

VTA's BART Silicon Valley Phase II Extension Project



Industry Forum

February 11, 2020

Opening Remarks

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General Manager/CEO

Santa Clara Valley Transportation Authority (VTA)

Solutions that move you



#ThisIsVTA

VTA's BART Silicon Valley Program



VTA's BART Phase II

BART San Jose Extension to Receive \$125M in Fast-Track Funding

BUILDING A BETTER BAY AREA

FTA puts South Bay BART expansion plans on fast track with federal funding allocation

RAIL | INFRASTRUCTURE | SANTA CLARA VTA SELECTED FOR FIRST-OF-ITS-KIND FEDERAL FUNDING PILOT PROGRAM

Santa Clara VTA selected for first-of-its-kind federal funding pilot program

SCVTA's BART Phase II Project was among seven projects across the country to vie for participation in the FTA's new pilot program designed to fast track major transportation infrastructure projects.

Rail News: Passenger Rail

FTA taps VTA as first entrant in expedited project delivery program

A County Perspective

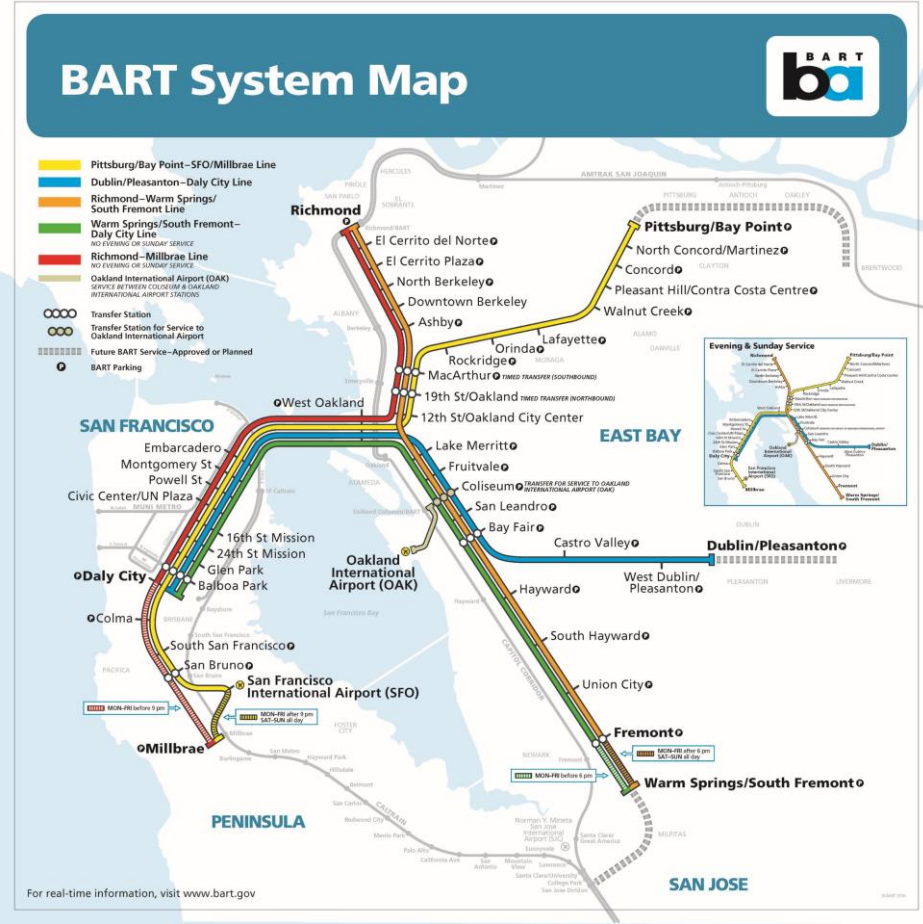
Glenn Hendricks

Vice Chairperson, VTA Board of Directors

San Francisco Bay Area Rapid Transit (BART)

Carl Holmes
Assistant General Manager, BART

BART



Program Overview

Sharif Abou-Sabh
Program Manager

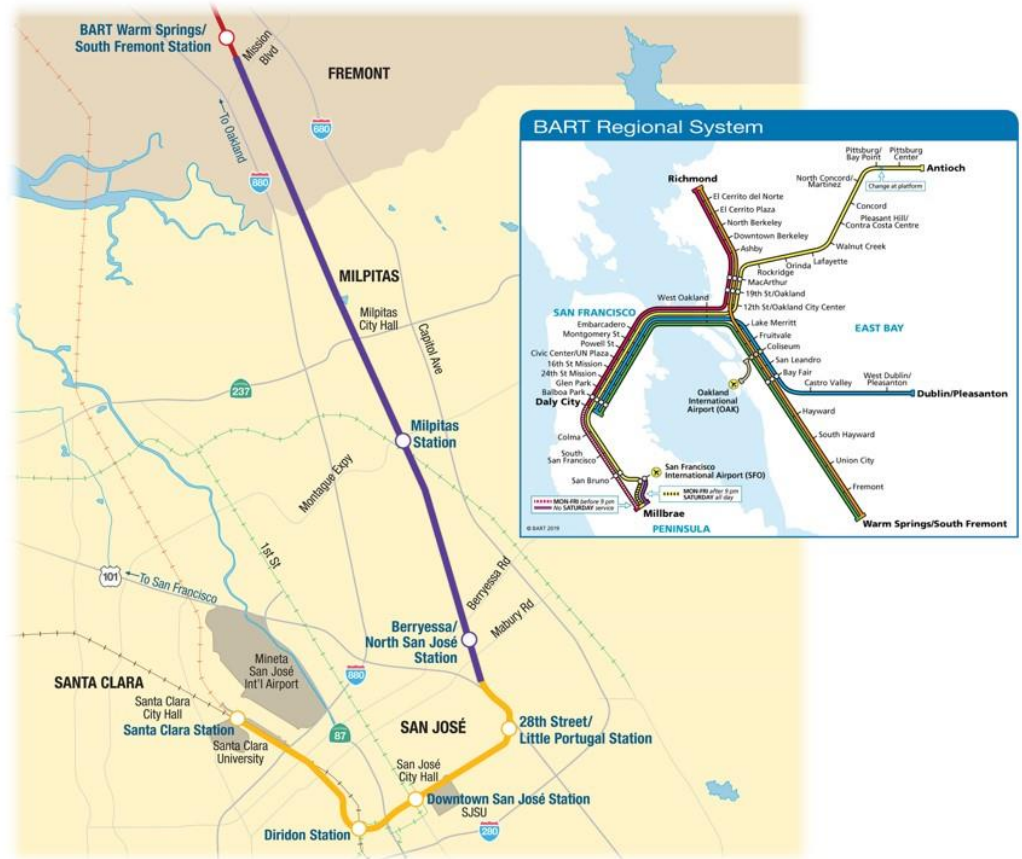
VTA's BART Silicon Valley Program

Phase I Extension

- 10-mile extension
- 2 stations
- Anticipated opening year ridership: 23,000 per average weekday

Phase II Extension

- 6-mile extension (5-mile tunnel)
- 4 stations
- Newhall Yard Maintenance Facility
- Anticipated opening year ridership: 33,000 per average weekday







VTA's BART Phase II

Click here to view a flyover video of the project alignment:





<https://youtu.be/yxpjXQrsDts>

VTA & BART Collaboration

Santa Clara Valley Transportation Authority (VTA) Responsibilities

-  Pay all costs associated with the extension
-  Contracting/Procurement
-  Construct to applicable BART/industry standards, codes, and regulations
-  Retain ownership of infrastructure

Bay Area Rapid Transit (BART) Responsibilities

-  Technical assistance
-  Operations
-  Maintenance
-  Service Planning



Funding Plan

Strong local and state funding commitments

- 2000 Measure A Sales Tax
- 2016 Measure B Sales Tax
- 2008 Measure B Sales Tax (for ongoing operations and maintenance)
- State Regional Measure 3
- State Transit & Intercity Rail Capital Program

Federal Transit Administration (FTA) - Expedited Project Delivery

FTA's Expedited Project Delivery (EPD) Pilot Program

- EPD is a FTA pilot funding program within the Capital Investment Grant (CIG) Program.
- Pilot Program Guidelines:
 - Use public-private partnerships (P3)
 - Be planned, operated, and maintained by an existing public transit provider
 - Have a Federal share not exceeding 25% of its costs

Public-Private-Partnerships (P3)

- Potential for significant on-site Transit Oriented Development (TOD) at VTA's BART Phase II Stations

Station Area	Size (acres)	Total Development Potential (sq. ft.)
28 th Street/Little Portugal	13.7	1.3 million +
Downtown San José	4.0	1.5 million +
Diridon	1.5	600 thousand +
Santa Clara	1.4	200 thousand +

- Design Build Finance (DBF) procurement for the Tunnel/Heavy Civil Work

Current Projected Timeline



Collaboration All The Way

- VTA desires true teaming among all Contract parties
- True collaborative over-the-shoulder reviews
- No one owns good ideas
- Focus on resolving issues at lowest levels
- Create win-win scenarios at all levels



Transparency on Risks

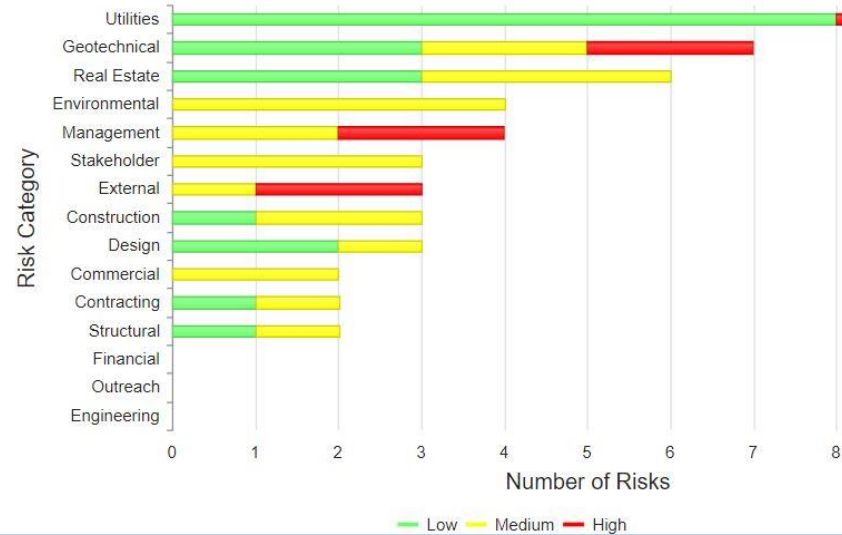


Risk Heat Map

Probability	Very High	0	0	0	0	0	0	0	0	0	0
	High	0	0	0	0	0	1	0	3	0	3
	Moderate	0	0	0	0	0	1	2	2	3	2
	Low	0	0	0	0	0	3	6	2	5	1
	Very Low	0	0	0	0	0	8	4	1	0	1
		Very High	High	Medium	Low	Very Low	Very Low	Low	Medium	High	Very High

← Opportunity Impact Level Threat Impact Level →

Number of Risks by Risk Category



Incorporates Program and Design Level Risks and Mitigations

Contractor's Input in Request for Proposal (RFP)

- Draft RFP for Design-Build-Finance procurement
 - Opportunity to provide input regarding Terms & Conditions / Commercial Terms
 - One-on-One Confidential Meetings for free exchange of ideas
 - Outcomes, if any, will be included in Final RFP

Technical Concept Alternatives (TCAs)

- Innovative TCAs (also known as Alternative Technical Concepts) will be expected during Design-Build-Finance procurement process
 - Contractor JVs and VTA will meet in confidential one-on-one settings
 - All TCAs will be considered, reviewed, and evaluated
 - Proposals presenting a clear improvement in quality, cost savings, schedule, safety or public impact will be considered
 - Once submitted, VTA owns all rights to TCAs regardless of whether the proposer that submitted the TCA wins the contract award
 - If approved, TCAs shall be presented in the proposal as alternates to the base scope
 - TCAs submitted will be kept confidential until after contract award
- For Design-Bid-Build procurements
 - Formal Value Engineering Change Proposals will be evaluated during construction phases
- VTA is considering stipends (terms to be determined)

Proposed Insurance Program

- An Owner Controlled Insurance Program (OCIP)
- Enrolled participants generally include all contractors & subcontractors of every tier involved with on-site project construction
- An OCIP provides eligible enrolled participants of a construction project with General Liability and/or Workers' Compensation coverage under one policy
- OCIP Key Features include:
 - The Owner has consistent control of Risk through “one” program
 - An OCIP reduces likelihood for insurance coverage overlaps & gaps
 - OCIP covers the life of the project and an extended completed operations' period

Bonding

- Performance Bonds
 - 100% of Contract value on smaller contracts
 - Potential for reduced value on large contracts
 - Details in each RFP or Issue for Bid (IFB)
- Payment Bonds
 - 100% of cost of construction
 - Consideration of specialized bonding plan on large contracts
 - Details in each RFP or IFB

Third Party Agreements

- Master Agreements for Utility Relocations are underway with Third Parties:
 - PG&E (executed)
 - Comcast
 - AT&T
 - Sprint
- Agreements provide clear roles to mitigate issues during design and construction
- TBM Power Drop at Launch Site
 - Ongoing discussions among VTA, PG&E, and BART for temporary power availability prior to TBM delivery

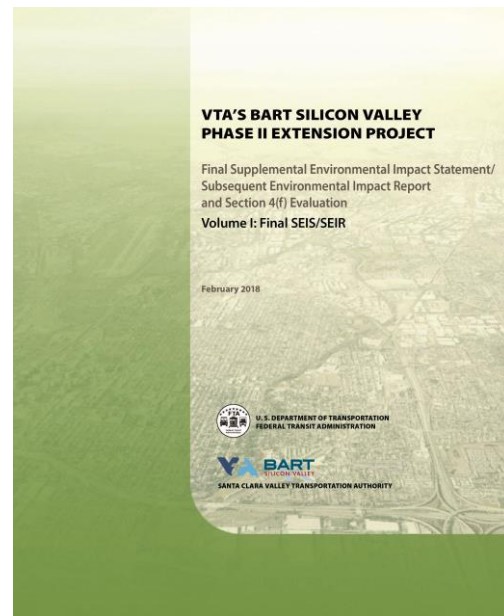
Agency Agreements

- Agreement discussions underway with local agencies and jurisdictions including:
 - City of San Jose
 - City of Santa Clara
 - Peninsula Corridor Joint Powers Board (JPB)
 - Valley Water
 - Caltrans



Permits: Regulatory Agency vs. Local Level

- VTA to acquire regulatory permits required for the program
 - State-level agency communications are ongoing
 - Will be listed in RFP document
 - Eliminates unnecessary schedule concerns
- Construction-level permits will be the responsibility of contractor, such as:
 - Haul routes (identified in Project's Environmental Document)
 - Encroachment on public ROW
 - Construction dewatering & discharge



Project Configuration

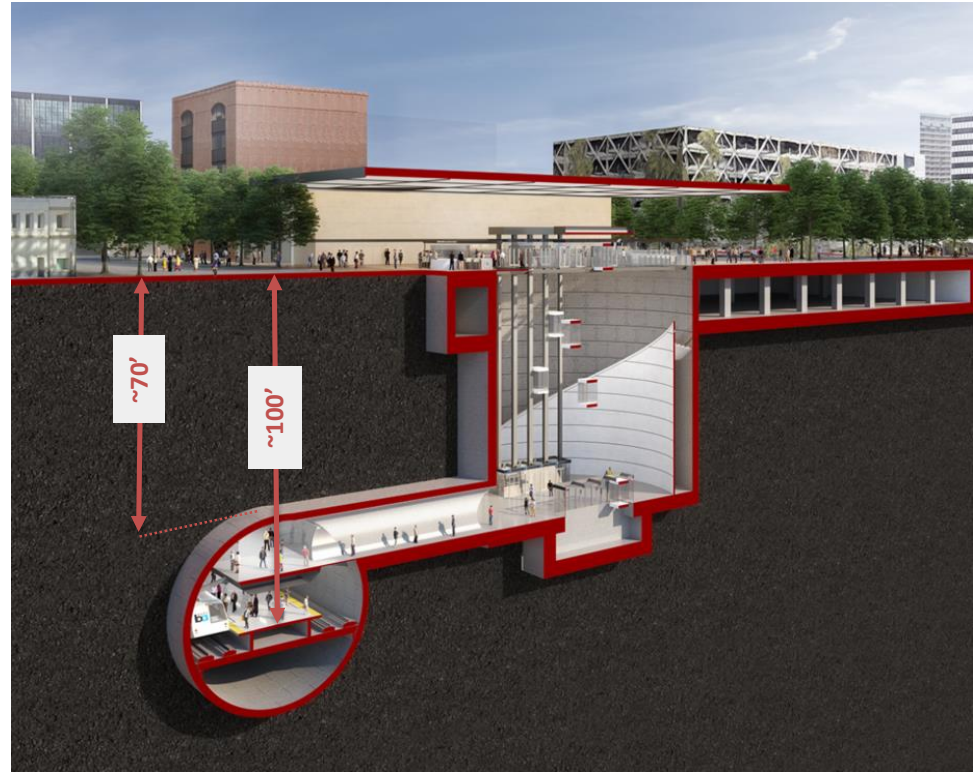
Sarah Hersom
Engineering Manager

VTA's BART Phase II Extension



Single-Bore: Center Platform Configuration

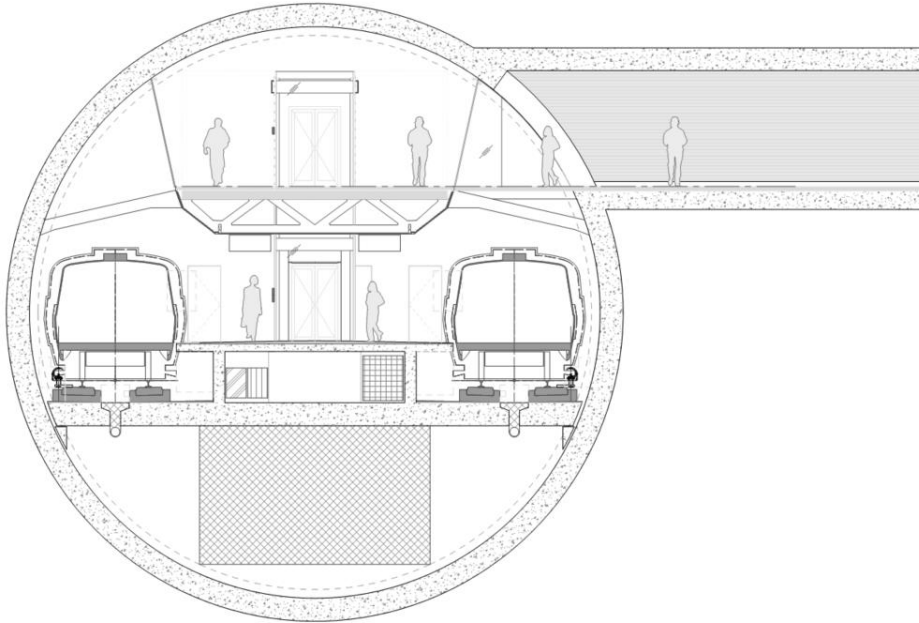
Concourse & Platform in Tunnel



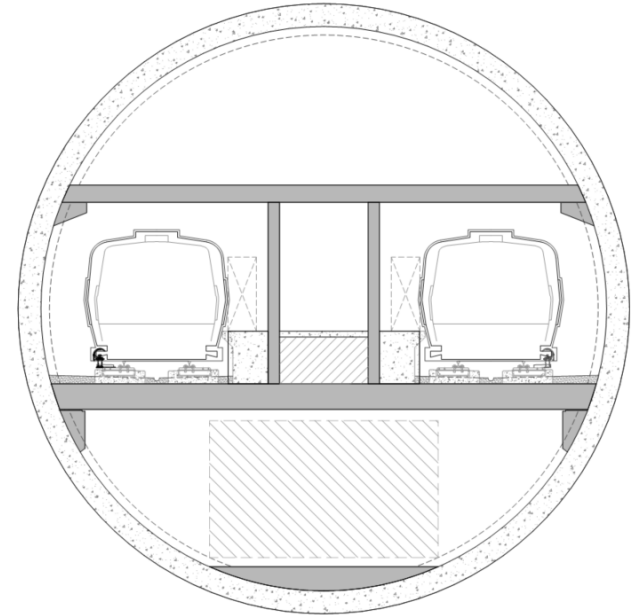
Station Headhouse

Single-Bore: Center Platform Configuration

Center Platform at Stations



Side-by-Side Tracks in Tunnel



Inner Tunnel Diameter: Approx. 49'-6"
Outer Tunnel Diameter: Approx. 53'-6"
Tunnel Boring Machine Diameter: Approx. 55'

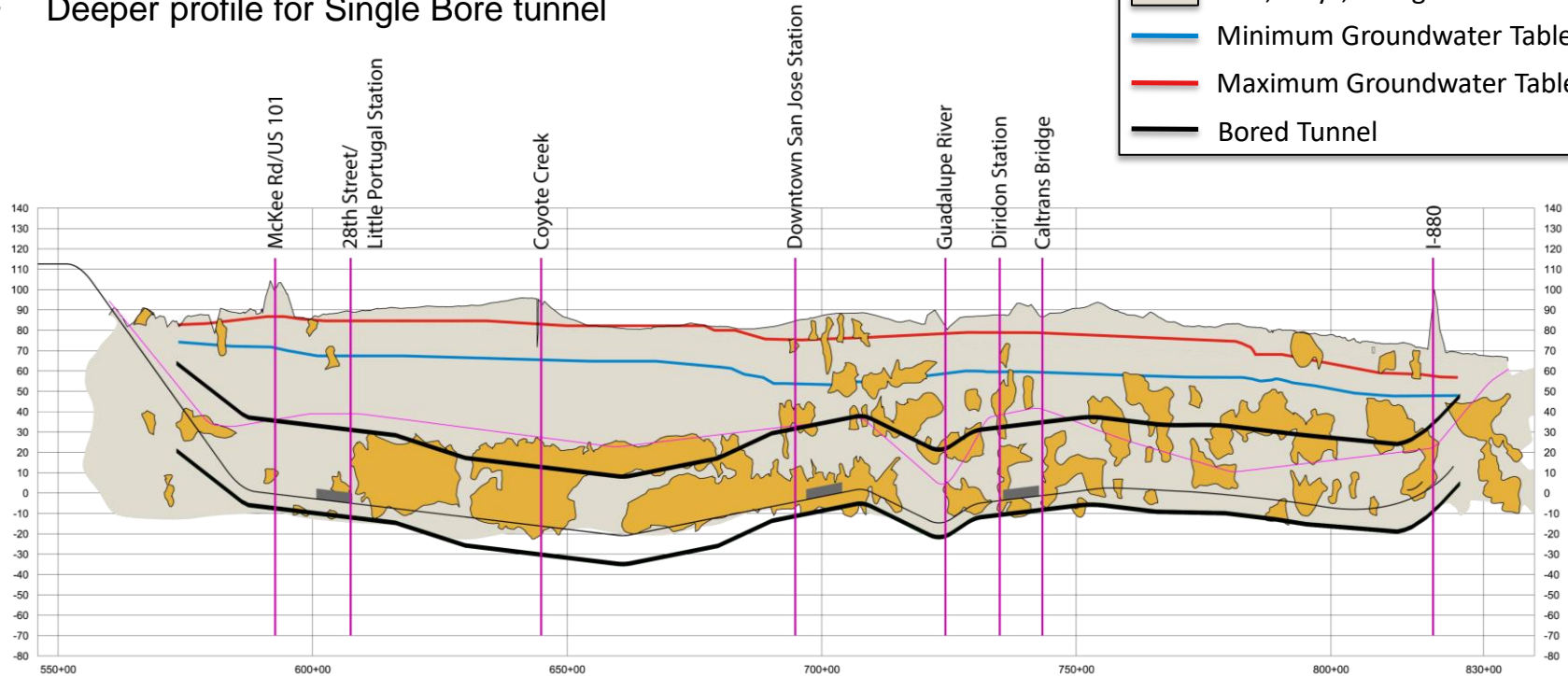
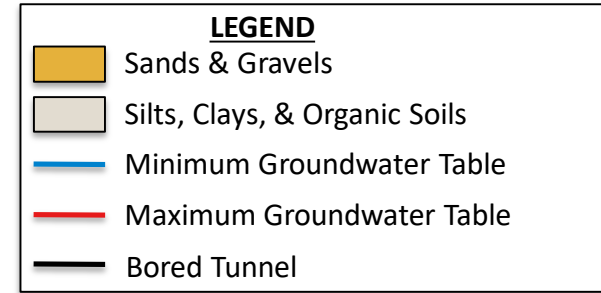
Station/Future Development Configuration Concept



Tunnel Depth and Subsurface Conditions

- Geotechnical, Geology and Hydrogeology Considerations

- Most geotechnical data already collected – additional 40+ borings/CPTs in production
- Confined aquifers
- High groundwater table
- Deeper profile for Single Bore tunnel



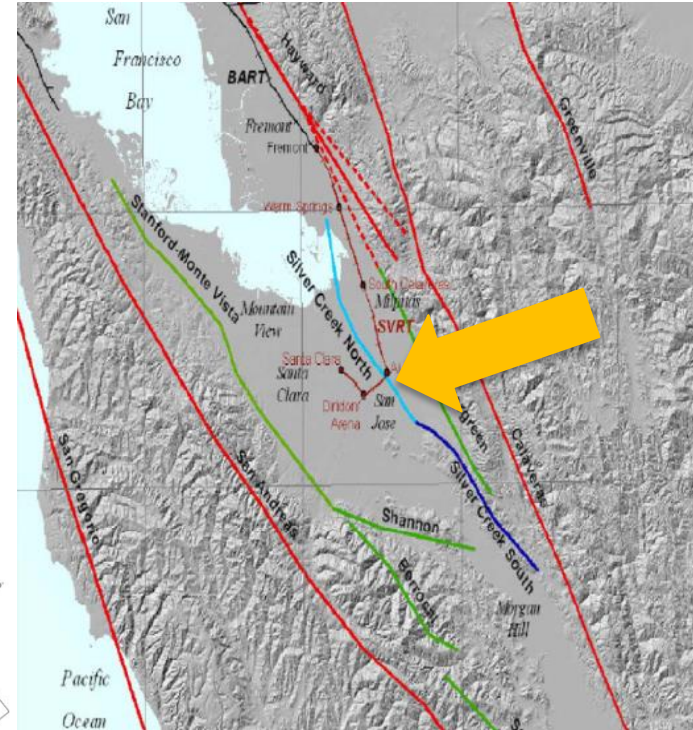
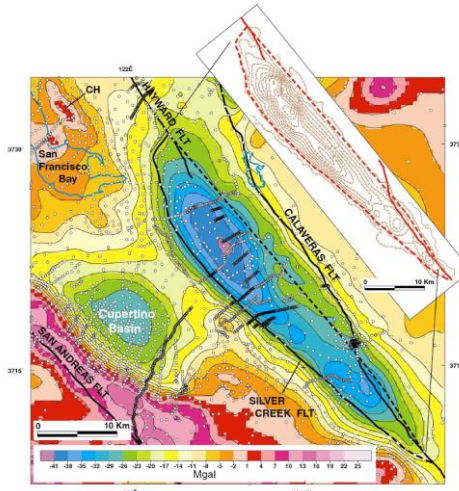
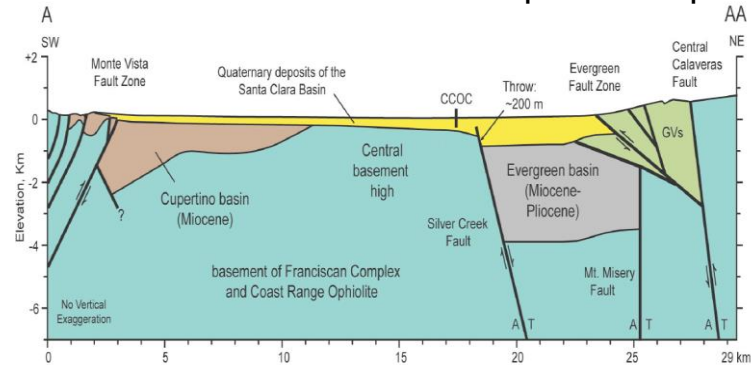
Geotechnical Investigation Campaign

- Initial phase began in the 2000s:
 - 374 Boreholes (152 for this project, 222 from relevant historical sources)
 - 207 CPTs
 - 19 Pressuremeter Testing Boreholes
 - 55 monitoring wells and 74 Vibrating Wire Piezometers (VWP)
- Second phase began in 2018
 - Additional 48 Boreholes and CPTs for the deeper single bore tunnel and stations
 - Additional 5 Pressuremeter Testing Boreholes
 - Additional 2 monitoring wells and 47 VWP's installed
 - Updated noise and vibration data
 - North Silver Creek Fault rupture hazard evaluation

Tunnel Seismic Considerations

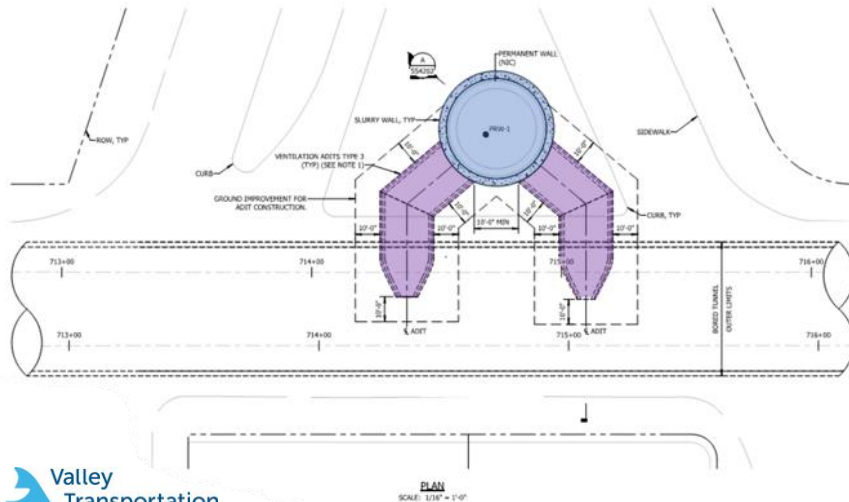
North Silver Creek Fault

- Limited information available during previous design efforts, and fault was deemed seismically insignificant in 2008 design
- In 2010 the USGS published a compilation of many different lines of evidence that suggest the fault may have had recent activity
- Current investigations underway to evaluate potential Holocene offset and update the potential fault rupture hazard.

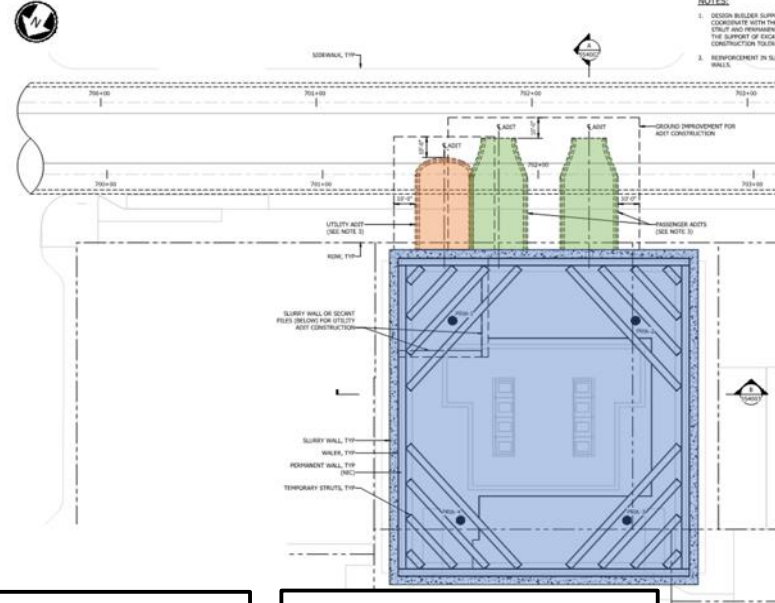


Mined Tunnel-Shaft Adits (SEM)

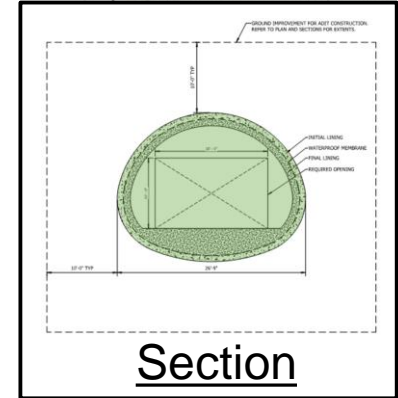
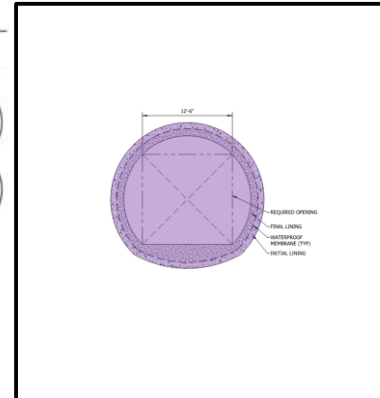
- Various SEM structures along alignment for:
 - Passenger access to station concourses
 - Station utilities (i.e. traction power, etc.)
 - Ventilation facilities
 - Emergency egress
- SEM structures range from 15' to 30' OD
- Excavation support will include ground treatment



PLAN
SCALE: 1/16" = 1'-0"



- NOTES:
1. DESIGN BUILDER SHALL COORDINATE WITH THE STATE AND PREPARE THE SURVEY OF PUBLIC CONSTRUCTION FOR THE PERMANENT WALL.
 2. REINFORCEMENT IN ALL WALLS.



Section

Contracting Packaging

Paul Hetu

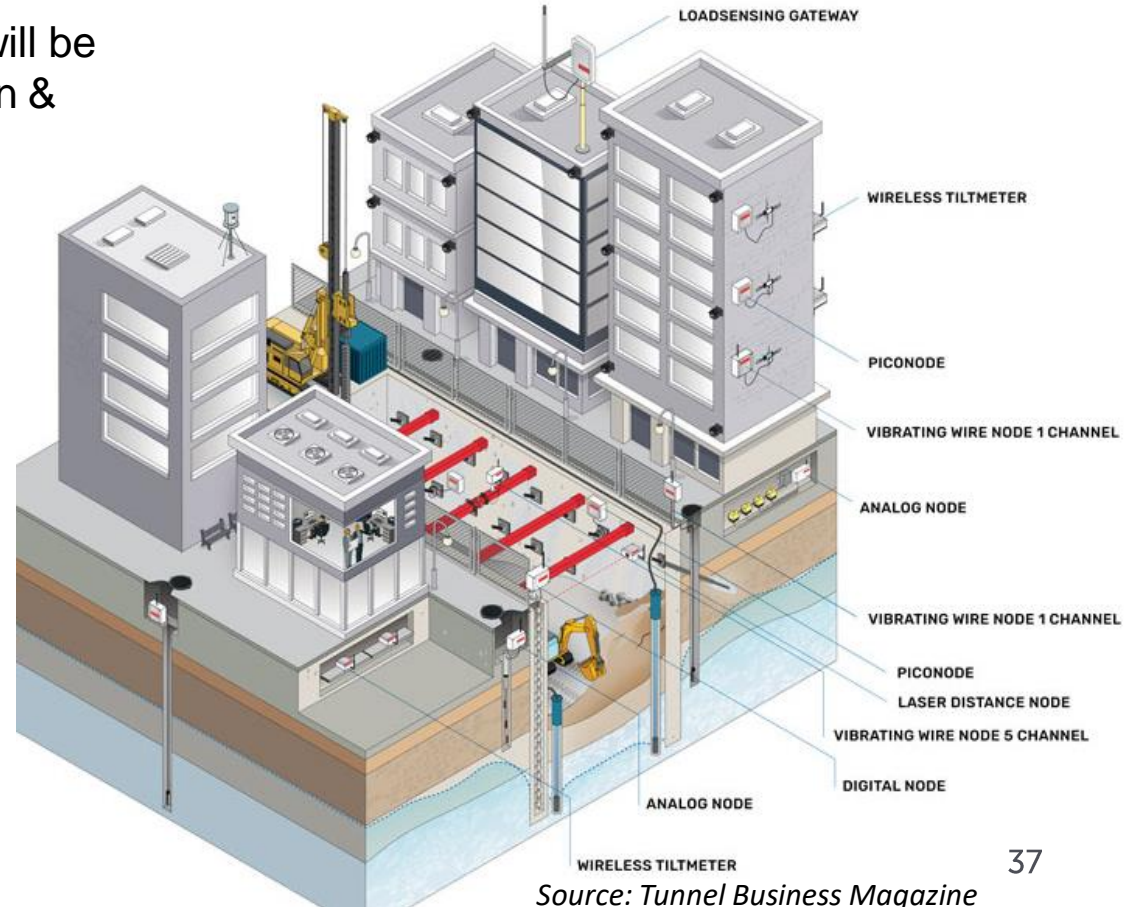
Implementation Manager

Proposed Contracting Packaging Strategy

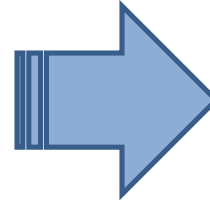
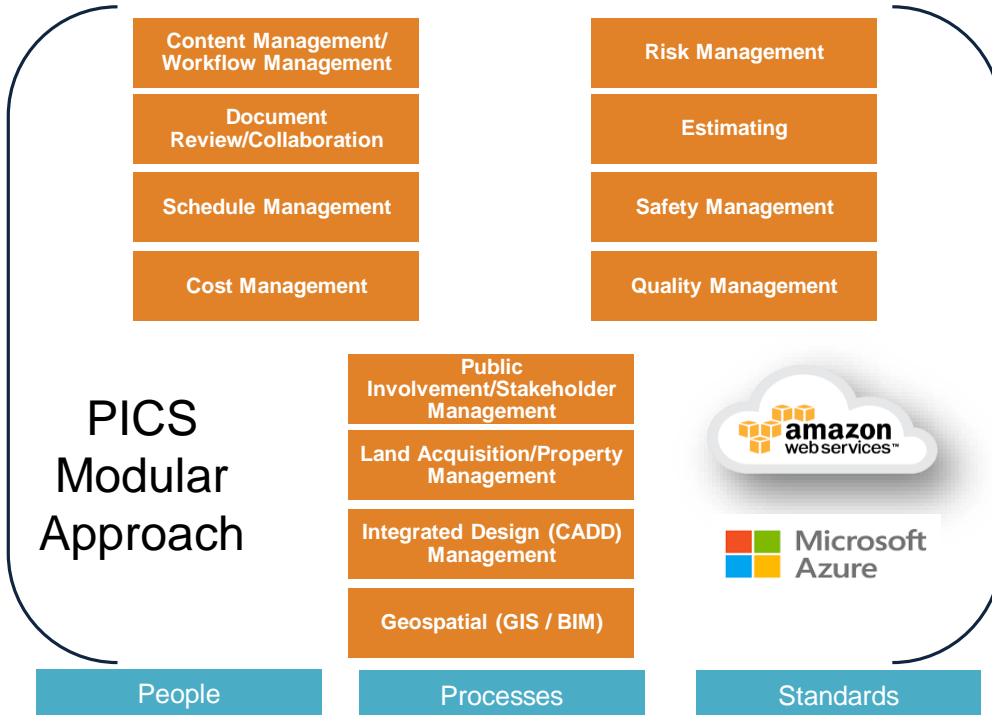
#	Contract Name	Scope	Method
1	Advanced Utility Relocations	Direct conflicts	DBB
2	Enabling Works	Building demolition & site prep	DBB
3	Tunnel & Heavy Civil	Portals, tunnel, station SOE, adits, ground improvement, tunnel concrete	DBF
4	Station Fit-Out	Internal concrete, MEP, architectural, VCEs	DBB
5	Track & Systems	Rail, power, signals	DBB
6	Newhall Yard/Santa Clara Station	Maintenance facility & at-grade station	DBB
7	Parking Garages	2 facilities, 500 & 1,200 spaces	DB

Instrumentation & Monitoring Program

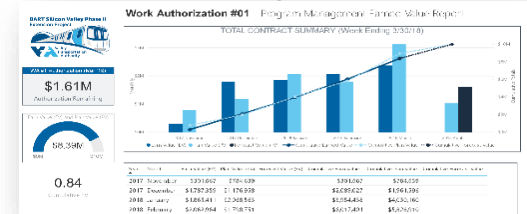
- Tunnel & Heavy Civil Contractor will be responsible for the instrumentation & monitoring program, including:
 - Historical Buildings
 - Existing Structures
 - Sensitive Utilities
 - Ground Surface
 - Groundwater Levels
 - SOE



Project Information Control System (PICS)



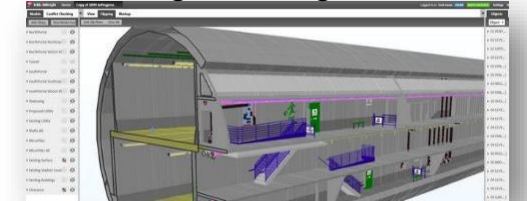
Business Intelligence



Location Intelligence



Knowledge Management



Q&A

Networking/Meet the Primes