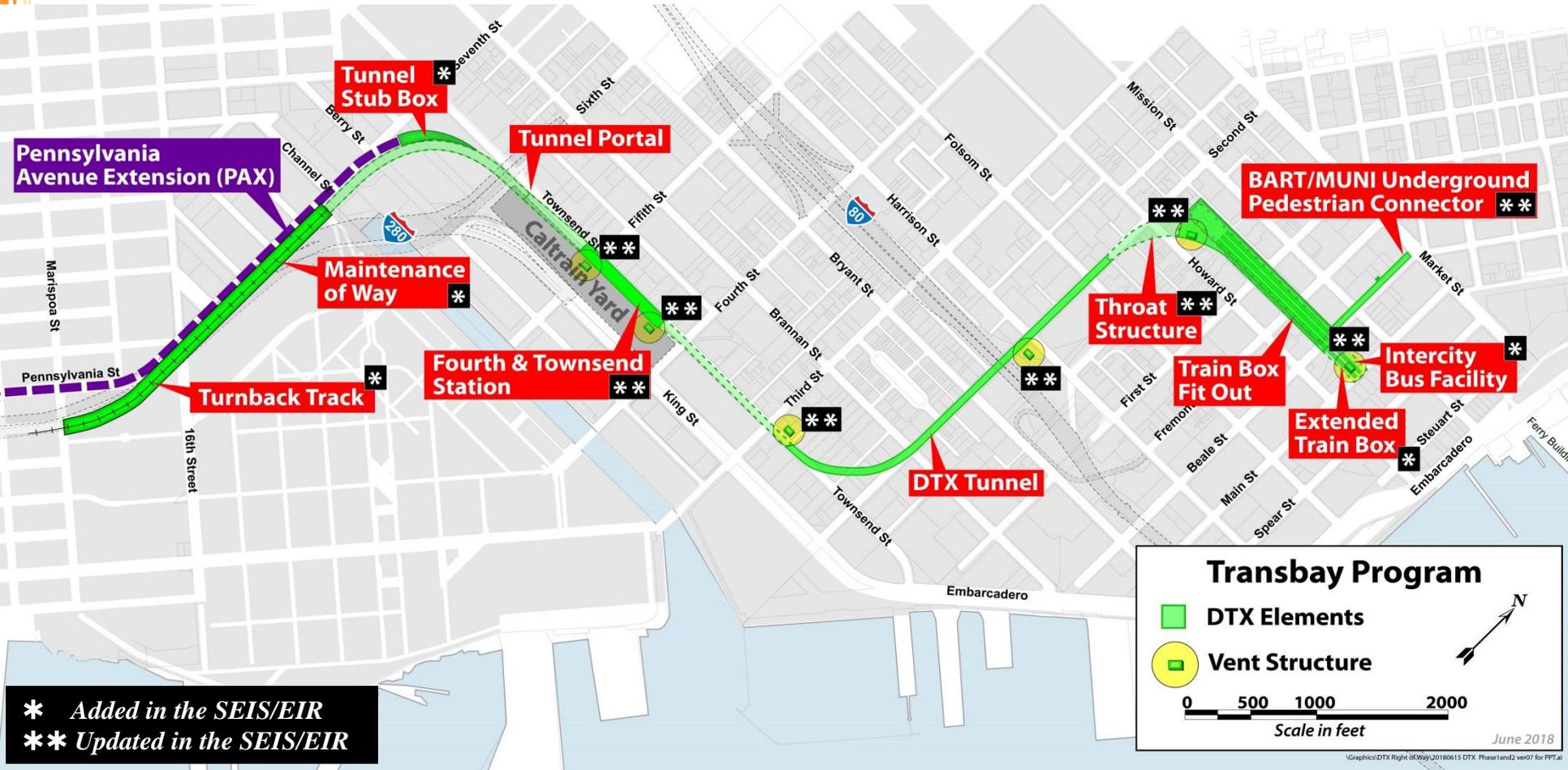


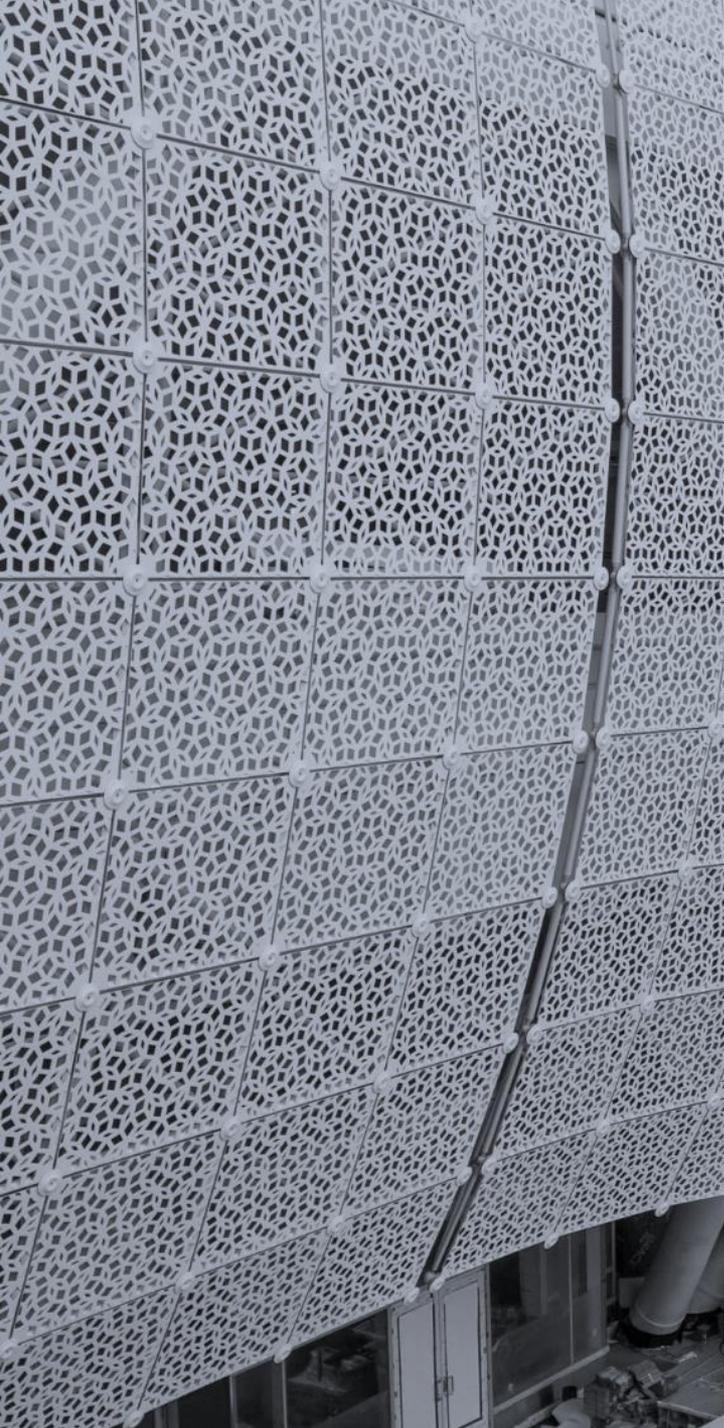
Transbay Program Phase 2 Update

July 10, 2018



Phase 2 Overview





Phase 2 Activity Since Last Board Update

- **2016**
 - Cost estimate refresh
- **2017**
 - Tunnel Options Study
 - Ridership study update
 - Rail Operations Report
 - Right-of-way acquisition cost estimate update
- **2018**
 - Tunnel Options Study addenda
 - SFCTA rail operations peer review
 - RAB coordination completed
 - Partial 30% design update completed
 - Applied for TIRCP funds
 - Coordinated with FTA on SEIS/EIR final review

Project Milestones



1. Enter New Starts

2. Complete 30% Design/
New Starts Documentation

3. Shovel Ready

4. Full Funding/
Project Construction

FTA New Starts Program Steps

**Request entry to New Starts
Capital Investment Grant (CIG) program**

Project Development phase
30% non-CIG funds committed
30% Preliminary Engineering
SEIS/EIR – FTA Record of Decision & Board approval

2
yrs
max

Engineering phase
50% non-CIG funds committed
Financial Plan for obtaining 100% non-CIG funds

Request Full Funding Grant Agreement (FFGA)
100% non-CIG funds committed

Receive FFGA
Approximately 18 months after request

Request entry to FTA New Starts program

Project Management Plan

Third-party agreements

SEIS/EIR certification

30% Preliminary Engineering design

Geotechnical baseline report

Advanced package design

Value management

Design criteria

Risk assessment

Constructability review

Program cost estimate and schedule

Secure at least 30% of non-New Starts funds

30%
Design &
New Starts
Tasks

Right-of-way acquisition

**Advanced package construction
(utility relocation)**

Construction documents

**FTA New Starts program
documentation**

**Shovel
Ready
Tasks**

**Secure FTA Full Funding
Grant Agreement (FFGA)**

```
graph TD; A[Secure FTA Full Funding Grant Agreement (FFGA)] --> B[Award construction contracts]; B --> C[Construction];
```

**Award construction
contracts**

Construction

**Full Funding
&
Construction
Tasks**

Phase 2 Status



SFCTA funding request pending



Regional Measure 3 approved by voters



SEIS/EIR to TJPA Board in September

Project Schedule (unconstrained funding)



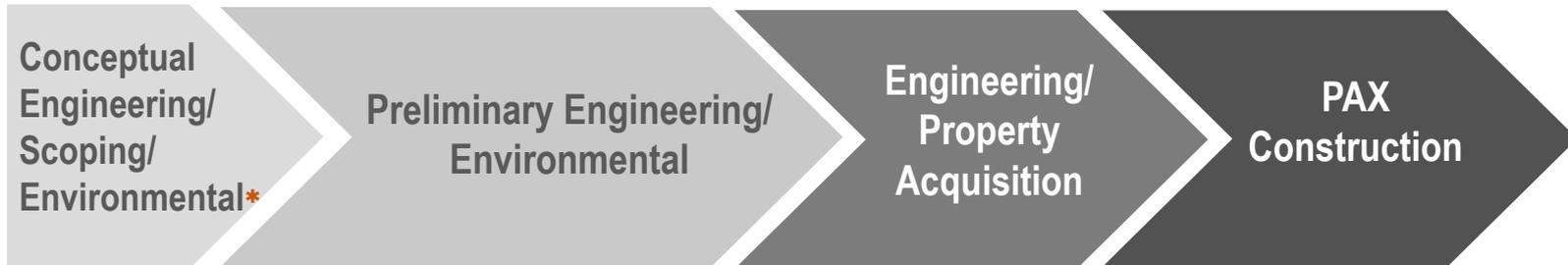
Program Schedule



Transbay Phase 2



Pennsylvania Avenue Extension (PAX)



** The Planning Department has asked the TJPA to take over conceptual engineering, scoping and environmental work for the PAX; staff plans to present this scope to the TJPA Board for approval this fall.*

2016 Phase 2 Cost Estimate

	Total Phase 2 in \$ millions
Construction	\$1,614
Design Contingency	\$211
<i>Subtotal Construction</i>	<i>\$1,825</i>
Escalation 5% to mid construction (2023)	\$620
Total Construction Cost	\$2,445
ROW	\$266
Programwide (21%)	\$517
<i>Program Cost</i>	<i>\$3,228</i>
Construction Contingency @ 10%	\$245
Program Reserve @ 15%	\$462
<i>Subtotal Contingency and Reserve</i>	<i>\$707</i>
Total Program Cost*	\$3,935

**Inclusive of recommendations from MTC's 2015 cost review
Total contingency/reserve (28.4%) = \$918m*

Phase 2 Shovel Ready Costs

A. Advanced Construction Package (Utilities)	\$2,312,640
B. ROW remaining acquisition	\$204,000,000
C. Support Costs (7/2018 until Tunnel Construction)	\$95,100,000
Complete Update of 30% Design Documents	
Advance packages design and design support during construction	
Design-Build documents	
Advance Packages CM	
Complete transit center (train box) design	
PMPC services thru advance packages construction	
TJPA, Other Professional Services thru advance packages construction	
City and other agencies	
D. Program Reserve (15%)	\$45,180,360
Total Shovel Ready Costs*	\$346,593,000

* Funding is available to cover the shovel ready costs.

Phase 2 Potential Funding

Sources (\$ millions)	Total Funds	Net Proceeds (from debt financing)	
Committed San Francisco County Sales Tax	\$83	\$83	
Committed San Mateo County Sales Tax	\$19	\$19	
Committed MTC/BATA Bridge Tolls	\$7	\$7	
Committed Regional Transportation Improvement Program	\$18	\$18	
Committed Federal Alternatives Analysis Grant	\$1.3	\$1.3	
Transit Center District Plan (Mello-Roos)	\$503 – \$542	\$503 – \$542	\$1,073M – \$1,252M
Tax Increment Residual (after TIFIA repayment)	\$665 – \$735	\$200 – \$340	
New MTC/BATA Bridge Tolls (RM3)	\$325	\$325	
Land Sales (Block 4)*	\$45	\$45	
FTA New Starts	\$1,000**	\$1,000*	\$2,300M
Future San Francisco County Sales Tax	\$350	\$350	
SB1/TIRCP	\$400	\$400	
Future California High-Speed Rail Funds	\$550***	\$550**	
Passenger Facility Charges (PFC) or Maintenance Contribution	\$3,089 – \$7,822	\$749 – \$1,482	
Total Potential Funds	\$7,055 – \$11,897	\$4,250 – \$5,162	

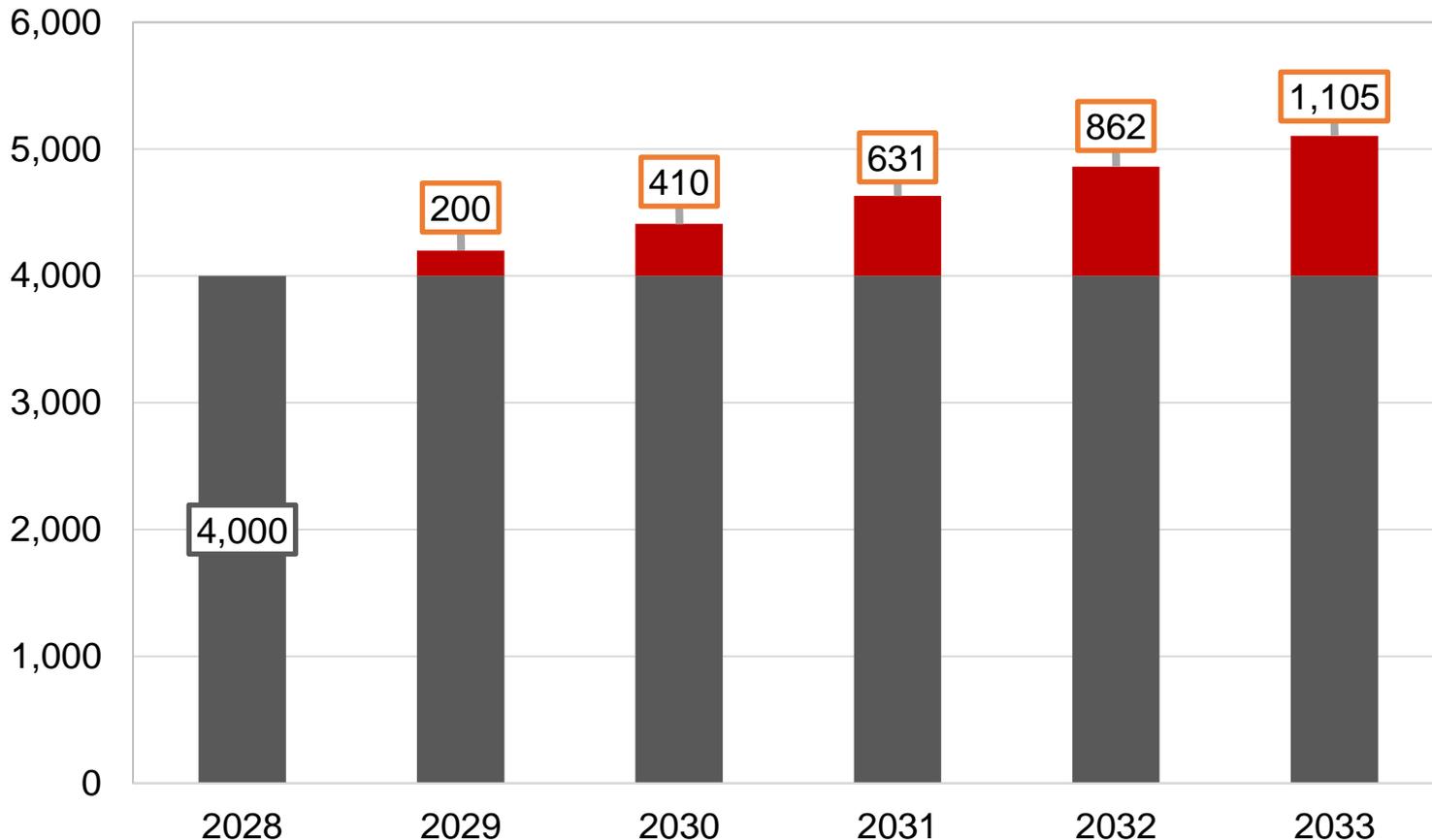
*Amount contingent upon sale.

**Amount in Plan Bay Area 2040

***Amount in California High-Speed Rail Authority's 2018 Business Plan

Cost of Delay

Phase 2 Delay Costs at 5% Escalation
(\$ millions)



* Assumes \$4B program costs for 2028 completion

Phase 1 Construction

Transit Center Jobs Across the United States of America

As of May, 2018

Washington

Thompson Metal, Vancouver
Steel Columns & Transfer Girders
Insulfoam, Puyallup
Insulation
McClellan Iron Works, Everett
Steel Frames

Idaho

Base Line Irrigation, Boise
Irrigation Products

Oregon

Marks Metal Tech, Clackamas
Rolling & Metal Forming
Oregon Sandblasting, Tualatin
Metal Prep & Coating
Oregon Iron Works, Clackamas
Girders, Basket Columns
American Steel, Portland
Supply Steel Plates

California

Gerdau, Napa / San Diego/Long Beach
Reinforcing Bars

XKT Engineering, Vallejo
Cruciform SLRS Vertical Members

Bratton Masonry Inc., Fresno
Masonry

Mageba, San Jose
Pendulum Bearings

ISAT, La Mirada
Seismic Anchors

TWI, Los Angeles
Curtain Wall Steel Frames

Harris Rebar, Livermore
Reinforcing Bars

Pacific Erectors, Rocklin
Metal Wall Panel System

The Harritt Corp., San Bernardino
WF Shape, SLRS Steel Members

DYWIDAG-Systems, Long Beach
Reinforcing Bars/HS Rods

NMI Industrial, Sacramento
Steel for Stairs

Desert Mechanical, Sylmar
HVAC, Plumbing

Mason Industries Inc, Anaheim
Seismic bracing and Isolation



Colorado

Rail Service Corp, Lakewood
Transit Communications Systems

Johns Manville, Denver
Insulation Systems

Arizona
Stinger Bridge & Iron, Coolidge
Cable Stay Steel Plates

Coyote Steel, Fountain Hills
Steel Beams for Falsework

Clayton National, Scottsdale
Fireproofing

Vinyltech Corp, Phoenix
PVC Pipes

Utah
Star Seismic, Salt Lake City
Seismic Braced Frames

New Mexico
Insight, Rio Rancho
LED Lighting

Oklahoma
Hilki, Tulsa
Firestop Products, Anchors

Louisiana
Bradken, Amite
Steel Shapes, Cast Nodes

Gordon Inc, Bossier City
Metal Ceiling Design

Fiber Soils, Baton Rouge
Landscaping Materials

Mississippi
ARA, Vicksburg
Engineering Services

North Dakota

GPK Products, Fargo
PVC Pipe Fittings

South Dakota
Daktronics Inc, Brookings
Bus Ramp Changeable Message Signs

Nebraska
G4S Technology, Omaha
Security Systems

Diamond Plastic, Grand Island
PVC Pipe

Nevada
Performance Pipe, Reno
Geothermal System

Southwest Specialty,
Las Vegas
Metal Ceilings

Kansas
Bradken, Atchison
Large Steel Shapes

Vioga, Wichita
Pipe Fittings

Missouri

Bradken, St. Joseph
Cast Nodes

Architectural Systems, Monett
Metal Panels

Carboline, St. Louis
Performance Coatings

H.E. Williams, Carthage
Light Mountings

Bull Moose Tube, Chesterfield
Mechanical & Structural Tubing

Minnesota

Innovent, Minneapolis
Indoor Air Handling Unit

Valspar, Minneapolis
Extrusion Coatings

Twin City Hose, Rogers
Flexible Metal Hose

Iowa
EFCO Corp, Des Moines
Concrete Forms

Eico Const., Decorah
Metal Fasteners, Anchors

Viking Pump, Cedar Falls
Pumps

Illinois

Delta Structures Inc, Addison
Space Frame Design & Fab

Scott Forge, Spring Grove
Forged Pins

Circle Metal Specialties, Alsip
Custom Steel Design & Fab

Allied Tube & Conduit, Harvey
Rigid Steel

Larson Engineering, Chicago
Curtain Wall Engineering

Kentucky
General Cable,
Highland Heights
Electrical Cable

Republic Conduit, Louisville
Electrical Conduit

Michigan

Williams Form Eng, Belmont
Supply HS Rods

Ward Connector, Holland
HVAC Components

Indiana
Crown Corr, Gary
Curtain Walls/Awning

RACO, South Bend
EMT Fittings

Nibco, Elkhart
Flow Control Products

Thermafiber, Wabash
Mineral Wool Insulation

Wisconsin
Wisconsin Centrifugal,
Waukesha
Spun Cast Pipes

Well Pump Co, Cedarburg
Water Heaters/Controls

Ohio

Lincoln Electric, Euclid
Welding Wire & Machines

Metal Tek, Sandusky
Span Cast Pipe

Artco, Hannibal
Steel Plates

The Dyson Corp, Painesville
HS Rods

Picoma Industries, Cambridge
EMT Elbows, Steel Conduit

Columbia Eng. Rubber, Vandalia
Rubber Bellows

ClarkDietrich, West Chester
Steel Framing

Maine

Woods End Labs, Mt Vernon
Analytical Soil Testing

New Hampshire
Burdy, Manchester
Pipe Compression Connections

New York
Hohmann & Barnard, Hauppauge
Waterproofing

Watson Bowman Acme, Amherst
Structural Sealing Joint System

Karp Assoc Inc, Melville
Access Doors

Garlock, Palmyra
Pipe Fittings/Gaskets

Massachusetts
Berry Plastics, Franklin
Waterproofing

Sarnafi, Canton
Waterproofing

Rhode Island
APC, West Kingston
Uninterrupted Power Supply

Bridgeport, Stratford
Electrical Fittings

United Tech. Co., Farmington
Security Systems

Balmo, Danbury
Actuators

West Virginia
American Airworks, Sophia
Breathing Air Systems

Pennsylvania
Ward Mfg, Blossburg
Pipe Fittings

Anecker Mittal, Coatesville
Steel Plates

Chapel Steel, Pottstown
Steel Plates

ESAB, Hanover
Welding Materials

Wheatland Tube Co., Scranton
Conduit Locknuts, Bushings

PPG Industries, Pittsburgh
Industrial Coatings

Total Jobs Created

Local: 13,508* | Beyond SF Bay Area: 10,550

Cities: 500+ | Companies: 900+

Off-site Jobs Created

200 100

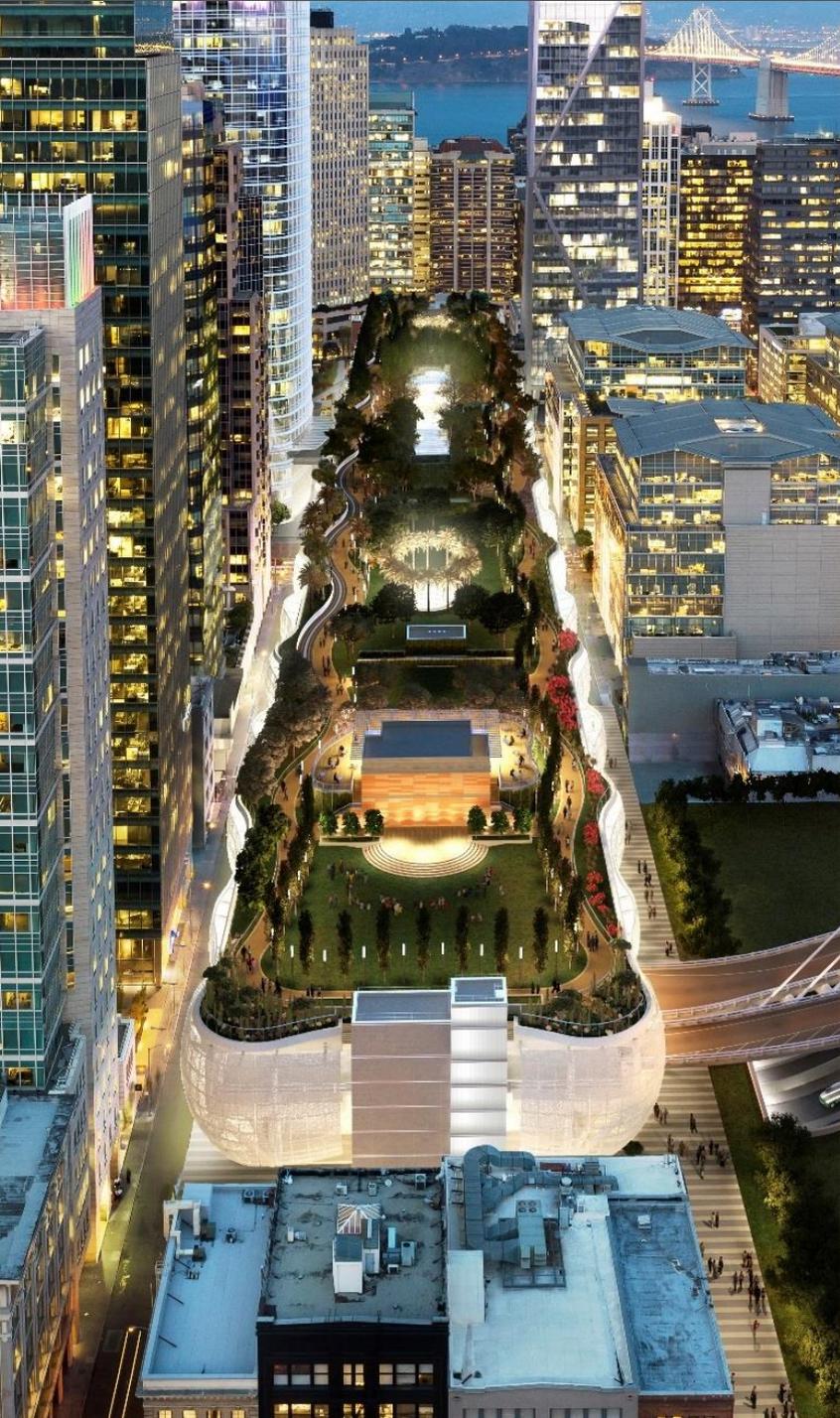
500

* Jobs created in the San Francisco Bay Area from demolition of the old Transbay Terminal, construction of the Temporary Terminal, Transit Center and Bus Ramp.

Phase 1 & 2 Job Creation

- Phase 1 (through May 2018)
 - \$1.34B total construction costs
 - 5.3 million craft hours
 - 24,050 jobs created across the United States
- Phase 2
 - Projected construction costs of \$2.3B
 - 8.7+ million craft hours
 - 41,400 anticipated jobs created across the United States





Questions?

TJPA
TRANSBAY JOINT POWERS AUTHORITY

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