VTA's BART Silicon Valley Phase II Extension

Downtown-Diridon Community Working Group

October 13, 2015

1

Agenda

- Follow-up Items and Work Plan
- BART System Operating and Maintenance
- VTA's BART Silicon Valley Program status
  - Intro to Phase II Downtown and Diridon station campuses, features, and process
- Financial Update of BART Phase II – Recap of Board Workshop
- Next Steps

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

3

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

4

Role of the CWG Team

CWG Team Member	Role
Eileen Goodwin	Facilitator
Brent Pearse	Primary Outreach Contact
Leyla Hedayat	Phase II Project Manager
Kevin Kurimoto	Technical Lead
Michael Brilliot	City of San Jose – Planning Liaison
Rosalynn Hughey	City of San Jose – Planning Liaison
Ray Salvano	City of San Jose – DOT Liaison
Jessica Zenk	City of San Jose – DOT Liaison

5

Upcoming Meetings

Public BART Phase II Financial Update Workshop
- November 2015

CWG Meetings
- December 1, 2015

VTA Board of Directors
- November 5, 2015
- December 10, 2015

BART Silicon Valley Program Working Committee
- December 7, 2015

6

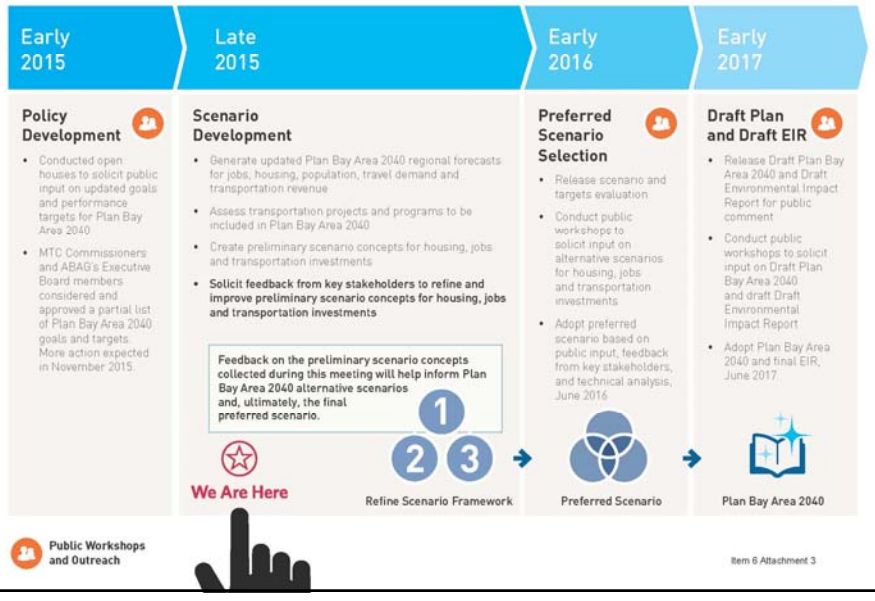
Follow-up Items and Work Plan

- Follow-up Items
- Work Plan Shifts and Schedule Update

7

Scenario Development Process

Plan BayArea 2040



Update of VTA Model Socioeconomic Data for Envision Silicon Valley

- VTA will update Year 2040 Long-Range Growth forecasts to be used for Envision Silicon Valley
  - Reflect latest inventory of approved projects and area plans throughout Santa Clara County
  - Draft allocations distributed week of October 12th to local jurisdictions for review and comment
  - Comments will be due by mid/late November
  - Results can be used to inform ABAG Scenario development

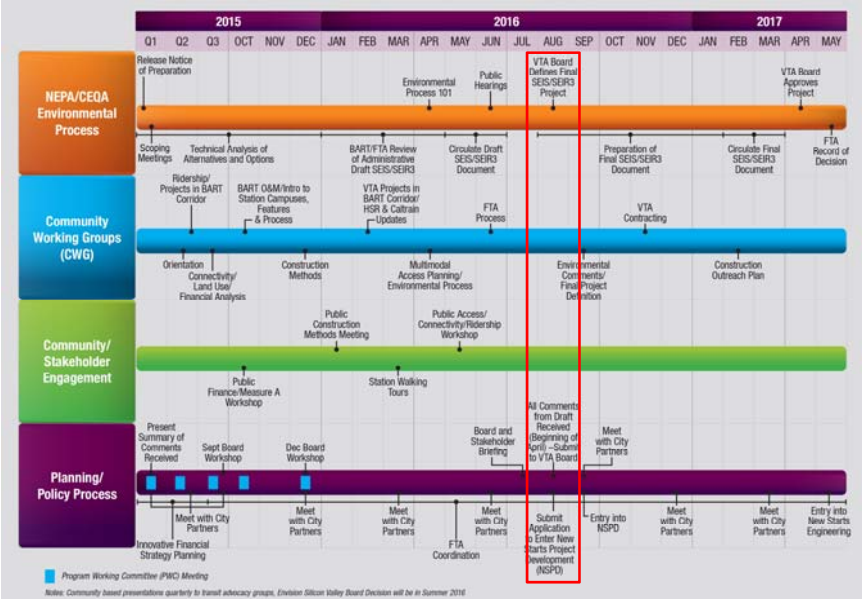
9

Work Plan Shifts and Schedule Update

Leyla Hedayat, Phase II Project Manager

10

Environmental Schedule Update



VTA and BART Interface

- VTA/BART Executive Team
- VTA/BART Project Coordination Meetings
- VTA/BART Operations and Maintenance staff level Meetings

  BART Silicon Valley Phase I Team includes BART on-site staff

BART System Operating and Maintenance

BART Staff

13

October 2015

VTA Community Working Groups
Introduction to BART Operations

BART System Basics: BART System Today

- More than 100 system-miles connecting four counties
- Mostly 2-tracks – requires schedule to run like a “Swiss Watch”
- Successful at moving
  - 430k customers on weekdays
  - over 25k per peak hour/direction between Oakland and SF
- Peak commute periods becoming wider
- High farebox recovery ratio: ≈75%
- Level boarding at all stations since 1972
- Aging infrastructure built mostly in 1970’s
  - Heavy modernization underway with occasional planned shutdowns

15

BART System Basics Maintenance & Operations

Small maintenance window

- Trains must start at beginning of line to arrive when stations open at 4 AM on weekdays
- Punctual service requires that facilities are provided at end of line (“Terminal Zones”) for train drivers and dispatchers
- All maintenance occurs late at night, especially on weekends
  - Maintenance work cannot safely begin until the last trains reach the end of the line
  - In Santa Clara, last trains from East Bay would arrive about 2 AM each morning
  - Power up system well before 4 AM (small maintenance window)

16

Strategic Maintenance Program

- **Planned Maintenance and Regular Mini-Overhauls**
  - Rolling 5-year overhauls instead of running system to non-performance
  - Work practices and stations evaluated and redesigned by employees
  - Introduction of modern industry and “lean” efficiencies
- **Data-Driven Investments**
  - Decisions based upon greatest reliability impact
  - Targeted investment to reduce in-service failures
  - Staying in front of equipment degradation to extend useful life

17

BART Service Basics

- Timetable is “clock-faced” (8:03, 8:18, 8:33, etc.)
  - 15 minute service today on weekdays
  - 12 minute service in future possible with new train control system & fleet
- Train length varies by time of day
- Some lines have timed connections to avoid service gaps
- Empty seats fill up fast further downstream
- Additional “Ready Reserve” trains ensure service in the event of major delays

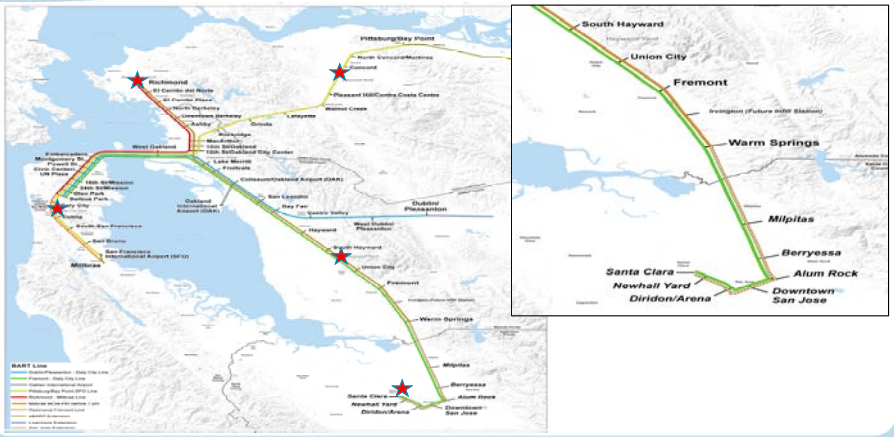
18

Future Fleet

- Fleet of 669 cars today must grow to 1,081 cars to meet future demand
- Better reliability, shorter dwell times at stations, improved on-board real-time information
- Continued focus on preventative maintenance and new focus on strategic overhauls

19

Service Delivery Assumptions for Silicon Valley Phase II Extension



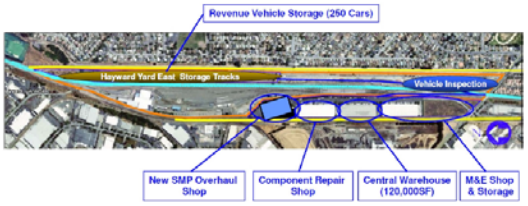
Planned Service Frequency

WEEKDAY SERVICE	Early AM	AM Peak	Midday	PM Peak	Evening	Span
GREEN (100-Series Trains)						
Northbound						
Green Line (Santa Clara-Daly City)	15	12	15	12	15	approximately 4:00am -12:00m
Southbound						
Green Line (Daly City-Santa Clara)	15	12	15	12	-	Approximately 5:13am-7:15pm
Green Line (Union City-Santa Clara)	15	-	-	-	-	4:30am-7:30am - 12 trips
ORANGE (200-Series Trains)						
Northbound						
Orange Line (Santa Clara-Richmond)	15	12	15	12	15	4:00am-11:54pm (15-min service starts 7:15pm)
Southbound						
Orange Line (Richmond - Santa Clara)	15	12	15	12	15	4:20am-12:17am (15-min service starts 7:35pm)

21

Hayward Maintenance Complex (HMC)

- HMC is focused on preventive maintenance for whole fleet
- Investment in specific functionalities for system-wide needs (vehicle component repair, track or maintenance-of-way, etc.)
- HMC is about 26 miles away (~36 minutes) from Santa Clara
- Still need Newhall when all HMC phases complete



22

Newhall Yard and Shops

A "Yard" is a place where trains are stored overnight and midday

- All Green Line (SF trains) and half of Orange Line (Richmond trains) must start and end their day in Santa Clara
- Staging of extra trains for special events (i.e. Levi's Stadium, SAP Center, Earthquakes, Downtown SJ) is critical
- Need to store over 200 cars
- Ensures service stability and reliability

23

Newhall Yard and Shops

A "shop" continuously maintains the fleet, assuring daily availability.

- Must maintain about 200 total cars with ~30 in the shop for regular maintenance
- Some unscheduled and mostly planned maintenance (i.e. changing wheels, fixing doors, mending upholstery)
- Overhaul and component repair occurs at HMC for entire system

24

Newhall Yard & Shop: Introduction to BART Operations

Questions?

25

Intro to Phase II Downtown and Diridon station campuses, features, and process

Leyla Hedayat, Phase II Project Manager

26

Station Campuses, Features & Process

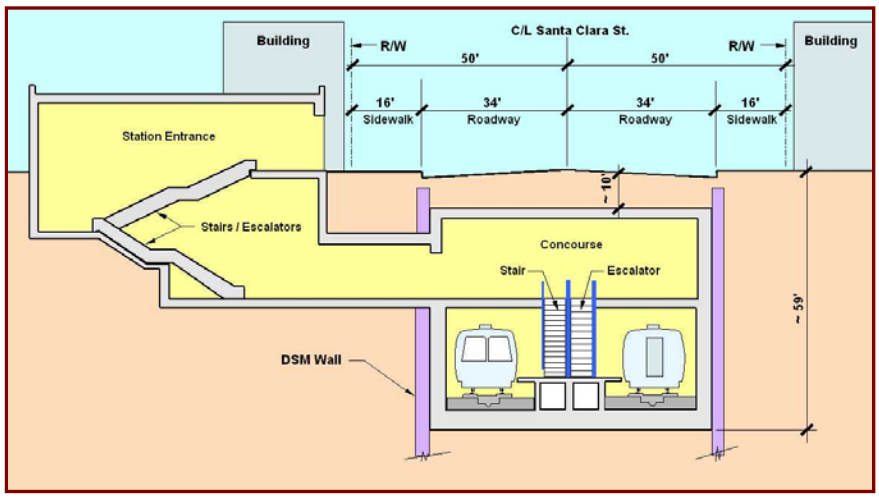
What we'll cover today:

- Campus and station elements
  - Entrance locations
  - Joint Development
  - Parking
  - Kiss and Ride
  - System Facilities

Access planning will occur in April 2016

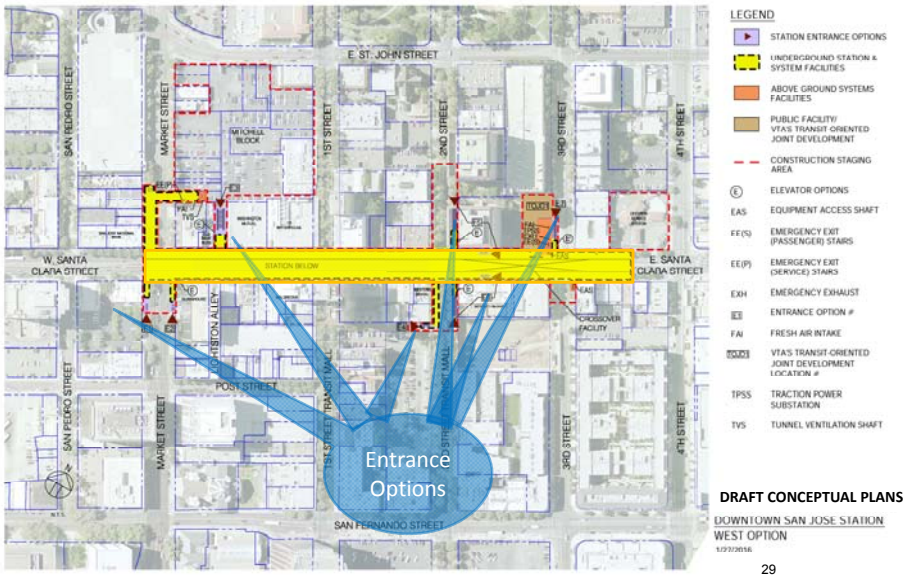
27

Typical Station Cross Section



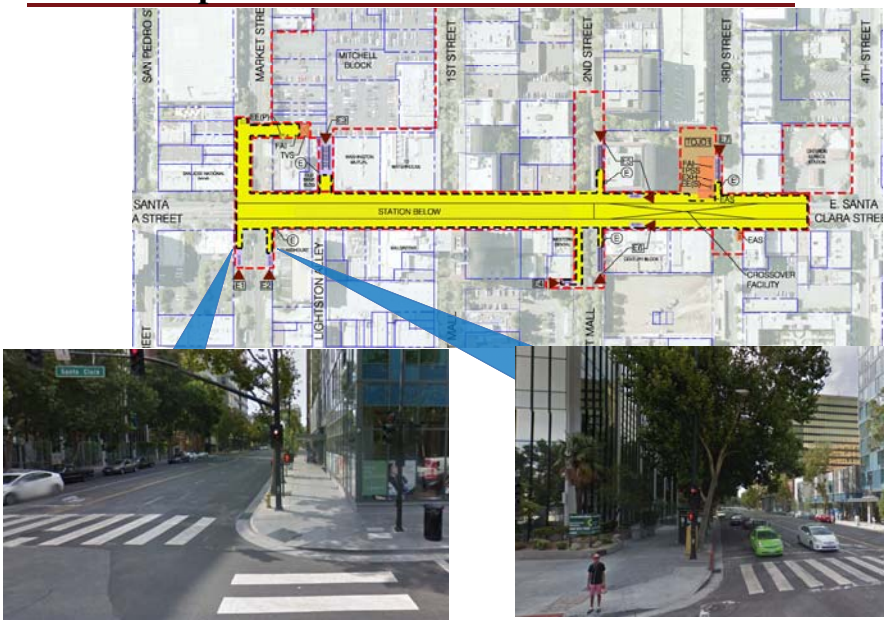
28

Downtown San Jose Station – West Option
On-site Features

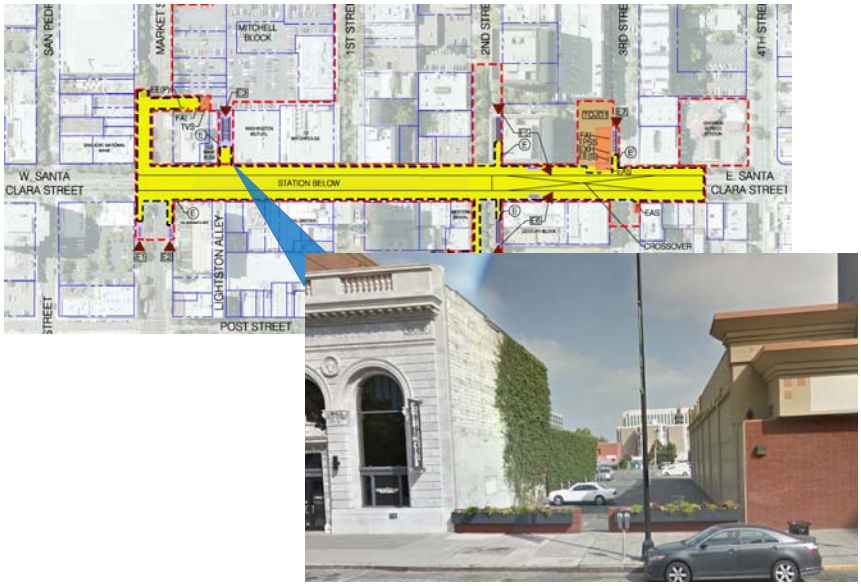


29

Downtown San Jose Station – West Option
Entrance Options



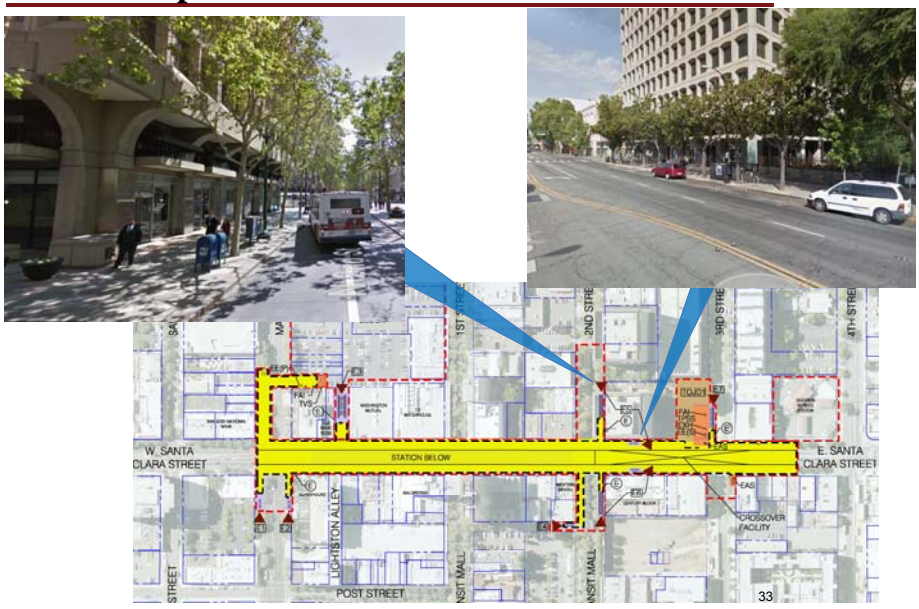
Downtown San Jose Station – West Option Entrance Options



Downtown San Jose Station – West Option Entrance Options

32

Downtown San Jose Station – West Option Entrance Options



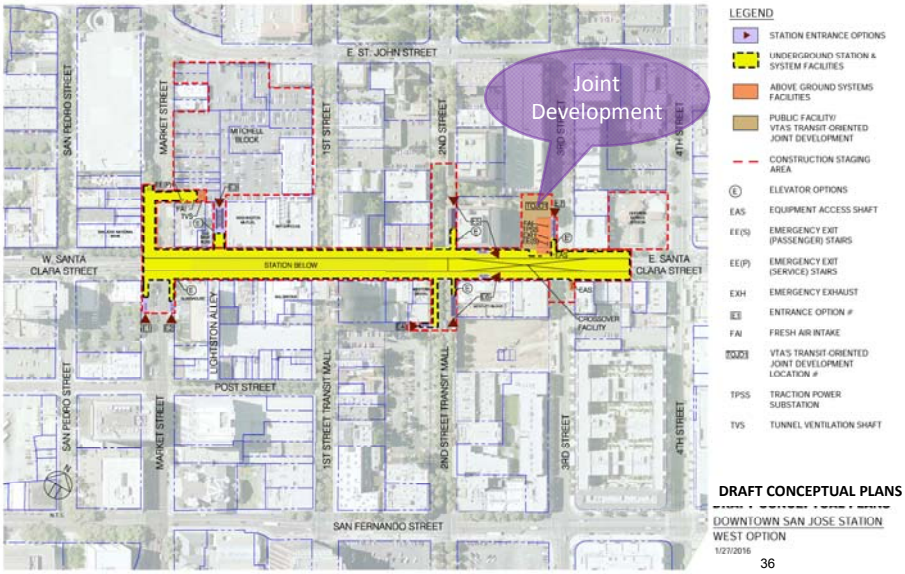
33

Downtown San Jose Station – West Option Entrance Options

Downtown San Jose Station – West Option Entrance Options

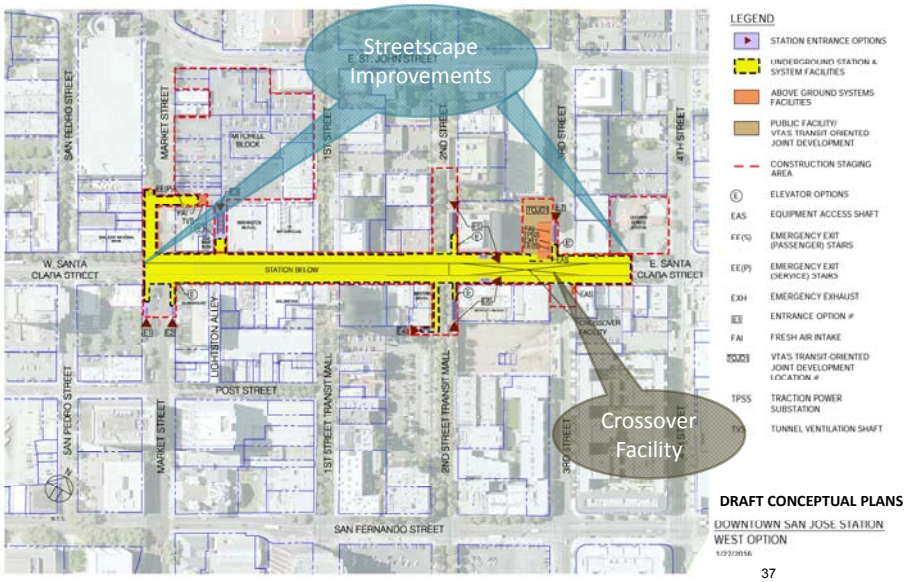
35

Downtown San Jose Station – West Option Connecting Features



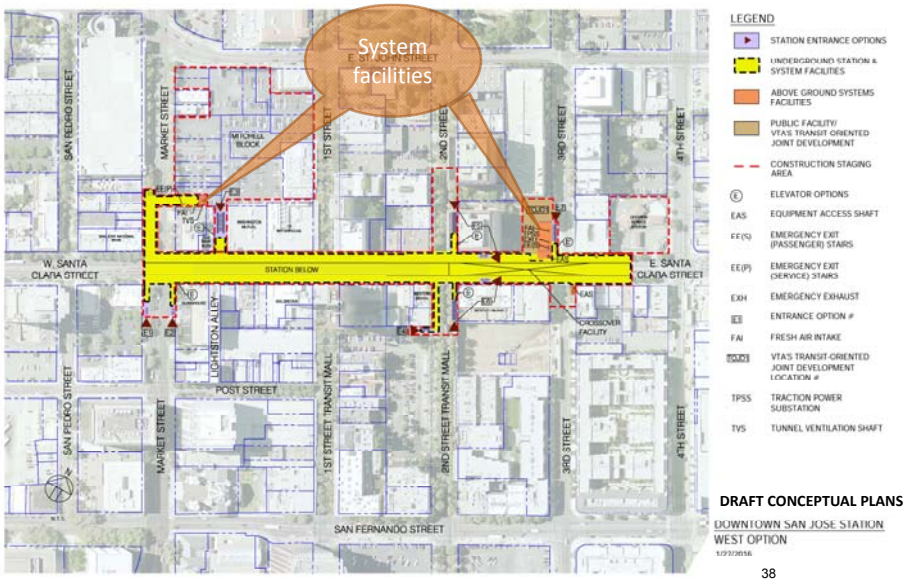
36

Downtown San Jose Station – West Option Miscellaneous Features



37

Downtown San Jose Station – West Option System Facilities



38

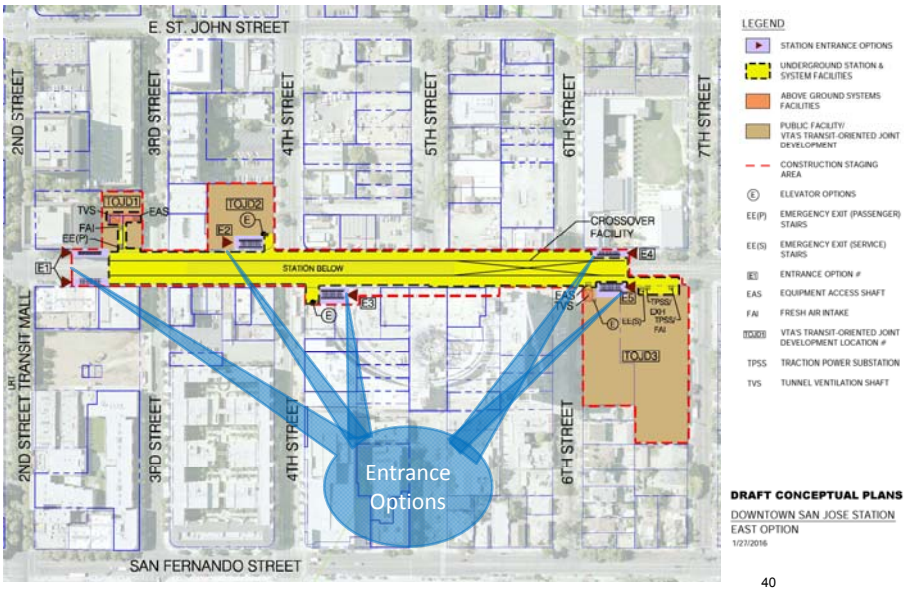
Downtown Station Systems Facilities

West Option and East Option have the same systems facilities:

- Traction Power Substation (TPSS) – Provides power to trains
- Auxiliary Power Substation (APSS) – Provides power to facilities within the stations
- Train Control Room (TCR) – Tracks train locations within the BART system
- Emergency generator located near the east end of the station within a new building
- Emergency ventilation facilities – Ventilate stations of smoke in cases of emergencies. Located at each end of the station with a ventilation structure above ground, ~12 feet high

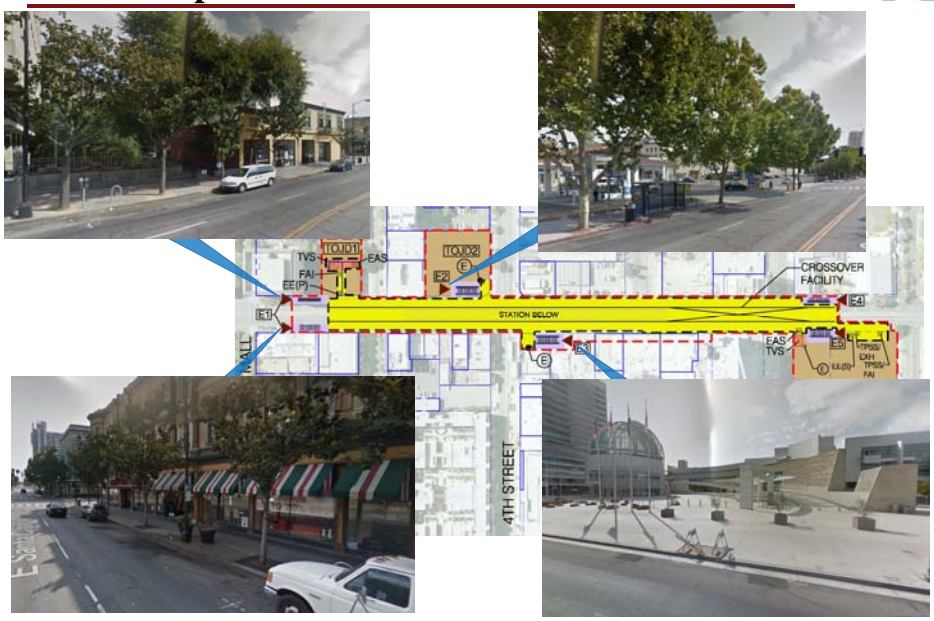
39

Downtown San Jose Station – East Option On-Site Features

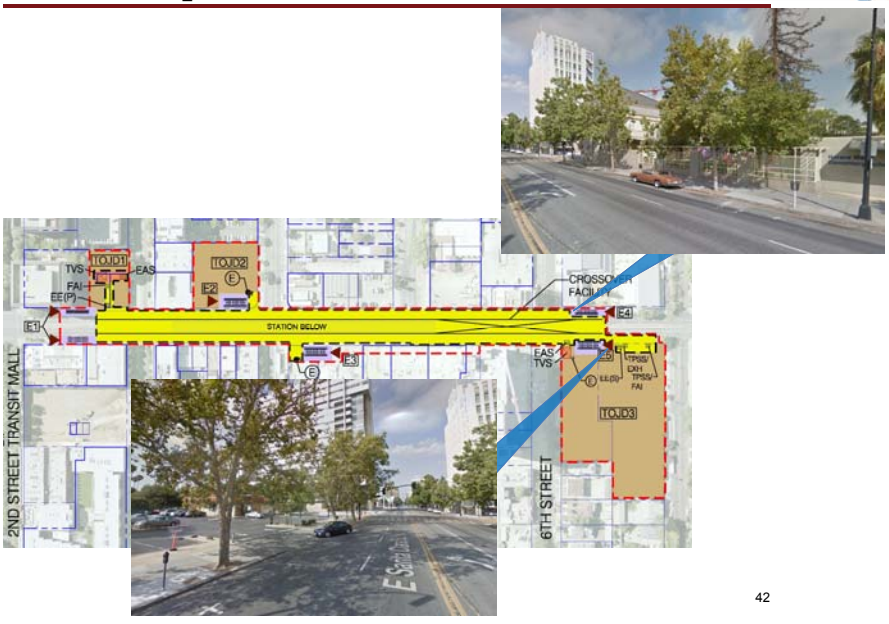


40

Downtown San Jose Station – East Option Entrance Options

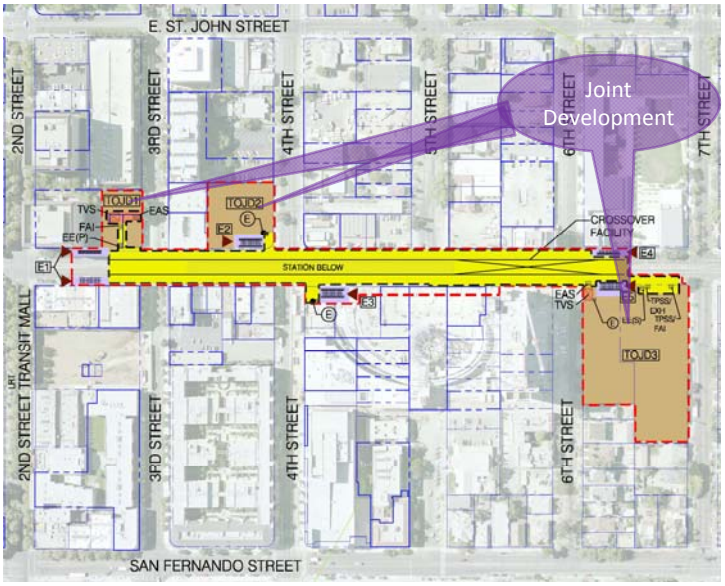


Downtown San Jose Station – East Option Entrance Options



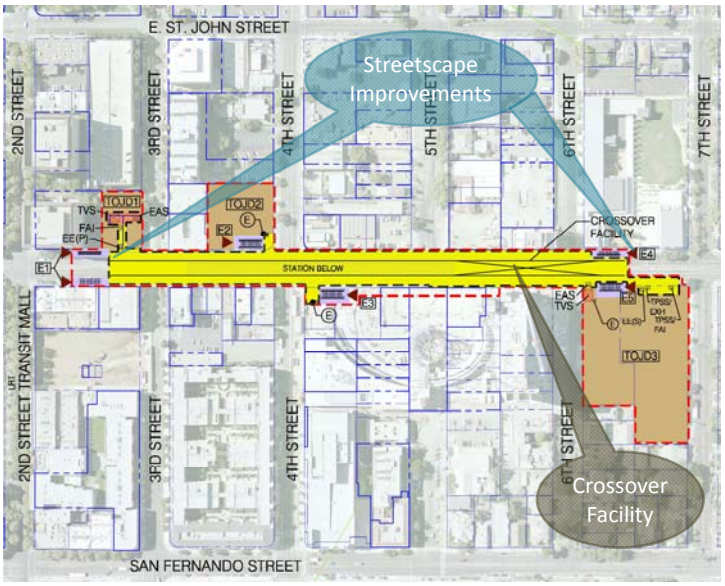
42

Downtown San Jose Station – East Option Connecting Features



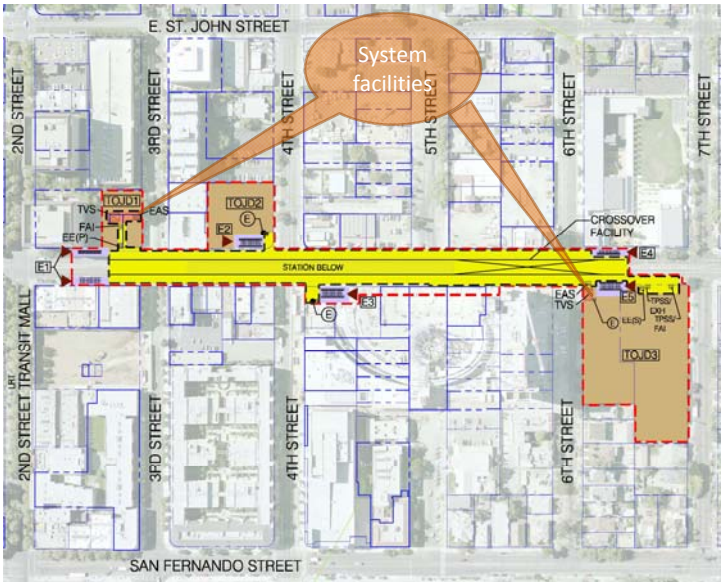
43

Downtown San Jose Station – East Option Miscellaneous Features



44

Downtown San Jose Station – East Option System Facilities



45

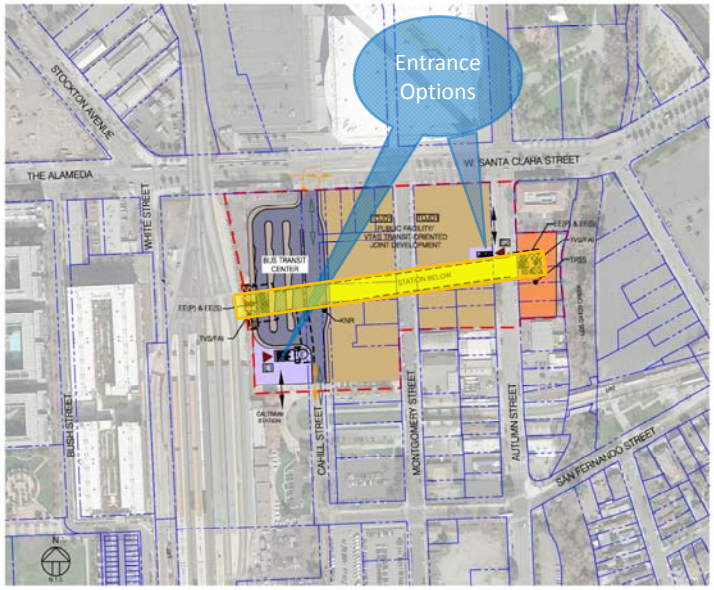
Downtown Station Systems Facilities

West Option and East Option have the same systems facilities:

- Traction Power Substation (TPSS) – Provides power to trains
- Auxiliary Power Substation (APSS) – Provides power to facilities within the stations
- Train Control Room (TCR) – Tracks train locations within the BART system
- Emergency generator located near the east end of the station within a new building
- Emergency ventilation facilities – Ventilate stations of smoke in cases of emergencies. Located at each end of the station with a ventilation structure above ground, ~12 feet high

46

Diridon Station On-Site Features

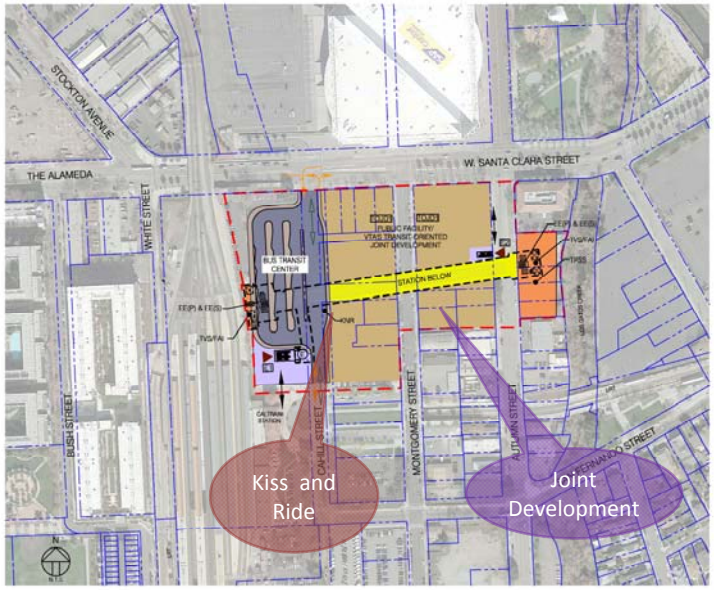


47

Diridon Station Entrance Options

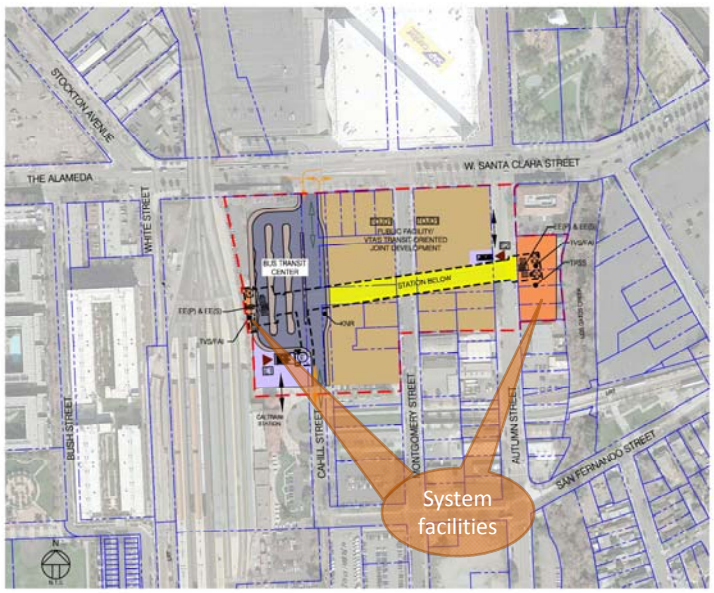
48

Diridon Station Connecting Features



49

Diridon Station System Facilities



50

Diridon Station Systems Facilities

- Traction Power Substation (TPSS) – Provides power to trains. Located above ground at the east end of the station
- Auxiliary Power Substation (APSS) – Provides power to facilities within the stations. APSS and emergency generator located above ground at the east end of the station
- Train Control Room (TCR) – Tracks train locations within the BART system. Located underground within the station box
- Emergency ventilation hatches located at each end of the station, with vent shafts 12 feet above ground
- Systems facilities within public view surrounded by an ~9-foot concrete masonry unit (CMU) wall
- Systems facilities outside of public view surrounded by a fence

51

Next Steps

- Multimodal Access Planning (Summer 2016)
- Downtown San Jose station – East vs. West Option decision (Summer 2016)

52

Financial Update of BART Phase II – Recap of Board Workshop

Mike Smith,
Fiscal Resources Manager

53

SANTA CLARA
Valley Transportation Authority

BART to Silicon Valley Phase II
Funding Strategy

October 2015

Overview of Funding Strategy

- Maximize funding from Federal and State sources
  - Baseline strategy for filling the gap targets significant discretionary allocations from Federal and State funding sources
- Raise local funding that will have greatest impact on closing the gap
  - Strong local funding support bolsters case for Federal and State funding
  - Transit projects have a history of spurring and facilitating business activity and property value growth; A portion of that value should be captured to fund the project
  - A dependable local funding source is key to mitigating the risk that discretionary funding is reduced or delayed
- Fill $2.4B Funding Gap
  - Phase II has a $4.7B cost and only $2.1B in identified funding
  - Gap will increase if cost estimate increases

Phase II Project Costs Estimated at $4.7 Billion (YOE)

- Estimated project cost in Year-of-Expenditure (YOE) dollars is $4.69B

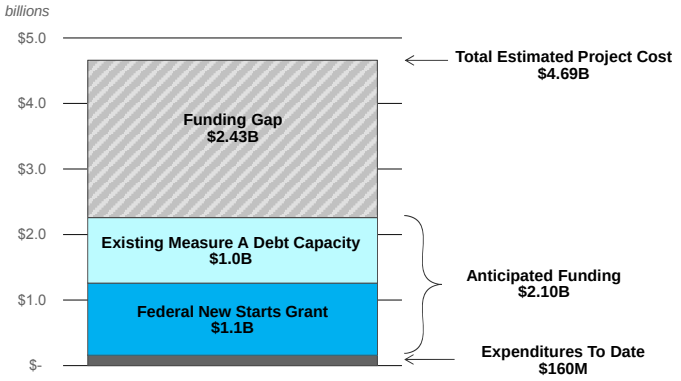
Cost Estimate Summary by FTA Standard Cost Category

Description	YOE dollars ($ billions)
Guideway and Track Elements	1.53
Stations, Stops, Terminal, Intermodal	0.84
Support Facilities: Yard, Shops, Admin. Buildings	0.39
Sitework and Special Conditions	0.10
Systems	0.43
ROW, Land, Existing Improvements	0.28
Vehicles	0.23
Professional Services	0.89
Finance Charges	TBD
GRAND TOTAL	**$4.69**

- Potential for costs increases and savings
- Successful mega projects focus on strategies that address both revenue generation and cost management

Project Funding Goals

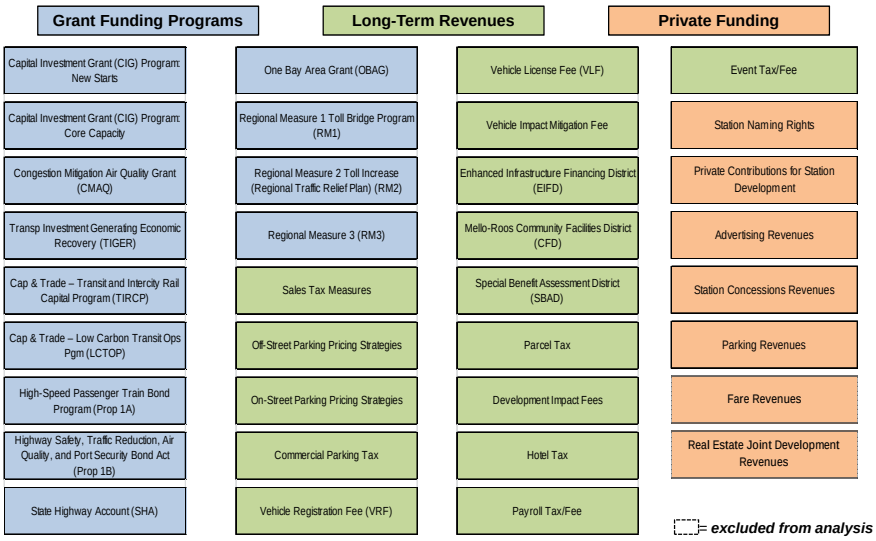
- $2.4 billion gap remaining to fund Phase II Project (could increase/decrease with cost increases/savings)
- A wide range and number of potential funding sources to help fill the funding gap were investigated



Funding Strategy Objectives

- Show high level of local commitment for Federal and State discretionary grant programs
- Meet key New Starts milestones for funding commitments
- Reduce reliance on funding provided by additional taxes
- Target local funding sources that capture the benefits created by transit
- Develop robust funding plan that provides cushion for future funding and cost uncertainties
- Implement financing approach that lowers the use and cost of debt

Toolbox of Potential Funding Sources



Methodology: Prioritization

- The existing and potential funding sources were prioritized into the following 3 categories:

Category	Number of Sources	Potential Value Range*	Description / Purpose of these Tools
Core Funding Sources (includes $2.26B already expended or identified funding)	5 sources	$1.74B – $6.50B	VTA may pursue aggressively and immediately to help fund the project.
Complementary Funding Sources	13 sources	$260M – $1.42B	These sources take longer and/or are more complex to develop and implement. VTA may investigate further and/or pursue to provide backup sources of funding.
Other Funding Sources	15 sources	$50M - $572M	VTA may pursue some of these sources in the normal course of business but not rely on these to provide any meaningful funding for the project.

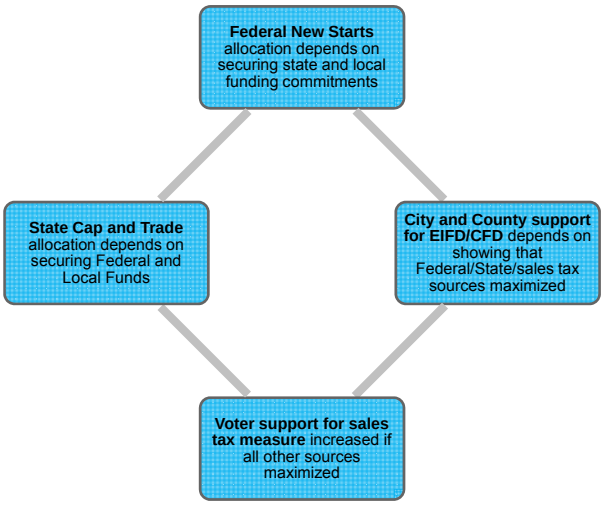
** Excludes estimated funding from sources which are anticipated to be available only after construction*

Pursue Core Funding Sources Aggressively

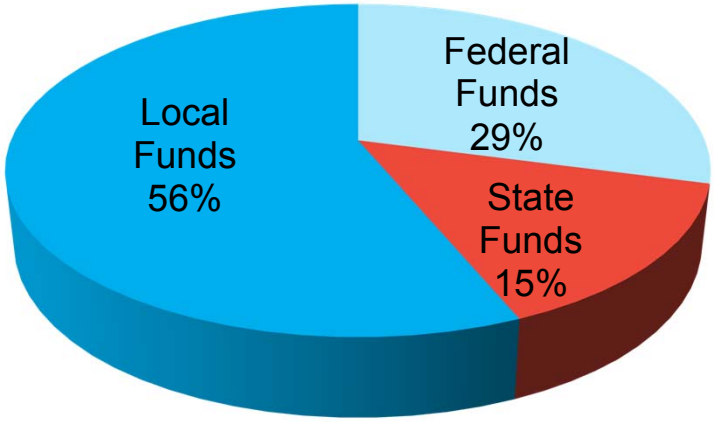
- VTA may aggressively pursue Core Funding Sources; however uncertainty will remain for some time
- Assuming reduced reliance on the new Sales Tax Measure X revenues, greater amounts of other Core Funding Sources or complementary sources may be needed

Funding Status	Source	Potential Value	Target Value
SPENT	Measure A Sales Tax and TCRP	$160M	$160M
ANTICIPATED	Existing Measure A Sales Tax	$1.00B	$1.00B
ANTICIPATED	FTA New Starts (anticipated)	$1.10B	$1.10B
Subtotal - Already Expended + Anticipated Funding		$2.26B	$2.26B
Pursue (New)	Sales Tax Measure X	$1.50B-$2.65B	$1.50B
Pursue (Additional)	FTA New Starts (additional)	Up to $400M ($1.5B total)	$400M additional ($1.5B total)
Pursue (New)	Cap & Trade Program (TICRP)	$750M	$750M
Pursue (New)	Mello Roos Community Facilities Districts (CFD)	$85M-$345M	$170M
Pursue (New)	Enhanced Infrastructure Financing Districts (EIFD)	$50M-$95M	$70 M
Subtotal - Additional Core Funding		$1.74B - $4.24B	$2.89B
TOTAL CORE FUNDING SOURCES (compare to $4.69B estimated project cost)		$4.0B - $6.50B	$5.15B

Interdependence of Core Funding Sources Warrants a Coordinated, Multi-Track Approach



Balanced Funding Strategy



Investigate Complementary Strategies Further

Source	Potential Value
High Speed Rail Funding (Prop 1A/Cap & Trade)	Up to $130M
(Future) Regional Measure 3	Up to $107M
Parcel Tax[2] (new)	$70M – $210M
Vehicle Registration Fee (VRF) (increase)[1]	$70M – $375M
Vehicle License Fee (VLF) (increase)[1]	$30M-$70M
Vehicle Impact Mitigation Fee (new)[1]	$110M-$750M
Commercial Parking Tax[1] (new)	$3M-$8M per year (unlikely for construction)
Parking Pricing Strategies: Off-Street[1] (new)	$4M-$8M per year (unlikely for construction)
Hotel Tax (increase)	$40 – $90M
Development Impact Fee (new fee for transit)	$100M – $300M
Station Naming Rights	Up to $25M
Private Contributions for Station Development	$10M – $20M
TOTAL[1,2]	$260M-$1.42B

[1] Total includes Vehicle Impact Mitigation Fee and excludes Vehicle Registration and License Fees, Commercial Parking Tax and Off-Street Parking Pricing Strategies which have lower estimated potential funding value; analysis assumes only one of these vehicle/parking revenue sources would be possible.
[2] Parcel Taxes are similar to Mello-Roos CFDs but over a larger area; total assumes Mello-Roos CFDs are implemented (Core Funding Source) and excludes potential value from Parcel Taxes.

Financing Approach: The Role of Financing Tools

- Financing tools are being considered to the extent needed to accelerate identified funding sources and/or bridge funding gaps during construction
- Financing cannot close the gap by itself, but use of well-structured, low-interest financing, combined with a dynamic funding strategy, can narrow the gap
  - For example, preliminary estimates show that a TIFIA loan could provide $350 million of additional financing proceeds relative to bond financings for the project
- Examples of financing tools being considered include:

Financing Tool	Brief Description
Short-term bond financing, commercial paper or other notes	Lower cost of financing due to shorter term
Long-term bond financing	Tax-exempt, long-term financing at VTA's cost of capital
TIFIA Loan (Federal Transportation Administration)	Low cost, long-term financing; statutory maximum of 49% of eligible project costs but 33% has been limit in practice
RRIF Loan (Federal Railroad Administration)	Low cost, long-term financing limited to heavy rail–related costs of project cost (e.g., shared components with High Speed Rail or Caltrain)
California Infrastructure Bank Revolving Loan	Low cost, long-term financing for smaller project components
EB-5 Program	Low cost, short-term financing
Private Developer Financing	Higher cost, potentially long-term financing for risk-transfer of a major project component, if desired (tunnel, e.g.)

Financing Approach: Reducing Financing Cost

- Active management of cash flow can reduce financing cost
  - Available cash will be used when possible
  - Debt issuance will be delayed when possible
  - Dynamic strategy; will track project outflows
- Short-term debt can reduce cost
  - Lower interest rate saves interest cost
  - May allow time for repayment streams to develop further, lowering cost of medium and long-term debt
- Longer and medium-term debt used to provide more certainty on interest cost

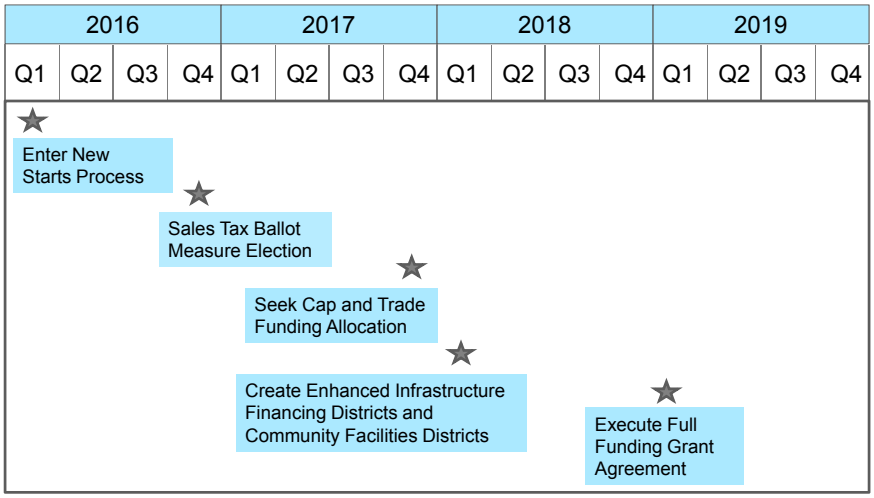
Next Steps: Sales Tax, Cap and Trade, and New Starts

- Continue to develop Envision Silicon Valley/Measure X sales tax initiative
- Refine strategy and develop application for Transit and Intercity Rail Capital Program (Cap and Trade) for targeted FY 2017 process
- Continue to prepare for entry into New Starts process, including running dynamic scenarios and communicating funding and financing strategy to FTA staff

Next Steps: Value Capture

- Develop financial framework and engage stakeholders for potential Community Facilities District(s) (CFD)
- Engage with stakeholders and taxing entities concerning potential formation of Enhanced Infrastructure Financing District(s) (EIFD)
- Refine financing strategy for leveraging value-capture related revenue streams to benefit project construction

Estimated Timing of Core Funding Commitments



SANTA CLARA Valley Transportation Authority

Questions

71

Brick and Mortar v. Online Sales Tax Growth

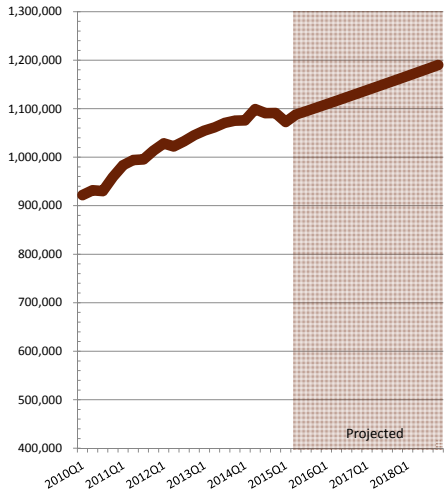
Statewide Average % Change of 2 Years (2012Q2 – 2014Q2)

Business	Storefront	Dot.com
Amazon	n/a (yet)	26.5%
Macy's	0.7%	23.9%
Nordstrom	-2.9%	64.6%
Wal-Mart	1.6%	10.4%
Target	1.6%	23.4%
J.C. Penney	-9.7%	4.0%
Sears	1.7%	12.3%

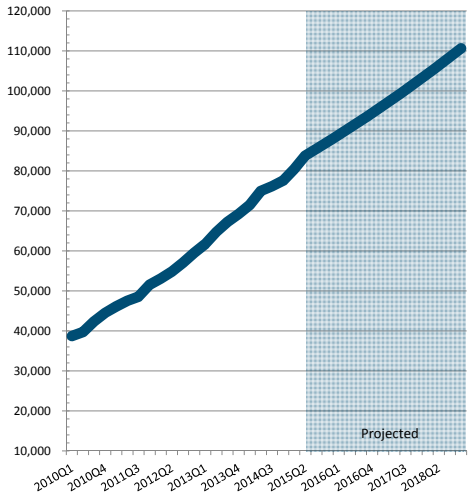
- Source: Buxton

Brick & Mortar Sales

U.S. Brick & Mortar Quarterly Retail Sales (millions)



U.S. Quarterly Retail E-Commerce Sales (millions)



Sources: census.gov and Statista

Discussion

Eileen Goodwin, Facilitator

73

Next Steps

- Next meeting: Tuesday, December 1, 2015 ~ 4:00-6:00 PM,

  San Jose/SV Chamber of Commerce ~ BYOB

  - Construction Methods (VTA staff & Engineering team)
- Parking Validation
- Action Items

74