VTA's BART Silicon Valley Phase II Extension Update

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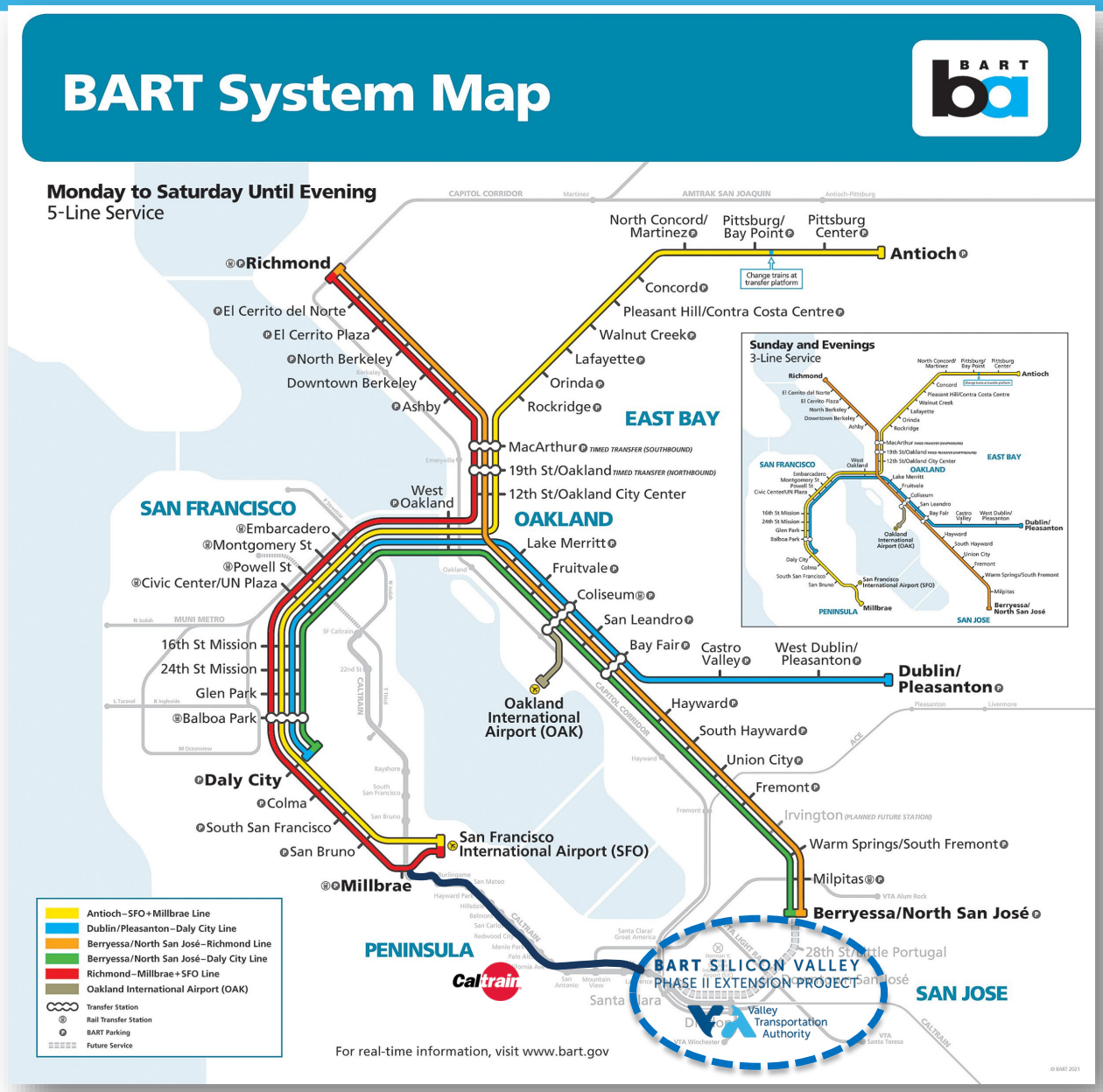
Santa Clara Valley Transportation Authority
Solutions that move you

VTA's BART Silicon Valley Program

Remaining six miles to "Ring the Bay" with rail!



Project Benefits

Providing equitable transit for low-income communities

Connecting 1.7 M transit-dependent riders to resources every year

2 M people in Santa Clara County will gain access to → **3.5 M Bay Area Jobs**

Contribute to an annual **reduction of overall carbon footprint**

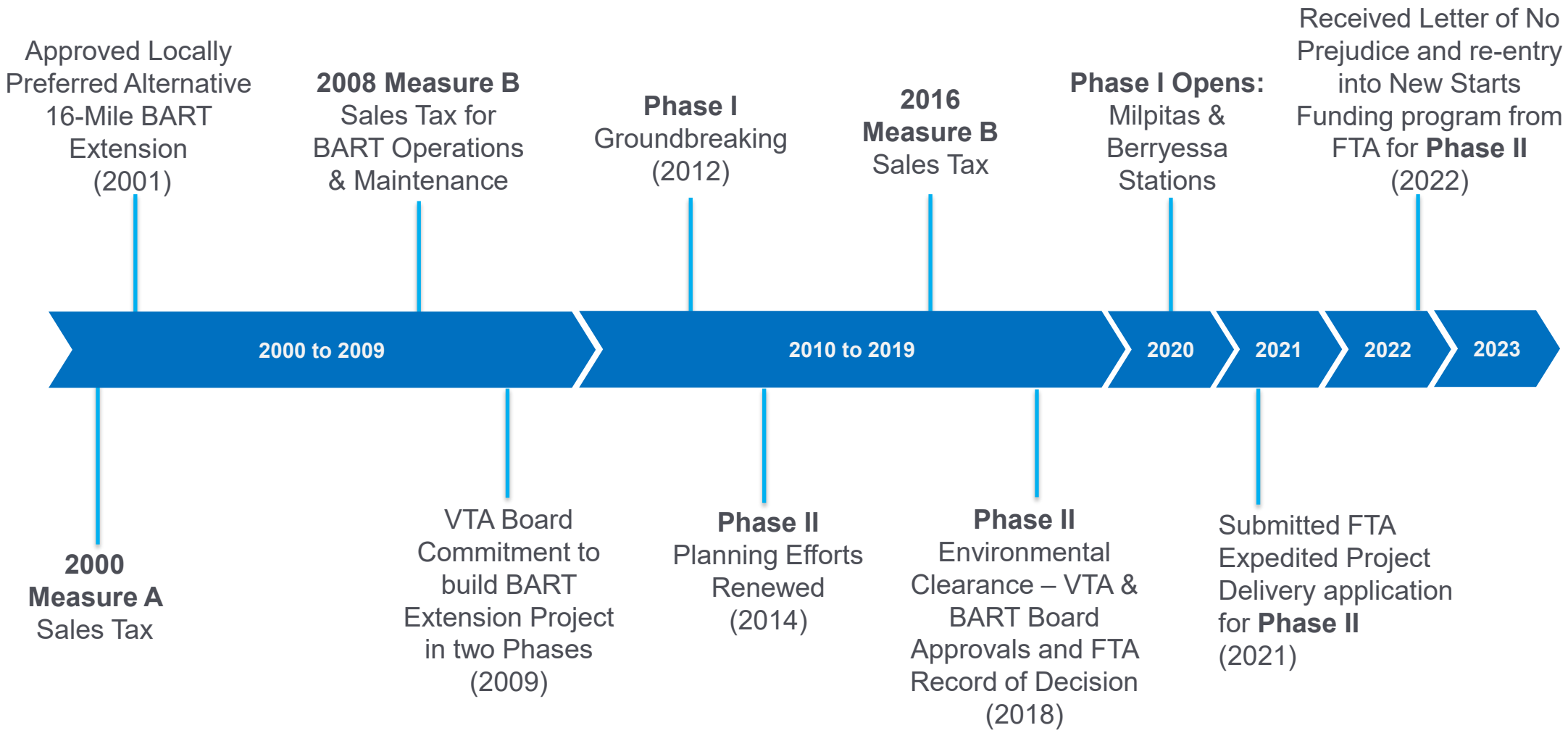
Activation of station sites and streets that **foster walkability, vibrancy, activity, and cultivate a sense of community**

Intermodal connection to commuter, intercity, light rail, and regional bus service

5,600 student riders (San Jose State University/Santa Clara University) are projected to use the system daily

Shift dependency on vehicular transportation and **reduce greenhouse gas emissions**

VTA's BART Silicon Valley Extension Program History

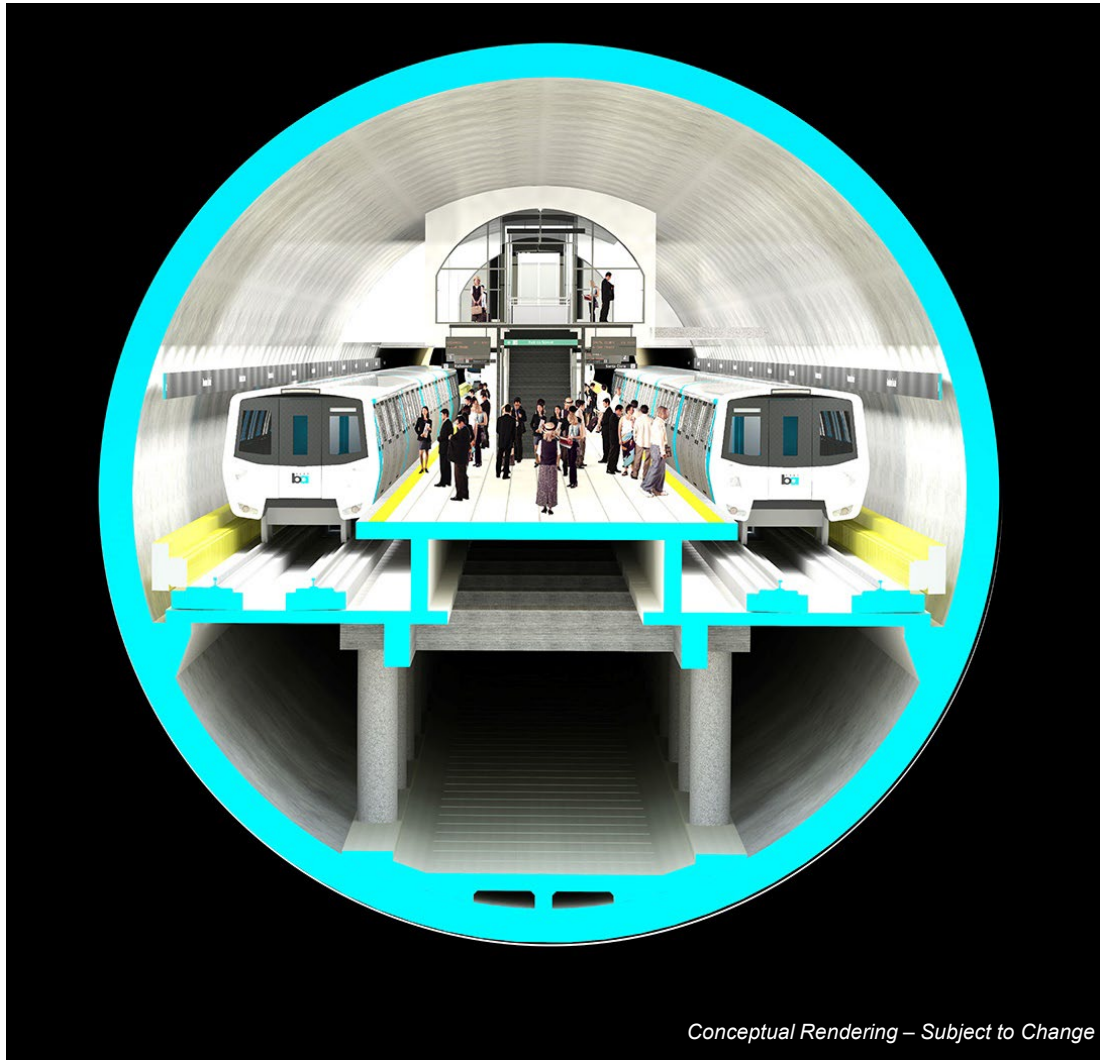


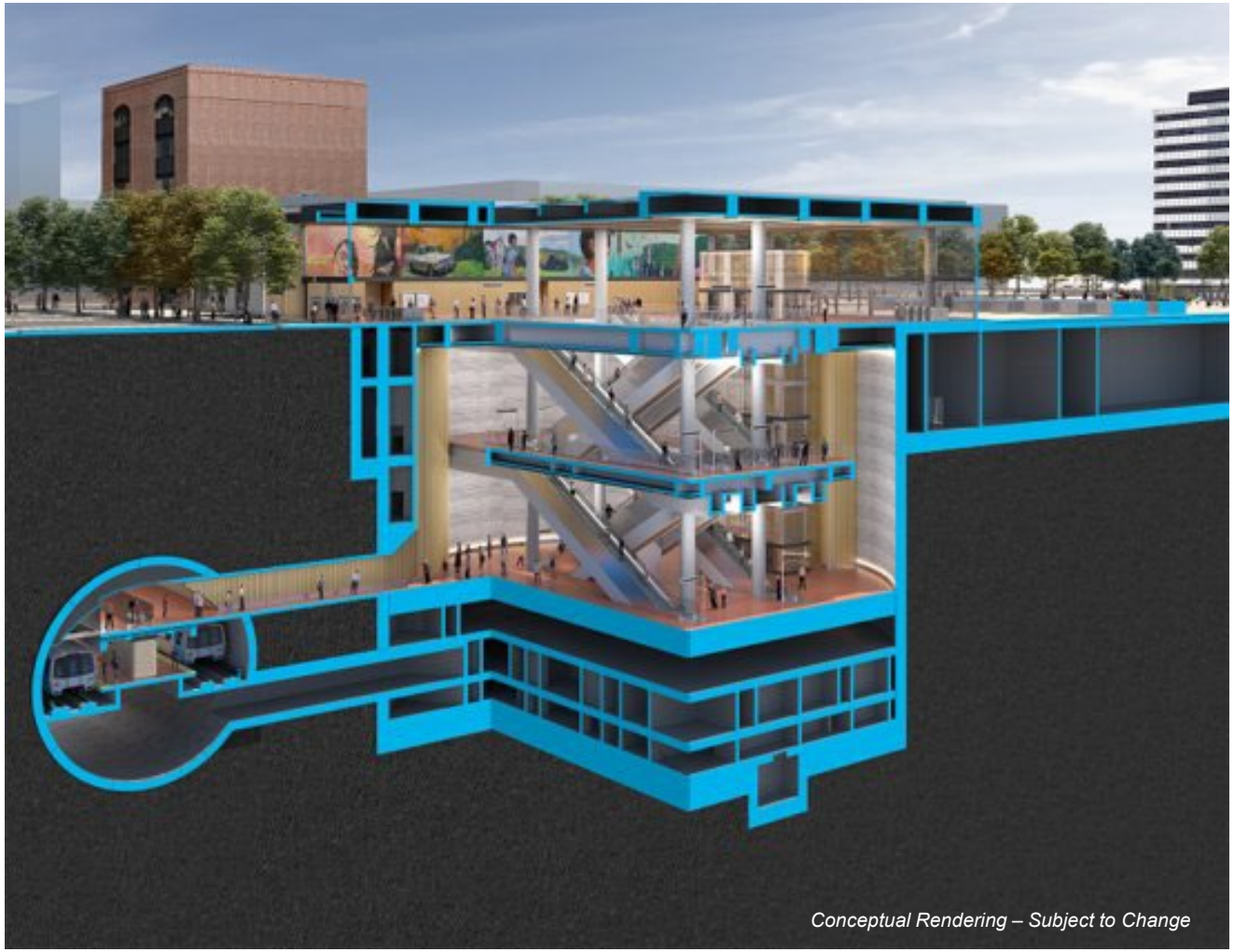
VTA's BART Silicon Valley Phase II Extension

- 6-Mile Extension of BART Service
- 5-mile underground tunnel, 1-mile above ground
- Storage Yard & Maintenance Facility

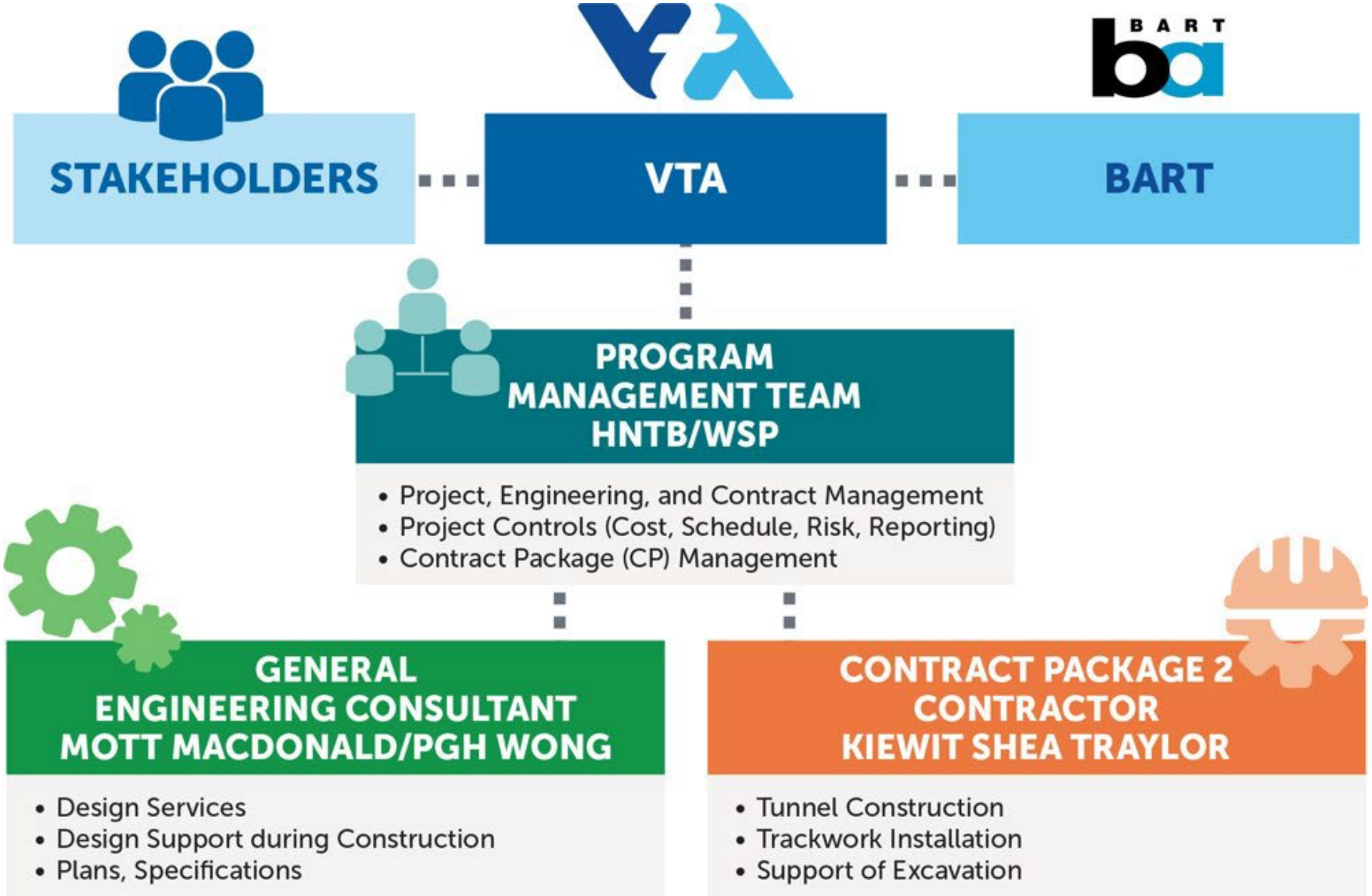
- 4 New BART Stations
  - 3 street-level entry/ underground platforms
  - 1 at-grade

Project Configuration





Program Organization



Program Progress

- Restructured the Delivery Program
- Progressed the Engineering
- Advanced Tunnel & Trackwork Contract
- Entered FTA's New Starts Program
- Named in The President's Budget

Contract Packaging and Project Delivery

Contract Package (CP)	Scope*	Previous Delivery Method (2020)	Revised Delivery Method (2023)
CP1	Systems	Design-Build	Design-Bid-Build
CP2	Tunnel & Trackwork	Progressive Design-Build	
CP3	Newhall Yard & Santa Clara Station	Design-Build	Design-Bid-Build
CP4	Underground Stations	Design-Build	Design-Bid-Build

** Final scope for each Contract Package under review*

Benefits of Design-Bid-Build for some of the other BSVII Contracts:

- Better suits an established operating system like BART
- Improves coordination and timing with Tunnel & Trackwork Contractor (CP2) work
- Increases the ability to manage project cashflow
- Helps mitigate risks of current market conditions and bidding climate
- Creates additional bidding opportunities with more flexible contract packaging

National Economic & Delivery Factors

- Labor, Material and Equipment Escalation
- Increasing Interest Rates
- Resource Limitations
- Supply-Chain Challenges
- Lack of Competition
- Current Contracting Environment
- Pandemic Effect

Project Cost & Schedule Estimate

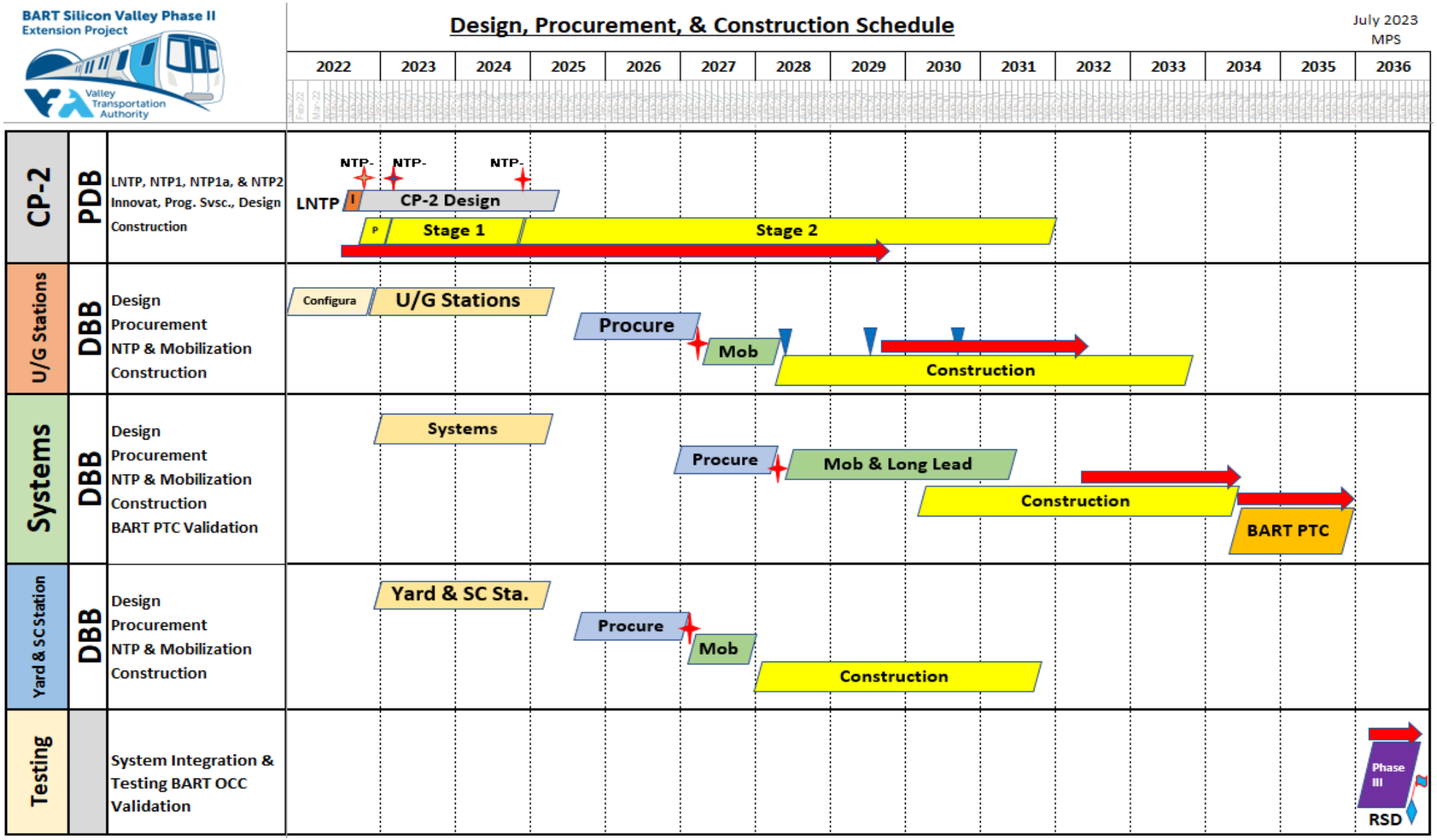
VTA Funding Plan: $9,317M
2033 Revenue Service

2021 | 2022 | 2023

FTA Risk Assessment
Projected Cost: $9,148M

New Baseline Estimate: $12,237M
2036 Revenue Service

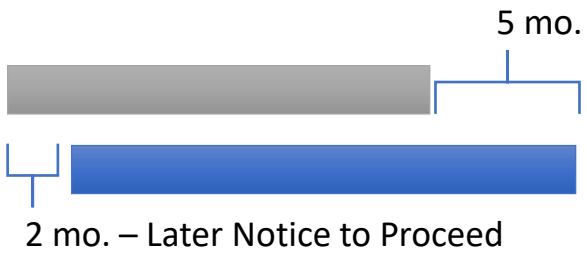
New Baseline Schedule (2036 Revenue Service)



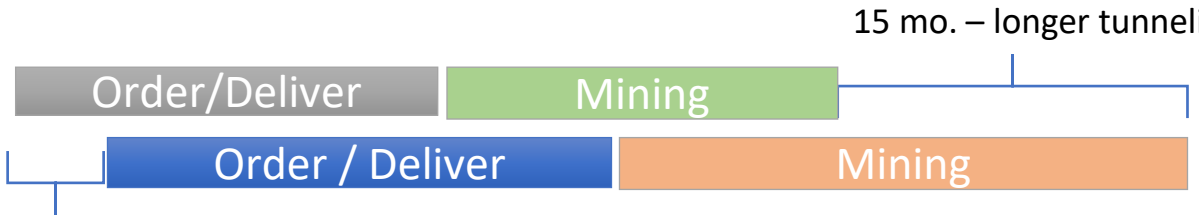
Legend:

- NTP: Notice to Proceed
- LNTP: Limited Notice to Proceed
- U/G: Underground
- CP2: Contract Package 2
- PDB: Progressive Design-Build
- DBB: Design-Bid-Build
- Mob: Mobilization
- PTC: Project Testing/Commissioning
- OCC: Operations Control Center
- RSD: Revenue Service Date
- ➡ Critical Path

Major Schedule Variances (Revenue Service 2033 to 2036)



Contract Package 2 (+7 months)



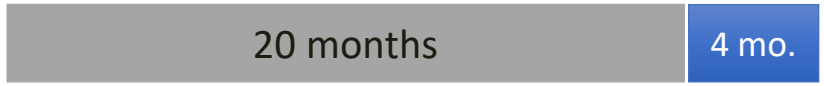
Tunnel Boring Machine (TBM) Order/Delivery/Mining (+ 26 months)

TBM Launch Facility and Temporary Power (Concurrent critical)

Systems Construction (+ 5 months)

Schedule Contingency

Tunnel Boring Machine Fabrication/Assembly
(4 months potential critical path benefit)



Adits Buildout
(7 months potential critical path benefit)

BART Project Testing & Commissioning/ Operation Control Center Testing
(12 months critical path benefit)

Total Potential Schedule Contingency = 23 months (Nov. 2034 Revenue Service w/o contingency)

New Baseline Cost Estimate

- Base Year Q2 2023
- Includes higher experienced escalation in 2022 and 2023
- Year of Expenditure (YOE) Estimate
- Projected escalation ranging from 4.6% to 2.3%
- Preliminary engineering design (30%+)
- Independent Cost Estimate of Contract Package 2 (Tunnel & Trackwork)
- Includes ~35% Contingency
- Subject to change following FTA's Risk Assessment and review

Cost Comparison by Major Category

Major Category	2023 New Baseline Estimate (YOE) $Millions	2022 FTA Budget Request Based on 2021 Estimate (YOE) $Millions	Delta
Overall Cost (excluding contingency/finance)	$8,879	$6,807	$2,072
Allocated Contingency	$1,328	$954	$374
Unallocated Contingency	$1,550	$992	$559
Financing Costs	$481	$565	($84)
Total	**$12,237**	**$9,318**	**$2,919**

- *Overall Cost includes construction, right-of-way, vehicles, professional services, and expenditures to date*
- *Numbers rounded to nearest million*
- *Subject to change following FTA's Risk Assessment and review*

Cost Comparison by FTA Standard Cost Category

SCC Major	Standard Cost Category (SCC) Description	2023 New Baseline Estimate (YOE) $Millions	2022 FTA Budget Request Based on 2021 Estimate (YOE) $Millions	Variance
10	Guideway & Track Elements	$2,819	$1,781	$1,037
20	Stations, Stops, Terminals, Intermodal	$1,932	$1,876	$56
30	Support Facilities: Yards, Shops, Admin. Bldgs.	$337	$315	$22
40	Sitework & Special Conditions	$568	$315	$253
50	Systems	$1,329	$685	$644
	Construction Subtotal (10-50):	**$6,984**	**$4,973**	**$2,011**
60	ROW, Land, Existing Improvements	$241	$322	($80)
70	Vehicles	$201	$208	($7)
80	Professional Services	$2,779	$2,258	$522
	Subtotal (less unallocated contingency and financing):	**$10,206**	**$7,761**	**$2,445**
90	Unallocated Contingency	$1,550	$992	$559
100	Finance Charges	$481	$565	($84)
	Total:	**$12,237**	**$9,318**	**$2,919**

Notes:

- *Subject to change following FTA's Risk Assessment and review*
- *Year of Expenditure (YOE)*
- *Estimates include expenditures to date*
- *Dollars rounded to nearest million*

Major Cost Drivers

Description	Increase from New Starts Budget Request ($Millions)
Market Conditions (Materials/Labor/Competition)	$1,146
Increased Contingency (high base costs/risk assessment)	$ 765
Cost of Time (costs of longer project schedule)	$ 750
Design Advancement	$ 342
Finance Charges (Reduction)	($ 84)
Total	**$2,919**

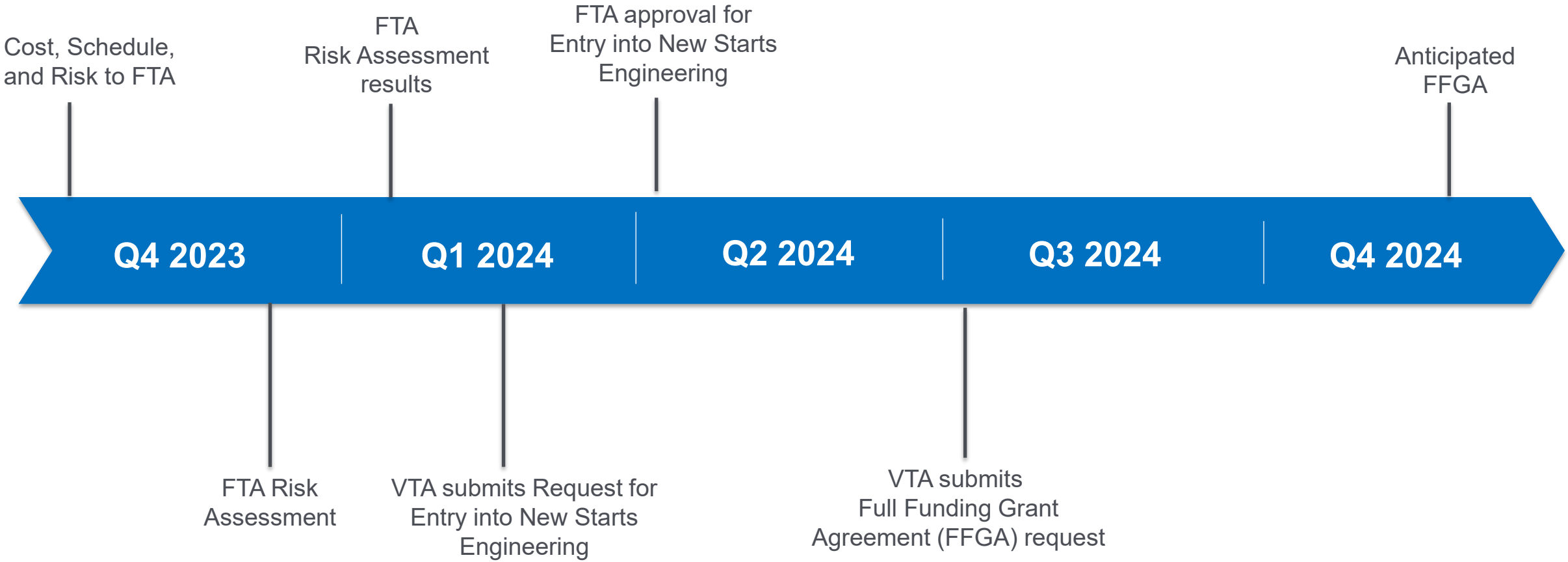
Notes:

- *Dollars rounded to nearest million*
- *Preliminary Baseline Estimates pending FTA Risk assessment and inclusion of Value Engineering items.*
- *Cost driver values associated with Market Conditions and Design Advancement are based on rough order of magnitude, top-down assumptions.*
- *Increased time-based costs as program extends in time (escalation, contractor indirect costs, professional services).*
- *Increased overall contingency as a result of higher base cost, and increased risk-based contingency from latest assessment.*

Cost Control Measures

- Value Engineering and Constructability Reviews
- Independent Cost Estimates
- Tunnel & Trackwork (CP 2) Negotiations
- Design to Budget
- Control Soft Costs
- Contracting and Bidding Options
- Risk Sharing Opportunities

Next Steps with Federal Transit Administration (FTA)



Upcoming Activities

- Tunnel Boring Machine Procurement
- West Portal Early Work Package
- Construction Management Services
- Project Management Consultant Services
- Contract Packaging for Remaining Work

Thank You

Questions?