VTA's BART Silicon Valley Phase II Extension

Item 9 – Project Update

BSVII Oversight Committee

May 8, 2025

Santa Clara Valley Transportation Authority

Solutions that move you

Agenda

1. Level 3 Concepts Update
2. Project Reporting
3. Funding Plan Update

Santa Clara Valley Transportation Authority

Solutions that move you

Level 3 Concepts Update

Current Status of Cost Savings Effort

Identify and screen cost saving candidates within the framework and guardrails

Level 3:

- Identified elements for cost reduction (tunnel diameter/size and construction methods)
- Challenging previous design requirements & assumptions
- Pushing the guardrails
- Includes ideas from FTA/PMOC and Gall Zeidler

Level 3 Concepts Guiding Principles

- Not going to compromise on safety
- Just **analysis** at this point – not recommendations
- Creative problem solving focused on cost as a driver
- Analyzing *ideas* from FTA/PMOC and Gall Zeidler
- Revisiting ideas previously studied to see if they are now viable due to:
    - changes in technology
    - lessons learned from other industry projects have been constructed

Tunnel Diameter as a Cost Driver

Why Tunnel Diameter Matters:

- Determines volume of excavation
- Dictates pace of tunnelling (advance rate)

Where are we getting questions about tunnel diameter?:

- FTA/PMOC
- Gall Zeidler
- Stakeholders and policymakers

Formed Level 3 Tunnel Task Force to revisit old assumptions and respond creatively

Level 3 Tunnel Task Force Overview

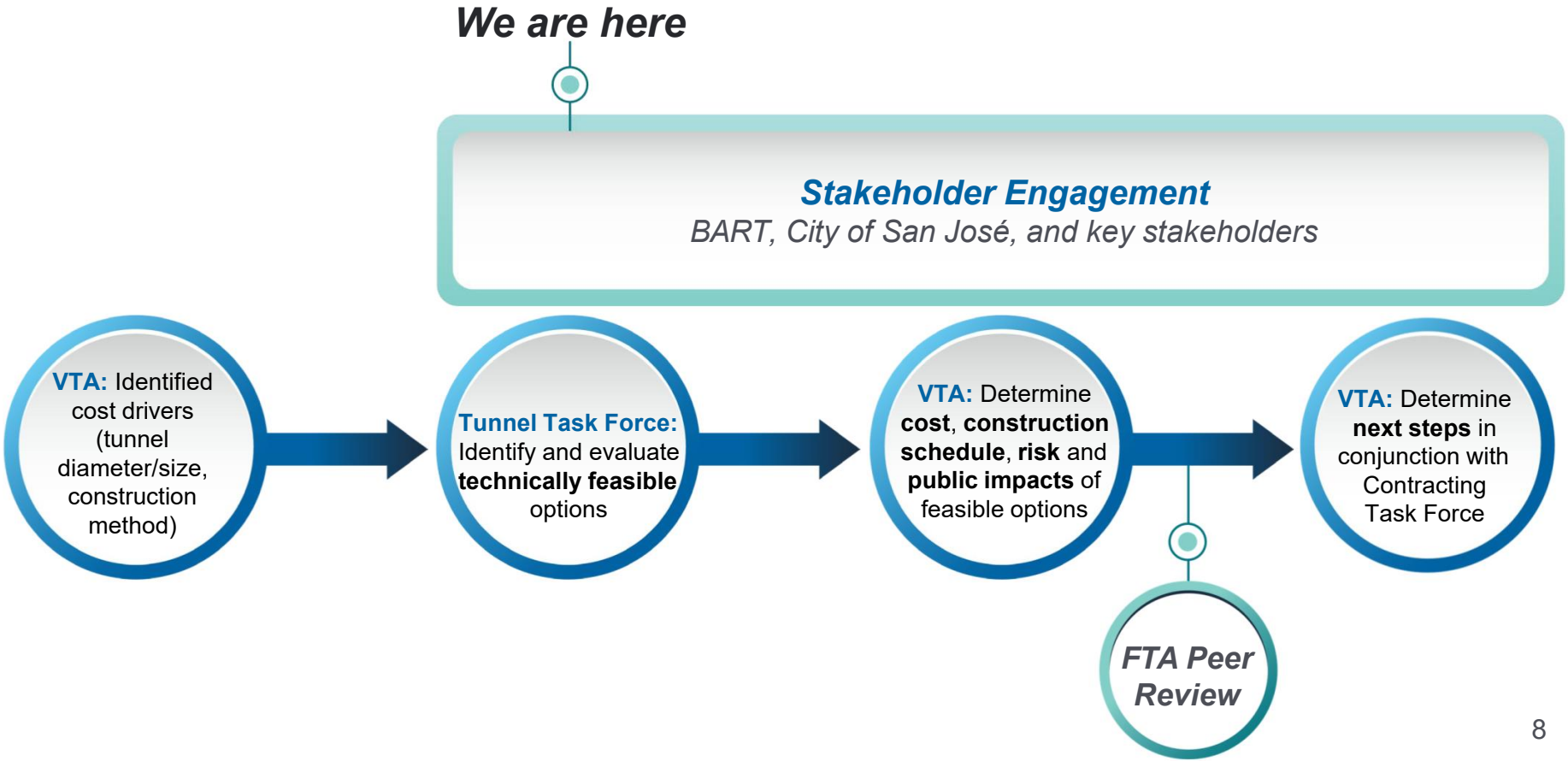
Task Force Members:

- VTA
- Subject Matter Experts from Program Management Team (PMT), Construction Management Services (CMS) and General Engineering Consultant (GEC) with experience in local ground conditions, tunneling, and construction
- BSVII Oversight Committee Subject Matter Expert Gall Zeidler

Topics Being Discussed for Technical Feasibility:

- Design assumptions and criteria
- Single-bore tunnel and station configurations
- Construction methodologies
- Project alignment

Level 3 Tunnel Task Force Process



Tunnel Task Force Ideas

In this presentation you will see *analysis* but not *recommendations* about the following:

- Smaller ~40’ single-bore with side-by-side tracks and side platforms
- Smaller ~40’ single-bore with mined station construction and ground improvements

Additional Ideas from the Task Force:

- Smaller ~48’ single-bore with fully stacked tracks and platforms
- Smaller ~40’ single-bore with single track station
- Hybrid (concurrent tunneling from the East)

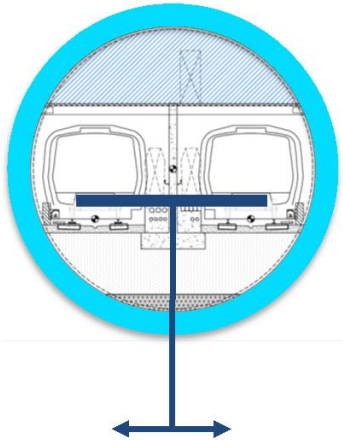
Smaller Tunnel Diameter Analysis Considerations

- Design Criteria Manual (DCM) variances and other requirement revisions to support smaller tunnel size (*will be discussed with BART after technical feasibility determined*):
  - Reduced seismic clearances
  - Reduced walkway and trackway clearances
  - Reduced tunnel construction tolerances
  - Elimination of in-tunnel BART maintenance vehicle storage
  - Other systems related equipment and access items

- Emergency Ventilation System (EVS) changes needed (e.g., within tunnel as well as larger fans, higher power requirements at stations)

Smaller Tunnel Diameter Analysis

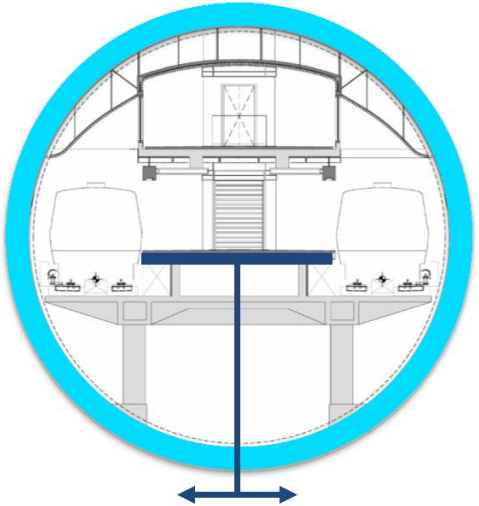
Tentative "Smallest Possible" Single-Bore Tunnel



~40’ TBM Diameter

One 22’ Wide Center Platform Cannot Fit Within Tunnel

Larger Single-Bore Tunnel



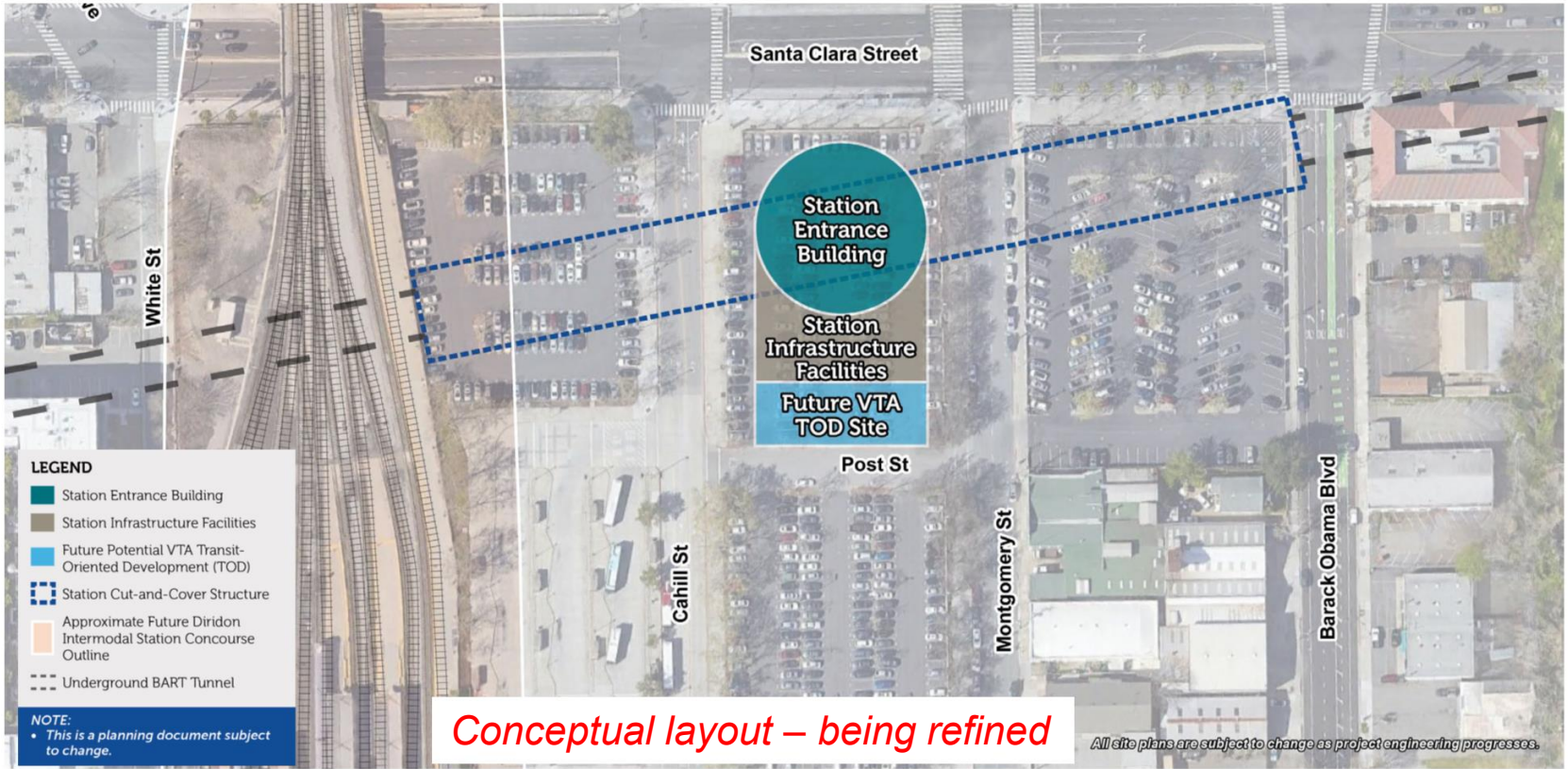
~53’ TBM Diameter

22’ Wide Center Platform

Conceptual layout – being refined

Diridon Station – *Work In Progress*

Challenges when previously evaluated: ***extensive cut-and-cover area, effect on right-of-way requirements and TOD potential, and construction coordination with adjacent rail***



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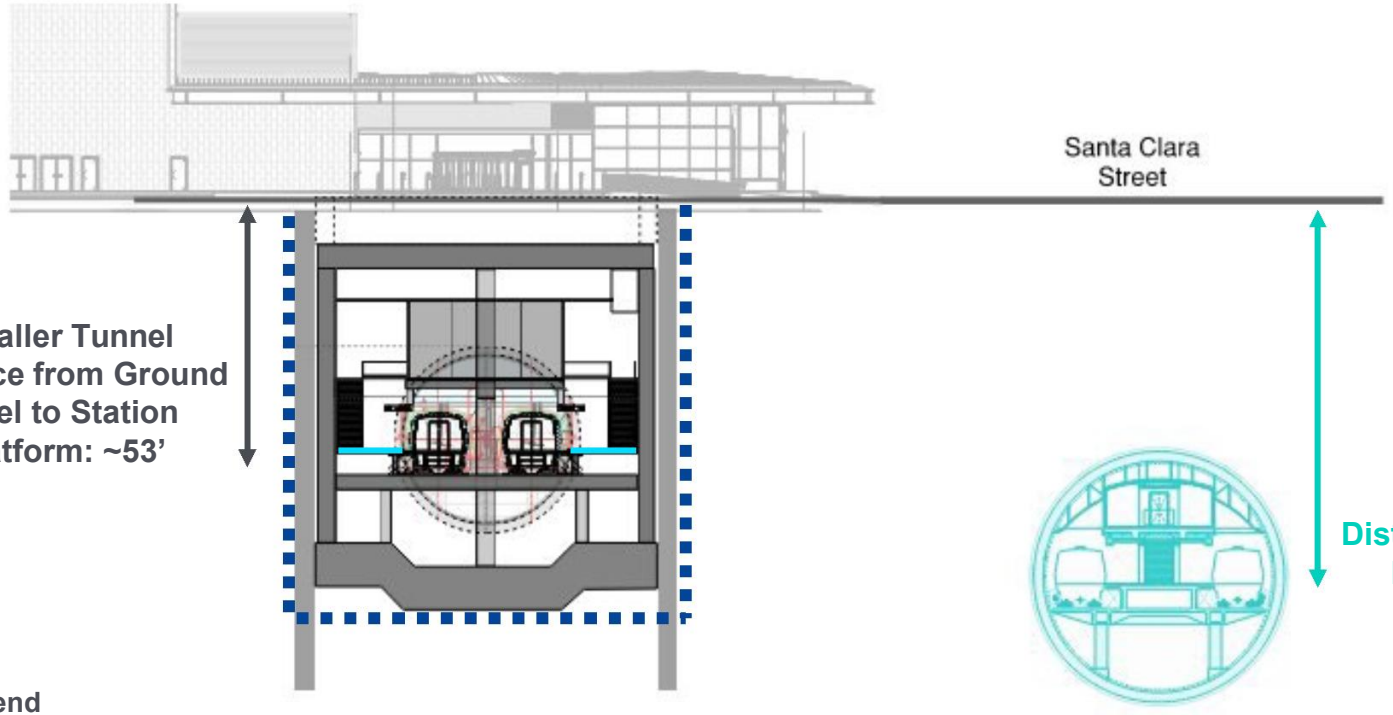
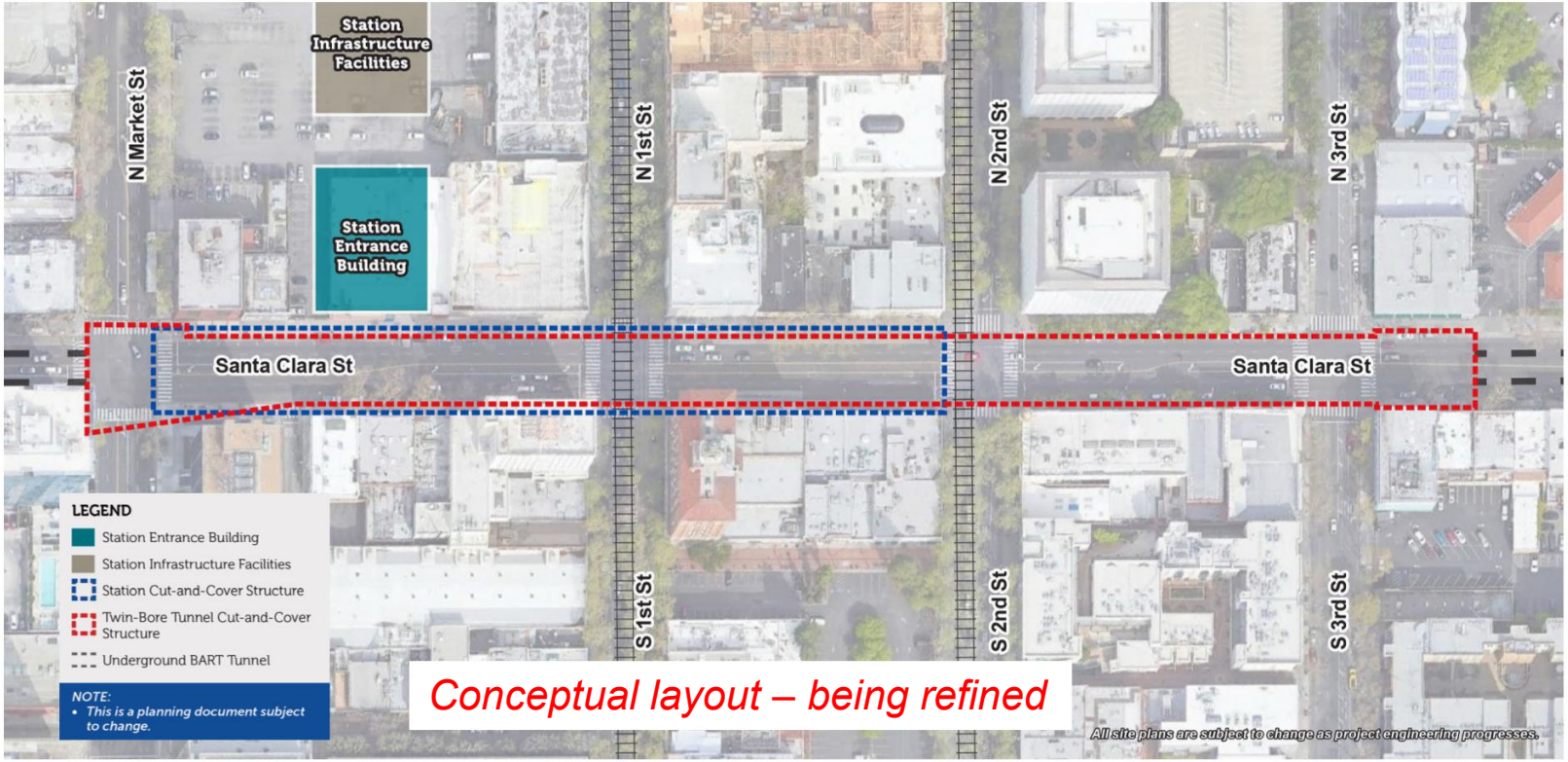


Conceptual layout – being refined

Downtown San José Station Comparison – *Work in Progress*

Challenges when previously evaluated: ***extensive cut-and-cover in street and sidewalks, utility relocations, impacts to all modes of access, potential business disruption***



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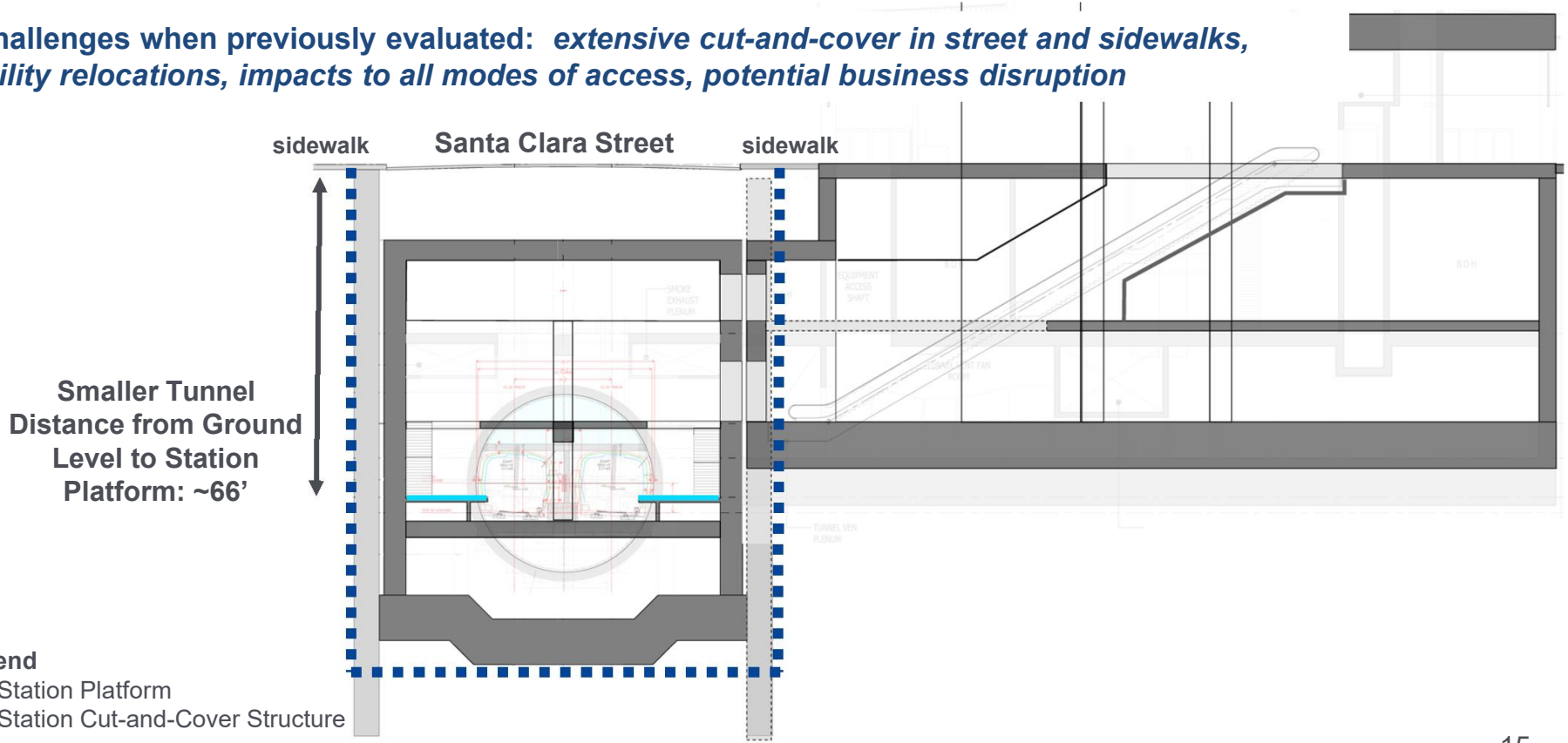

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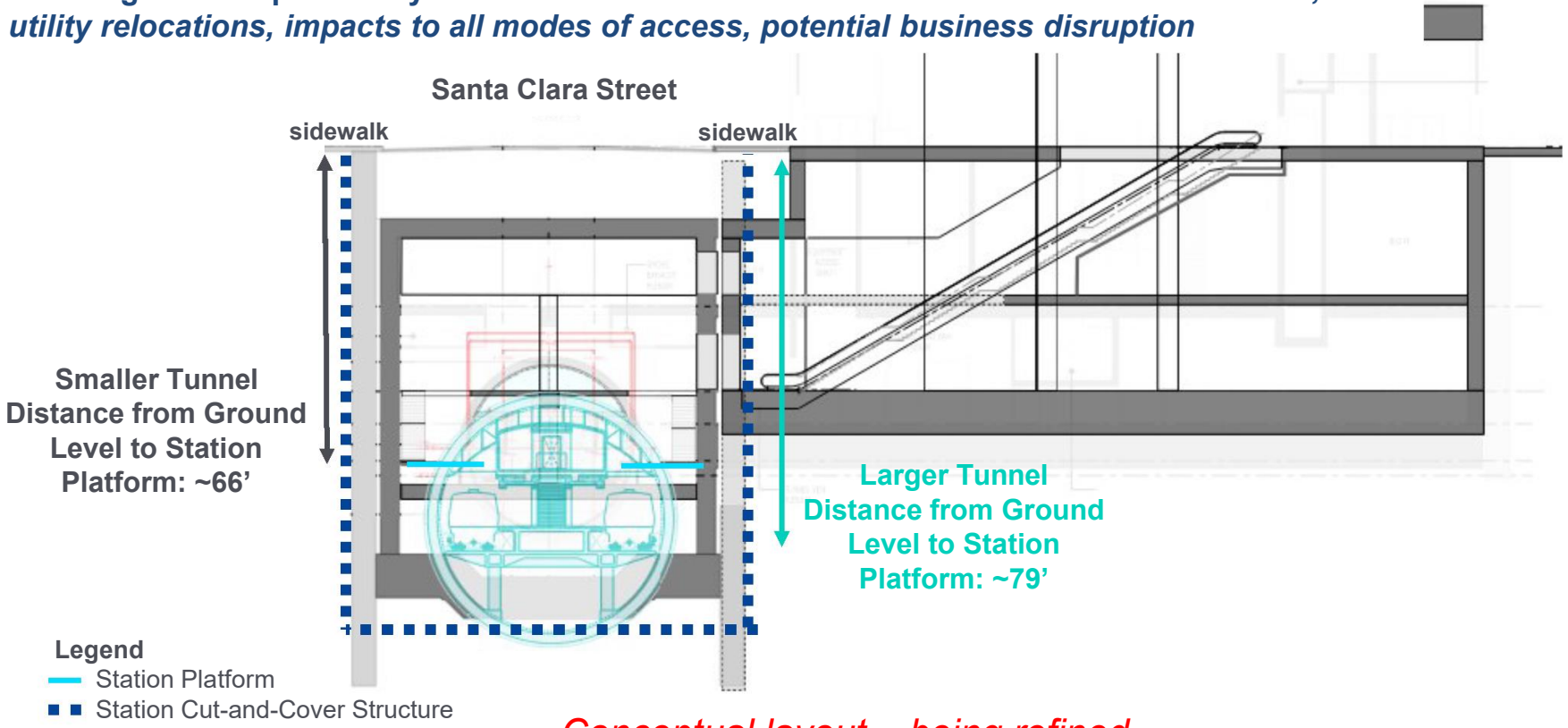
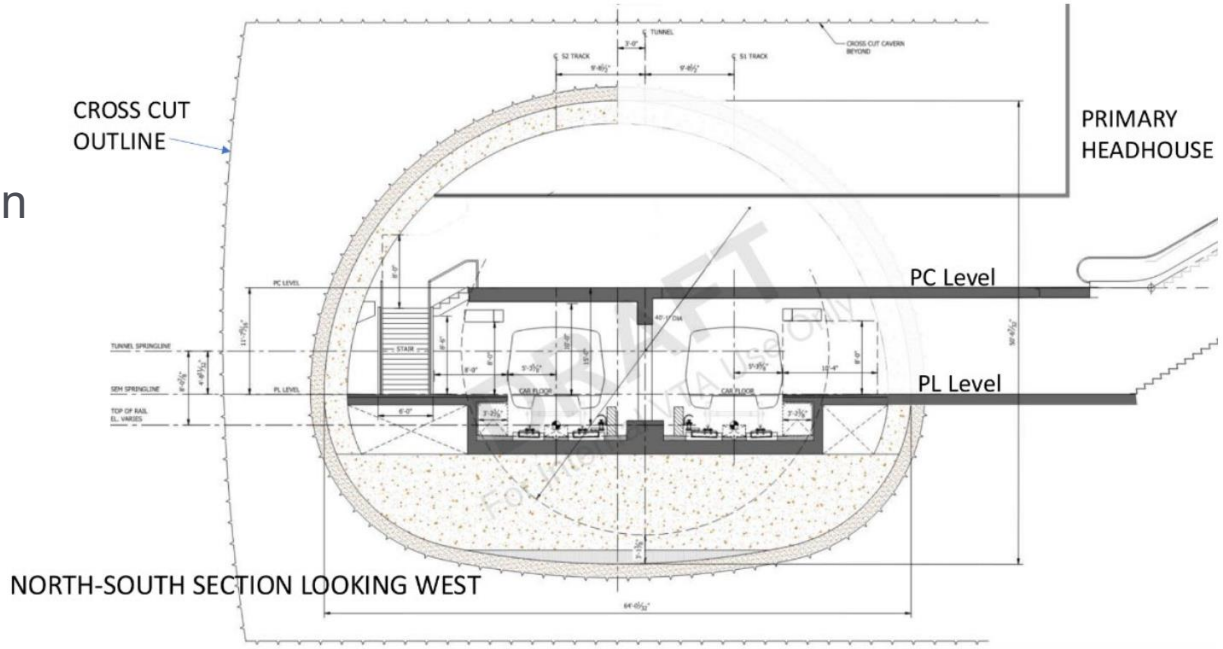


Conceptual layout – being refined

Mined Downtown San Jose Station Construction (Requires Ground Improvements) – *Work In Progress*

Challenges when previously evaluated:

- Requires extensive ground improvement from surface in challenging local ground conditions
- Determined risk would be greater than cut-and-cover



Conceptual layout – being refined

Recent Stakeholder Engagement

- Bayview Development Group
- Caltrain, Caltrain Engineering, and DISC Partners
- City of San José Staff
- East Village San José Business Association
- Key 28th Street/Little Portugal CWG members
- San José Arena Authority
- San José Chamber of Commerce
- San José Downtown Association
- Sharks Sports & Entertainment

Level 3 Cost Savings Concept Process