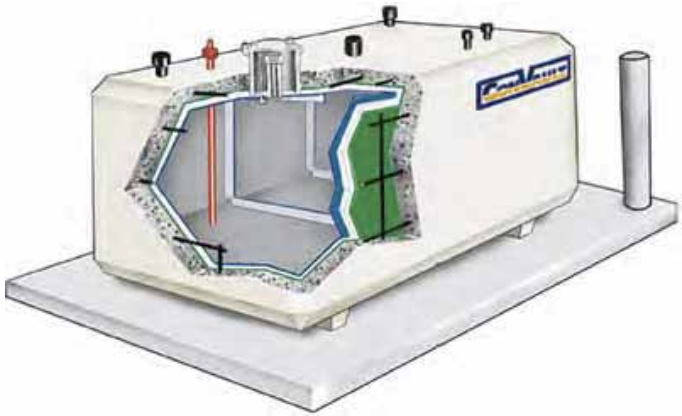
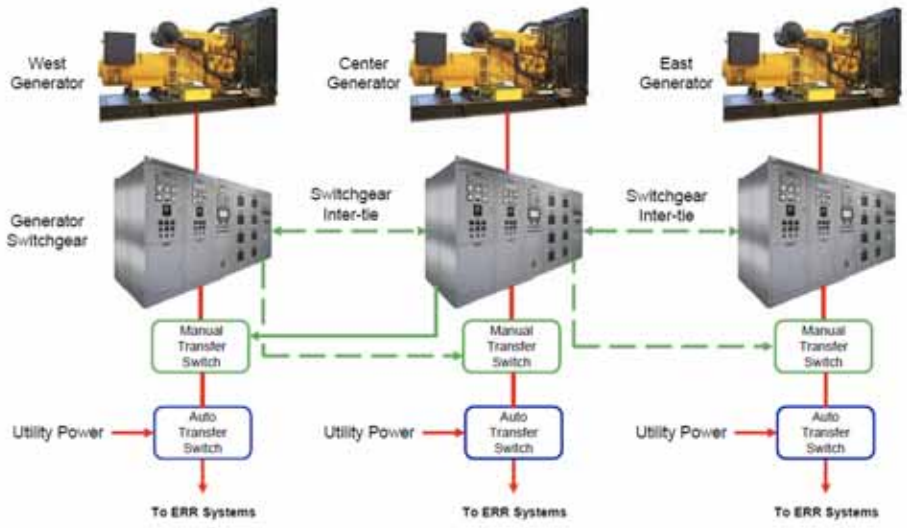
Incorporating Protective Design Features: ERR Systems Survivability

- Enhanced Evacuation, Rescue and Recovery (ERR) systems and features for operational survivability
  - Enhanced emergency power distribution, increased fuel storage
  - Improved emergency and normal power distribution
  - Alternate circuit emergency lights
  - Improved IT backbone redundancy





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Incorporating Protective Design Features
Electronic Security and Situational Awareness

- Extensive video surveillance, biometric access control, and intrusion detection systems
- Enhanced lighting to support higher resolution video surveillance

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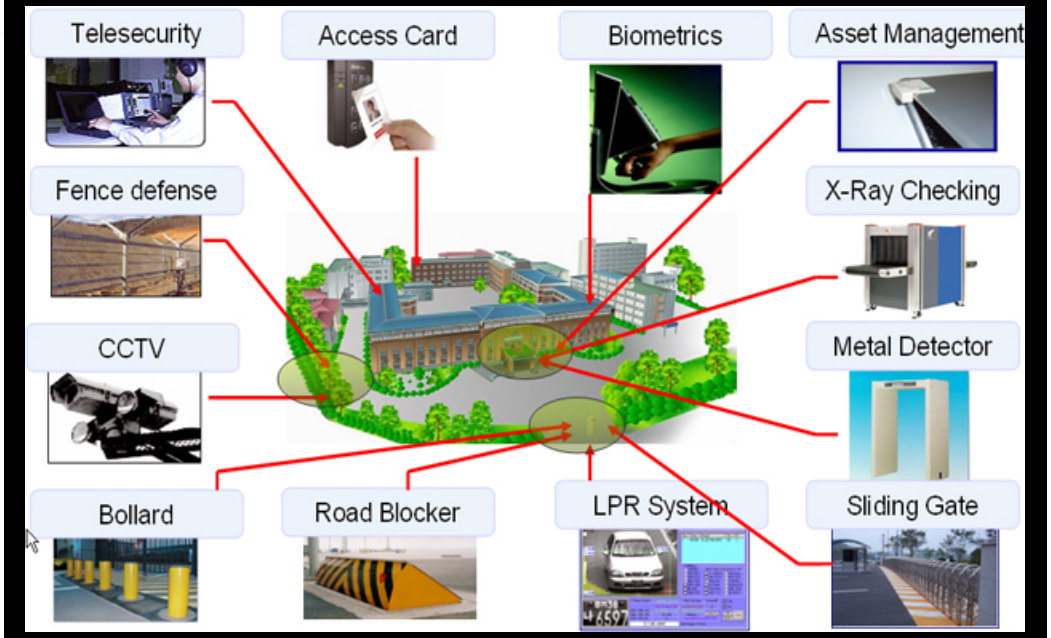
Incorporating Protective Design Features
Electronic Security and Situational Awareness

- Incorporation of situational awareness systems integrated with video analytics
- Physical Security Information Management (PSIM)
  - collect and integrate data as “actionable knowledge”



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Incorporating Protective Design Features:
CBRN Event Detection and Mitigation

- Informed by DHS/S&T, DNDO, & BioWatch Programs
- Chemical, Biological, Radiological, and Nuclear (CBRN) detection and mitigation program
- Modify and monitor air intakes
- HVAC upgrades
- Enhance building perimeter isolation
- Protect SOC & FCC
- Install infrastructure to support detection systems

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Protective Design Implications

- Significant investments well beyond building code stipulations 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
- Identify the TJPA Program as a national model for safe multi-modal transit center design, construction and operation

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Addressing RVA Design Guidance Criteria

- Design team analyzed design and construction impacts of implementing the recommended DGC
- Increases estimated cost of construction by $64.3 million
  - 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

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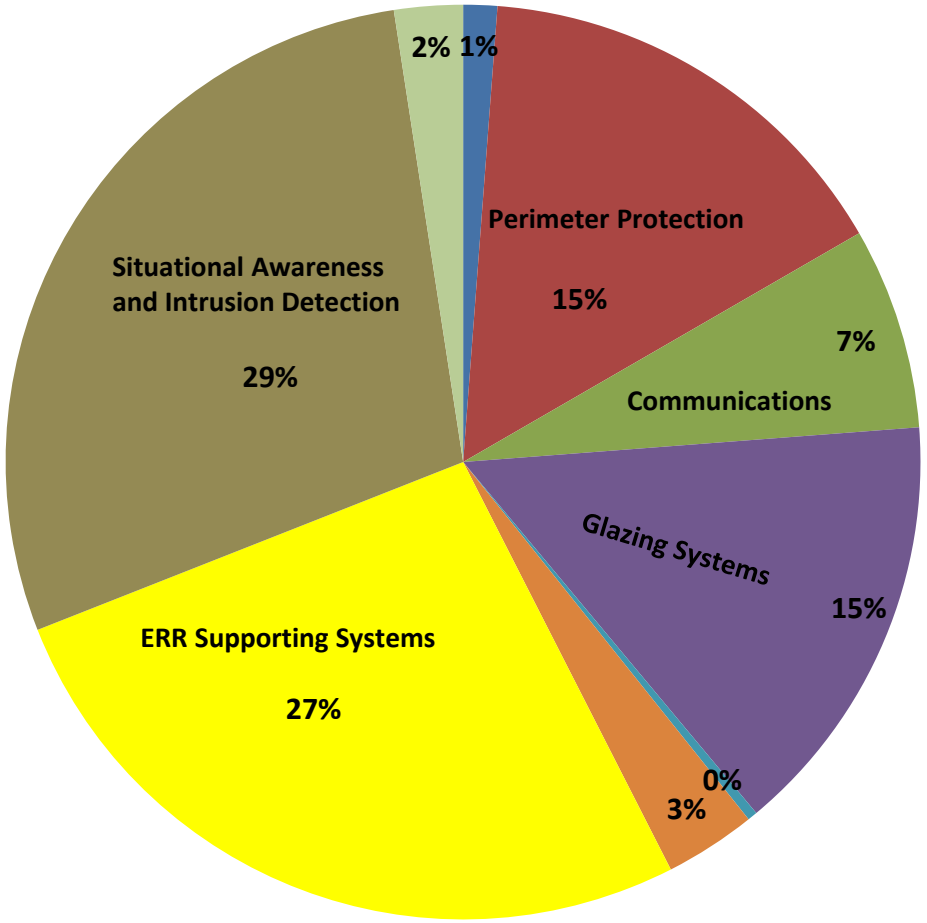
Addressing RVA Design Guidance Criteria

Cost of implementing the DGC and IT improvements



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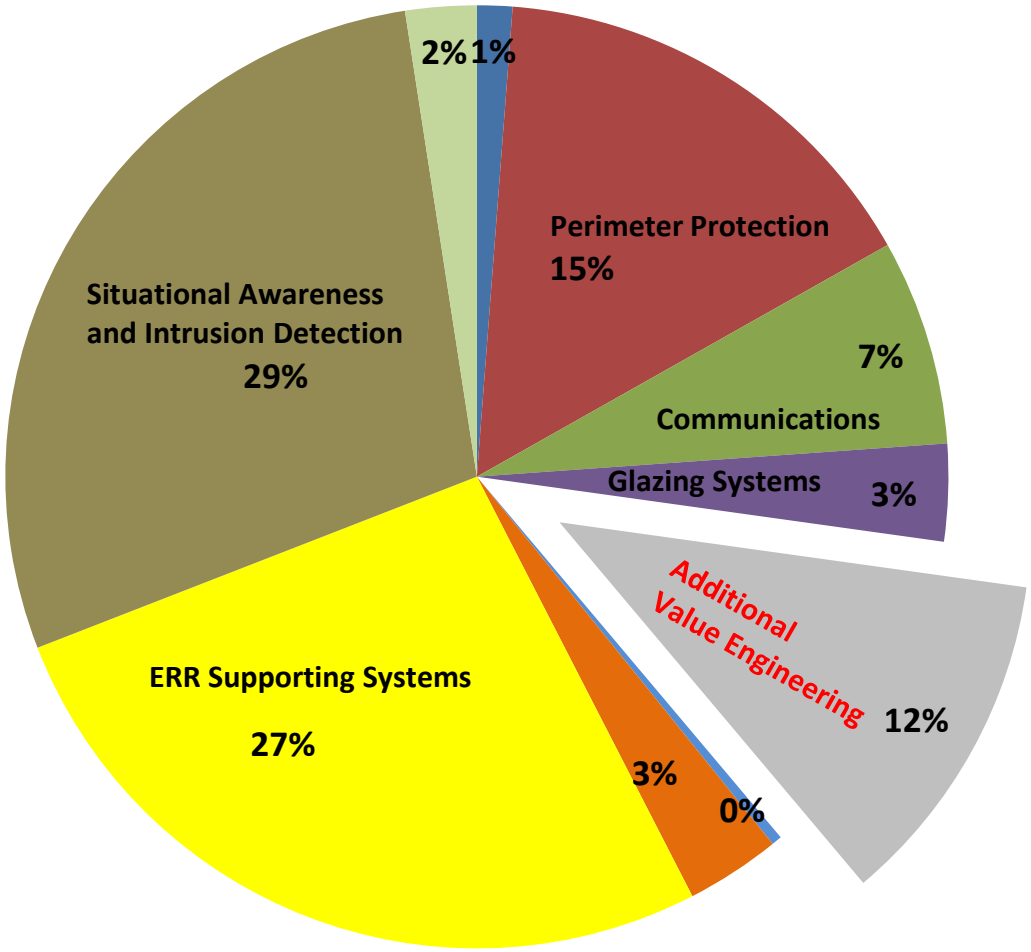
Addressing RVA Design Guidance Criteria

Cost of implementing the DGC and IT improvements



- Bus, Train and Other Fire Event Management
- Perimeter Protection
- Communications
- Glazing Systems
- Additional Value Engineering
- Structural Performance
- ERR Pathways
- ERR Supporting Systems
- Situational Awareness and Intrusion Detection
- CBRN

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Awning System Value Engineering

- Largest single cost element after Transit Center structure
- Has a significant RVA associated cost
- Alternate materials will reduce base system cost and reduce RVA cost impacts
- *Target total cost savings of $17.5 million*

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Design, Bidding and Construction Schedule

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Current Phase 1 Milestones

Vacate Terminal/Begin Demolition	August 2010
Begin Shoring Wall Construction	April 2011
Complete Excavation	February 2014
Complete Below-Grade Construction	July 2015
Complete Construction of Bus Ramps	June 2017
Complete Superstructure Construction	June 2016
Complete Rooftop Park	October 2017
Begin Bus Operations	October 2017

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Schedule For Bus Operations Maintained

- The construction of the buttress has driven the critical path for excavation and subsequent construction
- 100% Construction Document completion extended to integrate updated RVA findings
- *Extended design and bidding periods has impacted design and CM/GC pre-construction expenses*

Re-sequencing of construction has allowed TJPA to maintain October 2017 date for start of bus operations

Inclusion of Schedule Contingency in revised Phase 1 Budget recommended in the event construction extends beyond October 2017

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Program
Contingencies & Reserves

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Contingencies & Reserves

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

Program Reserve

- Independent budget category
- Reserve against all program budget requirements

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Contingencies & Reserves

A review of all contingencies and reserves has been performed to ensure that recommended budget adjustment is comprehensive

Market Recovery Adjustment

- Adjustment to construction budget
- Recommended adjustment to the budget based on Bay Area market conditions
- Significant increase in construction activity in San Francisco and the region
- Substructure package represented a return to normalcy in contractor margins
- Decreased competition and higher returns expected to impact upcoming trade subcontract bids

Schedule Contingency

- Independent budget category
- Reserve for extended costs to manage the project if not completed as scheduled

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Contingencies & Reserves

Current Contingencies & Reserves	
Design Contingency	**8.2**
Construction Contingency	**33.2**
CM/GC Contingency	**16.1**
Program Reserve	**21.4**
Sub-Total Current Reserves	**$ 78.9**
Recommended Additional Contingencies & Reserves	
Market Recovery Adjustment	**55.4**
Replenish Program Reserves	**25.0**
Construction Contingency (total 8% of to-go scope)	**25.0**
Schedule Contingency	**$5.0**
Sub-Total Recommended Additional Reserves	**$ 110.4**

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Recommended Budget Adjustment

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Baseline & Proposed Budget (millions)

Project Costs	Baseline	Current	Proposed
Temporary Terminal	$25.3		$25.7
Bus Storage	$22.9		$24.8
Demolition (Exist and Temp Term)	$16.2		$16.8
Utility Relocation	$65.6		$29.4
Transit Center Building Design	$143.1		$181.9
Transit Center Building Construction	$909.7		$1,056.8
Bus Ramps	$40.2		$53.7
ROW Acquisition	$71.9		$72.9
ROW Support	$5.3		$4.8
Programwide	$243.6		$290.0
Program Reserve	$45.2		$46.5
TOTAL	**$1,589.0**	**$1,589.0**	**$1,803.3**

- ***$49.8 million in Net New Revenue identified, resulting in $164.5 in Additional Revenue Required***

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Revenue Plan for Estimated Draft Budget Adjustment

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Estimated Draft Revenue Required

RVA Costs	$56.8
Contingencies and Program Reserves	$110.4
Other Construction Costs	$12.0
Soft and Programwide Costs	$35.1
Estimated Draft Budget Adjustment	$214.3
Net New Revenue Identified	$49.8
Estimated Additional Revenue Required	***$164.5***

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Net New Revenues

- *Increased Land Sales Values:*
  - $53 million increase, based on 2013 “Conservative Appreciation” update of land values and likely RFP schedule
- *TCDP Impact Fees for Park:*
  - $15 million for City Park included in Transit Center District Plan Implementation Document
- *Reduction in RTIP Funds:*
  - $18.2 million no longer available during Phase 1 schedule, based on SFCTA prioritization of local needs and State gas tax revenue projections
-

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Draft Additional Revenue Strategy

Increase TIFIA Loan	$97.0
Accelerated Prop K	$15.0
One Bay Area Grant Program	$10.2
Accelerated Land Sales from Phase 2	$10.5
Other Discretionary Funds	$31.8
Total	*$164.5*

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Target Revenues

- *Increase TIFIA Loan Amount:*
  - Modify and increase the existing TIFIA loan by up to $97 million
- *Accelerate SF Prop K Sales Tax:*
  - Acceleration of funds currently programmed in FY34 to Phase 1 construction period yields an estimated $15 million
- *One Bay Area Grant Program:*
  - Region's program to distribute federal STP/CMAQ funds via county congestion management agencies; funding strategy includes TJPA's request of $10 million for bike and pedestrian elements; programming decisions to be finalized in Spring 2013; currently in the Upper Tier of candidate projects

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Target Revenues

- *Accelerated Land Sales from Phase 2:*
  - Could include no-interest loan based on estimated values of Parcel F and Block 4
- *Other Discretionary Funds:*
  - May include Federal funds such as PNRS or TIGER, or local/regional funds required due to contract certification needs and funding eligibility issues

Transbay Transit Center

Next Steps

- *Continue informational briefing to TJPA Board this week*
- *Review Structural Steel Bid and Estimates*
  - Evaluate opportunities for cost reduction
  - Consider repackaging, redesigning
- *Finalize Phase 2 Budget Recommendation*
- *Present Budget Recommendations to Board for Consideration/Action*