VTA's BART Silicon Valley Phase II Extension (BSVII) Project

Construction Activities

Public Meeting

November 2026



Valley Transportation Authority

Agenda

- Project Overview
- West Portal Construction Activities
- Instrumentation & Monitoring Program

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Project Overview

Valley Transportation Authority

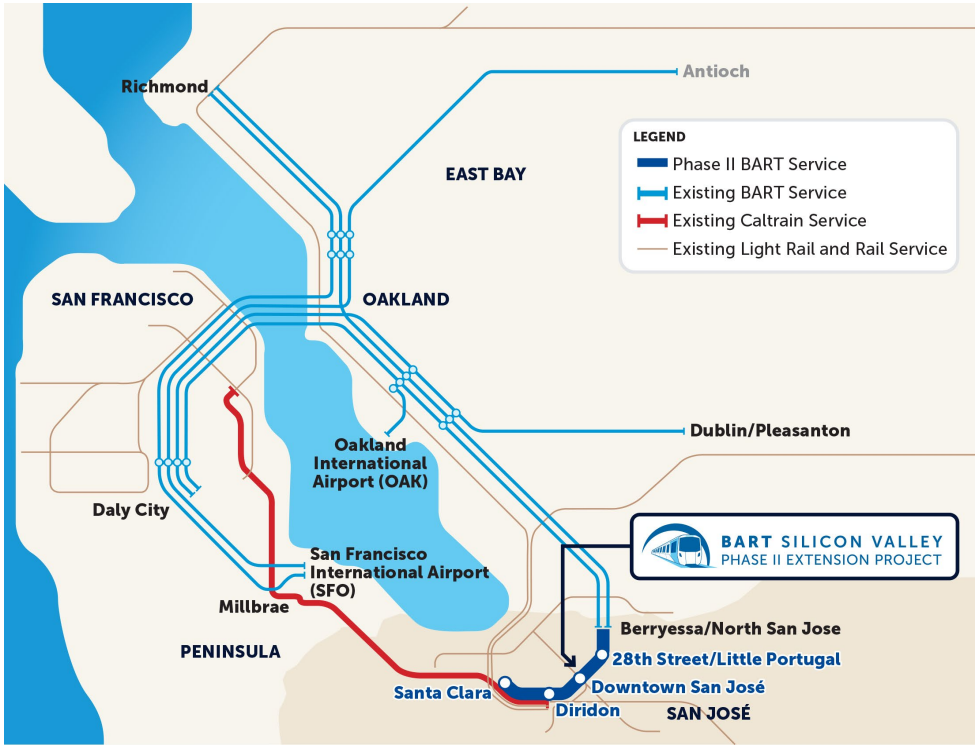
VTA's BART Silicon Valley Program

Phase I Extension

- 10-mile extension
- Two stations
- BART service started in 2020

Phase II Extension

- 6-mile extension (5-mile subway)
- Four stations
- Newhall Yard & Maintenance Facility



Ringing the Bay with fast, frequent transit

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VTA & BART Partnership

Santa Clara County is not part of the BART district. A Comprehensive Agreement and an Operations and Maintenance Agreement provide a framework for the partnership.

Santa Clara Valley Transportation Authority (VTA) Responsibilities

- Pay all costs (capital, operations, and maintenance) associated with the extension
- Contracting/Procurement/Design/ Construction
- 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

VTA is also responsible for paying an allocable portion of BART core system operating costs.

VTA's BART Silicon Valley Phase II Extension



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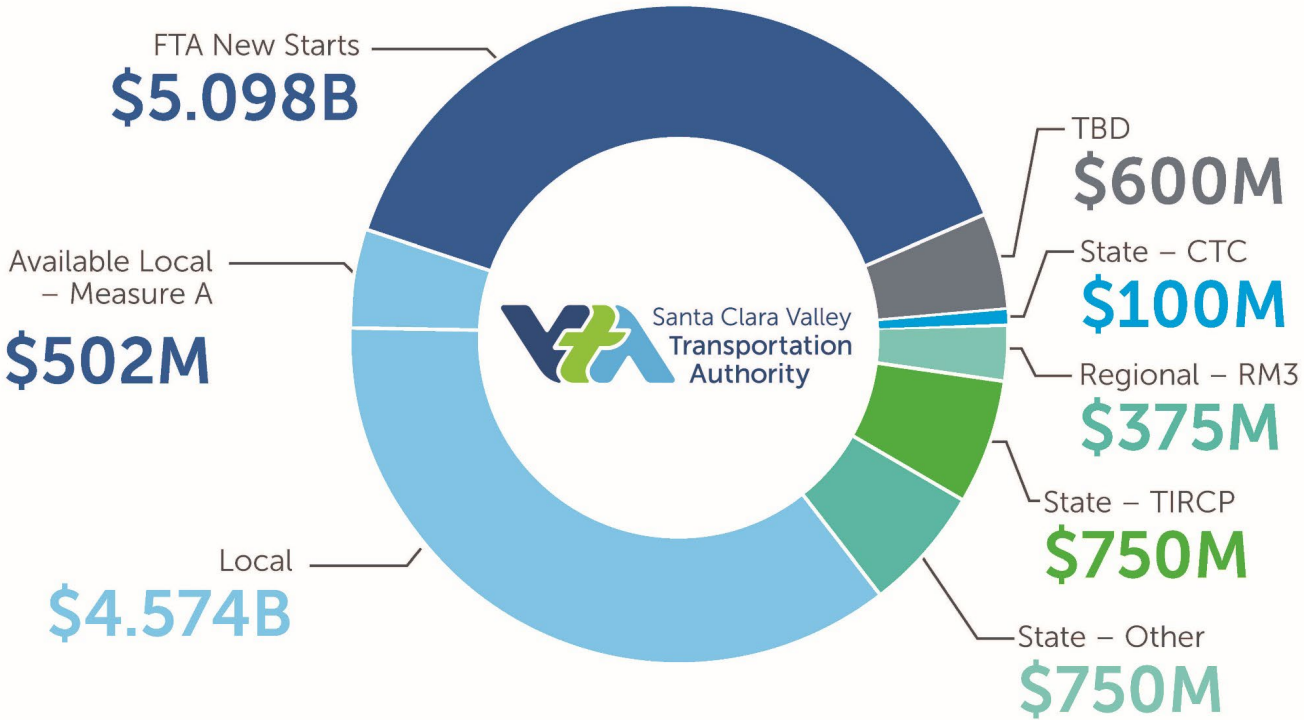
Project Funding



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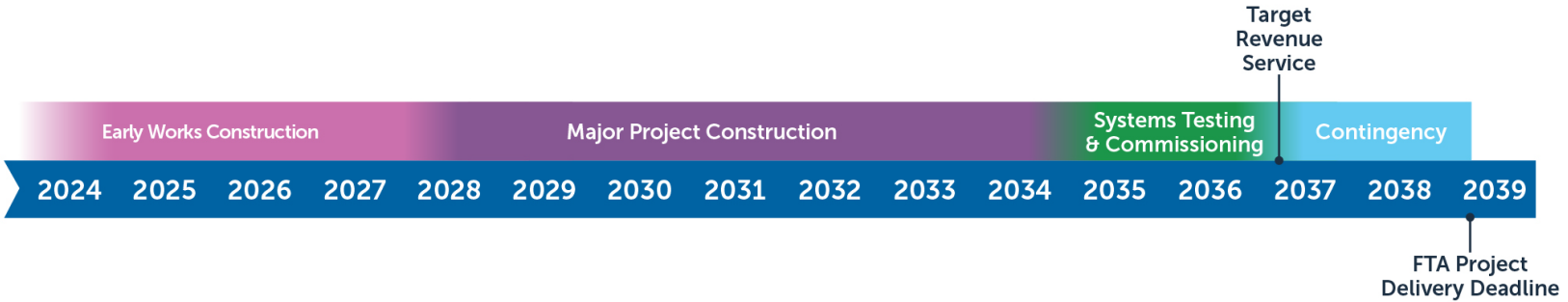
Project Schedule



Based on preliminary schedule for planning purposes.

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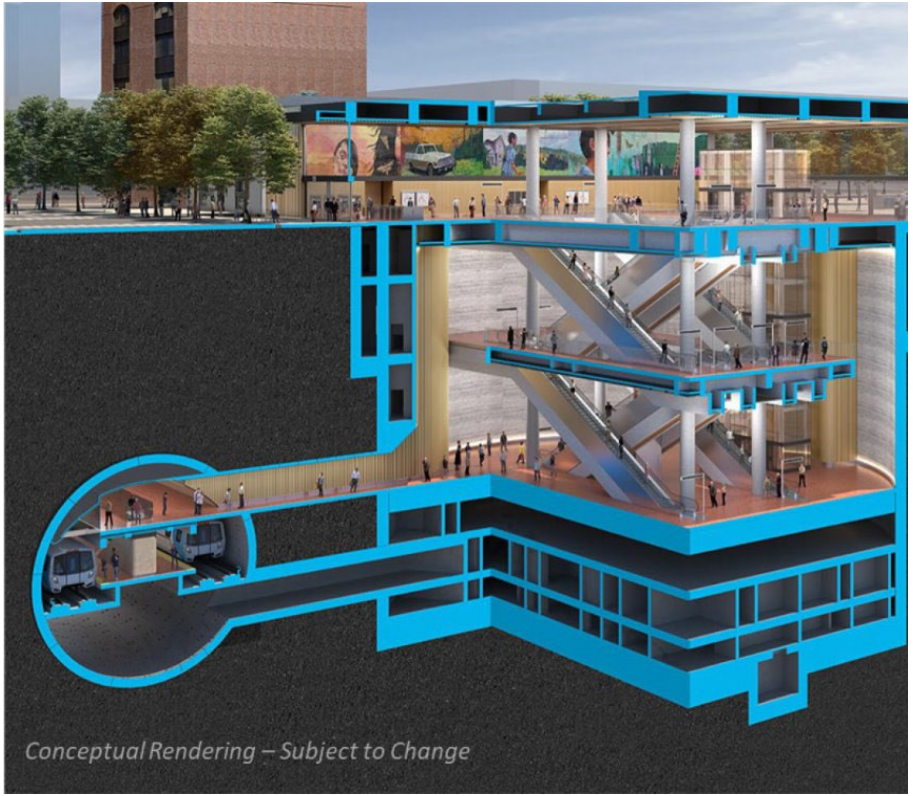
Single-Bore Tunnel

Benefits of a single-bore tunnel design:

- More cost-effective
- Quicker to build
- Less disruptive to Downtown San Jose and its business community



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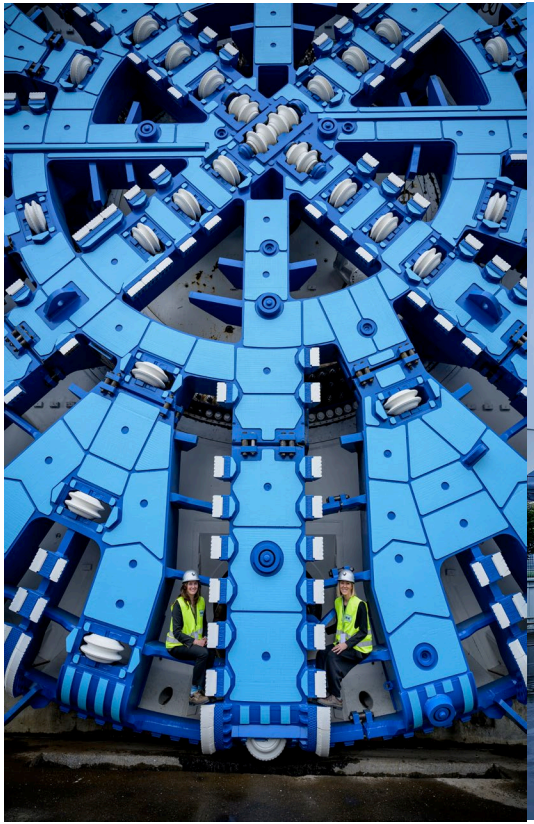
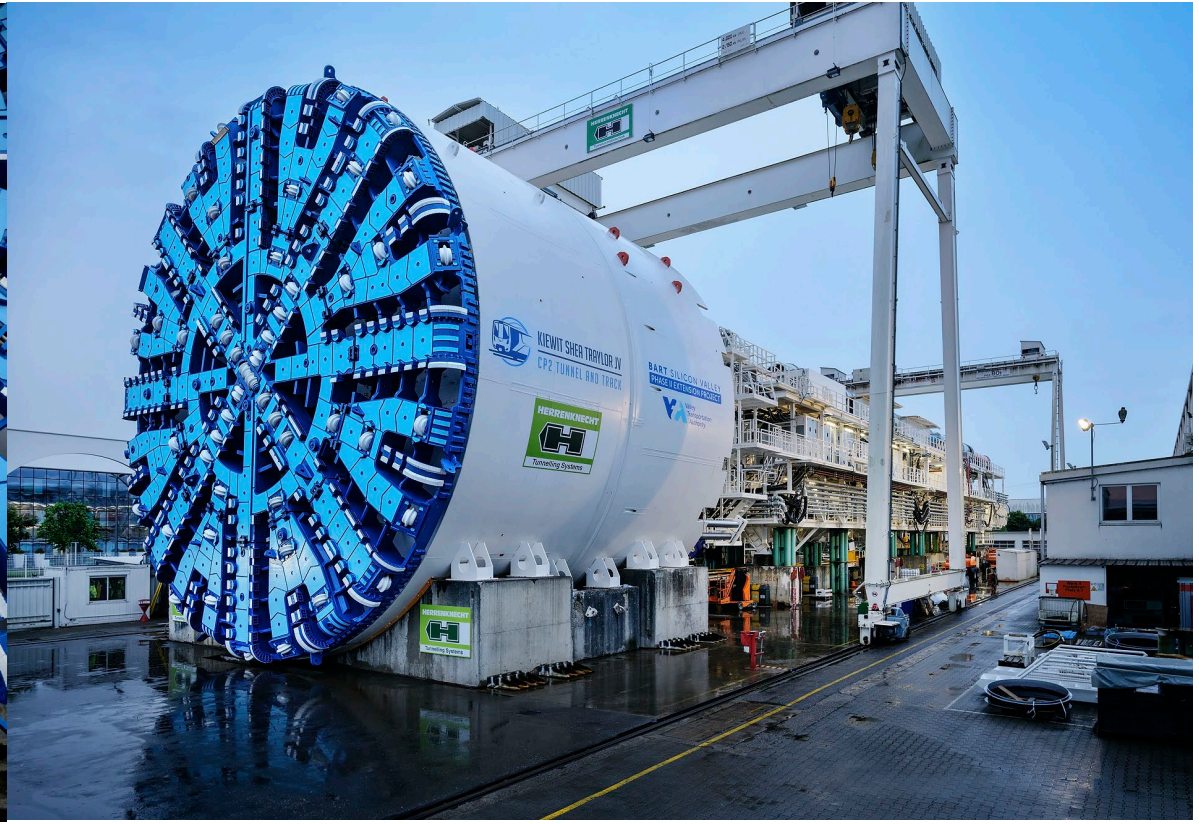
Tunnel Boring Machine (TBM)

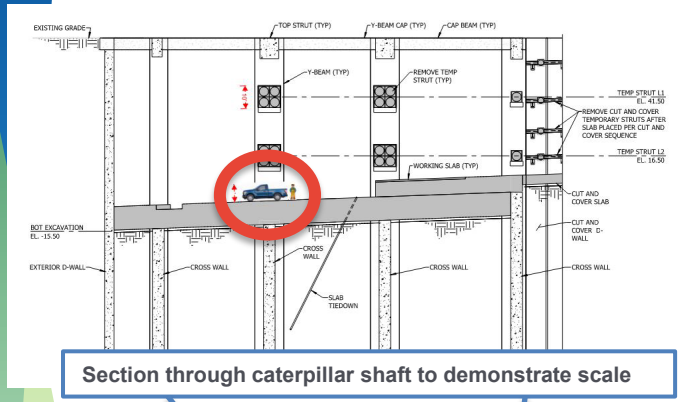




West Portal Construction Update

Valley Transportation Authority

West Portal Launch Structure – What is it?



Section through caterpillar shaft to demonstrate scale

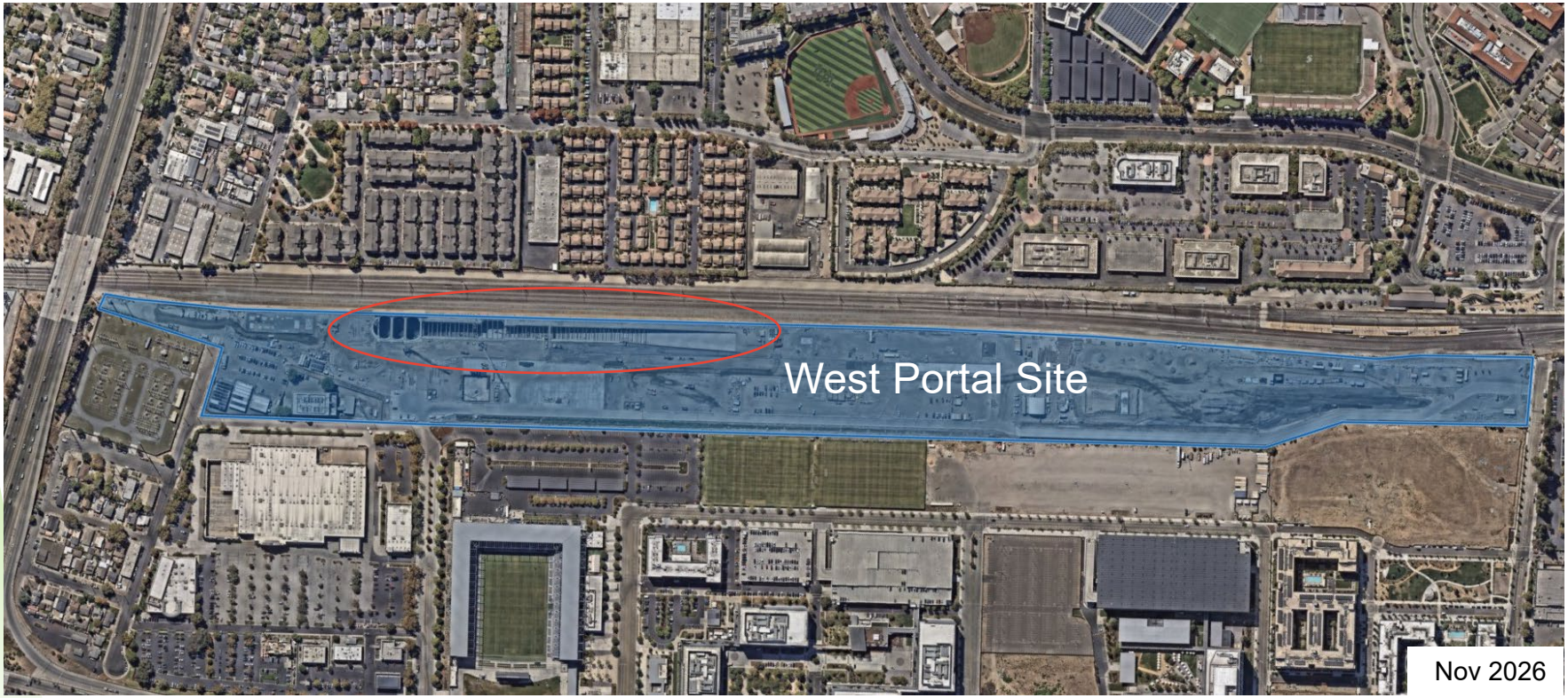
Concrete Working Slab along the Ramp

Sheet Piles at the Shallow End of the Ramp

Slurry Walls with Steel Bracing Struts along the Ramp

Caterpillar (CAT) Shaft Arrangement of Slurry Walls at the Deepest Point

West Portal Site Aerial View



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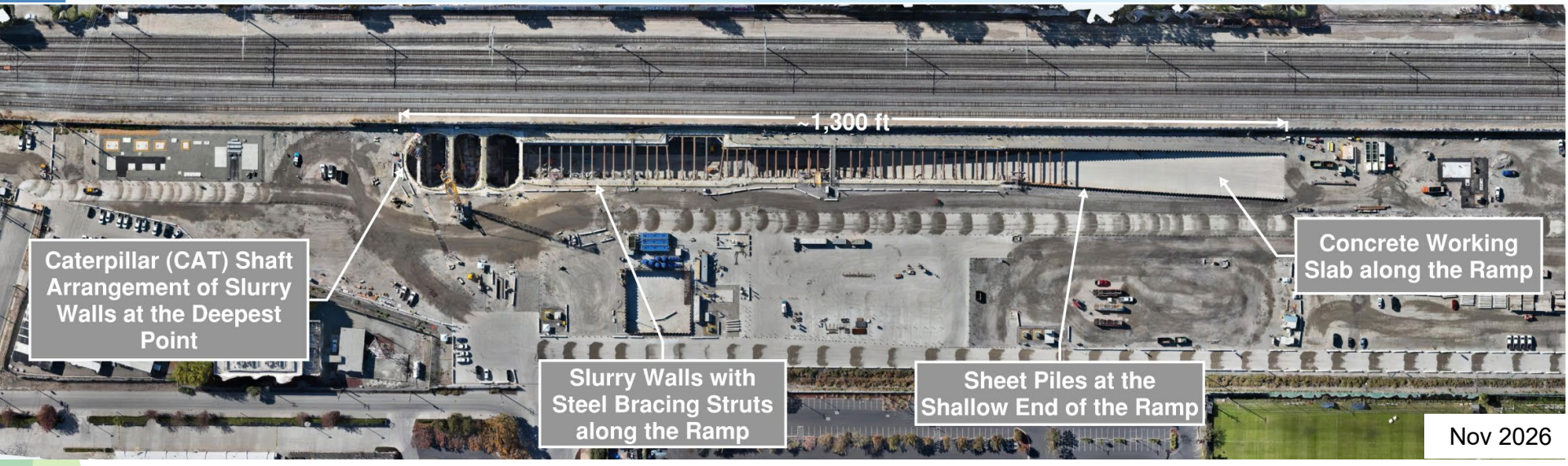
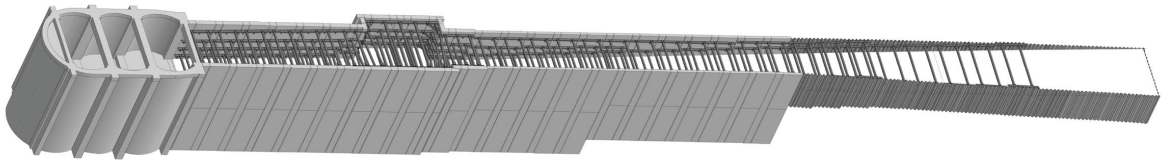
West Portal Launch Structure Aerial View





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West Portal Launch Structure – Looking Back - P1



Caterpillar Shaft Slurry Wall Panel Cage



Excavation of Slurry Wall Panels

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West Portal Launch Structure – Looking Back – P2



Slurry Wall Panel Rebar Cage Installation



Excavation & Bracing of the Launch Structure

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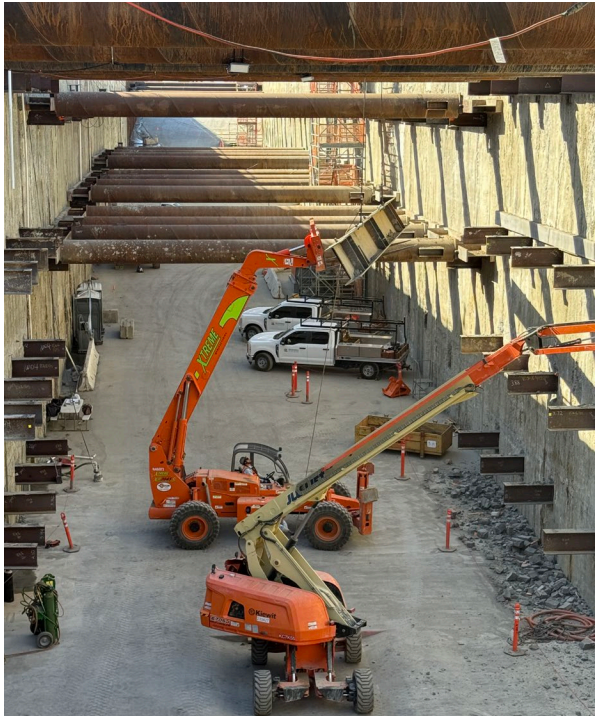
West Portal Launch Structure – Looking Back – P3





Removal of Temporary Bracing after the Concrete Working Slab Achieves Strength

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West Portal Launch Structure – Looking Back –P4





Caterpillar Shaft Working Slab Concrete Pour Operation

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Caterpillar Shaft Concrete Working Slab Pour Operation



West Portal Launch Structure – What next? – P1





Precast Tunnel Liner Plant & Storage Yard



Long Lead Tunnel Equipment





Muck Bin & Conveyor System

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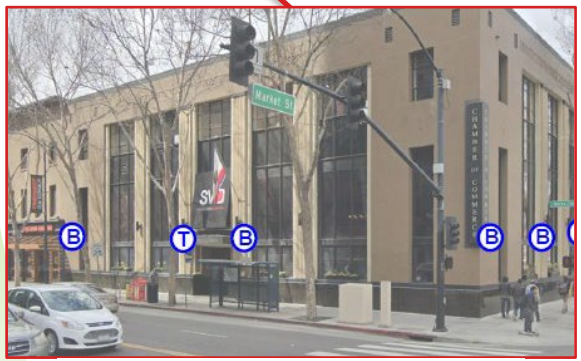
West Portal Launch Structure – What next? – P2





Instrumentation & Monitoring Installation



Install & Commission Electrical Sub-Stations

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3.8 Million Safe Work Hours Achieved

Construction on VTA's BART Silicon Valley Phase II (BSVII), one of the nation's largest transportation infrastructure projects, has surpassed **3.8 million work hours without a worker missing time due to injury**, reflecting an unwavering commitment to safety as crews continue building the future of regional transit through downtown San José and into Santa Clara.



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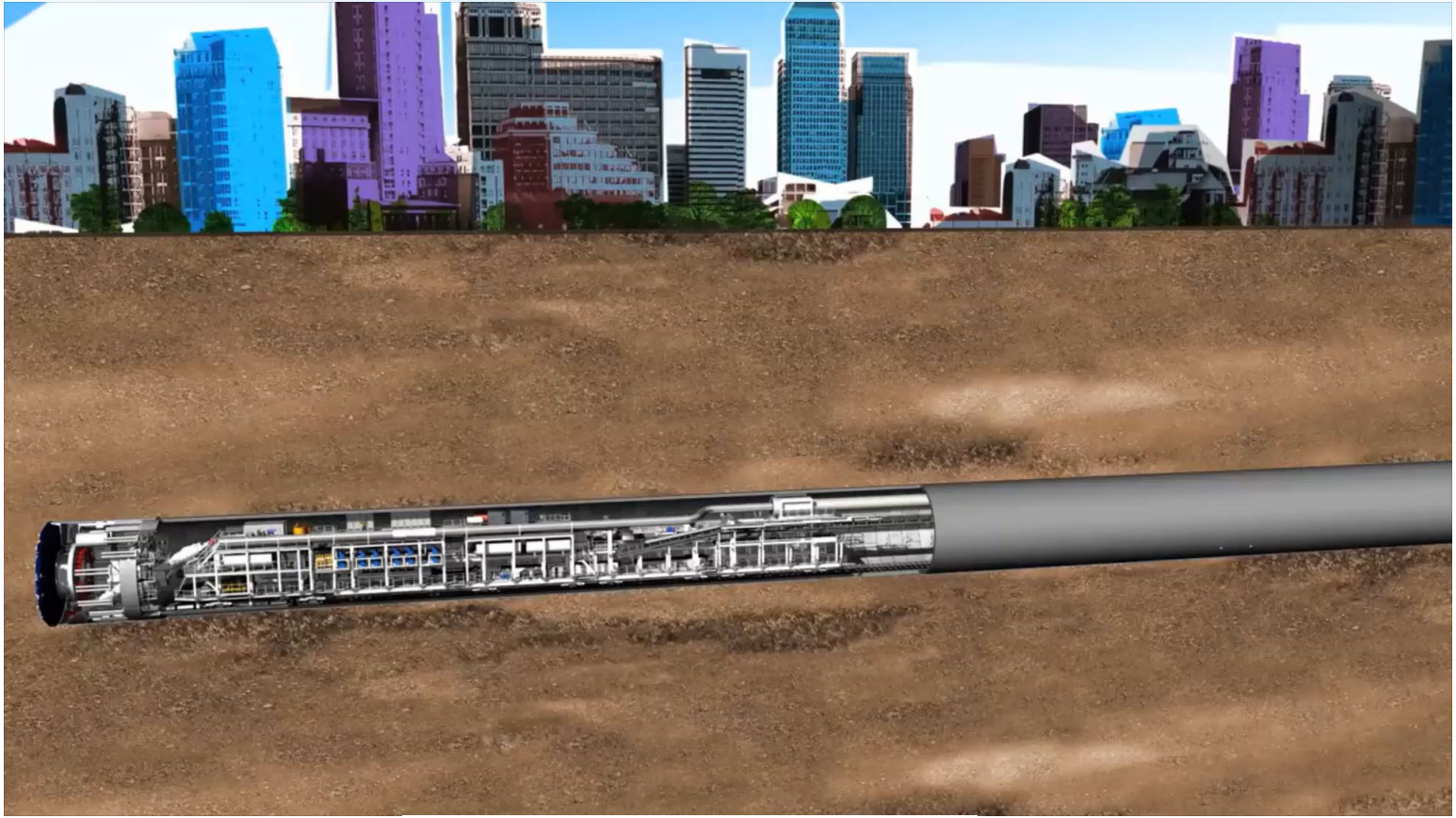
Instrumentation and Monitoring (I&M) Program

Valley Transportation Authority

Tunnel Boring Machine (TBM) Operation



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Instrumentation & Monitoring Program Purpose

VTA will conduct ground surface and building monitoring for tunneling and construction activities.

What it looks for:

- Ground movements at the surface
- Building movements along the tunnel alignment

Why it matters:

Documents baseline condition of properties that could be affected by project-induced settlement

How we use the data:

VTA will survey select buildings **before** construction begins, monitor real-time **during** construction, and inspect them again **after construction.**

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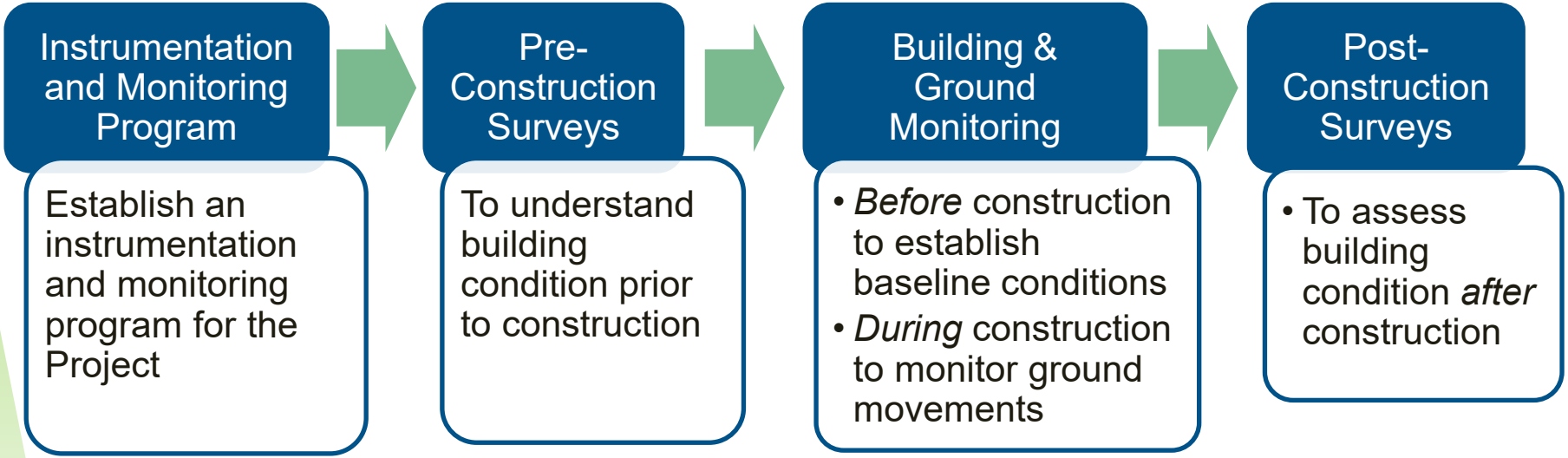
Construction Monitoring



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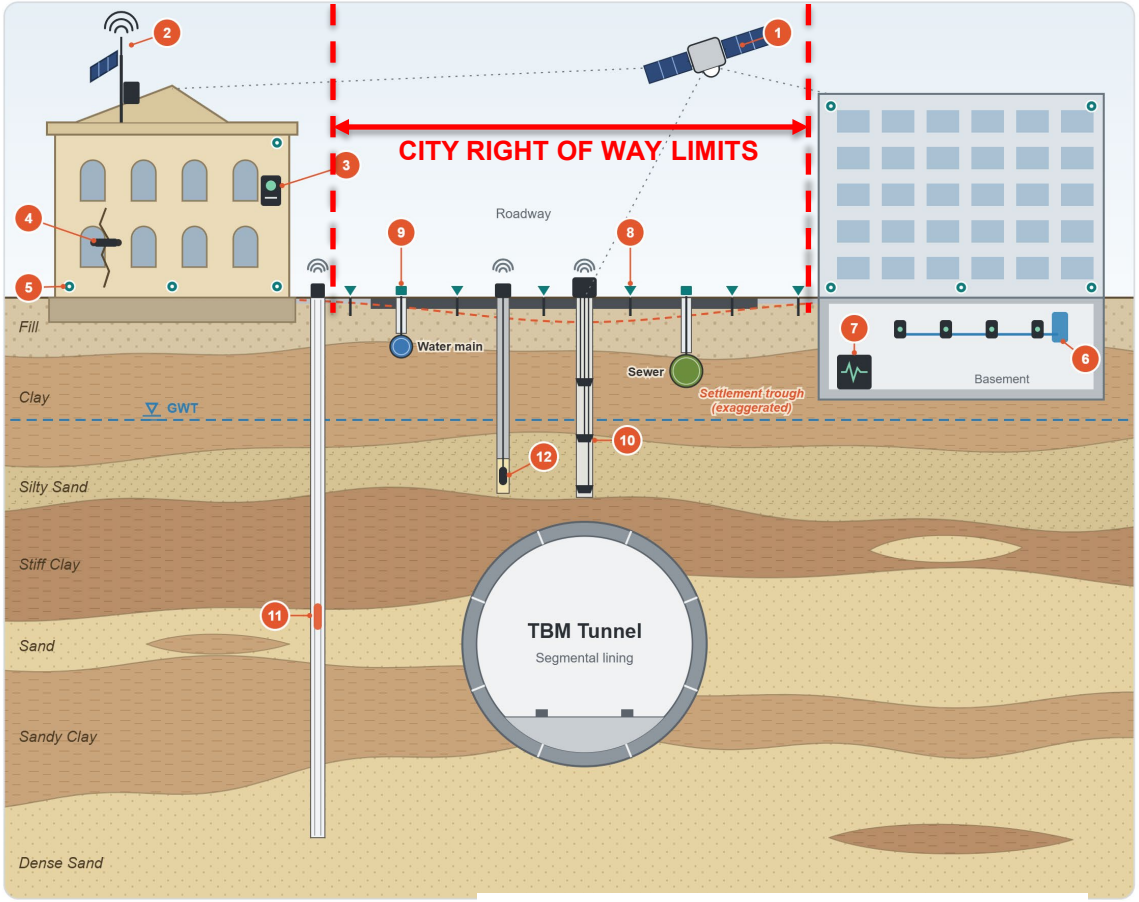
Why is Instrumentation & Monitoring Essential?

- Instrumentation & Monitoring acts as **an early detection system** to alter construction activities as needed.
- **Protects** critical utilities and infrastructure.
- Ensures **public safety** and continuous surface traffic flow.
- Allows **real-time, data-informed decision-making** to refine TBM operations to not effect infrastructure during tunneling.

Typical Instrumentation on Tunnel Projects



Instrumentation

SURFACE & STRUCTURES

1. **InSAR** — Satellite ground and structure displacement
2. **Gateway with Solar Panel** — Wireless data relay and telemetry
3. **Tiltmeter** — Structure rotation
4. **Crackmeter** — Crack width change across existing cracks
5. **Building Monitoring Points** — Survey prisms for 3D structure movement
6. **Liquid Level System** — Differential settlement of structures
7. **Vibration Monitor** — Peak particle velocity (PPV)
8. **Surface Settlement Markers** — Ground settlement above tunnel and near structures

SUBSURFACE

9. **Utility Monitoring Points** — Settlement at utility crown
10. **Multipoint Extensometer** — Vertical displacement at depth above crown
11. **Inclinometer** — Lateral ground deformation with depth
12. **Vibrating Wire Piezometer** — Pore water pressure

Example Instruments

AUTOMATED TOTAL STATION



UTILITY MONITORING



SURFACE MONITORING



VZ PIEZOMETER



HYDROSTATIC LEVELING



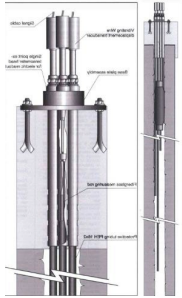
RAIL MONITORING



BUILDING MONITORING



MULTI POINT BOREHOLE EXTENSOMETER



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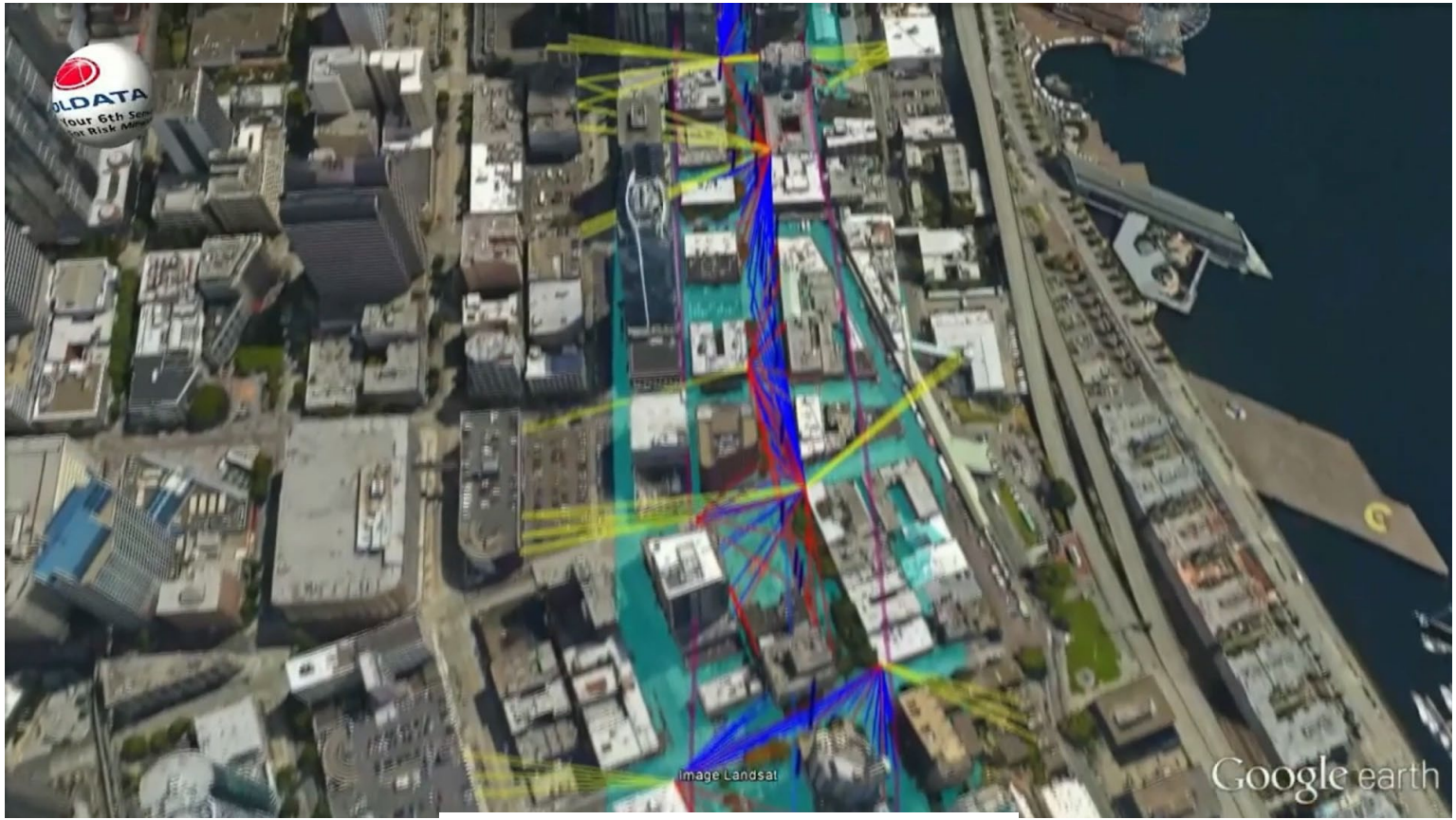
Example – I&M in City ROW



Ground Deformation Monitoring Example



SAVING OR DOWNLOADING THE VIDEO IS PROHIBITED.

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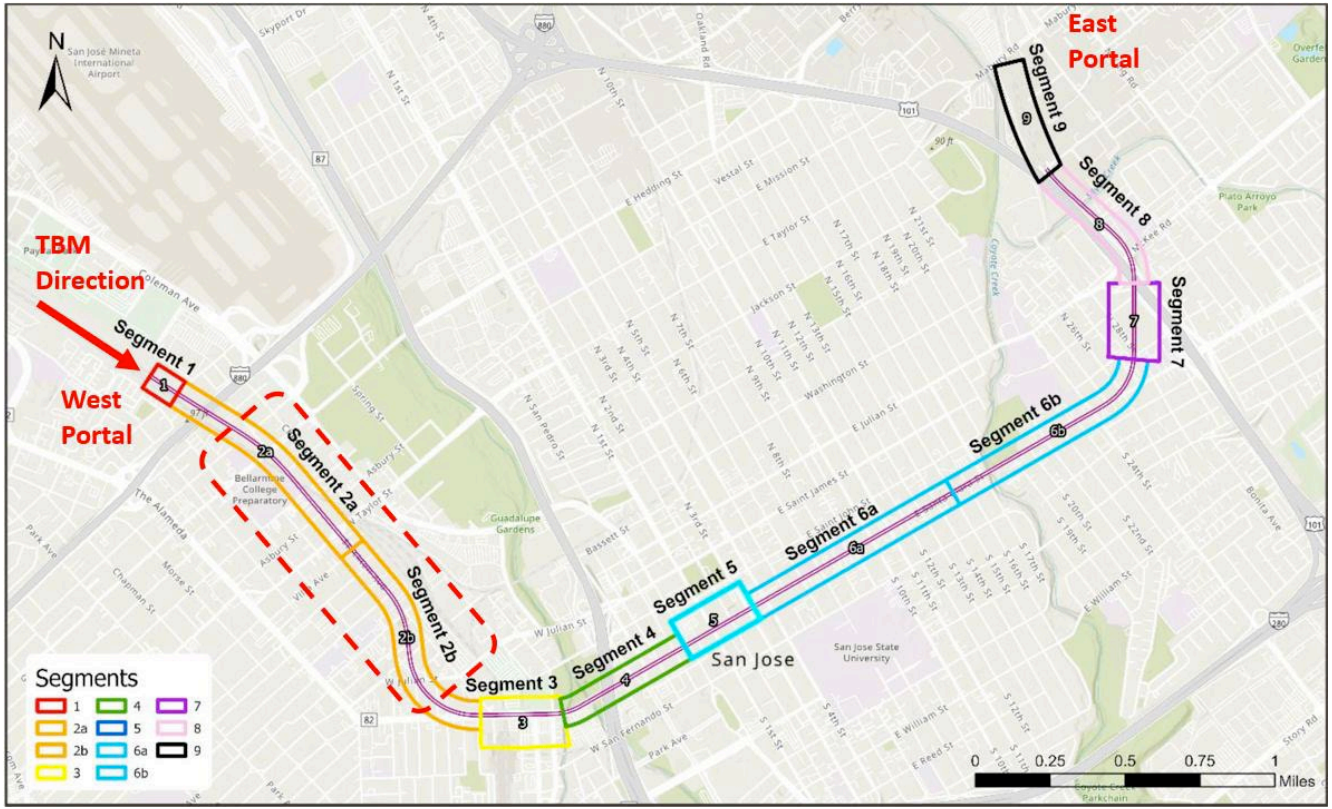
Installation of Instrumentation & Monitoring in Stockton Avenue Overview



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Instrumentation Installation In ROW - Segment

- **~600 instruments** are within the City Right-of-Way, requiring surface access to install.
  - Lane closures and traffic control are necessary during installation
- Overall duration to install instruments in City right of way: Q1-Q4 2027
- Installation time 5-10 days per city block
- Instruments won't restrict transit and pedestrian movement.

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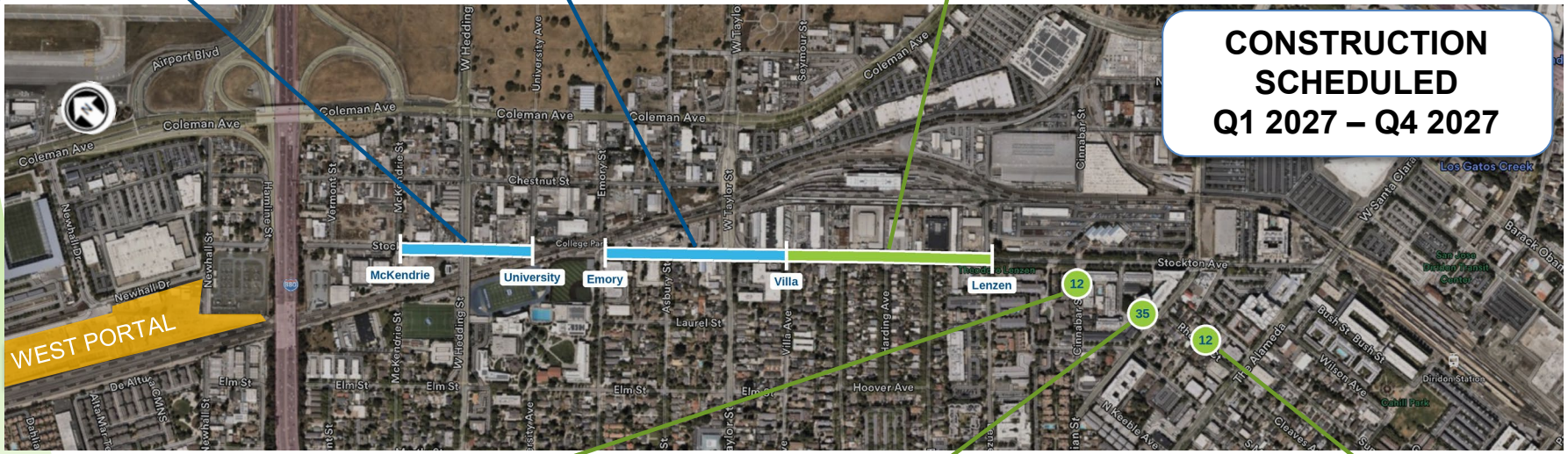
Stockton Ave. – ROW Instruments & Work Hours

McKendrie - University
Day shift 7AM – 6PM
Night shift **6PM – 5AM**

Emory - Villa
Day shift 8AM – 6PM
Night shift **6PM – 5AM**

Villa - Lenzen
Day shift 8AM – 6PM
Night shift None

TOTAL INSTRUMENTS IN CITY ROW
~600



Cinnabar Street
Day shift 8AM – 6PM
Night shift None

Morrison Ave. & Julian St.
Day shift 8AM – 6PM
Night shift None

Rhodes Court
Day shift 8AM – 6PM
Night shift None

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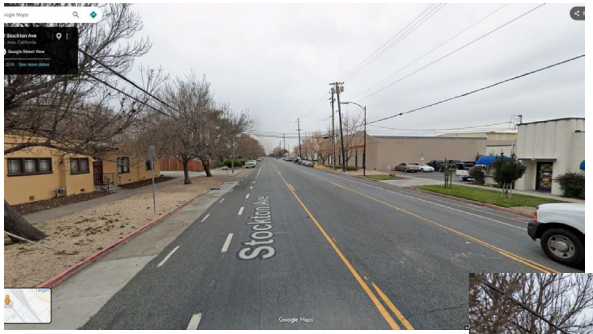
Example Lane Closures & Traffic Control



EXISTING



CONSTRUCTION HOURS



NON-CONSTRUCTION HOURS

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Current and Future I&M Efforts

- VTA will coordinate necessary access before monitoring equipment is installed on or near private property.
- Planning is underway to manage **traffic, pedestrian, and transit access** during installation in public areas.
- VTA will distribute **construction notices** in advance of any installation in the public right-of-way.
- Monitoring equipment installation is **targeted to begin as early as the first quarter of 2027**, beginning at the western end of the project and progressing along the alignment.

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Information and Contact Resources

Interactive Efforts

- Tabling events throughout the year around the station areas
- Community Working Group meetings
- Public Meetings
- Community Group Meeting Outreach
  - *Reach out to have us present updates at your local Community Group/Neighborhood Association/etc.* ***https://vtabart.org/contact/***

Resources

Project Hotline Number: **408-321-2345**

- *Call to learn more about specific project efforts and provide your feedback*

Project Website: ***vtabart.org***

Sign up to get alerted on nearby construction and find Informational Factsheets, Newsletters, and Blog Posts

Email questions to: ***vtabart@vtabsv.com***

Follow us on social media for the latest news and project updates. Join in on the conversations with the hashtag **#BARTSiliconValley** and **#VTABSV2**

Q&A Discussion

Valley Transportation Authority