VTA's BART Silicon Valley Phase II Extension Project

Alum Rock Community Working Group

April 5, 2017

Santa Clara Valley Transportation Authority
Solutions that move you

1

Agenda

- Follow-up Items
- June Phase I Tour Details
- Federal Involvement & Financial Update
- Draft SEIS/SEIR Public Circulation Update
- Project Updates
- Single-Bore Technical Study Summary
- Single-Bore & Twin-Bore Comparative Analysis Update
- Diridon Transportation Facilities Master Plan Update
- Video & Next Steps

Santa Clara Valley Transportation Authority
Solutions that move you

2

Role of the CWG

- Be project liaisons
- Receive briefings on technical areas
- Receive project updates
- Build an understanding of the project
- Collaborate with VTA
- Contribute to the successful delivery of the project

Your Role as a CWG Member

- Attend CWG meetings
  - Bring your own binder (BYOB)
- Be honest
- Provide feedback
- Get informed
- Disseminate accurate information
- Act as conduits for information to community at large

Role of the CWG Team

CWG Team Member	Role
Eileen Goodwin	Facilitator
Brandi Childress	Primary Outreach Contact
Leyla Hedayat	Phase II Project Manager
Erica Roecks	Technical Lead
Rosalynn Hughey	City of San Jose – Planning Liaison
Jessica Zenk	City of San Jose – DOT Liaison
Ahmad Qayoumi	City of San Jose – DOT Liaison

Solutions that move you 5

Upcoming Meetings

VTA Board of Directors

- April 6, 2017 at 5:30 PM
- April 21, 2017 at 9:00 AM Workshop
- May 4, 2017 at 5:30 PM
- June 1, 2017 at 5:30 PM

VTA's BART Silicon Valley Program Ad Hoc Committee

- May 15, 2017 at 10:00 AM

Solutions that move you 6

Follow-Up Items

Follow-Up Items

- Follow up on legal disclaimer question related to license plate technology – in progress
- Federal funding status has been added as a regular agenda item
- June Phase I Tour details will be provided today offline
- Real Estate Acquisition Frequently Asked Questions are being developed and will be distributed to CWG members once completed

June Phase I Tour

Brandi Childress, VTA

Santa Clara Valley Transportation Authority

Solutions that move you

9

Phase I Tour Details

- June 14, 2017 – 12:30-3:30 PM on VTA community bus
- Meet at the Mexican Heritage Plaza parking lot (along Alum Rock Avenue)
- VTA will provide hard hat, glasses, gloves, vest, boots
- Need to RSVP to Eventbrite, space is limited – will include RSVP link with meeting notes
- No food allowed on the bus, bottled water will be provided

Solutions that move you 10

Federal Involvement & Financial Update

Kurt Evans, VTA
Mike Smith, VTA

Santa Clara Valley Transportation Authority
Solutions that move you

11

Phase II Funding Strategy

Phase II Project Cost: $4.69 Billion[1]

Funding Status	Source	Target Value
Expended	Measure A Sales Tax & TCRP	$160 Million
Approved	Existing Measure A Sales Tax	$1 Billion
Projected	FTA New Starts	$1.5 Billion
Approved	2016 Sales Tax Measure B	$1.5 Billion
Projected	State Transit & Intercity Rail Capital Program	$750 Million[3]
Total		$4.91 Billion[2]

[1] As part of the Federal New Starts review process, FTA will conduct a risk evaluation and establish with VTA the contingency levels for the project.

[2] The amount included in the funding strategy assumes a level of additional contingency resulting from the future risk assessment results.

[3] VTA is targeting the maximum State Transit and Intercity Rail Capital Program amount of $750 million. The current program is competitive and any allocation awarded to VTA could be less than the target amount.

Solutions that move you

12

Cap and Trade

- Cap and Trade funding is an important component of the local match revenues.
- Auction revenues have been significantly below projections
  - Program termination in 2020
  - Litigation challenge as illegal tax
- Two bills have been introduced to resolve both concerns
  - AB 151 (Burke) and AB 378 (Garcia)
  - A 2/3 vote of Legislature would approve as tax

Solutions that move you

13

Other Potential Revenue

- State transportation funding package
  - Could provide additional funding for Transit & Intercity Rail Capital Program
- Regional Measure 3 (RM 3) toll bridge increase
  - MTC will begin developing expenditure plan once state transportation funding package is resolved
  - State legislation required – SB 594 (Beall)
  - MTC looking at putting RM 3 on ballot in 2018

Solutions that move you

14

Draft SEIS/SEIR Public Circulation Update

Samantha Swan, VTA

Santa Clara Valley Transportation Authority

Solutions that move you

15

Draft SEIS/SEIR Update

Public Review Period

December 28, 2016 through March 6, 2017

Public Hearings (approximately 170 total attendees)

- 1/25 Mexican Heritage Plaza
- 1/26 Santa Clara Senior Center
- 1/30 San Jose City Hall

Summary of Commenters

- Approximately 110 Commenters
- Approximately 860 Individual Comments Received

Solutions that move you 16

Draft SEIS/SEIR Update

Summary of Comments Received

- Support for the project or support for various options
- Comments on the Project Description
  - Alternatives
  - Station locations
  - Ventilation structures
- Comments on Project Impacts
  - Traffic and circulation impacts during construction
  - Parking loss during and after construction in the Diridon Station area
  - Noise and vibration impacts during construction and operation

Solutions that move you 17

Project Updates

Leyla Hedayat, VTA

18

Phase I Questions

- Will BART Phase I infrastructure preclude the future use of the right-of-way for the northern leg of the Five Wounds Trail across Lower Silver Creek, across the Hwy 101 railroad bridge, and along the right-of-way to Mabury Road and the Berryessa Station?
- Would VTA entertain the idea of activating the right-of-way from E Julian Street to the Berryessa Station for Phase I? It would be a great way to get patrons to the Berryessa Station until Phase II is built.
- Didn't VTA commit to replacing the bridge over Lower Silver Creek? What's the update on that?

Status of Phase II Real Estate Acquisition

Status of Construction Activities

Single-Bore Technical Study Summary

Krishna Davey, VTA
Leyla Hedayat, VTA

Santa Clara Valley Transportation Authority
Solutions that move you

Why VTA Considered Single-Bore

Renewed Planning Efforts (2014-2015)

- Impacts to street level activities and underground utilities
- Advances in the tunneling industry since 2008
- Feasibility of alternate tunneling methodologies
- Cost effective project delivery with minimal construction impact to the community

Preliminary Analysis of Single-Bore Methodology (2015)

- Determined feasible
- Reviewed with BART and FTA
- Included as option in environmental document

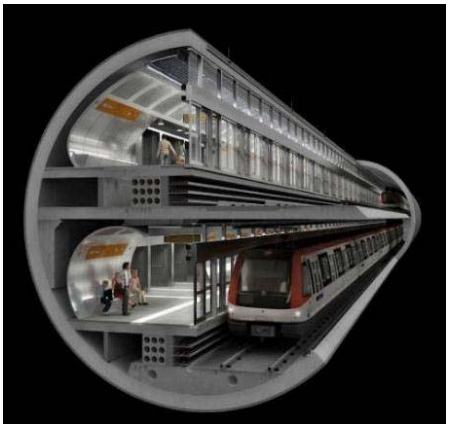
Single-Bore Tunnel Technical Studies (2016)

- HNTB awarded contract
- BART participation

Scope of Study

- Design Criteria and Key Assumptions
- Tunnel Diameter
- Tunnel Depth
- Track Alignment
- Operational Aspects
- Station Configuration
- Passenger Circulation
- Station and Tunnel Ventilation
- Emergency Egress
- Cost and Schedule

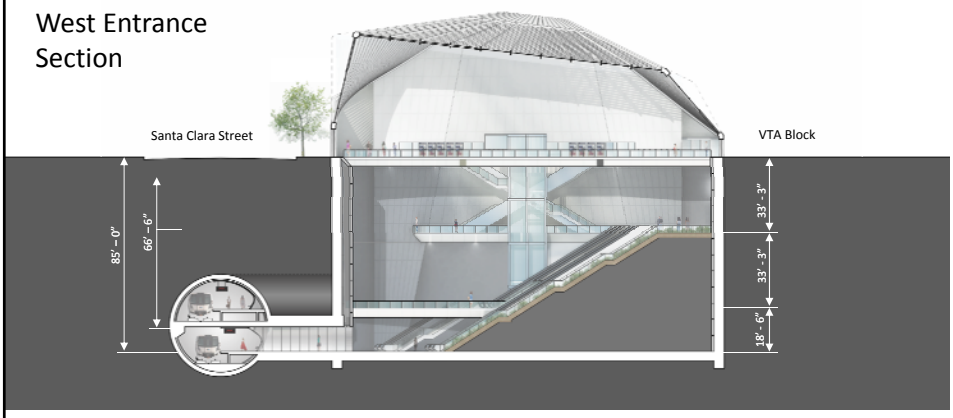
BART Phase II Single-Bore Tunnel Features



- Stacked platforms within tunnel
- Minimized surface construction impacts in public right-of-way
  - Cut-and-cover required at off-street station vertical circulation elements
  - Station entrances connect to tunnel via passageway
  - 76 cross passages within tunnel

Downtown San Jose Station Cross Section – Single-Bore

West Entrance Section

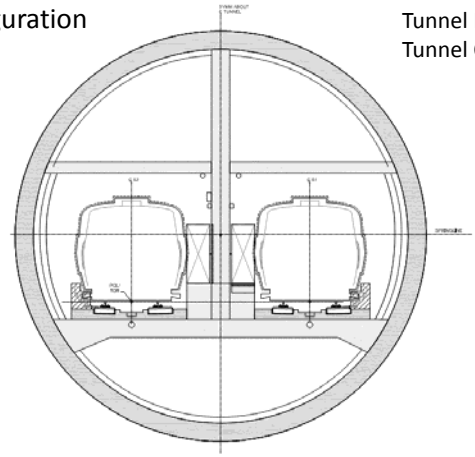


Single-Bore Tunnel Alignment

LEGEND
STATION
STACKED
SIDE-BY-SIDE
CROSSOVER
TRANSITION

Tunnel Typical Sections

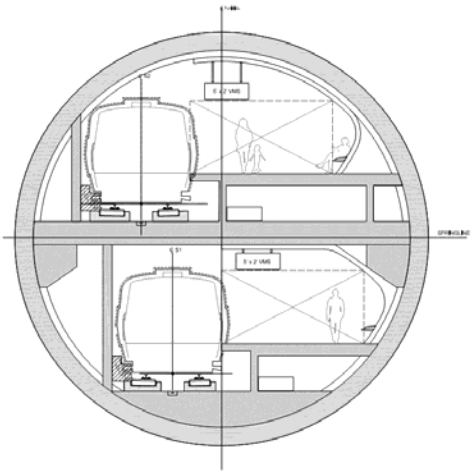
Side-By-Side Configuration



Tunnel Inner Diameter: 41 ft.
Tunnel Outer Diameter: 45 ft.

Tunnel Typical Sections

Stacked Configuration at Stations



- Unobstructed 15’-6” platform
- Exceeds BFS requirements:
  - 8-foot minimum unobstructed platform
  - 7 sf/person min. (LOS C)

Station Interior

West Entrance Rendering- Concept

Results of Study

Draft final report completed indicating single-bore method under study meets industry standards for the following:

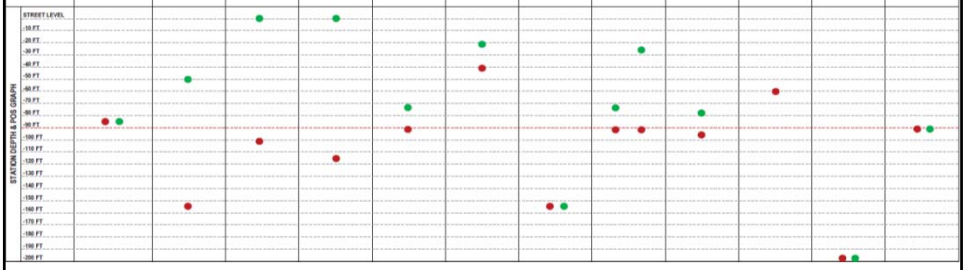
- Safe application in construction
- Accommodates critical functional, operational and maintenance requirements for underground stations and running tracks
- Complies with BART and industry safety standards.

Code and Standard Compliance

	National Fire Protection Association (NFPA) 130	BART Facility Standards (BFS) 3.0	California Building Code (CBC) 443	California Building Code (CBC) 903
Station Self Evacuation Timing	X			
Station Self Evacuation Spacing		X		
Mechanical Ventilation		X	X	
Fire Protection – Manual Standpipe	X	X		X
Fire Protection – Under Car Deluge				X
Fire Protection – Station Sprinklers				X

Deeper Transit Stations and Point of Safety

	DOWNTOWN SAN JOSE STATION – BART SILICON VALLEY PHASE II	GRAND CENTRAL TERMINAL – LIRR EAST SIDE ACCESS	34TH STREET STATION – NUMBER 7 LINE EXTENSION	LEX AVE/63RD STREET STATION – LEX AVE SUBWAY	72ND AND 86TH STREET STATION – SECOND AVE SUBWAY	96TH STREET STATION – SECOND AVE SUBWAY	BERGENLINE AVE STATION – HUDSON BERGEN LIGHT RAIL	CHINATOWN AND UNION SQ./MARKET ST. STATION – CENTRAL SUBWAY	ROOSEVELT ISLAND STATION – IND 63RD STREET SUBWAY	EMBARCADERO AND POWELL ST. STATION – BART SAN FRANCISCO DOWNTOWN	LINE 9 – BARCELONA METRO	2ND STREET/ HOPE STATION – REGIONAL CONNECTOR
POINT OF SAFETY	Entrance Shaft Adit	Concourse	Street level	Mezzanine	Mezzanine Egress Corridor	Mezzanine Egress Corridor	Platform Level Holding Area	Mezzanine & Concourse	Mezzanine	Station predates NFPA 130	Non-Affected Platform	Pressurized Emerg. Stairwell
PLATFORM DEPTH	Upper: 66' - 6" Lower: 85' - 0"	155' - 0"	103' - 0"	116' - 0"	89' - 0" & 94' - 0"	42' - 3"	155' – 0"	92' - 0" (Both)	96' - 0"	60' - 0" & 58' -0"	196' - 0"	92' - 11"



Examples of Deeper Transit Stations in the US

East Side Access, New York

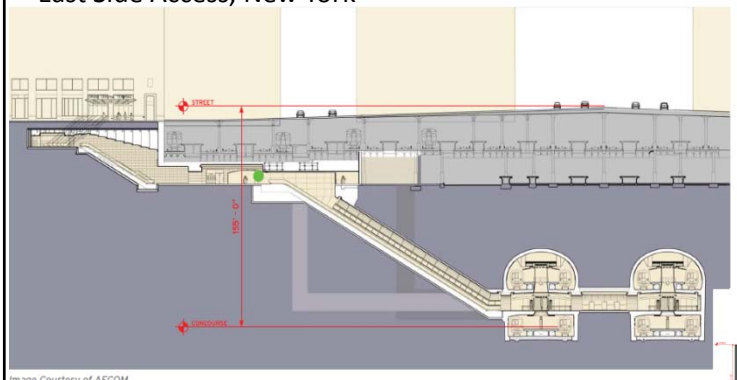


Image Courtesy of AECOM

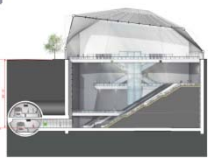
City:
New York, New York

Owner:
Metropolitan Transportation Authority

Estimated Year of Completion:
2022

Platform Depth:
155' - 0"

Point of Safety:
LIRR Concourse Level



Examples of Deeper Transit Stations in the US

Second Avenue Subway 72nd Street Station, New York

Image Courtesy of AECOM

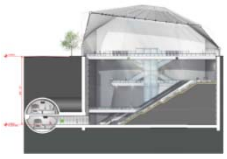
City:
New York, New York

Owner:
Metropolitan Transportation Authority, New York City Transit

Year Completed:
2017

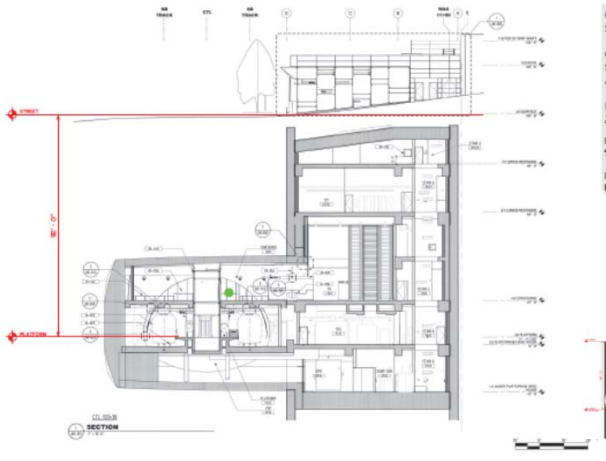
Platform Depth:
89' - 0"

Point of Safety:
The concept includes back of the house egress corridor at Mezzanine Level



Examples of Deeper Transit Stations in the US

Central Subway- Chinatown Station, San Francisco



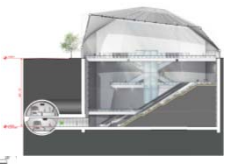
City:
San Francisco, California

Owner:
San Francisco Municipal Transportation Agency

Estimated Year of Completion:
2018

Platform Depth:
92' - 0"

Point of Safety:
Mezzanine



Single-Bore & Twin-Bore Comparative Analysis Update

Krishna Davey, VTA

Santa Clara Valley Transportation Authority

Solutions that move you

37

Tunneling Methodology Comparative Analysis

- Independent comparative analysis of tunneling alternatives under consideration
- Analysis to evaluate risks (cost, schedule, performance) associated with tunneling alternatives
- Scope of work includes:
  - Interviews with technical experts and stakeholders
  - Qualitative & quantitative assessment
  - Development of risk profiles and report
- Consultant selected by a joint VTA/ BART review panel
- Contract awarded to Aldea Services LLC, Maryland
- Study underway and anticipated to be completed in June 2017

Solutions that move you 38

Diridon Transportation Facilities Master Plan Update

Leyla Hedayat, VTA

Santa Clara Valley Transportation Authority

Solutions that move you

Study Context

- Develop a functional and operational program for the Diridon Station
- Ensure that transportation investments are optimized through seamless intermodal connectivity
- Continue a collaborative process with transit operators to build a functional facility that enhances and integrates with future development

Project Goals

Transportation Performance

A station that works

A plan that fits

Flexible, adaptable concepts

Passenger Experience

Convenient, comfortable energetic, inspiring

A Good Neighbor & Civic Gateway

Compatible with existing neighborhoods and future development

Respect an historic setting

A new landmark

41

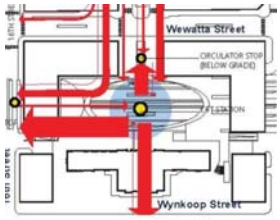
Technical Guidance

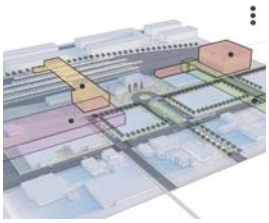
- Transit operators and city engaged on a monthly basis.
- Provided data, service plans, facility and operational needs, and technical criteria.
- Ensure that the facility design will function properly, and is integrated with current and future plans.
- Review, identify, and resolve conflicts among technical requirements.

Solutions that move you

42

Primary Activities: Master Plan Study





Pedestrian Connections
- Walking Distances
- Level changes
- Weather protection
- Roadway Crossings
- Wayfinding/Clarity

Define Functional Needs	Develop Scenarios	Evaluate the Scenarios
Functional Space Needs	Fit the required program elements to the site	Develop transparent, measureable criteria
Multi-Modal Connections	Accommodate wide range of outcomes	Determine strengths and weaknesses
Access Requirements		

43

Existing and Future Transit Levels

Solutions that move you

44

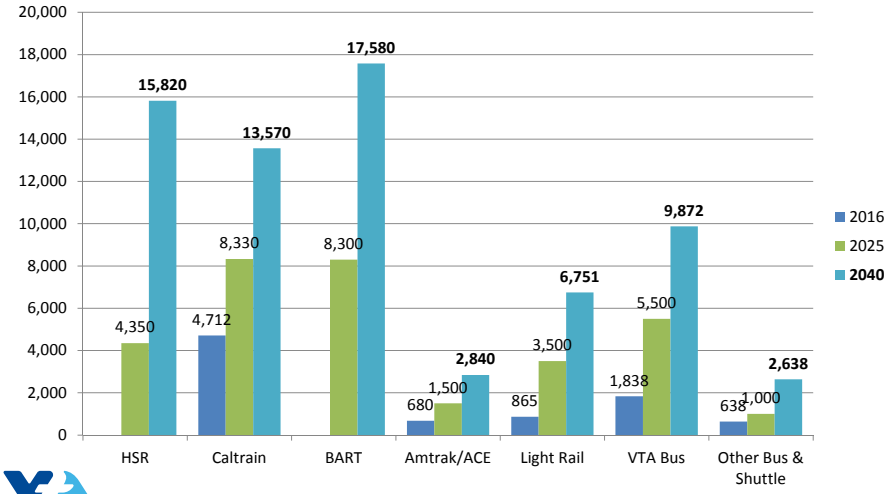
Existing vs. Future Boardings and Alightings at Diridon Station

	Existing (2016)	Future (2040)
Daily Boardings	8,733	69,070
Daily Alightings	8,733	69,070
Daily Boardings and Alightings	**17,466**	**138,140**

Solutions that move you 45

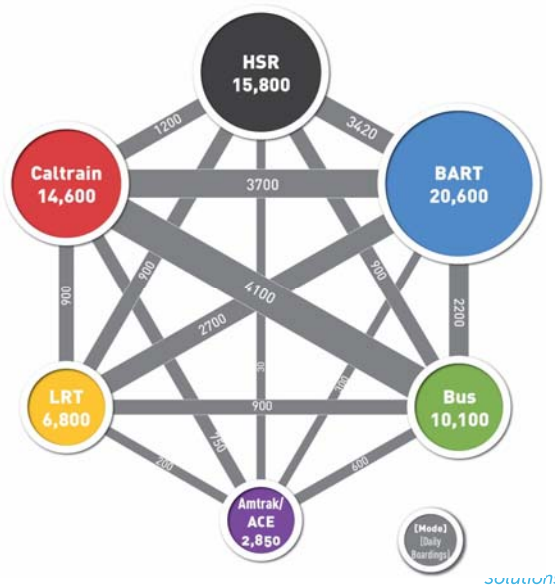
Transit Levels

Diridon Station Boardings by Mode by Year



Solutions that move you 46

Future 2040 Transit Transfer Flows



Multi-Modal Access Framework

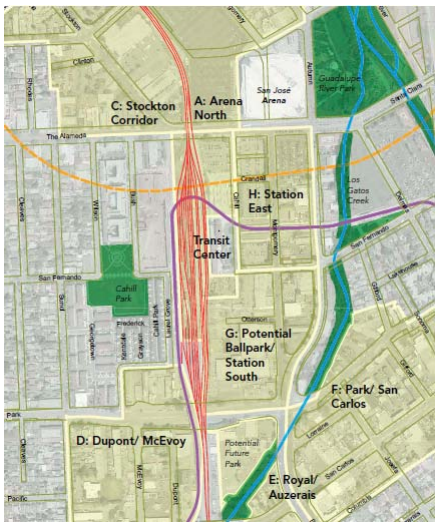
Multi-Modal Access Planning

- **Multi-Modal Service Needs**: transit ridership, service plans, mode of access and egress, intermodal transfers
- **Access Study**: auto, bicycle, pedestrian, drop off/pick up, transit buses, shuttles, special event circulation paths
- **Parking Policy**: joint development and station based vehicular uses (zipcars, future autonomous vehicles, public spaces, rental cars)

Objectives of the Parking Policy Study

- Present **alternative policies** regarding new and replacement parking quantities
- Consider **nationwide precedents**
- **Calculate new parking needs** resulting from the Master Plan

What Does the Parking Policy Cover?



Potential station-related **joint development** sites:

- Transit Center
- (H) Station East
- (G) Station South

Parking Program Variables

Pedestrian / Bike / Transit Focus — **Automobile Focus**

Access Mode Shares

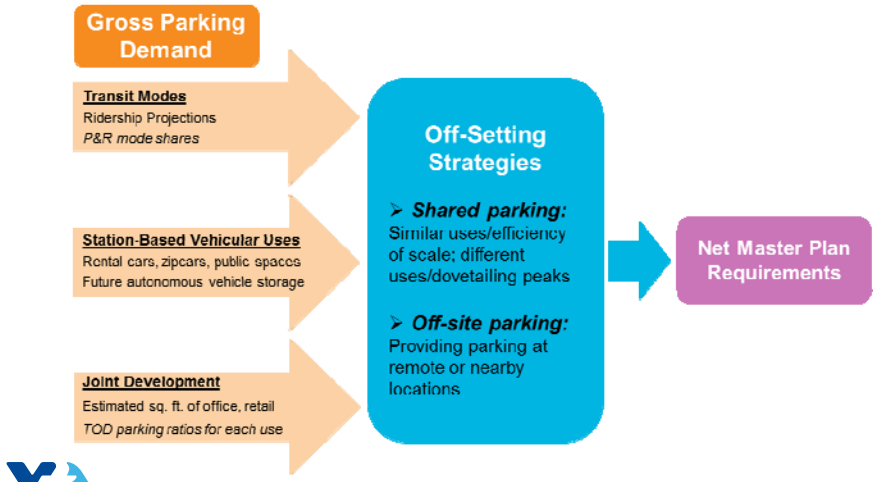
Complementary Uses High Sharing — **No Sharing**

Shared Parking

Large offsite capacity — **No offsite capacity**

Off-site Parking

Parking Model Methodology Diagram



Functional Space Program & Identification of Scenarios

Functional Program Overview

Functional Category	Net Sq. Feet (NSF)	Building Gross Sq. Feet (BGSF)
Transit Operations	136,469	166,468
Passenger Services	74,551	82,992
Station Management	14,774	26,788
Building Infrastructure	8,928	13,346
Retail	11,152	13,661
Bicycle Facilities	8,000	11,960
Police	1,037	1,773
Total - Transit Facilities (sq ft)	**254,911**	**316,988**
Potential Joint Development	TBD	TBD
Potential Additional Retail	TBD	TBD
Potential Parking	TBD	TBD
Potential Total - All Facilities (sq ft)	**TBD**	**TBD**

Identification and Evaluation of Scenarios

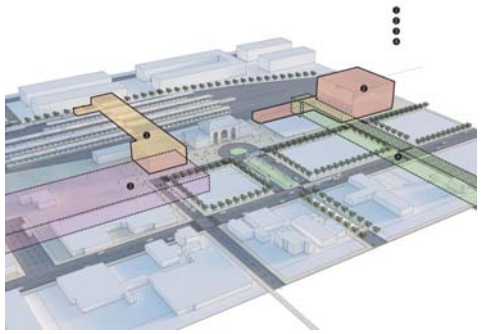
- Develop Screening Criteria
- Develop Transportation Facility and Access Scenarios
- Evaluate Scenarios
- Refine Final Scenarios(s)

Evaluation Criteria

Transportation Performance	Passenger Experience	Great Civic Asset
"A Station That Works"	"A Superior Passenger Experience"	"Community and Context"

Two-tiered Evaluation

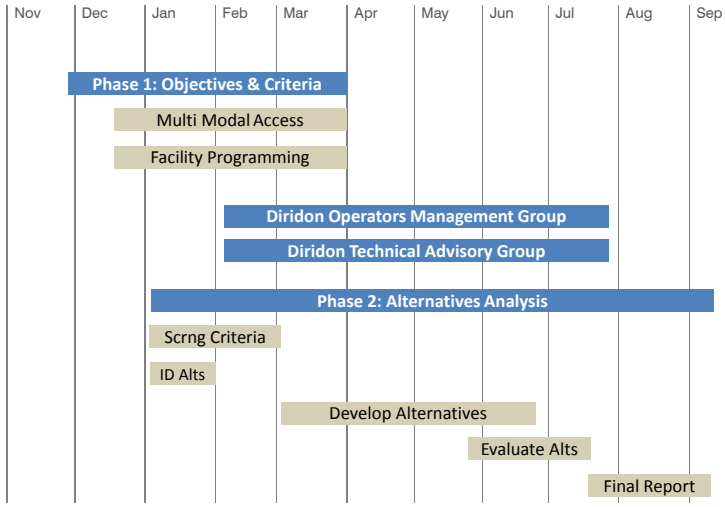
Comparison of Components



- Evaluation of four scenarios

HSR Alignment	Aerial	At-grade	
BART Alignment	North	South	
BART Tunnel	Single-Bore	Twin-Bore	
LRT Alignment	Existing	Depressed	Relocated
ACS (APM) Alignment	West of SAP	East of SAP	
Transit Bus Center	Structured	Below-grade	
Coach Bus Center	Structured	Below-grade	
Parking Program	Lower	Higher	
Primary Entrance	Southeast	Existing Sta	Northeast
Access from West	Existing Property	Add Property	BART Concourse
Historic Station Use	Transit	Retail/Other	
Intermodal Integration	"Stacked"	Moderate	"District"
PG&E Substation	Existing	Relo/Recon	
Street Network	Cahill Ext		
Other	Consolidate Substations	Major Retail	

Overview Schedule



Solutions that move you 59

Questions?

Santa Clara Valley Transportation Authority

Solutions that move you

Video & Next Steps

Eileen Goodwin, Facilitator

Santa Clara Valley Transportation Authority

Solutions that move you

Video

Next Steps

- Next CWG meeting: Wednesday, June 14, 2017 ~ 12:30-3:30 PM, meet at Mexican Heritage Plaza Alum Rock Ave parking lot ~ BYOB
  - Phase I Tour
  - Construction Outreach Plan
  - Lessons Learned from Phase I and BRT
- Action Items