BICYCLE & PEDESTRIAN ADVISORY COMMITTEE

Wednesday, August 8, 2018
6:30 PM
VTA Conference Room B-106
3331 North First Street
San Jose, CA

AGENDA

COMMITTEE MISSION STATEMENT:

The VTA BPAC provides expertise and guidance to the Board of Directors on promoting and enhancing non-motorized transportation opportunities throughout Santa Clara County and serves as liaison between VTA and the Member Agency bicycle and pedestrian advisory committees.

CALL TO ORDER

1. ROLL CALL

2. ORDERS OF THE DAY

3. PUBLIC PRESENTATIONS:

This portion of the agenda is reserved for persons desiring to address the Committee on any matter not on the agenda. Speakers are limited to 2 minutes. The law does not permit Committee action or extended discussion on any item not on the agenda except under special circumstances. If Committee action is requested, the matter can be placed on a subsequent agenda. All statements that require a response will be referred to staff for reply in writing.

4. Receive Committee Staff Report. (Verbal Report) (Ledbetter)

5. Receive Santa Clara County Staff Report. (Verbal Report) (Talbo)


CONSENT AGENDA

8. ACTION ITEM - Recommend that the VTA Board of Directors adopt a resolution opposing Proposition 6 on the November 2018 ballot, which would repeal Senate Bill 1 (Beall), the “Road Repair and Accountability Act of 2017” and require voter approval of future transportation fuel tax and vehicle fee increases.

9. ACTION ITEM - Recommend that the VTA Board of Directors:

1) Direct staff to return $59,520 in Bay Area Bike Share revenue return to 2000 Measure A; and

2) Provide $113,088, $54,659, and $20,733 in Bay Area Bike Share revenue return to the cities of San Jose, Mountain View and Palo Alto, respectively, to support their local bicycle programs.

REGULAR AGENDA

10. ACTION ITEM - Recommend that the VTA Board of Directors adopt the Story-Keyes Complete Streets Study and 10% Concept Design.

11. INFORMATION ITEM - Receive information on the Santa Clara County Transportation Technology Strategic Plan final report.

OTHER

12. Receive Reports from BPAC subcommittees. (Verbal Report)


14. Review BPAC Work Plan. (Ledbetter/Talbo)

15. ANNOUNCEMENTS

16. ADJOURN

In accordance with the Americans with Disabilities Act (ADA) and Title VI of the Civil Rights Act of 1964, VTA will make reasonable arrangements to ensure meaningful access to its meetings for persons who have disabilities and for persons with limited English proficiency who need translation and interpretation services. Individuals requiring ADA accommodations should notify the Board Secretary’s Office at least 48-hours prior to the meeting. Individuals requiring language assistance should notify the Board Secretary’s Office at least 72-hours prior to the meeting. The Board Secretary may be contacted at (408) 321-5680 or e-mail: board.secretary@vta.org or (408) 321-2330 (TTY only). VTA’s home page is on the web at: www.vta.org or visit us on Facebook at: www.facebook.com/scvta. (408) 321-2300: 中文 / Español / 日本語 / Çůňɪ́ / tiếng Việt / Tagalog.

All reports for items on the open meeting agenda are available for review in the Board Secretary’s Office, 3331 North First Street, San Jose, California, (408) 321-5680, the Monday, Tuesday, and Wednesday prior to the meeting. This information is available on VTA’s website at http://www.vta.org/ and also at the meeting.
At its meeting last week, the VTA Board of Directors:

- Voted unanimously to discontinue the light rail express, which will eliminate six one-way express weekday trips effective October 8, 2018. The discontinuance of the light express service will save approximately $720,000 to $820,000 annually. VTA will add light rail cars to trains on adjacent trips to accommodate added demand, as needed. Passengers using this service now will add four minutes to their travel time once the service is discontinued. The Board directed staff to report the actual cost savings after a year.

- The Board also authorized the General Manager to enter into an agreement with the Metropolitan Transportation Commission to get federal funds for the SR-85 Transit Guideway Study. This allows the study to move forward while Measure B monies are tied up in a lawsuit.

**Other items the Committee should be aware of are:**

**Safety and Security Report**

- Safety is VTA’s number 1 priority so we continuously evaluate processes, procedures, and system features to ensure we improve the safety of our customers and our employees.
- As part of our safety program, we educate the public about being safe around VTA’s bus and light rail system. VTA staff produced a new short video to remind everyone that being safe is everyone’s responsibility. This short clip provides tips on how the general public can stay safe around our bus and light rail system.
  
  **Video plays (34 seconds)**
  
  The long version of this video is available on our website, [www.vta.org](http://www.vta.org) as well as more safety information.
- Before I move on to the next item on my report I want to note that VTA also participated in the National Night Out last Tuesday to promote safety and share information about VTA transportation infrastructure projects.

**TVM now dispenses Clipper Cards**

- We are pleased to announce that we are now retrofitting our ticket vending machines, or TVMs, to allow them to sell Clipper Cards.
- This significantly expands the number of locations where people can buy adult Clipper Cards, which is helpful because we no longer use paper passes, like other agencies around the country.
- At present, about a third of the TVM’s have been successfully retrofitted. You’ll see the locations in the slide – these are locations with high traffic and we were able to sell about 4,000 Clipper Cards, from these locations in the last two weeks of July.

The next items on my report are the upcoming events this month:
VTA’s Ad Hoc Financial Stability Committee

- The Ad Hoc Financial Stability Committee meeting will be held on Friday, August 17 at 1:30 p.m. here at VTA, meeting room is to be determined.

Oppose Position for Proposition 6

- On the consent agenda, you have the item that asks the Board to adopt an OPPOSE position for Proposition 6, which calls for the repeal of Senate Bill 1 (Beall), the “Road Repair and Accountability Act of 2017” (SB 1) and requires voter approval for transportation fuel tax and vehicle fee increases in the future.

- Staff is proposing an oppose position because Prop 6 will abolish the funding for thousands of critical and much-needed local bridge and road safety and transportation projects within our state. The staff report lists the capital projects, local streets and roads, highway, and other transportation infrastructure projects in Santa Clara County that will lose funding if Prop 6 passes.

- In conclusion, Prop 6 would eliminate a comprehensive infrastructure plan and negatively impact programs of roadway maintenance, highway improvement, transit service, active transportation pedestrian and bike safety improvements performed by VTA and the cities and County of Santa Clara.

Active Transportation Program Grant

- VTA submitted a grant request to the Active Transportation Program to design and construct pedestrian safety and transit access improvements at either intersections along King Road in East San Jose. This project comes out of VTA’s Pedestrian Access to Transit Plan and San Jose’s Vision Zero Program. The entire project is estimated to cost $19 million. VTA will learn the results of the competitive grant program later this fall.

Monthly Bike-Ped Webinar

- You’re invited to attend this month’s webinar, “Moving Beyond the Centerline – Advisory Bicycle Lanes, Best Kept Secret”
  - Wednesday, August 15, Building C, room C119
  - Board Office will send info
  - Action item: Invite your fellow BPAC members and city staff, elected officials to attend. Open to all.
VTA’s new Security Video
Ticket Vending Machine (TVM) Clipper Retrofit Project Progress Report

Completed –

- 53 out of 152 TVMs
- 20 out of 60 Stations
Committee Staff Report
Bicycle & Pedestrian Advisory Committee  
Wednesday, June 13, 2018 

MINUTES 

CALL TO ORDER 

The Regular Meeting of the Bicycle and Pedestrian Advisory Committee (BPAC) was called to order at 6:34 p.m. by Chairperson Hertan in Conference Room B-106, Santa Clara Valley Transportation Authority (VTA), 3331 North First Street, San José, California.

1. ROLL CALL 

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<th>Attendee Name</th>
<th>Title</th>
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<tr>
<td>Wes Brinsfield</td>
<td>Member</td>
<td>City of Los Altos</td>
<td>Present</td>
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<tr>
<td>Kristal Caidoy</td>
<td>Member</td>
<td>City of Milpitas</td>
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<td>Barry Chaffin</td>
<td>Member</td>
<td>City of Monte Sereno</td>
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<tr>
<td>Susan Cretekos</td>
<td>Member</td>
<td>Town of Los Altos Hills</td>
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<tr>
<td>Jaime Fearer</td>
<td>Vice Chairperson</td>
<td>City of San José</td>
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<tr>
<td>Tom Granvold</td>
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<tr>
<td>Peter Hertan</td>
<td>Chairperson</td>
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<td>Erik Lindskog</td>
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<tr>
<td>Robert Neff</td>
<td>Member</td>
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<tr>
<td>Carolyn Schimandle</td>
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<td>City of Gilroy</td>
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<tr>
<td>David Simons</td>
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<td>City of Sunnyvale</td>
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<tr>
<td>Jim Stallman</td>
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<tr>
<td>Paul Tuttle</td>
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<td>City of Campbell</td>
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<tr>
<td>Greg Unangst</td>
<td>Member</td>
<td>City of Mountain View</td>
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<tr>
<td>Herman Wadler</td>
<td>Member</td>
<td>County of Santa Clara</td>
<td>Present</td>
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<tr>
<td>Vacant</td>
<td>Member</td>
<td>City of Morgan Hill</td>
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<td>Ben Pacho</td>
<td>Ex-Officio Member</td>
<td>SV Bicycle Coalition</td>
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<tr>
<td>Shiloh Ballard</td>
<td>Alt. Ex-Officio Member</td>
<td>SV Bicycle Coalition</td>
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A quorum was present.

2. ORDERS OF THE DAY 

Member Granvold took his seat at 6:36 p.m.

Chairperson Hertan noted Staff’s request to hear Agenda Item #12., Citizens Advisory Committee (CAC) and 2000 Measure A Citizens Watchdog Committee (CWC) Report, immediately after Agenda Item #6., Chairperson’s Report.

M/S/C (Neff/Schimandle) to accept the Orders of the Day.

NOTE: M/S/C MEANS MOTION SECONDED AND CARRIED AND, UNLESS OTHERWISE INDICATED, THE MOTION PASSED UNANIMOUSLY.
RESULT: ACCEPTED – Orders of the Day
MOVER: Robert Neff, Member
SECONDER: Carolyn Schimandle, Member
AYES: Brinsfield, Caidoy, Chaffin, Cretekos, Granvold, Hertan, Neff, Schimandle, Stallman, Tuttle, Unangst
NOES: None
ABSENT: Fearer, Lindskog, Simons, Wadler

Member Wadler took his seat at 6:37 p.m.

3. PUBLIC PRESENTATIONS

There were no Public Presentations.

4. Committee Staff Report

Lauren Ledbetter, Senior Transportation Planner and Staff Liaison, provided an overview of the written staff report, highlighting the following: 1) summary of actions taken by the VTA Board of Directors (Board) at their June 7, 2018 meeting, including adoption of the Automated Driving Systems (ADS) Policy and adoption of the Santa Clara Countywide Bicycle Plan; 2) construction of VTA’s BART Silicon Valley Berryessa Extension (SBVX) is complete but critical work still needs to be completed prior to revenue service; 3) the Federal Transit Administration (FTA) issued a Record of Decision (ROD) for VTA’s BART Silicon Valley Extension - Phase II; 4) improved bicycle and pedestrian crossing at Capitol Expressway to access the Eastridge Transit Center; 5) the Santa Clara Caltrain Station Underpass Project was named Project of the Year by the American Public Works Association (APWA) and was awarded the Pedestrian/Bicycle Project of the Year by the California Transportation Foundation (CTF); 6) San Francisco Bay Trail is set to begin construction at the end of June, 2018; 7) the Cities of Mountain View and Santa Clara Multimodal Improvement Plans (MIPs); and 8) the Association of Pedestrian and Bicycle Professionals Monthly Webinar on June 20, 2018, at noon on “Roundabouts that Work for Bicyclists and Pedestrians.”

Ex-Officio Member Pacho took his seat at 6:43 p.m.

Stephen Flynn, Senior Policy Advisor, provided an update on bike travel reimbursement. VTA’s Administrative Code was amended to reflect the inclusion of travel reimbursement for members who travel to meetings via bicycle and was adopted by the VTA Board of Directors at their June 7, 2018 meeting.

Members of the Committee request the following: 1) information on the impact of MIPs on neighboring jurisdictions; and 2) an update on the North San José development plan.

On order of Chairperson Hertan, and there being no objection, the Committee received the Committee Staff Report.
5. Santa Clara County Staff Report

Ellen Talbo, County Transportation Planner, shared information regarding the Community Scoping Meeting on the Eastridge to BART Regional Connector: Capitol Expressway Light Rail Project to be held at William C. Overfelt High School on June 14, 2018.

On order of Chairperson Hertan, and there being no objection, the Committee received the Santa Clara County Staff Report.

6. Chairperson’s Report

There was no Chairperson’s Report.

The Agenda was taken out of order.

12. Citizens Advisory Committee (CAC) and 2000 Measure A Citizens Watchdog Committee (CWC) Report

Mr. Flynn and Member Wadler provided an update on the CAC/CWC membership restructuring, noting the June 7, 2018, Board of Directors’ adoption of the amended Administrative Code that incorporated the changes to the membership structure.

CONSENT AGENDA

7. Regular Meeting Minutes of May 9, 2018

M/S/C (Wadler/Caidoy) to approve the Regular Meeting Minutes of May 9, 2018.

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<tr>
<td>MOVER:</td>
<td>Herman Wadler, Member</td>
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<td>SECONDER:</td>
<td>Kristal Caidoy, Member</td>
</tr>
<tr>
<td>AYES:</td>
<td>Brinsfield, Caidoy, Chaffin, Cretekos, Granvold, Hertan, Neff, Schimandle, Stallman, Tuttle, Unangst, Wadler</td>
</tr>
<tr>
<td>NOES:</td>
<td>None</td>
</tr>
<tr>
<td>ABSENT:</td>
<td>Fearer, Lindskog, Simons</td>
</tr>
</tbody>
</table>

REGULAR AGENDA

8. Draft 2016 Measure B Bicycle/Pedestrian Capital Projects Competitive Grant Program

Jane Shinn, Senior Management Analyst, reviewed the process for agency submission, approval by a scoring committee, and distribution of funds for capital projects.

Discussion ensued clarifying the process for approval and receiving funds.

On order of Chairperson Hertan, and there being no objection, the Committee received and discussed the draft 2018 Measure B Bicycle/Pedestrian Capital Projects Competitive Grant Program.
9. **Mathilda Avenue Improvements at SR 237 and US 101 - Complete Streets Update**


Members of the Committee discussed the following: 1) providing sufficient time for bicycles and pedestrians to cross the street; and 2) potential problem areas. They requested the following: 1) additional details about the signals along Mathilda Ave. near the SR 237 interchange; and 2) to receive the presentation as a PowerPoint.

**On order of Chairperson Hertan**, and there being no objection, the Committee received a report on the Complete Streets Improvements included in the Mathilda/US 101/State Route (SR) 237 Interchange Project.

10. **Active Transportation Program Grants**

Ms. Ledbetter provided an overview of a project along King Road in San José being considered for submittal for an Active Transportation Program (ATP) grant.

The Committee discussed the following: 1) making the corridor pedestrian friendly; and 2) the types of ATP grants.

**On order of Chairperson Hertan**, and there being no objection, the Committee received a report on projects VTA is considering for submittal for Cycle IV of the Active Transportation Program.

**OTHER**

11. **Reports from BPAC Subcommittees**

There were no BPAC Subcommittee reports.

13. **BPAC Work Plan**

Ms. Ledbetter provided an overview of the work plan and provided a list of queue items.

Members of the Committee requested the following for the queue: 1) regarding **Queue Item #6**: North San José Projects: State Route 237 Tolls, Coyote Creek Trail Construction to ask John Ristow to provide a report; 2) add dockless bike and scooter share program criteria; and 3) add the Caltrans road safety audit pilot program and potential VTA involvement.

**On order of Chairperson Hertan**, and there being no objection, the Committee reviewed the BPAC Work Plan.
14. **ANNOUNCEMENTS**

Member Cretekos commented on the bike path along Interstate 280, noting Los Altos Hills is seeking public input on upgrading the path.

Member Neff announced the following: 1) Caltrans is installing hawk beacons along El Camino Real in Palo Alto; and 2) the Ross Road Bike Boulevard has been constructed.

Member Unangst made the following announcements: 1) the Latham Street Bike Boulevard was reviewed by the Mountain View City Council; 2) the Permanente Creek trail connector between Middlefield Road and the bike bridge tunnel is open; and 3) permanent fixes to the Stevens Creek Trail.

Member Stallman announced that rapid rectangular flashing beacons are green lighted.

Member Wadler announced the following: 1) the Almaden Cycle Touring Club Academy is accepting enrollments for July; and 2) volunteers are needed for helmet fittings and bike inspections during the Tour de Cure.

Member Brinsfield made the following announcements: 1) the Los Altos City Council approved additional money for the El Monte Pathway Project; and 2) some downtown intersections are shifting from two-way to four-way stops.

Member Schimandle announced that the Gilroy Safe Routes to School program is looking at funding options to keep it sustainable after the current grant is depleted.

Member Granvold noted the following: 1) the Santa Clara Bike Plan is in progress, with additional opportunities for input; and 2) Santa Clara plans to develop a Pedestrian Plan.

Ex-Officio Member Pacho announced the following: 1) the Silicon Valley Bicycle Coalition is hosting happy hour to celebrate a successful bike month; 2) San José is hosting a meeting focused on bike share; and 3) this year’s Bike Summit is on August 22, 2018.

Chairperson Hertan noted that the Bike Travel Reimbursement Policy applies to scooters.

15. **ADJOURNMENT**

On order of Chairperson Hertan and there being no objection, the meeting was adjourned at 8:47 p.m.

Respectfully submitted,

Thalia Young, Board Assistant  
VTA Office of the Board Secretary
BOARD MEMORANDUM

TO: Santa Clara Valley Transportation Authority
   Bicycle & Pedestrian Advisory Committee

THROUGH: General Manager, Nuria I. Fernandez

FROM: Director of Government & Public Relations, Jim Lawson

SUBJECT: Oppose Position on Proposition 6

Policy-Related Action: Yes
Government Code Section 84308 Applies: No

Resolution

ACTION ITEM

RECOMMENDATION:
Recommend that the VTA Board of Directors adopt a resolution opposing Proposition 6 on the November 2018 ballot, which would repeal Senate Bill 1 (Beall), the “Road Repair and Accountability Act of 2017” and require voter approval of future transportation fuel tax and vehicle fee increases.

BACKGROUND:
On June 25, the California Secretary of State announced that proponents of a repeal of Senate Bill 1 (Beall) the “Road Repair and Accountability Act of 2017” (SB 1) had garnered enough valid signatures to place their measure before California voters in the general election on November 6, 2018. Designated by the Secretary of State as Proposition 6, this measure would have two significant impacts on the maintenance and expansion of surface transportation infrastructure in California for decades to come.

First, the measure would repeal SB 1, depriving the state of the revenues needed to address our current backlog. Secondly, it will require voter approval for transportation fuel tax and vehicle fee increases moving forward, marking a significantly higher threshold to approve these investments in future years. By delaying and deferring maintenance projects, the state’s overall maintenance needs and their costs will only increase dramatically.

Passed by the Legislature and signed by Governor Brown on April 28, 2017, SB 1 represents the
culmination of years of sustained focus on California’s massive transportation infrastructure backlog, initiated by a special session of the Legislature called by Gov. Brown in June, 2015. The result of this effort is a comprehensive blueprint for repairing our roads, highways, bridges and maintaining our transit systems in a state of good repair.

The most significant transportation funding plan in decades, SB 1 raises new revenues from a number of different sources to address various transportation funding needs, as well as put in place several important transportation policy reforms. In broad terms, SB 1 restores the state’s capacity to meet these needs by adjusting the gasoline excise tax to account for inflation and addressing the loss of potential transportation fuels revenues as Californians purchase more hybrid and zero-emission vehicles. All of the new revenues are protected from being diverted or borrowed for non-transportation purposes when voters approved Proposition 69 in June, 2018.

SB 1 established the Road Maintenance and Rehabilitation Account and funds it with revenues derived from the following sources, all of which are indexed to inflation on an annual basis:

- Effective November 1, 2017, an increase in the gasoline excise tax of 12 cents per gallon. This adjustment restores the purchasing power of the gasoline excise tax to 1994 levels.

- Effective November 1, 2017, an increase of 20 cents per gallon in the diesel excise tax. Under the provisions of SB 1, half of the revenues from this increase would be deposited into the Road Maintenance and Rehabilitation Account. The other 50 percent would go to a new Trade Corridor Enhancement Account for corridor-based freight projects nominated by local agencies and the state.

- Effective January 1, 2018, a new transportation improvement fee assessed per year that will range from $25 to $175 based on the market value of an individual’s vehicle.

- Effective July 1, 2020, a new vehicle registration surcharge of $100 per year imposed on zero-emission vehicles. This surcharge will be paid starting with the second year of ownership of a new zero-emission vehicle model year 2020 or later.

These revenues are distributed to a range of existing transportation and cap-and-trade programs such as the State Highway Operation and Protection Program (SHOPP), the State Transit Assistance (STA) and Active Transportation and Transit and Intercity Rail Capital (TIRCP) programs, as well as newly established categories created by SB 1. These new categories include the Local Streets and Roads Program, the Solutions for Congested Corridors program, the Trade Corridors Enhancement Program and the Local Partnership Program.

Proposition 69, the “Transportation Taxes and Fees Lockbox and Appropriations Limit Exemption Amendment” is a companion constitutional amendment, that was approved by more than 81 percent of voters statewide in June, 2018. When SB 1 was enacted in April, 2017, the Legislature in effect chose to dedicate all of the increased revenues for transportation purposes, as only some of the taxes and fees currently are dedicated to these uses. Proposition 69 extends this protection against the diversion of revenues to other purposes to diesel sales taxes and transportation improvement fees.
When all taxes and fees are in effect in 2021, the following sources that are already restricted to transportation purposes are projected to generate significant statewide revenues:

- Gasoline Excise Tax: $2.4 billion
- Diesel Excise Tax: $700 million
- Zero Emission Vehicle Registration Fees: $18 million

Proposition 69 ensures that approximately $2 billion generated annually would also be dedicated to transportation:

- Transportation Improvement Fee: $1.6 billion
- Diesel Sales Tax: $300 million

Further, the state is now prohibited from loaning out these revenues or using transportation improvement fees to repay state bonds without voter approval.

Finally, Proposition 69 also exempts these revenues from state and local per-capita spending limits. California Proposition 4, the "Gann Limit" Initiative, passed by the voters in 1979, amended the state constitution to limit the rate of growth in state and local spending to the percentage increase in the cost of living and the percentage increase in the state or local government's population. While there are some current exemptions, including most gasoline and diesel excise tax revenues, Proposition 69 covers all SB 1 revenues.

California State Transportation Agency (CalSTA) has indicated that, if Proposition 6 is passed by the voters and SB 1 were to be repealed, their stated goal would be to try to support the completion of projects that are currently under construction, and to wind down SB 1 programs by discontinuing future grant awards.

**DISCUSSION:**

SB 1 is so much more than a gas tax. It is California’s comprehensive plan to address the deterioration of our local roads, the state’s $59 billion highway and $78 billion in local streets and roads maintenance backlogs, enhance the capacity of our highways and transit systems to accommodate growing needs. It would be difficult to overstate how many different surface transportation infrastructure projects and programs located in or serving Santa Clara County would be impacted by a repeal of SB 1 if Proposition 6 is passed by a majority of voters.

The majority of revenues generated by fuel tax increases flow into the Road Maintenance and Rehabilitation Account (RMRA) and are then distributed to formula and competitive grant programs such as:

- Local Streets and Roads apportionments ($1.5 billion)
- Local Partnership Program ($200 million)
- Active Transportation Program ($100 million)
- State Highway Operation and Protection Program ($1.5 billion), and the
- State Transportation Improvement Program.

**State Transit Assistance Program (STA)** will provide the Bay Area overall with $118 million augmentation of STA funding and an additional $38 million in new SB 1-created STA State of Good Repair funds, according to an estimate from the Metropolitan Transportation Commission. In FY 2018-19, VTA is projected to receive an additional $13.7 million to support our general transit operations needs, and $4.3 million in State of Good Repair funds thanks to SB 1.

**Local Streets and Roads program** revenues are apportioned by the State Controller by formula to cities and counties. To promote transparency, SB 1 requires that local jurisdictions submit lists of proposed projects to the California Transportation Commission a project expenditure report at the end of the year including the description, location, amount of funds expended, and estimated useful life of improvements constructed with program funding. Santa Clara County jurisdictions combined will receive more than $50 million in additional local streets and roads funding in FY 2018-19.

**SB 1 Local Streets and Roads Funding FY 2018-2019: County of Santa Clara**

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<th>Baseline Gasoline Excise Revenue</th>
<th>Additional SB 1 Funding</th>
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<td>GRAND TOTAL</td>
<td>$72,449,508</td>
<td>$52,427,894</td>
<td>$124,877,402</td>
</tr>
</tbody>
</table>

**The Local Partnership Program** is split equally into formula funding for local and regional transportation agencies that have passed sales tax measures, developer fees, or other imposed transportation fees and a competitive grant program. The California Transportation Commission
(CTC) approved the allocation of $9 million in formula funds to the Eastridge to BART Regional Connector in June, 2018. $17 million in competitive funds was awarded by the CTC on May 16 to support improvements to the interchange along Mathilda Avenue at US 101 and State Route 237.

**Trade Corridors Enhancement Program** will provide $4.2 million to design interchange improvements at US 101 and SR 25 to address congestion and safety issues. This interchange serves a vital trucking corridor, of significant economic interest for Santa Clara County and the entire Central Coast.

The transportation improvement fee based on vehicle values and on zero emissions vehicles is also deposited into the RMRA, and provides $250 million annually for the Solutions for Congested Corridors Program.

**Solutions for Congested Corridors Program** awarded $33.2 million to VTA in May for the construction of express lanes in Mountain View and Palo Alto, part of the US 101 Managed Lanes Project that will convert the existing HOV lanes on US 101 from SR 237 to the San Mateo County Line and the US 101/SR 85 carpool-to-carpool direct connectors to express lane connectors up to SR 237 on SR 85.

VTA and San Mateo submitted a joint application with the Metropolitan Transportation Commission (MTC) and Caltrans for SB1 funds for total of $233.2 million, which also funds the construction of express lanes US 101 in San Mateo County from the end of VTA’s project to I-380. In April, Caltrans listed the US 101 Managed Lanes project as their number one priority project statewide, within the Solutions for Congested Corridors program. This grant is the sole source of funding for the construction of this stage of the project. This project is a critical congestion management improvement for commuters, residents and taxpayers living in, and traveling through the northern part of Santa Clara County.

VTA will request the allocation of the $33 million for the US 101 Managed Lanes project, Phase 3, and $17 million for the Mathilda Avenue Interchange Improvements at SR 237 and US 101 at CTC meeting in August 15-16, in San Francisco.

**The Transit and Intercity Rail Capital Program**, an existing competitive cap-and-trade program supplemented by additional $245 million annually generated by the transportation improvement fee is VTA’s source of state funding for the BART Extension to Silicon Valley, Phase II. VTA has been awarded a total of $750 million through a multi-year funding agreement. Sixty-six percent of the funding for the TIRCP is coming from SB 1. Two other heavy rail lines serving Santa Clara County residents also received grant awards. Caltrain will receive a total of $165 million toward the electrification of their vehicle fleet, through a similar multi-year funding agreement. The Capitol Corridor Joint Powers Authority (JPA) will receive $80,000,000 in the next five years toward infrastructure investments in the corridor.

Commuter and intercity rail services like Caltrain and the Capitol Corridor are also eligible for formula distributions in State Rail Assistance funds, generated by the sales and use taxes on
diesel fuel. Caltrain will receive $2.5 million for vehicle rehabilitation, biking parking and signal improvements projects next year. Capitol Corridor will receive $11 million for pedestrian and bicycle safety projects, information system upgrades, and environmental and design work.

**Conclusion:**

Proposition 6 would eliminate a comprehensive infrastructure plan and negatively impact programs of roadway maintenance, highway improvement, transit service, active transportation pedestrian and bike safety improvements performed by VTA and the cities and County of Santa Clara. Staff recommends the VTA Board of Directors oppose Proposition 6.

**ALTERNATIVES:**

The Board of Directors could elect to adopt a position on Proposition 6 that differs from the position recommended here, or take no position on this measure at this time.

**FISCAL IMPACT:**

While there is a significant fiscal impact to VTA if Proposition 6 is approved and SB 1 is repealed, there is no direct fiscal impact with approval of this recommendation.

Prepared by: Aaron Quigley
Memo No. 6644
BOARD MEMORANDUM

TO: Santa Clara Valley Transportation Authority  
Bicycle & Pedestrian Advisory Committee

THROUGH: General Manager, Nuria I. Fernandez

FROM: Director - Planning & Programming, Chris Augenstein

SUBJECT: Bay Area Bike Share Revenue Return

Policy-Related Action: No  
Government Code Section 84308 Applies: No

ACTION ITEM

RECOMMENDATION:

Recommend that the VTA Board of Directors:

1) Direct staff to return $59,520 in Bay Area Bike Share revenue return to 2000 Measure A; and
2) Provide $113,088, $54,659, and $20,733 in Bay Area Bike Share revenue return to the cities of San Jose, Mountain View and Palo Alto, respectively, to support their local bicycle programs.

BACKGROUND:

Between August 2013 and June 2016, the Bay Area Bike Share Pilot Program (BABS Pilot Program) operated in five Bay Area cities along the Caltrain corridor: San Jose, Mountain View, Palo Alto, Redwood City and San Francisco. The BABS Pilot Program was a multi-agency effort led by Bay Area Air Quality Management District (Air District) in partnership with the Santa Clara Valley Transportation Authority (VTA), the San Francisco Municipal Transportation Agency, San Mateo County Transit District, San Mateo County and the City of Redwood City. For the BABS Pilot Program in Santa Clara County, VTA contributed $845,015. Of this, $198,700 was from 2000 Measure A, $500,000 was from a Safe Routes to Transit Grant, funded through Regional Measure 2, and $146,315 was through Congestion Mitigation and Air Quality funds.

In 2015, the management responsibilities for the BABS Pilot Program were transferred from the Air District to the Metropolitan Transportation Commission (MTC). In December 2015, MTC entered into an agreement with Bay Area Motivate, LLC (Motivate) to operate and expand the
bikes to 7,000 bicycles by 2018 under a corporate sponsorship model. In September 2016, Motivate and Ford Motor Company announced that the companies would partner on the bike share expansion, with a rebranded service: Ford GoBike.

Ford GoBike is now operating in San Francisco, San Jose, Berkeley, Emeryville, and Oakland. Motivate chose not to include the cities of Palo Alto, Mountain View, and Redwood City in the expansion. Capital and operational costs of Ford GoBike are covered by the vendor. Cities provide employee time to help locate stations, but otherwise do not incur costs related to the program.

In February 2016, the Air District informed VTA that it would be returning revenue generated by the BABS Pilot Program to VTA, in proportion to VTA’s initial contribution. VTA received $248,000 in revenue return in August 2016. VTA has kept the funding while waiting for confirmation from Mountain View and Palo Alto that they will be continuing bike share efforts.

Since then, Palo Alto and Mountain View have adopted permits that allow dockless bike share vendors to operate in their community. Mountain View began a pilot dockless bike share program in May 2018. No city funds are being used to run the program. Palo Alto has received inquiries from dockless bike share vendors about operating in the city, but does not yet have an operating program. Any program in Palo Alto would not be funded by the city.

**DISCUSSION:**

2000 Measure A provided approximately 24% of the funding for the BABS Pilot Program. VTA staff recommends returning 24% of the revenue ($59,520) to 2000 Measure A. Funds will be used for other eligible 2000 Measure A projects.

Revenue from the BABS Pilot Program was generated by customers in Palo Alto, Mountain View, and San Jose. Therefore, staff recommends that the remaining $188,480 in revenue returned from the BABS Pilot Program be distributed to San Jose, Mountain View, and Palo Alto to support those communities’ bicycle programs. Staff proposes distributing revenue in proportion to the number of bike share trips made in each community during the BABS Pilot Program, as shown in the table below.

**Proposed Distribution of Bay Area Bike Share Revenue Return**

<table>
<thead>
<tr>
<th>City</th>
<th>Number of Bike Trips</th>
<th>Percent</th>
<th>Distribution</th>
</tr>
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<tbody>
<tr>
<td>San Jose</td>
<td>45,368</td>
<td>60%</td>
<td>$113,088</td>
</tr>
<tr>
<td>Mountain View</td>
<td>21,818</td>
<td>29%</td>
<td>$54,659</td>
</tr>
<tr>
<td>Palo Alto</td>
<td>8,315</td>
<td>11%</td>
<td>$20,733</td>
</tr>
<tr>
<td><strong>Total Returned to Cities</strong></td>
<td></td>
<td></td>
<td><strong>$188,480</strong></td>
</tr>
<tr>
<td><strong>Total Returned to 2000 Measure A</strong></td>
<td></td>
<td></td>
<td><strong>$59,520</strong></td>
</tr>
<tr>
<td><strong>TOTAL REVENUE</strong></td>
<td></td>
<td></td>
<td><strong>$248,000</strong></td>
</tr>
</tbody>
</table>
Use of the Funds

There are no funding restrictions associated with the BABS Pilot Program revenue return. Consequently, the funds can be used for a variety of purposes. Staff recommends the funds be used to support bicycling. Palo Alto, Mountain View, and San Jose have provided brief descriptions of how they plan on using the funds:

- Mountain View will use the funding to expand bicycle parking options for both standard bicycles and dockless bike share, as well as evaluate their pilot bike share program.

- Palo Alto will use the funding to construct bicycle corrals and potentially to develop a bicycle-related transportation program for low-income workers in downtown Palo Alto.

- San Jose will use the funding to contribute to new bikeway facilities, including the Better BikewaySJ project and other citywide facilities being advanced in conjunction with the annual pavement maintenance program.

Pending Board of Directors’ approval, staff will make the full amount of the funds available to Palo Alto, Mountain View, and San Jose.

ALTERNATIVES:

The Board could direct staff to distribute the BABS Pilot Program revenue in a variety of ways. These include using a different metric to distribute funding to the three pilot cities, distributing to different entities, distributing for a different purpose, or directing staff to use the funding for VTA expenses.

FISCAL IMPACT:

This action will provide $59,520 in additional funding to 2000 Measure A and provide for distribution of the remainder of the revenue to the Cities of San Jose ($113,088), Palo Alto ($20,733) and Mountain View ($54,659).

Prepared by: Lauren Ledbetter
Memo No. 6588
BOARD MEMORANDUM

TO: Santa Clara Valley Transportation Authority
   Bicycle & Pedestrian Advisory Committee

THROUGH: General Manager, Nuria I. Fernandez

FROM: Director - Planning & Programming, Chris Augenstein

SUBJECT: Story-Keyes Complete Streets Study

Policy-Related Action: No
Government Code Section 84308 Applies: No

ACTION ITEM

RECOMMENDATION:

Recommend that the VTA Board of Directors adopt the Story-Keyes Complete Streets Study and 10% Concept Design.

BACKGROUND:

Complete Streets are generally defined as streets that are planned, designed, funded, constructed, operated and maintained for the safe travel of all users. Street designs are context sensitive, which prioritize the safety, comfort, and convenience of pedestrians, bicyclists, transit riders (including access and operations), as appropriate for the local context, while still providing safe accommodations for motorists and other roadway users.

VTA promotes the Complete Streets concept through its Complete Street Policy, Community Design and Transportation Program, countywide plans, technical guidelines, and funding programs to support improvements for bicycle, pedestrian and transit travel along existing roadways.

In October 2014, VTA worked with the City of San Jose to submit an application for a Caltrans Sustainable Transportation Planning grant for a Complete Streets study on the Story-Keyes corridor. This corridor has a long planning history, beginning with the Strong Neighborhood Initiative in the early 2000s and more recently with the San Jose Vision Zero traffic safety initiative which designated part of the corridor a “priority safety street”. VTA, in partnership with the City of San Jose and the National Association of City Transportation Officials (NACTO), led a design workshop in 2015 that focused on the Keyes portion of the corridor.
The Story-Keyes Complete Street Study (Study) launched in July 2016. The corridor extends for approximately four miles between State Route (SR) 87 and Capitol Expressway and includes Willow Street, Graham Avenue, Goodyear Street, Keyes Street and Story Road. The corridor is highly diverse and includes many commercial districts. It connects neighborhoods in East San Jose to local and regional destinations. Approximately 27,000 people live within ¼ mile of the corridor and 7,000 average weekday riders use Route 25, VTA’s third highest ridership route.

**DISCUSSION:**

To begin the process, VTA established objectives to help guide the Study. Informed by VTA’s core values and VTA’s Strategic Plan, VTA established the following study objectives to highlight safe, quality transportation solutions that promote sustainability and recognize the diversity of the corridor.

- Enhance safety for people walking, biking, taking transit and driving;
- Enhance transit passengers’ experience, including travel time and reliability of bus service and bus stop amenities;
- Improve pedestrian and bicycle facilities to provide continuous, safe and comfortable facilities for people of all ages and abilities; and
- Provide better access for all traveling under the SR 87 underpass and over the US 101 interchange.

**Community Design Process:**

Community members, public groups and decision makers were engaged throughout the design process to develop a shared vision for the Story-Keyes corridor. Traditional engagement strategies implemented during the study included, public meetings, stakeholder briefings, online mapping and social media messaging. In an effort to increase the project’s reach, the Study used a variety of community engagement strategies designed to meet people where they are located as opposed to asking them to take personal time to attend evening meetings.

These efforts included ‘Pop-Up’ informal meetings at schools, bus stops and areas where community members gather on the corridor. The Pop-Up outreach included feedback from surveys and documented conversations with users of the corridor. The results increased the project’s exposure and awareness. Outreach during all phases was conducted in English, Spanish and Vietnamese to encourage participation throughout the community. Attachment A includes a complete summary of outreach efforts.

Over the course of the community design process several key themes emerged that helped shape the three sections of the corridor:

- **Creating a Multimodal Corridor** - the community expressed a desire to see a corridor that is friendlier to all modes of transportations, even by those who primarily drive on the corridor.

- **Protecting the Character of the Corridor** - the community emphasized the unique
character of each section of the corridor: Willow, Keyes and Story, particularly by small businesses.

- **Enhancing Streetscape** - participants were interest in adding wayfinding, signage, trees and greenspace into the project study.

- **Address Common Challenges** - participants expressed concerns with high vehicle speeds, unsafe intersections and the need to enhance personal security through lighting and design.

**Design Vision**

The community design process led to a conceptual vision that balances the needs of all transportation modes and builds on the existing strengths of the Story-Keyes corridor. The Study (Attachment B) and 10% conceptual design (Attachment C) includes preliminary costs and an implementation plan to help secure future funding for design and construction. The design proposes a vision for the three different sections of the corridor.

- **Willow Street/Graham** - (Cost estimate $8.5 million) - Approximately .7 miles of the 4.25 mile corridor. Improvements focus on intersections to support the Calle Willow business district and safe routes to schools. Sidewalk gap closures and bicycle lanes are proposed west of Lick Avenue through the SR 87 underpass. The realignment of several large complicated intersections highlight the largest improvements in this section of the corridor. Roundabouts are proposed at the Willow Street/Lick Avenue and Willow Street/Graham Avenue intersections. At Goodyear Street/Graham Avenue, a squared up intersection is proposed.

- **Keyes Street** - (Cost estimate $12 million) - Approximately .75 miles of the 4.25 mile corridor. Keyes Street has a wide cross section with two lanes. The long-term vision repurposes one travel lane in each direction to provide a parking-separated bikeway and improved streetscape enhancements. These improvements will provide comfort for bicyclists at intersections. Buffering the sidewalks from the roadway will increase comfort for pedestrians and improve access to transit bus stops.

- **Story Road** - (Cost estimate $28.9 million) - Approximately 2.75 miles of the 4.25 mile corridor. Story Road provides connections to several major regional freeways and expressways. It is six lanes with a raised median. The long-term vision for the corridor prioritizes transit along Story Road, with a curbside future bus-only lane (in each direction), enhanced floating bus stops, and transit signal priority for transit. Major safety intersection improvements are proposed between Senter Road and Capitol Expressway as part of the City’s Vision Zero priority network. Separated bikeways are proposed along Story Road as well as visibility enhancements for access points to trail crossings.

**NEXT STEPS:**

The City of San Jose is planning to submit a Caltrans Active Transportation Program grant to help fund the final design and construction for the Willow Street section of the Study. Additional funding sources that may be sought to fund projects in the Study include the Caltrans Highway
Safety Improvement Program, One Bay Area Grant, 2016 Measure B Sales Tax Program, Affordable Housing and Sustainable Community Program, Senate Bill 1 and Federal Transit Administration Small Starts funding program. VTA will remain a key partner in the project’s future development. A five-year implementation action plan included in the Study will also help guide future efforts.

**FISCAL IMPACT:**

There is no direct fiscal impact from adoption of the Story-Keyes Complete Streets Study and 10% Concept Design.

Prepared by: Brent Pearse
Memo No. 6572

**ATTACHMENTS:**

- AttachmentA_Final_Story-Keyes_Corridor_Complete_Streets_Study_Report (PDF)
- AttachmentB_Final_Story-Keyes_Corridor_Complete_Streets_Study_Report (PDF)
- AttachmentC_FINAL_Story-Keyes_Corridor_Complete_Streets_Study (PDF)
STORY-KEYES COMPLETE STREETS OUTREACH SUMMARY

SUMMER 2015
PRE-STUDY
- Vivo Calle Open Street Event
- NACTO Design Workshop

FALL 2016
EXISTING CONDITIONS
- Online Outreach & Flyers
- Interactive Online Corridor Maps
- Community Workshops
- Walk & Bike Audits
- Stakeholder Meetings
- School Presentation
- VTA Committees

SPRING 2017
DESIGN ALTERNATIVES
- Online Outreach
- Community & Design Workshops
- Business & Bus Stop Pop-Ups
- Neighborhood Association Presentations

WINTER 2017
PREFERRED ALTERNATIVE
- Design Workshop
- Online Outreach
- Business & School Pop-Ups
- School Presentations
- Stakeholder Meetings

SPRING 2018
FINAL RECOMMENDATIONS
- Final Study
- VTA Board Adoption
- City of San José Adoption

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524 IN-PERSON PARTICIPANTS
37,607 ONLINE REACH *
14 OUTREACH FORMATS
14 COMMUNITY GROUPS
2 TECHNICAL EXPERT GROUPS (VTA, CITY OF SJ)
65 BUSINESSES
3 LANGUAGES (ENGLISH, SPANISH, VIETNAMESE)

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*37,607 unique viewers and e-mail recipients from social media posts and e-mail blasts highlighting the project.

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87 WILLOW ST
- Business
- School
- Community and/or Stakeholder Meeting

51 ST ST

KEYES ST

SENTER RD

MCLAUGHLIN AVE

101 KING RD

STORY RD

CAPITOL EXPWY
Agenda Item #10 – Attachments for Story-Keyes Complete Streets Study are available on VTA’s website.
Please click the link below:

Attachment B: Story-Keyes Corridor Study & 10% conceptual design
Attachment C: Preliminary costs and implementation plan
Story Keyes Complete Streets Study
Study Background

- Approximately 4 miles between State Route 87 and Capitol Expressway
- Includes Willow Street, Graham Avenue, Goodyear Street, Keyes Street and Story Road
- Highly diverse, approximately 27,000 people live within 1/4 mile
- 7,000 average weekday riders on Route 25, VTA's third highest ridership route
Study Background – Complete Streets

- VTA promotes Complete Streets through its Complete Streets Policy
- VTA/City of San Jose Partnership
- Launched in July 2016 funded by a Caltrans Sustainable Transportation Planning Grant
- City of San Jose Vision Zero corridor
Objectives and Community Outreach

- Enhance safety for people walking biking and taking transit
- Enhance transit passengers experience and transit amenities
- Improve pedestrian and bicycle facilities for people of all ages and abilities
- Provide better access for all traveling under the State Route 87 underpass and US 101 interchange barriers.
Outreach Impact

- Approximately 4 miles between State Route 87 and Capitol Expressway
- Includes Willow Street, Graham Avenue, Goodyear Street, Keyes Street and Story Road
- Highly diverse, approximately 27,000 people live within 1/4 mile
- 7,000 average weekday riders on Route 25, VTA's third highest ridership route

- **524** in-person participants
- **37,607** online reach
- **14** outreach formats
- **14** community groups
- **2** technical expert groups (VTA, City of SJ)
- **65** businesses
- **3** languages (English, Spanish, Vietnamese)

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*37,607 unique viewers and email recipients from social media posts and email blasts highlighting the project.*
Community Design Process

Key Themes to Shape the Corridor:

- Create a Multimodal Corridor
- Protect the Character
- Enhance the Streetscape
- Address Common Challenges
Design Vision – Willow Street/Graham Street

- .7 miles of 4.25 corridor
- Intersection improvements to support Calle Willow Business District
- Sidewalk gap closures and improve safe routes to schools
- Realign several large complicated intersections
- Bulb out curbs and improved bus stops
Design Vision – Willow Street/Graham Street

Willow and Lick Roundabout

Willow and Graham Roundabout

Graham and Goodyear Squared Intersection
Design Vision – Keyes Street

- .75 miles of 4.25 corridor
- Long-term vision to repurpose one travel lane in each direction
- Install a parking separated bikeway
- Improved streetscape enhancements
- Buffer sidewalks and install protected intersections
Design Vision – Story Road
Design Vision – Story Road
Next Steps

- City of San Jose (CSJ) recently applied for a $19 million Active Transportation Planning (ATP) Grant
- ATP will fund Willow Street Design Vision
- CSJ to pave Story Rd. between King Rd. and McLaughlin Rd. this summer, buffered bike lanes will be installed.
- Recommend to VTA Board to adopt 10% concept design and Final Study, continue to work with City of San Jose on funding
BOARD MEMORANDUM

TO: Santa Clara Valley Transportation Authority
   Bicycle & Pedestrian Advisory Committee

THROUGH: General Manager, Nuria I. Fernandez

FROM: Director - Planning & Programming, Chris Augenstein

SUBJECT: Transportation Technology Strategic Plan Development and Final Report

FOR INFORMATION ONLY

BACKGROUND:

In 2008, the Santa Clara Valley Transportation Authority (VTA) developed a strategic Intelligent Transportation Systems (ITS) plan entitled “Transportation Operations Strategic Plan for Santa Clara County,” including a companion document entitled “Transit ITS Deployment Plan for Santa Clara County.” These documents were presented to the VTA Technical Advisory Committee (TAC) at its March 8, 2008 meeting and have been used as a roadmap to deploy technology-based enhancements for all modes of transportation in Santa Clara County as well as input into updates of the Valley Transportation Plan (VTP), the countywide transportation plan.

Since 2008, the rapid pace of change in mobility services, transportation technologies, and user expectations has driven the need for VTA and other Santa Clara County transportation agencies to examine their role in the provision of mobility services for the region, and to identify and plan for advancements in transportation technologies. In addition, new efforts such as the development of VTA’s Strategic Plan and the advent of technology innovations compels a rethinking of how transformational technologies should be considered in the long-term development, operations, and management of transportation systems.

Out of this was borne the re-imagining of the ITS Plan as the Santa Clara County Transportation Technology Strategic Plan (TTSP), including a first effort to integrate thinking on the effect of transformational technologies on the transportation systems operated and maintained by Santa Clara County transportation agencies. The TTSP (or the Technology Plan) is intended to provide guidance to VTA and its agency partners in meeting the challenges of the changing mobility marketplace, and to identify specific technology-related strategic efforts that could support establishing a common vision of the future of transportation technology for local agencies and other stakeholders throughout the county.
DISCUSSION:

The TTSP has been underway since spring 2017 and resulted in the completion of the attached final report completed earlier in 2018. The purpose of this memorandum is to present the key recommendations from the TTSP.

VTA staff developed the TTSP in collaboration with a wide range of stakeholders including various functional units within VTA, public agency staff from the Intelligent Transportation Systems Working Group (ITSWG) of VTA's TAC, regional stakeholders such as California Department of Transportation (Caltrans) and non-profit technology entities such as Prospect Silicon Valley.

A final workshop was held on April 11, 2018 totaling about 50 participants, with about half the participants coming from private sector companies, to gather final input on the Technology Plan. Public agency and institutional participants included most of the cities and towns in the County, the County of Santa Clara, VTA, the Metropolitan Transportation Commission (MTC), the Federal Highway Administration (FHWA), and the University of California, Berkeley. Private sector participants included representatives from automotive, technology, communication, Big Data, and traffic control equipment industries amongst others. Other participants in addition to Prospect Silicon Valley included Transform and the San Francisco Bay Area Planning and Urban Research Association (SPUR). All participants showed great interest in the TTSP and expressed a desire to be stay engaged beyond the release of the final report.

TTSP Goals

The overall goal of TTSP is to provide a common countywide approach to the future of transportation technology; to capture the contributions that modern and evolving technologies are making to improving transportation throughout the county; and, in doing so, to assist agencies to collaborate on information sharing, project and operational initiatives and securing and allocating funding.

TTSP Guiding Principles

The TTSP is guided by the following four principles:

- Update and revolutionize infrastructure
- Embrace and facilitate future technology
- Share and use information
- Interface with the 21st century traveler

Functional Areas

The TTSP is divided into four functional areas that reflect different elements of the transportation system. A specific white paper was developed for each of the functional areas:

- Transit Management
- Arterial Management
- Freeway Management
- Smart Mobility
In addition, the following two cross-cutting white papers covering the principles for all of the above functional areas were produced:

- Sharing and Use of Information
- Interface with the 21st Century Traveler

More information about the goals of the plan and basic framework described above is available in Attachment A - Project Fact Sheet.

Based on the above principles, individual white papers were developed based on input from stakeholders over multiple meetings. A Draft TTSP plan was developed from these white papers which was then vetted by agency stakeholders and finally at the joint public sector and private sector workshop in April 2018. Attachment B contains an Executive Report with Appendices that contain white papers for the various functional areas.

The top five recommended strategies for moving forward that emerged as part of this effort are:

1. **Develop an Intra-agency, Inter-agency, and External Data Sharing Environment**

   Establishing a data sharing environment would allow for interoperability of transportation systems across municipal boundaries to enhance regional traffic management, traveler information, transportation analysis, and planning. In addition, sharing data with the private sector could result in improved accuracy in their transportation solution models that are often used by the public sector.

2. **Establish a New Mobility Services Program**

   New private sector business models in the transportation sector have been offering new mobility solutions to the public with disruptions to traditional transportation systems such as taxi and transit services, and also to operations on local and regional street networks. The convergence of these new business models with new emerging technologies, particularly automated vehicles, are expected to have even greater disruptive effects on mobility choices. This may ultimately lead to far deeper impacts on how cities design their streets, plan for parking, utilize curb space and right-of-way, and design other urban elements. VTA recently adopted an Automated Driving Systems policy to guide its efforts in this area.

3. **Improve Regional Communications Infrastructure**

   Improving communications infrastructure (both fiber and wireless) would help to “future-proof” transportation networks in Santa Clara County. With the emergence of mobility service applications and cloud-based central systems, there is a need for real-time, low latency (i.e., minimal delay of very high volume data transmissions), and highly reliable network communications with field devices (such as traffic signals) to support the evolving connected vehicle ecosystem that promises safer, more efficient, and more environmentally friendly mobility solutions.

4. **Enhance Existing Transportation Technology Systems**

   Regardless of what new technologies or mobility service models emerge, it is essential to continue to modernize existing transportation systems. This would allow for better interface with publicly-owned and operated infrastructure elements.
5. **Develop a Strategy for Ongoing Public-Private-Institutional Partnership to Implement the Plan**

This final recommendation comes from the private sector stakeholders attending the April 11, 2018 workshop is the maintenance of an on-going dialogue between the public and private sectors to develop meaningful tools to implement the plan. It was highlighted that broad private sector participation, improved contracting processes and implementation of pilot projects are some of the key essentials for the implementation of the strategic plan.

For each strategy, recommended actions have been identified to support its implementation (see Attachment B). The TTSP is intended to be a living document; strategies and recommended actions will be updated in the future to reflect ongoing changes to technology and the business model environment.

**Next Steps**

Staff will work with VTA’s ITSWG, consisting of staff from member agencies within Santa Clara County and regional transportation partners, to identify near-term focus areas to develop in greater detail. As a next step, tools will be set up to continuously engage the private sector as part of the process. Projects identified together in collaboration could be potential candidate for grant funding and form the stepping stones toward implementing the actions identified in the Technology Plan.

Prepared By: David Kobayashi  
Memo No. 6384
Attachment A – Transportation Technology Strategic Plan (TTSP) Factsheet
The Santa Clara Transportation Technology Strategic Plan (TTSP) is being prepared by VTA, with the services of DKS Associates. The process began in January 2017 and is expected to be completed by January 2018. The TTSP will focus on the contributions that modern and evolving technology can make to improving transportation throughout the county.

**Project Goal**

The TTSP will update the current ITS Strategic Plan to a county-wide smart region plan. The TTSP will provide a common vision of the future of transportation technology for local agencies and other stakeholders throughout the county and, in doing so, will assist agencies in securing and allocating future funding.

**Guiding Principles**

The TTSP will be guided by four principles, based on input from early stakeholder meetings and themes from previous plans.

- **Update and revolutionize infrastructure**
  - Incorporate the latest technology and provide the capability to adopt the latest transportation management techniques across the county.

- **Embrace & facilitate future technology**
  - Incorporate upgrade paths into infrastructure, encourage participation of public and private stakeholders and program adequate funding streams.

- **Share & use information**
  - Adopt standards and provide infrastructure to facilitate sharing of information between agencies and with other stakeholders.

- **Interface with the 21st century traveler**
  - Facilitate all modes of transportation and communicate with travelers via multiple media.

**Functional Areas**

The TTSP is divided into four functional areas that reflect different elements of the transportation system and generally aligned with the project stakeholders’ areas of responsibility.

- **Transit Management**
  - ITS programs specific to transit, such as LRT, BRT, bus, and heavy rail.

- **Arterial Management**
  - All travelers and modes on arterial roads, with a focus on signalized intersection operations.

- **Freeway/ICM**
  - ITS elements deployed on freeways by Caltrans, as well as the interface with local agency systems to provide Integrated Corridor Management.

- **Smart Mobility**
  - Advanced and developing technologies such as parking systems, connected/autonomous vehicles and shared use mobility. Smart Mobility also considers transportation within the broader Smart Region context.

**How can you as a stakeholder help?**

Your help is critical to creating a transportation technology vision that is easily understood and supported by the public, elected officials and agency members.

- Participate in meetings and workshops.
- Respond to information requests regarding existing infrastructure, systems and initiatives, as well as planned activities.
- Tell the team how your agency sees technology benefiting the agency and traveling public.
- Provide your ideas for regional strategies for coordinating and maximizing technology benefits across the region.
Plan Framework
The TTSP will be developed by applying the guiding principles to each of the functional areas. In addition, consideration will be given to the integration of the principles *Share & Use Information* and *Interface with the 21st Century Traveler* across all of the functional areas.

### Work Plan
The TTSP project will begin with the collection of background information. Plans will then be developed for each topic area—the four functional areas and two cross-cutting principles. White papers describing an operational concept for each topic area will be developed and a workshop to integrate ideas and gain input from various public agencies and private sector will be held. These topic area plans will then be compiled into a comprehensive TTSP. Extensive stakeholder consultation, through interviews and meetings, will occur throughout the process.

**What can we expect from the completed TTSP?**
- A common technology vision for agencies within Santa Clara county.
- Readiness to seek grants and public partnership for projects identified in the plan.
- An incremental approach to achieving the goal within each of the functional areas, in a time frame that suits each individual agency.
TOPIC AREA

ARTERIAL MANAGEMENT

Arterial management covers all travelers and modes on arterial roads and is largely the responsibility of the County and Cities. Arterial Management interfaces with the transit-specific operations covered in Transit Management and is related to Freeway/ICM, interfacing with Freeway Management directly at ramp intersections and with ICM through incident management systems.

Arterial Management elements include:

- **Signal coordination**: level of sophistications, cross-jurisdiction coordination, equipment standards
- **Transit priority and integration into signal operation**: bus and light rail, algorithms, equipment
- **Pedestrian and bicyclist accommodation at signals**: detection, advanced signal timing
- **Connected vehicles**: communications, data phasing
- **Shared mobility, parking and mode transfers**: bike, bus, auto?
- **Performance measurement, reporting and management**

Cross-cutting issues to be addressed include:

- Inter-agency cooperation, activity coordination and/or integration.
- Data communication needs to support the evolving concepts.
- Private sector involvement.

What do we need to know from you?
Be prepared to share your perspective on:

- Where your agency is on specific topics, where you have plans, and what areas are not within your agency’s current or planned thinking or resources.
- Specific areas in which your agency might benefit from inter-agency or industry cooperation.
- For Caltrans, MTC, VTA, and County Roads, how technology, strategy, and operations advancements in cooperation with local arterial street operators and/or region-wide cooperation could be manifested.

What is going on now?

- System Inventory & Data Collection
- White Papers (Operational Concepts)
- Stakeholder Workshop
- Draft TTSP
- Final TTSP

We are here.

Update & revolutionize infrastructure
Embrace & facilitate future technology
Share & use information
Interface with the 21st century traveler
TOPIC AREA

TRANSIT MANAGEMENT

Transit Management, largely be the responsibility of VTA, covers ITS programs specific to transit, such as LRT, BRT, bus, and heavy rail.

Transit Management elements include:

- **In-street technology**: using next-generation TSP, to smooth bus, light rail and BRT flow and reduce delays between stations and bus stops.
- **On-board and back-office systems**: for payment, security, vehicle monitoring and maintenance, CAD/AVL, autonomous vehicles.
- **Traveler information and interaction**: shared mobility, first/last mile access, bus location, bus hailing, external partnerships, demand responsiveness.
- **Data sharing**: bus performance reporting and planning, data sharing.
- **Safety systems**: CV, collision avoidance, incident management.

**What do we need to know from you?**

Be prepared to share your perspective on:

- How technology can improve the efficiency of inter-agency operations to mutually benefit traveler throughput regardless of mode, e.g. incident management and roadway/transit operations in key travel corridors.
- What local agencies are considering for first/last mile efficiencies and interaction with VTA and other transit providers to improve this critical component of successful transit trip-making.
- How technology can improve the efficiency of VTA operations to improve convenience and travel time and reliability.
- Private sector partnerships that may be on the horizon.

**What is going on now?**

We are here.

Stakeholder Consultation - Interviews, TAC Meetings
Caltrans will be responsible for most freeway elements, which will interface with Arterial Management to provide integrated Corridor Management. Ramp intersections will be common to both arterial and freeway functional areas. Elements of arterial management that relate to management of the impacts on the arterials of freeway incidents will be integrated into this functional area.

Elements of the freeway/ICM topic area are likely to include:
- Managing flow on freeways.
- Managing incidents on freeways and their impact on arterials.
- Sharing information and data.
- Integrating CV & AV into freeway operation.

What do we need to know from you?

Be prepared to share your perspective on:
- The potential for improved freeway system ingress/egress.
- Opportunities for wider and more integrated sharing of operational data among state, regional, and local agencies.
- Possibilities for shared planning, implementation of communications networks. Consider better facilitation of opportunities to utilize the state’s research and purchasing resources to facilitate cost savings, integration of technology.
- How freeway management can be better integrated with arterial management for both normal and incident conditions.

What is going on now?

We are here.
What do we need to know from you?
Be prepared to share your perspective on:
- Your agency’s strategies for this topic.
- Systems or initiatives your agency (including Planning, Economic Development, IT) have in place or are considering.
- Where there is private sector coordination or reliance.
- Areas that are not on your radar at all.

What is going on now?
We are here.
TOPIC AREA
SHARE & USE INFORMATION

With a many-to-many data sharing system, all functional areas will more efficient and effective. Each of the four functional areas—Arterial Management, Transit Management, Freeway/ICM, and Smart Mobility—will generate data and information that can be used to improve other functional areas and, conversely, can use data that is more efficiently generated by areas.

To achieve a many-to-many data sharing system, there will need to be an integrated communications system with standardized interfaces and appropriately sized transmission bandwidth.

The following questions will need to be considered, and some consensus achieved, to support development of an institutional framework shared among the stakeholders and to provide appropriate guidance to agencies as they specify new equipment and communications infrastructure.

- What information and underlying data is valuable to share—and why?
- Which communication systems would be suitable?
- Are private networks or public networks more appropriate?
- How does cyber-security influence these decisions?
- What are the best data sources for various uses, e.g., for planning, performance monitoring, maintenance optimization?
- Who needs to define standards, to own, control, process data, e.g., collecting agency, reporting agency, private entities, cooperative organization?

What do we need to know from you?
Be prepared to share your thoughts on the these questions:

- What is your agency considering or doing to share information?
- What are barriers or opportunities at an administrative level? Do your IT, legal, executive, and political branches support information sharing or identify issues?
- To what degree is your agency making information available? Purchasing or acquiring outside information?
- Who do you see as ready partners for information sharing that will result in near term benefits to the Santa Clara County traveler?
- What vision do you have for sharing information?

What is going on now?
We are here.

Support VTA Draft TTSP

Stakeholder Consultation - Interviews, TAC Meetings
The 21st century traveler has many methods and devices available for interfacing with evolving ITS technologies. Traditional static interfaces occur at the locations at which the traveler comes in contact with the transportation system, such as passengers waiting to hail a bus, push a button at a traffic signal, look at a static map to choose a route for driving, and watch for a safe gap to cross a road.

The 21st century traveler can now access dynamic maps via the internet to plan a route, receive messages and alerts on a hand-held device, use GPS to dynamically alter routes based on current conditions, and use smart bus stops to interact with arriving buses.

Potential elements of this topic area are:

- **Public and private roles**: in interfacing with travelers.
- **Data sharing**: what, with whom, and how? Considerations include format, portals, and communication links.
- **Data collection/detection**: data types, equipment, public/private roles.
- **Dissemination methods**: displays, website, apps, fixed/mobile sites.
- **Multi-modal trip planning services**: consider data sources, apps, private sector role.

**What do we need to know from you?**
Be prepared to share your perspective of the following:

- What are your current interfaces? Identify them, bring an inventory.
- What do you feel is the extent of your agency’s responsibility to provide traveler information?
- What are the local opportunities or desires to provide information?
- How much does your agency rely on or defer to the private sector or outside regional agencies such as the County, 511, or Caltrans?
Attachment B – Final Transportation Technology Strategic Plan (TTSP)
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INTRODUCTION

PURPOSE AND NEED

Changes in the mobility marketplace are giving people options that they have never had before. New mobility technologies, particularly Connected and Autonomous Vehicles, bring significant promise, especially when combined with some of the new transportation business models that have emerged as part of the Sharing Economy. Transportation Network Companies (e.g., Lyft and Uber), peer-to-peer car share (e.g., Getaround and Turo/RelayRides), and shared mobility services (bike share, car share, e-scooter share), offer users alternatives not only to individual car ownership but to traditional transit service offerings.

Furthermore, an increasingly digitally connected population, a growing portion of which has only ever known ubiquitous mobile connectivity, brings with them new expectations about how they want to live and move.

The rapid pace of change in mobility service business models, transportation technologies, and user expectations drives the need for VTA and other Santa Clara County transportation agencies to examine their continued role in the provision of mobility services for the region and to identify and plan for those transportation technologies and practices that will support these focus areas.

This Transportation Technology Strategic Plan (TTSP) is intended to provide guidance to VTA and its agency partners in meeting the challenges of the changing mobility marketplace and to identify specific technology-related strategic efforts that will support these core focus areas. By establishing a common vision of the future of transportation technology for local agencies and other stakeholders throughout the county, this TTSP can be used to assist agencies in securing and allocating future funding.
The VTA Strategic/Business Plan outlines the transportation goals and objectives for the region for 2017-2022. The TTSP will assist in reaching the goals established within the Strategic Plan by identifying how technology can be utilized to improve transport in the region.

**TTSP VISION**

The vision for the TTSP is to provide a coherent framework to help create a county-wide smart transportation region.

**TTSP PROJECT GOALS**

The overall project goal is to provide a common countywide approach to the future of transportation technology; to capture the contributions that modern and evolving technology can make to improving transportation throughout the county; and, in doing so, assist agencies to collaborate on information sharing, project and operational initiatives and securing and allocating future funding.

The TTSP is structured around four functional areas reflecting different elements of the transportation system and a set of guiding principles that were applied to each of the functional areas. The conceptual framework for the TTSP is illustrated in the figure below:
In developing the TTSP, white papers were prepared, recommending strategies and technologies relevant to the functional areas and the two cross-cutting principles - Share & Use Information and Interface with the 21st Century Traveler. These topic area white papers present information regarding existing conditions, trends, and proposed steps for moving forward to help spur discussion among the stakeholders. Summaries of each of the six topic areas are provided in Appendix A.

Recommendations from each of these white papers and feedback from stakeholders were then used to identify a number of key strategies recommended for early action.

**STAKEHOLDER FEEDBACK**

A core component of this TTSP project was to solicit input and feedback from both public agencies and the private sector to ensure that plan reflected a broad spectrum of stakeholder perspectives. This occurred at several times throughout the TTSP process. First, a series of meetings and one-on-one interviews with County stakeholders were conducted to understand the needs, challenges, and interests of the region’s transportation agencies. From this, the topic area white papers were developed. Workshops were held for each of these topic areas to obtain further feedback from stakeholders.

Finally, a broad-based workshop was held to discuss the draft TTSP. This half-day workshop was held on Wednesday, April 11, 2018 with over 45 participants representing both public agencies and the private sector. Public agency and institution participants included numerous cities, the County of Santa Clara, VTA, MTC, FHWA, and UC Berkeley. Private sector participants included representatives from automotive, technology, communication, Big Data, and traffic control equipment industries. Participants also included a number of public interest groups such ProspectSV, Transform and the San Francisco Bay Area Planning and Urban Research Association (SPUR). The bulk of the workshop involved facilitated breakout sessions, where participants were given the opportunity to provide comments on various elements of the TTSP. Participants were asked for their thoughts on the proposed plan, experience with public/private collaboration efforts to-date, and how the public and private sectors could better interact and collaborate in the future.

The strategies for moving forward presented in the draft plan received resounding consensus by the participants of the final workshop. The stakeholders provided additional insights and recommendations for next steps and collaboration approaches to help advance the smart region paradigm identified in the TTSP. This input led to the addition of a fifth strategy for the final TTSP.
Emerging technologies and new business models are transforming transportation systems across the country, bringing new mobility solutions to citizens and changing the way that people think about traveling. These innovations may lead to safer, more affordable, and more equitable mobility options. Failure to adapt to these technology-driven changes may be disruptive to how agencies operate and maintain the transportation systems in the future. In recognition of this challenge, VTA has developed a technology plan in collaboration with agency partners to define strategies with actionable steps to establish new mobility service capabilities while continuing to modernize existing transportation systems.

The top five recommended strategies for moving forward that emerged as part of this effort are:

1. Develop an Intra-agency, Inter-agency, and External Data Sharing Environment;
2. Establish a New Mobility Services Program;
3. Improve Regional Communications Infrastructure;
4. Enhance Existing Transportation Technology Systems; and
5. Develop a Strategy for Ongoing Public-Private-Institutional Partnership to Implement the Plan.

For each strategy, recommended actions have been identified to support their implementation. This strategic plan is intended to be a living document; strategies and recommended actions will be updated in the future to reflect ongoing changes to technology and the business model environment.
STRATEGY ONE

DEVELOP AN INTRA-AGENCY, INTER-AGENCY, AND EXTERNAL DATA SHARING ENVIRONMENT

Interoperability between transportation systems helps support corridor operations across municipal boundaries to enhance regional traffic management, traveler information, transportation analysis, and planning. Interoperability is primarily achieved through collaboration and coordination of data sharing between agencies. Data sharing also promotes regional consistency in the area of system performance monitoring. Various agencies within the county have developed partnerships for the collection and sharing of data. These may serve as a foundation for a broader program, allowing for other partner agencies to join and share as their capacity and resources become available.

In addition to the benefit of establishing interoperability between agencies, data sharing with private sector transportation solution providers (such as INRIX and Waze) helps make their solutions more accurate and useful. Public agencies in return can benefit from using these third-party data sources to improve operations (corridor travel times, accident/incident identification, etc.) and planning (origin and destination, congestion, speed, etc.). Identifying opportunities to work together with the private sector, developing policies on how to select and engage partners, and addressing cybersecurity issues will be necessary regional activities.

The development of an intra-agency, inter-agency, and external data sharing environment to meet these future needs will be an iterative and incremental process. It is envisioned that VTA’s Intelligent Transportation Systems Working Group (ITSWG), consisting of staff from member agencies within Santa Clara County and regional transportation partners, will be used to focus initially on data sharing lessons learned from existing partnerships (e.g. sharing of Bluetooth origin-destination data). This will then be followed by expanding efforts among more agencies and later involving new private/public partners. The goal would be to focus on efforts to establish data standardization within Santa Clara County.

The following actions are proposed:

1. Identify potential user groups and user needs.
2. Identify potential funding sources.
3. Develop a Concept of Operations for a data sharing system throughout the region.
4. Develop data sharing agreement between public agencies and private entities.
5. Define logical and physical architecture for the data sharing system.
6. Develop guidelines for public and private sectors.
New private sector business models in the transportation sector have been offering new mobility solutions to public for the past several years. Many have started to disrupt traditional transportation practices, affecting taxi and transit services in particular but also impacting operations on local and regional street networks. It is anticipated that the convergence of these business models with new emerging technologies, particularly automated vehicles, will have far greater disruptive effects on mobility choices. This may ultimately lead to far deeper impacts on how cities design their streets, plan for parking, utilize curb space and right-of-way, and design other urban elements.

Traditional government procurement models do not tend to work at the pace of technology advancement. Municipalities and agencies require to update their approach to be able to keep up and embrace the fast-changing technological environment. Pilot projects, demonstrations, and Public Private Partnerships are emerging as new ways for agencies to explore these rapidly evolving mobility solutions.

The following actions are proposed:

1. Develop a New Mobility Playbook.

2. Identify opportunities to replicate San Jose’s Technology Innovation Zone (TIZ).

3. Prepare Automated Vehicle system policy.*

4. Develop a Mobility-as-a-Service (MaaS) strategy.

5. Develop a Streets-as-a-Service strategy.

* Denotes actions already planned or underway
The investments in communications infrastructure, particularly fiber optic plant, continues to be an important requirement to “future proof” the transportation network. Even with on-going collaborative efforts among Santa Clara County agency partners to leverage existing communication networks for connection and redundancy, the existing communication network needs to be further expanded to meet the future needs of the transportation network in Santa Clara County. With the emergence of “as a Service” applications and cloud-based central systems, it is possible that center-to-center communications requirements may be reduced in some cases. However, real-time, low latency, highly reliable network communications with field devices, including field detection and traffic signals, will be required to support the evolving Connected Vehicle ecosystem. These same systems will then also support safer, more efficient, and more environmentally friendly solutions including Automated Vehicles, as they increasingly become Connected Vehicles.

The affordability of higher bandwidth, lower latency cellular communications, has opened the potential to communicate with remote signals, ramp meters, and other devices that historically were left as “stand-alone” due to high operations and maintenance (O&M) costs. However, wireless communications should be considered a complimentary way of communicating with field infrastructure; it does not contradict with continued expansion of agency-owned fiber networks.

The following actions are proposed:

1. Develop regional/countywide communication plan.
2. Develop countywide maintenance agreement plan.
3. Develop comprehensive cyber security management plan to ensure trusted communications and protect vehicles and roadside equipment against potential cyber-attacks.
STRATEGY FOUR

ENHANCE EXISTING TRANSPORTATION TECHNOLOGY SYSTEMS

New and emerging mobility technologies (e.g., Connected and Automated Vehicles) and business models (Uber, Lyft, etc.) are areas of keen interest and excitement for the transportation industry. However, local municipalities and traffic and transit agencies must continue to invest in “traditional” transportation technologies. The communications infrastructure (the focus of Strategy #3) and traffic signal systems are two examples of these existing technologies that require continued expansion and enhancement. No matter what new technologies or mobility service models eventually emerge, they must all at some point interface with publicly-owned and operated infrastructure and associated infrastructure elements.

Public agencies therefore must continue to advance their transportation technology programs, including modernizing the traffic signal systems, detection technologies, and communications infrastructure necessary to provide an operating environment supportive of these new mobility technologies and approaches.

Pursuing local corridor and project plans is a critical element to support agencies’ planned investments in transportation technology for years to come. These projects are considered “traditional” technology projects in the sense that they are mostly technologies that are designed, procured, installed, owned, operated and maintained by the local jurisdiction or agency. Elements (such as design and construction) may be outsourced, but the oversight and ownership of each step is generally the ultimate responsibility of the public agency.

The following actions are proposed:

1. Prepare a connected vehicle (CV) strategy paper.
2. Prepare a cross-coordination strategy paper.
3. Prepare an advanced signal operations strategy paper.
4. Prepare a performance monitoring systems strategy paper.
5. Develop functional specifications for signal equipment.
6. Prepare a ramp metering systems strategy paper.
One of the key differentiators of the Smart Cities and Smart Mobility movement is its embrace of new procurement models and new partnership opportunities. More and more, cities, transit agencies, and regional transportation planning organizations are recognizing that traditional procurement models are not well suited to the rapid pace of innovation occurring in this sector. The standard two- to three-year procurement cycle that is often required from concept to contract is not up to the task of leveraging the tech industry’s advances in technology, software, emerging business models, and new mobility solutions utilizing new information and communications technologies (ICT).

This project has involved a level of engagement with the private sector unprecedented in the transportation technology planning process. Auto manufacturers, communications companies, software providers, and tech startups have all shown interest in helping implement the Santa Clara Transportation Technology Strategic Plan and expressed a desire to be actively engaged throughout its implementation. Therefore, a mechanism needs to be developed to engage this private sector community on an on-going basis.

Silicon Valley and the greater Bay Area are home to many preeminent research universities, including several with a specific focus on new mobility. Expanding the traditional Private-Public coordination approach to include Private-Public-Institutional coordination is strongly recommended to leverage these resources.

The following actions are proposed:

1. Map existing Smart Mobility pilot initiatives.
2. Coordinate with regional incubators and collaborations.
3. Determine appropriate on-going Public-Private-Institutional coordination model(s).
4. Ensure broad and comprehensive private sector representation.
OVERVIEW

Arterial management is integral to the overall transportation network due to the fact all trips start and end on the local roadways and arterials. Most of these arterial roads (and some distributor/collector roads) cross jurisdictional boundaries with the traffic signals operated by multiple Santa Clara County agencies, including Caltrans. Hence, these agencies collectively have a vested interest to enhance the mobility for all users.

Arterial Management impacts all modes of movement (autos, transit, freight, bicycles and pedestrians) that need to be accommodated on arterial and collector roads and managed by the responsible agencies. All aspects of traffic management that currently, or will in the future, use technology are of interest to this functional area, with specific focus on traffic signals, the equipment associated with or attached to traffic signals, and communications between traffic signals and the road users controlled by those signals.

GOALS AND OBJECTIVES

**Functional Area Goal:** The goal for arterial management is to safely and efficiently accommodate all travelers and all modes on locally operated roads, with a focus on signalized intersection operations.

**Functional Area Objectives:**
- Provide a high standard of traffic flow
- Manage infrastructure to keep it in a good state of repair and operation
- Design for safe and efficient pedestrian and bicycle movement
- Provide a high standard of transit flow
- Manage incidents efficiently
- Support and facilitate planning activities
- Provide timely and useful traveler information

PROPOSED BOLD STEPS

- Encourage and facilitate multi-agency operational arrangements that will provide efficient, cost-effective, high availability operations and maintenance of traffic signals for sensible corridor and area-wide systems.
- Develop a model for a governance arrangement that encourages co-ownership and cost sharing of facilities.
- Establish a regional secure funding stream for on-going operation, maintenance, replacement and continuous upgrades of traffic signal systems.
• Explore a level of standardization that allows all the agreed signal operation strategies to be implemented, including collaborative operation of each agency’s signal system with its neighbors. (Standardize equipment or ensure standard interface capabilities for all systems.)

• Develop an administrative arrangement for seamless application of operational strategies along arterials across jurisdictional boundaries (e.g., combined TMC, or distributed virtual TMC, joint access and/or control of signal systems).

• Adopt a governance arrangement that will facilitate sharing of information and data, to improve accessibility to data for all relevant public and private entities and reduce associated costs.

• Utilize adaptive operations where appropriate.

STAKEHOLDER WORKSHOP FEEDBACK

• **Equipment status.** Many jurisdictions felt their traffic control equipment is old, lacks functionality, which in turn makes implementing more advanced operations and coordination difficult; interested in idea of having some guidelines or specs on what equipment to purchase.

• **Cross-coordination.** Varied interests; don’t always see value; in some cases, issue of equipment/system incompatibility makes it difficult; in other cases, just don’t have that level of connectivity in the network (i.e. nothing to coordinate with).

• **Transit/bus signal priority (TSP/BSP).** General desire for it to be consistent/seamless across modes and cities; however, not too interested in pursuing (cities priority is still moving autos).

• **Maintenance agreements.** Possible way to be more efficient; cities were not interested.
OVERVIEW

The Transit Management functional area covers all transit modes (LRT, BRT, bus, and commuter rail) that operate across various facilities, including arterials, collector roads, freeways, and Agency-owned rights-of-way. All aspects of transit management that incorporate technology, whether as exists today or is anticipated for the future, are of interest for this plan. Transit management covers all transit travelers and modes and is largely the responsibility of VTA. Transit Management interfaces with the arterial-specific operations covered in Arterial Management, freeway-specific operations covered in Freeway/ICM Management and with new mobility providers covered in Smart Mobility.

GOALS AND OBJECTIVES

Transit Management Goal: The goal for transit management with respect to the TTSP is to incorporate technology elements and management practices that advance the safe, equitable, and efficient accommodation of all travelers utilizing the public transportation system and to expand transit’s role in a regional, multimodal transportation system.

Transit Management Objectives:

- Optimize efficiency of transit operations
- Improve transit safety
- Provide customers easy-to-use, integrated fare payment options
- Provide timely and useful traveler information
- Integrate transit into an evolving landscape of new mobility business models and potential partners, particularly around “last mile” solutions

PROPOSED BOLD STEPS

- Continue to explore how best to provide service in the new emerging mobility marketplace—to consider partnerships with private operators where it makes sense.
- Develop a strategy about how to incorporate emerging AV from a technical, operational, and organizational perspective.
- Continue expanding capabilities in real-time, multimodal traveler information.
- Adopt a governance arrangement that will facilitate sharing of information and data, to improve accessibility to data for all relevant public and private entities and reduce associated costs.
STAKEHOLDER WORKSHOP FEEDBACK

- Coordination and integration with local agency operations and infrastructure is critical and should be featured.
- Current light rail system lacks good diagnostic tools; interest in IoT style platform for real-time health assessment of vehicles and systems.
- Light rail signal preemption technology is old and inefficient; more modern approaches could improve operations and performance.
- Public is becoming more sophisticated in understanding of transit operations and in requests for access to agency data; should be kept in mind as data sharing and reporting platforms are developed.
OVERVIEW

Freeway facilities provide the basic backbone of the surface transportation system and serve the highest vehicle miles traveled (VMT). Freeways throughout Santa Clara County are frequently congested, especially in peak hours. This congestion increasingly spills over to the expressway system and city streets. Future growth will likely amplify these conditions. The Freeway Management functional area focuses on technology strategies and concepts to make better use of the existing freeway infrastructure to improve freeway mobility, safety, and reliability. Common strategies include detection and monitoring systems, managed lanes, ramp metering, traveler information systems, and event management. Other strategies encompass elements of integration between arterial and transit facilities. These strategies will require extensive planning as technologies evolve and will include collaboration and communication between all agencies and private sector participants.

Near-term solutions include utilizing existing infrastructure more efficiently through managed lanes, enhanced ramp metering operations, and data sharing.

Intermediate-term solutions include upgrading infrastructure (communication networks, roadside ITS devices), mapping, and freeway-arterial-transit integrated operations (e.g., ramp metering providing transit priority, coordination between ramp meters and nearby traffic signals).

Long-term solutions include planning and deploying technology infrastructure to support electric vehicles, connected vehicles, and automated vehicles.

GOALS AND OBJECTIVES

**Functional Area Goal:** The goal for Freeway Management is to plan for and ultimately implement strategies and technologies that promote a more efficient and safer use of freeway facilities.

**Functional Area Objectives:**

- Reduce overall delay along the freeway facilities as well as adjacent arterial roads
- Improve coordination between multiple agencies and between public agencies and private firms to promote cooperative traffic management
- Improve the accuracy, coverage, and reliability of transportation data and encourage data sharing
- Improve event management and reduce the impact on the transportation system
PROPOSED BOLD STEPS

- Promote technologies that efficiently utilize existing infrastructure (Express Lanes, hard-shoulder-running, transit-only lanes, etc.).
- Improve performance of ramp metering operations (expand coverage, expand operating hours, adaptive ramp metering, HOV/transit-priority, coordination with traffic signal).
- Enhance data collection and information dissemination through data sharing among public agencies as well as private data providers (Waze, INRIX, Google, etc.).
- Upgrade communication infrastructure and network (Fiber, 5G, V2I, etc.).
- Map and strategically connect the infrastructure and networks of transportation agencies throughout the Bay Area.
- Develop recruitment requirements and training opportunities to ensure that transportation professionals have the skills to meet the demands of changing technologies.
- Develop strategies and plans to install technologies that support emerging connected vehicle (CV) and automated vehicle (AV) technologies.

STAKEHOLDER WORKSHOP FEEDBACK

- Need to engage with private information provider such as Waze and Google to conduct a coordinated traffic management effort when recurrent/nonrecurrent congestion occurs on freeways.
  - Private information providers recommend detour routes, which are notified, monitored and managed by public agencies and are capable of handling additional traffic.
  - Disseminate timely event status update so the diverted traffic can go back to freeway as soon as possible.
- More studies are needed to minimize ramp backup to local streets, for example:
  - Field survey and data analytics to analyze the root cause of the ramp backup at identified locations.
  - Smarter ramp metering algorithm (dynamic adaptive ramp metering, etc.).
  - Optimized signal timing plans to better handle on-ramp traffic and off-ramp traffic.
  - Coordination between Ramp metering and sign timing.
• Better inter-agency coordination (City-to-City, County-to-County, local agencies-to-Caltrans) is needed in terms of corridor-level signal optimization, consistent CMS message protocol, and ramp traffic management.

• It is essential to collect reliable and timely information (freeway event data, freeway traffic condition, arterial traffic condition, etc.) and disseminate it to the public.

• Coordination with major employer/traffic generators in the county could help to better manage demand (pre-trip recommendation, transit use, etc.).

• Adopt an integrated network management approach with better coordination between freeway, arterial, transit, and demand management.
OVERVIEW

Continued rapid advancement in mobile computing, communications networks, and electronic sensors are creating new opportunities to connect vehicles with the world, enable autonomous vehicles, provide opportunities for people to share trips, increase the potential for electrified vehicles, and create opportunities to use vast amounts of data to inform decision making. This is a transitional time in our industry as technology begins to affect our transportation choices and options.

The role of the public agency must change and adapt accordingly. The agency must become a facilitator, and not just a provider, of mobility solutions to the region. It can do this by encouraging innovation and making available the data and infrastructure necessary to support new mobility services and new business model experimentation.

GOALS AND OBJECTIVES

Functional Area Goal: The goal for smart mobility with respect to the TTSP is to incorporate technology elements and, more importantly, manage practices and policies that support innovation and deployment of new data-driven mobility services. These services provide more choices to users and enhance efficiency of limited road space use.

Functional Area Objectives:

- **Accommodate growth without increasing congestion.** Promote new mobility options paired with transit to reduce single occupant private vehicle use and to facilitate increased efficiency of existing infrastructure

- **Enable more transportation option.** Combine higher quality data, flexible payment options, mobility hubs, better management of and connectivity between modes and services

- **Build a more responsive transportation system.** Better use of data and analysis to identify, supplement, and/or replace less efficient services

PROPOSED BOLD STEPS

- Define a regional mobility hub strategy and implementation plan to facilitate seamless connections between different modes and services.

- Develop a prototype of regional curb use and loading zone policy for local agencies to consider that is reflective of changing demands and mobility models (e.g., microtransit, ridesourcing, connected-automated vehicles, commercial loading) and deploy related pilots.

- Define a new Agency organizational model to promote staff capacity-building around new mobility models – emphasizing data analytics and technology, relevant policies, and accelerated project delivery approaches. Provide sufficient budget capacity to attract the necessary staff assets.

- Develop Connected/Automated Vehicle policy guidelines to identify concrete near-term steps and longer-term planning activities that local agencies can do to be prepared for the emergence of connected and automated vehicles and related applications.
STAKEHOLDER WORKSHOP FEEDBACK

- Different agencies will have varying abilities to respond to or be proactive about changes in mobility models; important to understand the range.

- Primary participation in smart mobility services among local agencies will be in public right of way infrastructure modifications and/or use.

- Information sharing among agencies will likely be the most significant type of agency coordination – this is important in light of the rapid pace of technology change.
OVERVIEW

Travelers today have access to transportation information that is markedly more dynamic, interactive, and customized than what was available only a few short years ago. The traditional paradigm of traveler information dissemination was that of the public agency providing static or passive information to the traveling public – examples including passive traffic controls, maps, fare tables, static signs, and advisory radio. Today’s travelers, in contrast, both receive and contribute to multisource transportation information, utilizing crowd-sourced and two-way data exchange capabilities to generate useful real-time information, tailored to the individual user’s specific travel circumstances and needs. The location-aware mobile computing device is the enabling technology behind this shift, and represents the primary means by which users access 21st century traveler information.

As more complex transportation data becomes available and as traveler information systems become increasingly interactive (e.g., the bundling of multimodal trip planning and fare payment), the interface between the traveler and data systems becomes a critical component. Additionally, with the emergence of highly computerized and sensor-rich vehicles (e.g., connected and automated vehicles), interface design must consider machine-to-machine uses in addition to human interfaces. The public agency’s role in providing and/or enabling such interfaces is the focus of this section of the TTSP.

GOALS AND OBJECTIVES

**Functional Area Goal:** Technologies and strategies that all agencies can utilize to promote two-way communication with Santa Clara County travelers and revolutionize transportation payments to enhance the overall transportation experience throughout the County.

**Functional Area Objectives:**

- Provide more accurate and reliable travel information for the travelers in all modes of transportation (car, car-sharing, transit, bicycle, walk, multi-mode) through conveniently accessible and user-friendly interfaces
- Enhance two-way interaction between the travelers and agencies
- Establish revolutionary payment interfaces that utilizes technology to reduce operating cost and improves user experience
- Establish partnerships with private sector information/service providers
PROPOSED BOLD STEPS

- Establish partnership between public and private sectors to:
  - Improve the coverage, accuracy, and reliability of transportation information to be provided to the travelers.
  - Encourage third-party interfaces to cooperate with public agencies to provide information supporting coordinated transportation management.
  - Encourage creative interfaces developed by private sectors to save public agencies’ operations/maintenance costs.
- Develop interfaces, which better support two-way interaction with travelers.
- Revolutionize transportation payment interfaces throughout the county that effectively utilizes user-friendly technology.
- Prepare for emerging vehicle technologies and develop strategies to manage them to promote safe and reliable transportation.

STAKEHOLDER WORKSHOP FEEDBACK

- Establish a collaborative mapping tool across multiple agencies that stores and tracks information provided by the public, such as complaint about traffic signals, road segment, etc. The tool could help the local agencies to identify what areas have the most complaints.
- Use advanced equipment and technology (smart cones with GPS equipment, etc.) to make construction zones more detectable by Automated Vehicles (AV).
- Encourage the collection and sharing of construction information and first responder data, included planned construction data, and real-time data.
OVERVIEW

The Share and Use Information guiding principle refers to the use of technology to support the sharing and using of data throughout the County. Critical elements include:

- Data collection
- Data transmission (communications networks)
- Data storage
- Data exchange/sharing
- Big Data analytics
- Cyber security

As the amount of available data has grown exponentially, advanced analytical solutions have been developed to better identify patterns to improve predictions and help agencies make more informed operations, planning, and management decisions. Sharing data among the collaborative parties within Santa Clara County could provide greater opportunities to manage transportation networks more effectively. By sharing a single platform among various agencies, it also represents a cost-effective approach to providing data collection, storage, analytics, and dissemination capabilities to multiple partners.

The key elements of an integrated data environment are shown in the figure below.
GOALS AND OBJECTIVES

Functional Area Goal: The goal for the Share and Use Information guiding principle is to plan and subsequently implement strategies and technologies that promote a data sharing system throughout Santa Clara County. Furthermore, this data sharing system would include the development of analytical tools that can be utilized by all agencies to provide for better decisions regarding transportation networks and operations. These strategies will also be designed to provide opportunities for private companies within the region to utilize operational data to develop mobility applications that further serve travelers and improve mobility throughout Santa Clara County.

Functional Area Objectives:

- Facilitate collaboration and coordination among all agencies within Santa Clara County
- Provide secure, consolidated, and data-rich sources of transportation information for agencies to improve coordinated transportation management, operations, and planning throughout the region
- Support public agencies, private firms, and researchers to access and analyze transportation data to make new discoveries or generate creative solutions to maximize transportation efficiency, performance, and safety
- Reduce individual agency’s time, cost, and resources to manage big amount of data

PROPOSED BOLD STEPS

- Survey what data is currently available, and what data, if available, will benefit the stakeholders in the region.
- Adopt a governance arrangement that will facilitate sharing of information and data to improve accessibility to data for all relevant public and private entities and reduce associated costs.
- Develop a Concept of Operations for a data sharing system throughout the region. This step will include the following components:
  - Develop a functional specification that is agreed upon by all stakeholders for the data sharing system.
  - Identify existing hardware and software resources, how to fully utilize the existing resources, and what change/upgraded is necessary to support data sharing requirements.
  - Determine which technologies in terms of data storage, analytics, etc. best aligns with the County’s goals, and cybersecurity needs.
  - Develop guidelines for individual agency to share/exchange/use data with other public agencies or private sector.
STAKEHOLDER WORKSHOP FEEDBACK

- Plan for a county-level integrated data sharing environment to support agency-with-agency cooperation. The data that stakeholders are interested in includes, but not limited to:
  - Crash data to support safety study such as the list of intersections with high crash/near miss frequency;
  - Signal timing data to support multi-agency signal coordination and traffic management;
  - Freeway event data, especially the data/status update of the major event which may significantly affect arterial traffic conditions;
  - Caltrans’ camera feed, allowing local agencies to monitor activities around ramps;
  - Local agencies’ camera video data to encourage/support video analytics, which may generate useful information from camera images (vehicle/bike/pedestrian detection, traffic volume, vehicle classification, incident detection, etc.);
  - Bluetooth expressway data from the County.

- Steps to move this initiative forward include:
  - Present models of successful data sharing initiatives to the Santa Clara County stakeholders;
  - Identify a lead agency;
  - Develop a Concept of Operations;
  - Reach agreement amongst stakeholders on which data standard should be applied to a county-level data sharing system.

- Share among agencies the functional specification of the new ITS equipment (signal controller, smart pole, camera) to be installed. The purpose is to provide reference/guidance of state-of-the-art technology. Private-public-regional coordination is essential to standardize advanced smart controllers.

- Purchase real-time and archived traffic data from third parties (INRIX, WAZE, etc.) at a county level and share with the local agencies.
TTSP Vision & Goal

VISION:
Provide a coherent framework to help create and sustain county-wide smart transportation region.

GOALS:
• Provide a common county-wide approach to the future of transportation technology
• Capture the contributions that modern and evolving technology can make to improve transportation county-wide
• Collaborate on information sharing, project and operational initiatives and securing needed funding

Agenda Item: TAC #14, CAC #13, BPAC #11, & PAC #8
Connection to VTA Strategic Plan

Overarching Strategy:
Lead the region in Transportation Systems Management through funding, integration, and innovation.

GOALS:
• **Manage**: Address roadway congestion and all modes of operations using data, technology, and new tools
• **Maximize**: Retain and increase the value of existing infrastructure – optimize utility of new investments
• **Innovate**: Improve and expand mobility by innovatively applying technology

Agenda Item: TAC #14, CAC #13, BPAC #11, & PAC #8
TTSP Framework

Agenda Item: TAC #14, CAC #13, BPAC #11, & PAC #8
Collaborative effort

- ITS Working Group (member agencies)
- Private sector
- Regional partners (Caltrans, MTC, FHWA)
- Member-supported nonprofit innovation organizations (Prospect Silicon Valley, SPUR, Transform)
Recommendations

- Develop an Intra-agency, Inter-agency, and External Data Sharing Environments
- Establish a New Mobility Services Program
- Improve Regional Communications Infrastructure
- Enhance Existing Transportation Technology Systems
- Develop a Strategy for Ongoing Public-Private-Institutional Partnerships to Implement the Plan

Agenda Item: TAC #14, CAC #13, BPAC #11, & PAC #8
What’s next?

- One-on-one Stakeholder Meetings
- Identify two or three action items
- Focus on potential near-term recommendations
- Facilitate on-going discussion of private and public sectors using Slack® collaboration hub and other tools
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<td>6588</td>
<td>Dept - Transportation Planning / Chris Augenstein</td>
<td>Bay Area Bike Share Revenue Return</td>
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<td>6644</td>
<td>Division - Government Affairs / Jim Lawson</td>
<td>Oppose Position on Proposition 6</td>
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<td>6599</td>
<td>Dept - Programming and Grants Management / Marcella Rensi</td>
<td>VERBS Cycle 3-Supplemental</td>
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<td>6602</td>
<td>Dept - Transportation Planning / Chris Augenstein</td>
<td>Bicycle Accommodation Guidelines Update (County Item)</td>
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<td>Dept - Transportation Planning / Chris Augenstein</td>
<td>Santa Clara Multimodal Improvement Plan Approval</td>
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<td>Dept - Transportation Planning / Chris Augenstein</td>
<td>Mountain View Multimodal Improvement Plan Approval</td>
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<td>6641</td>
<td>Dept - Project Development / Casey Emoto</td>
<td>2018 Transportation Systems Monitoring Program Report</td>
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<td>Transportation Technology Strategic Plan Development Status Report</td>
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<td>Dept - Transportation Planning / Jim Unites</td>
<td>North First Light Rail Improvements</td>
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<td>Dept - Transportation Planning / Chris Augenstein</td>
<td>Story-Keyes Complete Streets Study</td>
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<td>6609</td>
<td>Dept - Transportation Planning / Chris Augenstein</td>
<td>Proposed Design Guidance for Bike Lanes and Cycle Tracks at Bus Stops</td>
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<td>1</td>
<td>Santa Clara County Bicycle Technical Guidelines - Bus Boarding Islands and Cycle Tracks Update</td>
<td>Ledbetter</td>
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<td>2</td>
<td>Expressway Bicycle Accommodation Guidelines (County)</td>
<td>County Item</td>
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<td>3</td>
<td>BART Phase II Update</td>
<td>Member Brinsfield</td>
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<td>4</td>
<td>How VTA Considers Equity (geographic, social, economic, modal) in its Planning</td>
<td>Former Vice Chair Peters</td>
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<td>5</td>
<td>North San Jose Projects: SI 237 Tolls, Coyote Creek Trail construction</td>
<td>Member Stallman</td>
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<td>6</td>
<td>Collision avoidance technologies</td>
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<td>7</td>
<td>VTA highway projects look ahead</td>
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<td>8</td>
<td>Circulation and Mobility Element (County)</td>
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<td>Water District Planned Trail Closures</td>
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<td>Electric bikes and scooters</td>
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<td>Caltrans road safety audit pilot program</td>
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# BPAC Workplan

## Items For Consideration at BPAC

as of August 2018

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<tr>
<th>Number</th>
<th>Items For Future Consideration/In Queue</th>
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<th>Notes</th>
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<tr>
<td>12</td>
<td>Review VTA's list of priority ABICs in Countywide Bicycle Plan and provide input into potential VTA-led projects</td>
<td>Committee members</td>
<td>Discussion</td>
<td>Added 7/18</td>
<td>VTA staff liaison to create memo.</td>
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<td>13</td>
<td>Update on Lawrence Expressway Grade Separation</td>
<td>Committee members</td>
<td>Info/Staff Report</td>
<td>Added 7/18</td>
<td>County staff liaison to evaluate.</td>
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<td>14</td>
<td>Update on County Projects: Page Mill/I-280, San Tomas Expressway Widening</td>
<td>Committee members</td>
<td>Info/Staff Report</td>
<td>Added 7/18</td>
<td>County staff liaison to evaluate.</td>
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<td>15</td>
<td>Scoring criteria for 2016 Measure B Capital Projects</td>
<td>Shinn/Programming &amp; Grants</td>
<td>Discussion</td>
<td>Added 8/18</td>
<td>Fall 2018</td>
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<td>16</td>
<td>2016 Measure B Countywide Education/Encouragement Program</td>
<td>Ledbetter/County Public Health</td>
<td>Discussion</td>
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