VTA’s BART Silicon Valley
Phase II Extension

Downtown/Diridon Community Working Group

June 9, 2015

Agenda

• Recap of CWG Process
• Follow up items
• VTA’s BART Silicon Valley Program status
  – Phase II recap
  – Environmental update
  – Community Engagement process
• Ridership and Modeling
• Planned Land Use Framework
• Next Steps
CWG Process

Eileen Goodwin, Facilitator

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

<table>
<thead>
<tr>
<th>CWG Team Member</th>
<th>Role</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eileen Goodwin</td>
<td>Facilitator</td>
</tr>
<tr>
<td>Brent Pearse</td>
<td>Primary Outreach Contact</td>
</tr>
<tr>
<td>Leyla Hedayat</td>
<td>Phase II Project Manager</td>
</tr>
<tr>
<td>Kevin Kurimoto</td>
<td>Technical Lead</td>
</tr>
<tr>
<td>Michael Brilliot</td>
<td>City of San Jose – Planning Liaison</td>
</tr>
<tr>
<td>Rosalynn Hughey</td>
<td>City of San Jose – Planning Liaison</td>
</tr>
<tr>
<td>Ray Salvano</td>
<td>City of San Jose – DOT Liaison</td>
</tr>
<tr>
<td>Jessica Zenk</td>
<td>City of San Jose – DOT Liaison</td>
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Work Plan

Items from the work plan discussion during orientation fall in 3 categories:

• Item was added to the work plan
  – Added early because it informs CWG of items to be discussed in the 1st quarter of 2016
  – Added later because decision or information is not readily available

• Item is included as part of topic previously identified in the work plan

• Item will be covered at a later date at another meeting, but we will inform the CWG when info becomes available or topic is not part of the scope of this project

Work Plan Items

• BART staff to present need for maintenance facility and justification of location of maintenance facility.

• Presentation on the evaluation of the proposed east and west alternatives for the downtown station.

• Update on HSR project—given by HSR staff. Cover compatibility underneath Diridon.

• Presentation on underlying land use assumptions and how they connect to ridership assumptions.

• Presentation on phasing options.

• Presentation on cross over track including purpose and location and constraints on locations.

• Presentation in June about VTA's community engagement process for this effort including how to give public input.
Work Plan Items (continued)

- Make sure the construction methods presentation in the work plan covers tunneling, construction phasing, cut and cover construction techniques, and temporary and permanent structures.
- Presentation on parking demand analysis especially as it related to the neighborhoods to the east of the downtown.
- Impacts on transit during construction in the vicinity of SJSU.
- City access study scope and findings, especially a connection to SAP.
- Presentation on the design and aesthetics of the BART structures such as vents, exits, etc.
- Presentation regarding trade offs between parking and TOD.
- Presentation regarding access planning (bikes, pedestrians, trails, etc.).
- Presentation regarding parking strategies at Diridon especially interface with SAP.

Follow-up Items

- Add CWG member names to both sides of the table tents.
Upcoming Meetings

VTA Board of Directors
• August 6, 2015
• September 3, 2015
• October 1, 2015

SVRT Program Working Committee
• August 3, 2015
• October 5, 2015
• December 7, 2015

City of San Jose Station Area Walk Audits
• July 21, 2015

Project Status

Leyla Hedayat, Phase II
Project Manager
Phase II Design Completion

<table>
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<tr>
<th>Tunnel</th>
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<tr>
<td>EPB Boring Machine</td>
<td>Traction Power</td>
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<tr>
<td>95%</td>
<td>65%</td>
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<tr>
<td>Tunnel Liners</td>
<td>Line Electrical</td>
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<tr>
<td>95%</td>
<td>65%</td>
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<tr>
<td>Horiz. &amp; Vert. Alignment / Geotech.</td>
<td>Train Control</td>
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<td>65%</td>
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<tr>
<td>Trackwork</td>
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</tr>
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<td>65%</td>
<td></td>
</tr>
<tr>
<td>Portal Structures</td>
<td></td>
</tr>
<tr>
<td>65%</td>
<td></td>
</tr>
<tr>
<td>Mid-Tunnel Ventilation structures</td>
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<td>65%</td>
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</tr>
<tr>
<td>Cross Passages</td>
<td></td>
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<table>
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<tr>
<th>Stations</th>
<th>Maintenance and Storage</th>
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<tr>
<td>Alum Rock</td>
<td>Newhall Yard</td>
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<tr>
<td>65%</td>
<td>30% - 50%</td>
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<tr>
<td>Downtown</td>
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<tr>
<td>65%</td>
<td></td>
</tr>
<tr>
<td>Diridon/Arena</td>
<td></td>
</tr>
<tr>
<td>65%</td>
<td></td>
</tr>
<tr>
<td>Santa Clara</td>
<td></td>
</tr>
<tr>
<td>65%</td>
<td></td>
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Environmental Update

- Scoping Report released May 26, 2015
- Over 350 total comments were received in all.
- Documents and consolidates comments received, and considers:
  - Topics/concepts already analyzed
  - Topics/concepts that are not feasible and/or outside of environmental scope
  - New topics/concepts that are feasible and warrant analysis
- Technical analysis continues
Community Engagement process

Brent Pearse, Community Outreach

Community Engagement

• Strategy: To actively engage and educate community stakeholders on project status and technical subjects

• Build long term relationships that will last through environmental, final design and construction

• Develop and encourage public participation between VTA and the community
Three Pronged Approach

1. Workshops and Walks: Engage audiences, dive deep on complex subjects: finance/funding, ridership/modeling, access and construction

2. Community Engagement during Environmental Process

3. Ongoing Communication: 20 plus presentations to organizations/businesses since early 2015

Important Upcoming Opportunities

Open to All

2. July 2015 – Land Use Workshop
3. October 2015 – Finance/Measures A Workshop
4. January 2016 – Construction Methods/Approach

Why These Topics?

Answer: We receive more public comments and questions on these topics that anything else.

Goal: Address questions and concerns through technical experts and hands on exercises
General Questions

- When and how is the best time to use my own organization communication tools: blog, website, social media?
  - A: Key project milestones, release of public documents, board meetings

- What types of other groups has or will VTA outreach to?
  - A: Business organizations, community based organizations, low income/minority communities

- How can assigned outreach staff assist me?
  - A: Organize special presentations, meetings, follow up on questions and concerns, keep us moving forward

Staying Involved

- CWG Portal on [www.vta.org/bart/phaseICWGs](http://www.vta.org/bart/phaseICWGs)

- Email Updates: [www.vta.org/bart/subscribe](http://www.vta.org/bart/subscribe)
  - Recommend Topics BART Planning, BART, Environmental, BART News

- Social Media Sharing
  - @bartsv
  - facebook.com/bartsv

- Committee and Board Meetings
CWG Information - www.vta.org/bart/phaseIICWGs
Santa Clara Valley Transportation Authority Countywide Model

Presented by George Naylor
Transportation Planning Manager
Travel Demand Forecasting, Research and GIS
Santa Clara Valley Transportation Authority

george.naylor@vta.org
June 9, 2015
Overview of the VTA Travel Demand Model

- Set of Mathematical Models Used to Estimate Existing and Future Travel Patterns > Planning Tools used for Policy Decisions

- Key Inputs – Land Uses, Transportation Networks, Pricing

- Key Outputs – Trips, Mode Shares, Travel Volumes on Roadways and Transit Lines, Travel Speeds and Times

Overview of the VTA Travel Demand Model

- Developed using Observed Travel Patterns from Household Travel Survey Data and Census (Calibration and Validation)

- Forecast Inputs are Applied to Predict Travel Demand

- Used to Define Transportation Improvement Policies and Test ‘What-if’ Scenarios

- Allows for Different Scales of Analysis > Regional, County, Facility, Route, Transit Stop/Station
The Basic Travel Demand Modeling Process

Model Inputs  

Apply Model Equations  

Generate Model Outputs  

\[ a^2 + b^2 = c^2 \]  

\[ T_{ij} = T_i \frac{\sum A_j f(C_{ij}) K_{ij}}{\sum j A_j f(C_{ij}) K_{ij}} \]  

\[ e = mc^2 \]

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Key Model Inputs - Building Blocks

- Socioeconomic Data Inputs
  - Development Patterns and Activities
    - Population, Households, Workers, Age, Income
    - Provided by ABAG: reviewed by local jurisdictions
  - Employment by Industry Type (Retail, Manufacturing, Service, etc.)
  - Summarized by Traffic Analysis Zone

- Multi-modal Transportation Network Inputs
  - Roadways, Transit Lines and Stations, Bicycle Paths, Pedestrian Paths

- Pricing Descriptors
  - Gasoline, auto operating, transit fares, parking costs, tolls
**Socio-economic Data Inputs**

- VTA is required to use the official regional forecasts prepared by Association of Bay Area Governments (ABAG)
- ABAG prepared latest series used in the Regional Transportation Plan (RTP) known as ABAG Projections 2013
- Projections 2013 have been tailored to meet ABAG and MTC policy goals as well as meet GHG emission targets mandated by Senate Bill 375
- VTA receives census tract data from ABAG
- Data are then allocated to smaller Traffic Analysis Zones (TAZs) for use in the VTA models

**Allocation Procedure to VTA Model Traffic Analysis Zones (TAZ)**

- Start with development of base year 2010
- Households and population from 2010 Census
- Jobs from latest parcel data from Dataquick
- Allocated ABAG Census totals to Traffic Analysis Zones (TAZs)
- Added in future growth from approved projects inventory
- Allocated to specific areas based on General Plan data from jurisdictions (if available)
- Conserve to ABAG census tract control totals
Historical Growth Trends Regional Jobs

Historical Growth Trends
Santa Clara County Households
Job Growth 2015 to 2035

Station Area Demographics - Population

<table>
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<tr>
<th>Year</th>
<th>Population</th>
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<tbody>
<tr>
<td>2015</td>
<td>8,863</td>
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<tr>
<td>2035</td>
<td>16,330</td>
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<table>
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<td>2015</td>
<td>14,501</td>
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<tr>
<td>2035</td>
<td>28,058</td>
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<table>
<thead>
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<th>Year</th>
<th>Population</th>
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<tr>
<td>2015</td>
<td>7,001</td>
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<tr>
<td>2035</td>
<td>17,520</td>
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<table>
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<th>Year</th>
<th>Population</th>
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<tbody>
<tr>
<td>2015</td>
<td>2,231</td>
</tr>
<tr>
<td>2035</td>
<td>5,904</td>
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Station Area Demographics - Jobs

Year 2015 and 2035 Jobs within 0.5 Miles of Station

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<thead>
<tr>
<th>Station Area</th>
<th>Jobs 2015</th>
<th>Jobs 2035</th>
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<tbody>
<tr>
<td>Alum Rock</td>
<td>6,159</td>
<td>7,609</td>
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<tr>
<td>Alum Rock Downtown West</td>
<td>13,463</td>
<td>46,377</td>
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<tr>
<td>Division</td>
<td>15,172</td>
<td>26,048</td>
</tr>
<tr>
<td>Santa Clara</td>
<td>6,856</td>
<td>8,911</td>
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Highway and Transit Networks

- Highway Networks
  - Roadway attributes on network links
  - Lanes, free-flow speeds, peak hour lane capacities, etc.

- Transit Networks
  - Bus service utilizes road network speeds
  - Rail and Ferry services use transit links with coded speeds
  - Transit attributes include:
    - Frequencies (peak and off-peak)
    - Fares
    - Stop/Non-stop coding
    - Access connectors (walk, transfer, park-and-ride)
Model Calibration and Validation

- VTA Models are Calibrated to Observed Data
  - 1990 MTC Home-Interview Travel Survey for Non-work Trips
  - 2010 Census Data Travel Patterns for Work Trips

- VTA Models are Validated to Observed Traffic and Transit Patterns
  - AM and PM Peak Traffic Counts
  - Daily Transit Boardings by Operator (BART, Caltrain, VTA)

Year 2035 Forecast Networks

- Includes Funded Projects in the Adopted Regional Transportation Plan
- Major Transit Projects Include:
  - VTA BART Extension to Silicon Valley
  - 2-Station Phase I in 2035 No Project (existing + committed projects included)
  - 4-Station Phase II in 2035 Project
  - Caltrain Electrification and Transbay Extension
  - VTA Light Rail Improvements
    - Capitol Corridor Extension
    - Vasona Corridor Extension
    - Alum Rock-Mountain View (Long T) Line
  - VTA ECR and Stevens Creek BRT Corridors
- Major Highway Projects Include:
  - VTA Express Lane Corridors – Countywide
  - Various Countywide Roadway Improvements
BART Silicon Valley Extension

- Model output used in all phases of Project Analysis
  - Transit ridership
    - New transit trips and diverted transit trips
    - Transit vehicle requirements
      - Rail and bus vehicles
    - Station boardings by access/egress modes for station design
      - Park-and-ride spaces and required/kiss-and-ride drop-off
      - Transit transfers – station design for feeder bus and shuttle access/egress

BART Silicon Valley Extension

- Capital cost estimates
- Operating and maintenance cost estimates
- Traffic volumes
  - Station intersection level-of-service impacts
EIR and FTA Ridership Requirements

- Transit Ridership
  - No Project and Project
    - Existing Year (2015) and 20 year horizon (2035)
    - Opening Year 2025
    - New Starts final reported ridership is calculated as 50% of existing and 50% of horizon ridership
  - FTA requires an estimate of project ridership made by transit dependents – for VTA models these are lowest income riders estimated by the models

2035 Ridership – from March 2012 Model Run

<table>
<thead>
<tr>
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<th>Ridership</th>
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<tbody>
<tr>
<td>Alum Rock</td>
<td>7,200</td>
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<tr>
<td>Downtown</td>
<td>28,000</td>
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<tr>
<td>Diridon</td>
<td>14,000</td>
</tr>
<tr>
<td>Santa Clara</td>
<td>12,000</td>
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Questions??
What’s Next for Ridership?

- Continue Community Outreach efforts
- Support Environmental Documentation Process – 2015 → 2017
- Coordinate with FTA for Review of Ridership Forecasts – 2015 → 2017
- Incorporate updated ABAG Regional Growth forecasts when available (likely late 2016 → early 2017)
- New Starts Submittal (2017)

BART Phase II

Planned Land Use Framework
Diridon and Downtown

Downtown/Diridon Community Working Group
June 9, 2015
Existing Planning Framework

Downtown Strategy 2000

- Strategy and EIR approved by Council in 2005
- Evaluated:
  - 11.2 Million SF Office
  - 8,500 residential units
  - 1.4 Million SF Retail
  - 3,600 Hotel Rooms
- Development broken into four phases
- Transportation improvements/mitigations identified
Downtown – Envision San Jose 2040

- General Plan Major Strategy # 9 “Destination Downtown”
- Build upon the great transit access to create a vibrant urban center
- 48,500 new jobs planned
- 10,360 new residences planned

Downtown – General Plan & Zoning

- Downtown General Plan Land Use Designation
- Downtown Core Zoning District
Diridon Station Area Plan

- Establishes land use plan and policy framework
- Maximizes development potential
- Plans for Diridon Station Expansion
- Develops model plan for pedestrian, bicycle, and transit connectivity
- Program EIR completed

Planned Development Levels
- 4.96 Million SF Office
- 420,000 SF Retail
- 2,588 Residential Units
- 900 Hotel Rooms
Diridon Station Area Plan - Northern Zone

Innovation District
- Long term development potential
- 3,000,000 SF Office
- 80,000 SF Retail
- 223 Residential Units
- Successful HP Pavilion

Diridon Station Area Plan - Central Zone

Destination Diridon
- Office, entertainment, transit
- 1,150,00 SF Office
- 140,000 Retail
- 250 Hotel
- Ballpark
Diridon Station Area Plan - Southern Zone

Diridon South
- Mixed Use Residential
- 800,000 SF Office
- 200,000 SF Retail
- 2,365 Residential Units
- 650 Hotel

Diridon Station Expansion

Goal: Expand Station to create a well-integrated center of architectural and functional significance
Transportation and Parking Strategies

- **Transportation System**
  - Enhance facilities for walking, biking, and transit
  - Pursue Envision 2040 mode shift goals (20% transit, 15% bike, 15% walk)

- **Parking**
  - Encourage best practices (unbundled parking, shared parking, car share)
  - Parking goals only, no proposed changes to current code
  - If more parking is built, parking would replace development
Evaluate Diridon, Airport & Santa Clara Connections

• Viability of Diridon, Airport and Santa Clara connection
  - Route, Ridership, Cost

• Range of Automated Guideway Transit Technologies
  - Automated People Mover (APM)
  - Automated Transit Network (ATN)
    (2012 SJ study)
  - Hybrid/Phased Approach

• Additional Connections
  - HSR Long Term Parking
  - North SJ
  - Downtown/Convention Center

• Define potential project

Plan Updates and Studies in Process
Downtown Strategy EIR Update

- Update planned residential capacity
- Remove or modify development phasing
- Update Traffic Analysis
- Consider revised mitigations and funding
- Consider policies to reserve areas adjacent to BART for employment uses

BART Phase II - Development Impact Study

- Identify anticipated impacts of BART upon development
- Evaluate existing land use plans and real estate market
- Identify opportunities/mechanisms to catalyze development
- Suggest changes to existing land use plans
**BART Phase II - Access & Connectivity Study**

Integrate BART Station into the Surrounding Environment

- Maximize Ridership
- Connect Seamlessly to Feeder Systems
- Enhance the Quality of Street Life
- Encourage Foot Traffic & Business Vitality

**Study Process**

- Walk Audit & Workshop with Community Stakeholders (You!)
- Three-Day Charette
- Documentation of Stakeholder Input & Charette Outcomes

*Save the Date: Tuesday, July 21st*
Discussion

Eileen Goodwin, Facilitator
Next Steps

- Next meeting: Tuesday, August 11, 2015 ~ 4:00-6:00 PM,
  San Jose/SV Chamber of Commerce ~ BYOB
  - Financial Analysis of BART Phase II (VTA staff & Ernst and Young)
  - City related projects within the BART corridor (City of San Jose staff)
  - VTA related projects within the BART corridor (VTA staff)
  - Economic Analysis surrounding BART stations (SPUR staff)
  - Envision project update (VTA staff)

- Parking validation

- Action Items