

Questions from VTA's BART Silicon Valley Phase II Community Meeting

Wednesday, October 27, 2021 from 6:00-7:30 PM on Zoom

Single-Bore Tunnel

Why did VTA choose to use a single-bore tunnel instead of the twin-bore tunnel used elsewhere in the BART system?

The single-bore tunnel was selected over the twin-bore after extensive reviews, studies and industry feedback comparing cost, schedule, risks, and constructability of both alternatives. The single-bore tunnel significantly limits the amount of utility relocations and cut-and-cover construction in public right-of-way, thus reducing surface-level impacts (i.e., street closures, business disruptions, etc.) in Downtown San José while also providing operational flexibility. The single-bore tunnel was selected with public and city-input and was approved during the environmental clearance phase by BART and VTA. Any change to the tunneling approach at this time may lead to significant schedule and cost impacts.

Where and when was the largest diameter single-bore rail tunnel constructed?

The Barcelona Metro Line 9 uses a single-bore tunnel. That tunnel is around 40 feet in diameter. The two northern branches opened in 2009 and 2010, and the southern section opened in 2016.

Has the single-bore tunnel been tested anywhere in North America?

Yes, single-bore tunnel methodology is not new technology. There have been larger tunnels constructed in North America, including some in similar ground conditions. A tunnel of similar size was recently completed in Miami for a highway. The main difference from other single-bore tunnels is how the train tracks would be configured within the tunnel.

Why does the tunnel have to be so deep? Are these stations much deeper than other BART stations?

The tunnel is around 45 feet in diameter and needs approximately that much ground cover above it to support itself. Therefore, the tunnel's base would be approximately 90 feet below ground.

The underground stations are comparable to several other stations throughout the United States and about the same depth as the Union Square and Chinatown Central Subway Stations in San Francisco. The Chinatown Station is approximately 100 feet below ground.

Do utilities need to be relocated before tunneling starts? If so, will the streets be affected?

There may be some limited utility relocations needed but not extensive disruptions. VTA will know more in 2022 once the progressive design-build contractor takes over the engineering responsibilities and advances the design to 100%. Limited utility relocations may be needed at the mid-tunnel facilities and at the ancillary structures.

How is VTA engineering the tunnel for earthquakes?

All structures are designed using the latest California seismic codes, which dictate allowable loads and safety factors. Where the tunnel crosses ancient fault zones, special engineering measures are used to mitigate any potential offset that may occur in an earthquake.

Will workers be protected from earthquake danger while excavating the tunnel?

Yes, tunnels are one of the safest places to be during an earthquake because they can move with the ground motions and not subject to the same risks as high-rise buildings. As the tunnel boring machine (TBM) excavates the soil, it is also erecting concrete segments which provide support for the tunnel. These concrete segments are bolted together and use the strength of a ring to distribute forces.

Where will the tunnel boring machine (TBM) come from? Can VTA borrow one?

There are a handful of TBM suppliers worldwide. Ultimately, the contractor will be the one to decide which TBM is bought. TBMs are typically custom built for projects like ours.

TBMs don't have to be custom-made, and smaller TBMs have been reused for extensive combined sewer overflow upgrade programs in the Midwest. Generally, TBMs need to be customized to address various conditions including soil type, segment thicknesses, tunnel curves, different technological and safety features, and expected water pressures.

Where will the muck go from the tunnel?

VTA is reaching out to several projects in the area to attempt to beneficially reuse the material locally. One is a project to rehabilitate some of the old salt ponds around the South Bay for wildlife restoration. The U.S. Army Corps of Engineers is also working on a levee program around the South Bay to combat sea level rise. There are other projects in the Bay Area that may require a large amount of soil, but it will depend on timing, engineering parameters, and commercial agreements. Soil is also needed in landfills to cap layers of garbage or to fill in old quarries. All of these options are available for the contractor to explore.

How will the water table be protected?

The TBM will erect pre-cast concrete segments as it excavates the tunnel. These segments are bolted together and have gaskets to create a waterproof tunnel lining. The tunnel excavation will have negligible effect on the water table during construction, and once the tunnel has been constructed, the natural water table will not be influenced by the tunnel's presence.

Construction

What will be work hours for tunnel construction?

A 24-hour underground construction schedule is possible and is common on tunnel projects. Ultimately, work hours will be dictated by noise and vibration limits set by local jurisdictions.

Will there be a 24/7 hotline staff with multilingual operators?

The 24/7 hotline is a requirement in the contract, which will be provided by the contractor. We will have the ability to get live translation – likely similar to what VTA is already offering for their customer service line.

Station Access & Circulation

Would transfers to Caltrain occur at Diridon or Santa Clara Stations?

Riders would be able to transfer between BART and Caltrain at both Diridon and Santa Clara Stations.

Station Features

What is VTA doing to ensure quick ingress/egress from station platforms to the street level? How will riders get from street-level down to the platform?

Stations will have a mix of high-speed pneumatic elevators, escalators, and stairs to provide access between street level and concourse and platform levels. Emergency egress stairs are also being provided at the three underground stations.

On average, how long will it take to go from street-level to the platform?

Travel time between street and platform level will vary depending on the method used to reach the platforms (stairs, escalators, or high-speed elevators). Using the elevators, it could be 30 seconds, while escalators are predicted to take around a minute and a half.

Are there plans to seek funding for public art and cultural spaces in VTA's BART Silicon Valley Phase II (BSVII) if federal grant funds cannot be used for this purpose?

Public art will be an effort separate from BSVII. Through the Design Review Committees in summer 2021, VTA gathered input on locations for public art. VTA will work with the Cities of San José and Santa Clara to identify funding sources for public art.

How many parking spots will be at-grade, in a structure, or underground?

At 28th Street/Little Portugal Station there will be approximately 400 parking spaces at-grade and approximately 800 spaces in a parking structure. At Santa Clara Station, there will be approximately 500 parking spaces in a parking structure. No dedicated parking will be provided at Downtown San José or Diridon Stations.

What is the estimated cost per space for each type of parking spot?

The cost per space for the 28th Street/Little Portugal Station parking garage and surface lot and the Santa Clara Station parking garage have not yet been determined as these will be set by the Design-Build Contractors once selected. The Design-Build Contractors will provide a bid that includes final design and construction of the parking facilities. On average, construction of a surface parking lot costs between 1,500 to \$10,000 per space and between 25,000 to \$50,000 per space for parking garage (Source: [Fixr](#)).

Is VTA required to use BART designed faregates or can they employ some of their own design?

VTA and BART are jointly developing specific requirements and criteria for BSVII. Since BART will ultimately operate and maintain this extension, VTA will be following all applicable BART design standards to ensure seamless connection to the rest of the BART system.

28th Street/Little Portugal Station

How will the station be integrated with buses on Santa Clara Street?

Project staff have been coordinating closely with VTA's Planning Department on integrated transit connections. At this time, it is anticipated a new bus rapid transit (BRT) station would be constructed at 28th and Santa Clara Streets. Currently one bus route is anticipated to serve the station directly on 28th Street. Pedestrian access improvements will be provided along 28th Street to facilitate the connection between the future BART Station and BRT station.

Downtown San José Station

Will there be station entrances on one or both sides of Santa Clara Street?

BSVII will only have entrances on the north side and will not provide an entrance on the south side of Santa Clara Street. Accommodations are being made for a future underground connection from the south side of the street to the secondary entrance (between 1st and 2nd) - however that would be a separate project.

What is the facility at 3rd and Santa Clara Streets? How will the public access this facility?

That structure is for emergency egress and air pressure relief purposes. There will not be a public entrance.

Diridon Station

Is VTA coordinating with the Diridon Integrated Station Concept (DISC)?

Yes, VTA is one of the five partner agencies advancing DISC. VTA meets with the other partners bi-monthly to advance the intermodal station's engineering and coordinate long-term planning so that all projects in the area seamlessly integrate.

Will there be an underground connection between the BART station and the intermodal station?

An underground connection to the future intermodal Diridon Station was investigated by VTA in conjunction with the DISC program. As it was determined that there are very limited benefits to either BSVII or DISC, the idea was not carried forward.

Santa Clara Station & Newhall Yard and Maintenance Facility

Why is VTA's BART Silicon Valley Phase II ending at Santa Clara Station instead of Diridon Station?

A Major Investment Study was completed by VTA in 2001 which evaluated 11 different combinations of transit alternatives and alignments for a transit solution to the I-880 and I-680 corridors. A 16-mile, 6-station extension of BART was identified as the best alternative, generating the most ridership in the analysis. The general alignment and station locations were

adopted by the VTA Board of Directors with the 2004 Environmental Impact Report and supported by three sales tax measures¹.

City of Santa Clara voters also approved those same tax measures in support of BART and other transportation projects. It is estimated that over 15% of the riders of this extension will be using the Santa Clara Station. The City of Santa Clara is a major employment center for the South Bay and home to Santa Clara University. BART will provide a one-seat ride for residents to and from the East Bay, which doesn't exist today.

The estimated cost for the two elements past Diridon Station, Santa Clara Station and Newhall Maintenance Facility, is approximately seven percent of total cost. Cutting those elements would not generate huge savings. Moreover, eliminating the Newhall Maintenance Yard and Storage Facility would require empty trains to be shuttled back 24 miles to Hayward Maintenance Facility daily, substantially increasing operating costs.

Can the segment between Diridon and Santa Clara Stations be deferred so service to Diridon Station can start sooner?

VTA has environmentally cleared and obtained FTA and Board approval for a 4-station, 6-mile BART extension that will open concurrently when completed. VTA is not currently pursuing a minimum operating segment (MOS) to Diridon Station. That would be a different project.

Why is the Santa Clara Station concourse elevated? What other options were evaluated?

Since BSVII approval in 2018, VTA determined that the Newhall Maintenance Facility and the Santa Clara station could both be located within the VTA-owned property. As a result, Santa Clara Station was moved south of Brokaw Road. The design team looked at several configuration options including locating the concourse underground, an end loading ground-level concourse, and above ground concourse. Due to space and cost constraints, the station concourse is elevated to provide access across the BART storage tracks.

Is it possible to extend the existing pedestrian undercrossing to the Santa Clara Station platform?

Generally, all BART patrons gain access to station platforms through a concourse that includes fare gates. There will be access via elevators and stairs from the east end of the pedestrian undercrossing up to the elevated concourse, adjacent to the fare gates. Patrons will enter the fare gates and travel down to the station platforms. This is a consistent approach throughout the BART system based on BART Facilities Standards requirements. An elevated concourse was selected due to space constraints and to reduce engineering and construction costs.

How will Santa Clara Station connect to Gateway Crossings?

VTA is coordinating closely with the Gateway Crossings developer. A paseo is planned that would provide a direct connection for pedestrians to access the station entrance.

¹ In 2000, 72 percent of city voters approved Measure A, which implemented a 30-year, half-cent sales tax devoted to public transit capital improvement projects, including VTA's BART Silicon Valley Program. In 2008, voters passed an eighth-cent, 30-year sales tax measure dedicated solely to the operation and maintenance of the BART system. In 2016, voters passed a half-cent, 30-year sales tax for transportation priorities, which included VTA's BART Silicon Valley Program.

Will there be access to Mineta San José International Airport from Santa Clara Station?

VTA's Route 60 provides airport access from the Santa Clara Transit Center. The Santa Clara BART Station will be connected via the existing pedestrian undercrossing to the Santa Clara Transit Center that includes Caltrain as well as VTA buses.

For more on how the Cities of San Jose, Santa Clara, and Cupertino with VTA are studying airport connections to Diridon and the Stevens Creek corridor, see the response on page 8.

Does VTA plan to connect Santa Clara Station with the City of Santa Clara's new downtown?

Currently, there are no plans to have a direct connection to Santa Clara's downtown area from VTA's Santa Clara BART Station. VTA will have wayfinding at and to the station.

What is being planned to support humanitarian conditions at the end of the line to avoid issues seen elsewhere in the BART system where riders without shelter get stranded at the station?

VTA partners with [HomeFirst](#), a leading provider of case management and housing opportunities to the homeless and those at risk of homelessness in Santa Clara County. The agency operates housing and shelter sites across the county. They serve approximately 5,000 chronically homeless individuals, families with children, veterans, and youth each year.

The nonprofit organization, contracted by the City of San Jose, also helps address community and safety concerns related to homeless encampments on VTA-owned property. HomeFirst operates outreach teams that are dispatched to encampments on VTA property after a concern has been reported or before a site cleanup. HomeFirst's goal is to provide assistance to homeless individuals who are looking for support services. Their team helps these individuals find emergency shelter, showers, laundry, meals, medical services, case management, employment training and more. This role is crucial in encouraging people to find permanent housing rather than starting a new encampment or returning to an old one.

In addition, VTA does not remove encampments until service agency partners are allotted the opportunity to make contact with the unhoused individuals on VTA property, as long as there is no immediate threat to riders and/or immediate impact to VTA service.

Will there be transit-oriented development on top of the Newhall Facility?

As future potential transit-oriented development would have to be built on top of BART storage tracks, the design would need to meet the applicable BART Facility Standards and other project requirements. The combination of height limitations due to the adjacency to the airport and high costs to meet requirements prohibit the feasibility of transit-oriented development at the Santa Clara BART station. However, VTA's Transit Oriented Communities Study and the Santa Clara BART Station Playbook identified the potential for 12 million square feet of development around the station, which will create a denser urban node around the station.

Funding

How is VTA funding BSVII?

VTA has developed a funding strategy with various local, state, regional and federal sources. First, voters approved multiple local (2000 Measure A, 2008 Measure B, and 2016 Measure B), regional (Regional Measure 3), and statewide measures, showing their support for bringing BART service into Santa Clara County. These local and state funds make up 75% of the funding strategy.

The remaining 25% will come from the Federal government through the Federal Transit Administration's (FTA) Expedited Project Delivery (EPD) Pilot Program.

Why is FTA's cost estimate higher than VTA's cost estimate?

VTA's current cost estimate for BSVII is \$6.9 billion dollars (year of expenditure). FTA issued a Letter of Intent (LOI) including an intention to obligate up to \$2.287 billion or 25% of the final project cost, which they have currently projected at \$9.1 billion. This higher amount is based on the lower level of design at the time of VTA's federal funding application and additional risks and contingencies above what VTA estimates. A similar effort was done for VTA's BART Silicon Valley Phase I, and VTA delivered Phase I *under* FTA's cost estimate. Other projects around the country have also been completed under FTA's cost estimate. The FTA's estimate is high to ensure there is enough Federal contribution to cover total project costs, especially now when the country is facing the effects of COVID-19 on supply chains and labor costs.

Contracting & Procurement

When will Contract Package 2 Tunnel and Trackwork be awarded?

Contract Package 2 is anticipated to be awarded in spring 2022.

What is the plan for hiring local firms for construction?

VTA has a project labor agreement for all projects greater than \$2.5 million in cost. This labor agreement has mentorship programs, uses and supports an apprenticeship program, and will use local labor. This agreement would apply to all four project contracts.

What is the Disadvantaged Business Enterprise (DBE) requirement?

There will be a specific DBE and Small Business Enterprise (SBE) goal established for each of the four contract packages based on the respective scope of work.

How will VTA limit cost overruns with the chosen project delivery methods?

The Progressive Design Build contracting method will be advanced in two stages. The first stage will advance design to approximately 90%. Along the way, the contractor will need to meet key checkpoints, including progress on schedule and cost. This allows VTA to address potential issues ahead of things getting out of control. This is part of the reason VTA chose to pursue the Progressive Design-Build method.

When will VTA release the Request for Proposal (RFP) for the Construction Management Services, and will it cover all the Contract Packages, or will there be one Construction Management Service contract for each Contract Package? Currently, VTA plans on issuing a Request for Proposal for Construction Management Services in Winter 2021/22.

Other

How many transit oriented community development opportunities will there be due to the new BART stations?

As part of VTA's Transit Oriented Communities Study, it was estimated approximately 45 million square feet of new development could be accommodated along the alignment. VTA has plans for on-site development in parallel or immediately following BSVII construction. For more details, please see <https://www.vta.org/projects/bart-sv/phase-ii/transit-oriented-communities-study>

The City of San José is building a replacement fire station on the northeast corner of 13th and Santa Clara Streets, which will be across the street from this project's 13th Street Mid-Tunnel Facility. What, if any, is the overlap between these two project areas?

VTA meets regularly with the City of San José to coordinate on both agencies' developments.

What opportunities exist to connect to Mineta San Jose International Airport?

The Airport-Diridon-Stevens Creek Connector effort is a collaboration between the Cities of San José, Santa Clara, and Cupertino with VTA to discuss potential solutions that could provide "grade-separated mass transit infrastructure and operations at significantly lower cost than traditional transit projects" between Mineta San José International Airport, Diridon Station, and the Stevens Creek corridor. The effort started in 2019 with the release of a Request for Information. Twenty-six proposals were submitted. The partners are now developing a Request for Proposals.

You can learn more about the Airport-Diridon-Stevens Creek Connector here:

<https://www.sanjoseca.gov/your-government/departments-offices/transportation/transit/airport-diridon-stevens-creek-connector>