BOARD OF DIRECTORS’ WORKSHOP MEETING

Friday, September 21, 2012
9:00 AM

PLEASE NOTE CHANGE IN MEETING LOCATION

Board of Supervisors’ Chambers
County Government Center
70 West Hedding Street
San Jose, CA

WORKSHOP AGENDA

To help you better understand, follow, and participate in the meeting, the following information is provided:

- Persons wishing to address the Board of Directors on any item on the agenda or not on the agenda should complete a blue card located at the public information table and hand it to the Board Secretary staff prior to the meeting or **before the item is heard**.

- Speakers will be called to address the Board when their agenda item(s) arise during the meeting and are asked to limit their comments to 2 minutes. The amount of time allocated to speakers may vary at the Chairperson's discretion depending on the number of speakers and length of the agenda. **If presenting handout materials, please provide 25 copies to the Board Secretary for distribution to the Board of Directors.**

- **Disclosure of Campaign Contributions to Board Members** (Government Code Section 84308)

  In accordance with Government Code Section 84308, no VTA Board Member shall accept, solicit, or direct a contribution of more than $250 from any party, or his or her agent, or from any participant, or his or her agent, while a proceeding involving a license, permit, or other entitlement for use is pending before the agency. Any Board Member who has received a contribution within the preceding 12 months in an amount of more than $250 from a party or from any agent or participant shall disclose that fact on the record of the proceeding and shall not make, participate in making, or in any way attempt to use his or her official position to influence the decision.

  A party to a proceeding before VTA shall disclose on the record of the proceeding any contribution in an amount of more than $250 made within the preceding 12 months by the party, or his or her agent, to any Board Member. No party, or his or her agent, shall make a contribution of more than $250 to any Board Member during the proceeding and for three months following the date a final decision is rendered by the agency in the proceeding. The foregoing statements are limited in their entirety by the provisions of Section 84308 and parties are urged to consult with their own legal counsel regarding the requirements of the law.
• 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 our website, www.vta.org, and also at the meeting. Any document distributed less than 72-hours prior to the meeting will also be made available to the public at the time of distribution. Copies of items provided by members of the public at the meeting will be made available following the meeting upon request.

• 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 / 한국어 / tiếng Việt / Tagalog.

NOTE: THE BOARD OF DIRECTORS MAY ACCEPT, REJECT OR MODIFY ANY ACTION RECOMMENDED ON THIS AGENDA.

70 West Hedding St., San Jose, California is served by bus lines *61, 62, 66, 181, and Light Rail. (*61 Southbound last trip is at 8:55 pm for this location.)

For trip planning information, contact our Customer Service Department at (408) 321-2300 between the hours of 6:00 a.m. to 7:00 p.m. Monday through Friday and 7:30 a.m. to 4:00 p.m. on Saturday. Schedule information is also available on our website, www.vta.org.
1. CALL TO ORDER AND ROLL CALL

1.1. ROLL CALL

2. CLOSED SESSION

2.1. Recess to Closed Session

   Conference with Labor Negotiators
   [Government Code Section 54957.6]

   VTA Designated Representatives
   Joe Smith, Chief Financial Officer
   Bill Lopez, Chief Administrative Officer
   Robert L. Escobar, Manager, Employee Relations
   Ali Hudda, Deputy Director of Accounting

   Employee Organization
   Amalgamated Transit Union, Local 265

2.2. Reconvene to Open Session

2.3. Closed Session Report

3. PUBLIC COMMENT

This portion of the meeting is reserved for persons desiring to address the Board of Directors on any item within the Board's jurisdiction. Speakers are limited to 2 minutes. The law does not permit Board action or extended discussion of any item not on the agenda except under special circumstances. If Board 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. WORKSHOP ITEMS


4.2. Consider the current direction of the BRT Strategic Plan implementation, discuss potential options, and provide Board guidance on next steps.

4.3. Consider an investment strategy for the El Camino Real Bus Rapid Transit Project.

5. OTHER ITEMS

5.1. ANNOUNCEMENTS

6. ADJOURN
BOARD MEMORANDUM

TO: Santa Clara Valley Transportation Authority
   Board of Directors

THROUGH: General Manager, Michael T. Burns

FROM: Chief CMA Officer, John Ristow

SUBJECT: Bus Rapid Transit Program Background

BACKGROUND:

VTA service improvements are guided by several Board-adopted policy documents and criteria, including the Transit Sustainability Policy, Service Design Guidelines and the Valley Transportation Plan. Service enhancements and changes are further informed by the analysis done to support the Comprehensive Operations Analysis (COA).

The Bus Rapid Transit (BRT) Strategic Plan evolved from the COA and was approved by the Board of Directors in 2009. The goals of the BRT Strategic Plan are to:

1. Establish a brand identity for VTA’s future network of BRT services.

2. Evaluate the feasibility and effectiveness of developing BRT facilities in the candidate corridors in accordance with the Service Design Guidelines adopted by the Board of Directors in 2007.

3. Develop an action plan for implementation in each corridor.

The BRT Strategic Plan identified three corridors for priority implementation (See attached map):

- **Santa Clara/Alum Rock** - HP Pavilion to Eastridge Mall (7.2 miles), currently served by the Rapid 522, Local 22.

- **El Camino Real** - Palo Alto Transit Center to HP Pavilion (17.3 miles), currently served by the Rapid 522 and Local 22.

- **Stevens Creek/West San Carlos** - De Anza College to Downtown San Jose (8.5 miles), currently served by Local 23 and soon Limited 323.
The goal of VTA’s BRT service, according to the Service Design Guidelines, is to achieve a 30 percent travel time savings over local bus service and to reach an average speed of 20-30 miles per hour. To achieve this goal, BRT project planning involves analyzing a range of potential operational and infrastructure improvements. Examples of operational improvements include increased station spacing, higher frequencies, all-door boarding at stations, specialized vehicles and the use of technology such as real-time information. Infrastructure improvements center on station improvements to expedite boarding and dwell times and the use of dedicated lanes to bypass congestion. A more detailed description of BRT features is provided in Attachment B.

The goals of the BRT Strategic Plan, as adopted by the Board in May, 2009, have either been achieved or have realized significant progress and continue to be advanced. Specifically:

1. A brand identity was defined. This strong and recognizable identity includes a brand name, Valley Rapid; a color scheme; and a logo that together convey the value and purpose of BRT. Attachment B provides visuals depicting the BRT brand identity.

2. The three BRT priority corridors approved by the Board (See Attachment C) were evaluated for the feasibility and effectiveness of modification for BRT operations, and all three corridors show significant potential for ridership increases and improved operational efficiency with the implementation of BRT.

3. BRT Vehicle Purchase: The process to purchase BRT articulated vehicles is underway. VTA has received proposals and will be meeting with prospective firms to verify technical issues with each submittal. A recommendation to select a firm will be brought to the November 2012 Board meeting for an initial purchase of 29 vehicles for the 522 route, Santa Clara/Alum Rock and El Camino Real with an option for an additional 17 BRT buses for Stevens Creek.

4. Action plans have been implemented for each of the three priority corridors and work is progressing in each corridor as described below:

**Santa Clara - Alum Rock:** An environmental document was completed and approved in 2008, final engineering is under way and the process of property acquisition has begun. An EIR addendum will be undertaken in the fall to accommodate changes in the project since the original document. The procurement for new BRT vehicles has been under way since the spring and will be concluded before the end of the year with as many as 48 new vehicles ordered. Specifications for the BRT vehicles include storage space for up to five bicycles, both on exterior and interior racks. The Metropolitan Transportation Commission (MTC) allocated $90 million from State Proposition 1B funds specifically for the project, and the remaining funding will come from local sources. Service is scheduled to begin in late 2014. The project has had some challenges in downtown San Jose, and VTA staff is working with City staff and stakeholders to resolve the issues so that the project can remain on schedule.

Construction has progressed for transit and pedestrian improvements that will support BRT along Capitol Expressway and make up Phase I of the Capitol Expressway Light Rail Project.

**El Camino Real:** Conceptual Engineering is nearing completion with VTA staff recommending a preferred alternative. It is important to note that the route that serves the Santa Clara/Alum
Rock Corridor, Rapid 522, continues through downtown San Jose on El Camino Real to Palo Alto. Therefore, branded BRT vehicles will operate on El Camino Real by the end of 2014.

Once a preferred alternative is selected VTA will enter:

1. the environmental analysis process,
2. the Caltrans permitting process,
3. the federal Small Starts grants process and,
4. Preliminary Engineering.

Information and analysis derived from these four processes support each other and will be completed simultaneously. Full BRT level service is projected to start in late 2016.

The El Camino Real project has been characterized by an intense and passionate public discussion on the value of the transit improvement for the communities that share the corridor. It is expected that VTA will continue to engage the community and consider the interests and concerns of businesses and residents on the corridor as the project becomes more defined through the Caltrans process. Station locations, business access, changes in traffic patterns and pedestrian and bicycle access will likely be the focus of future outreach.

**Stevens Creek:** Conceptual Engineering began in May 2012, and VTA is reaching out to stakeholders in the corridor as the planning process begins. VTA staff is organizing a tour of the future Stevens Creek BRT Corridor on September 26th and have invited stakeholders and the general public to participate to learn more about the project. Conceptual Engineering will be followed by environmental clearance, preliminary engineering, final design, construction, and BRT service projected to begin in 2017.

Prepared By: Steven Fisher
Memo No. 3731
Characteristics of Bus Rapid Transit

Descriptions of infrastructure and operational improvements required to achieve BRT service goals on Alum Rock, El Camino Real, and Stevens Creek include the following major elements and assumptions:

• **Runningway (Bus Lanes)** - The Service Design Guidelines describe the configurations of BRT.

  **BRT-1**
  - operates in mixed flow lanes (similar to the Rapid 522);
  - typically easier and lower cost to implement;
  - subject to mixed flow conflicts, congestion, and turning vehicles, which can reduce travel times, decrease reliability, increase operating costs and erode the BRT concept and brand.

  **BRT-2**
  - operates in dedicated bus lanes or segregated transitways.
  - requires significant infrastructure investment (e.g., the bus lanes)
  - typically is much more expensive and disruptive to build than BRT-1.
  - operates in dedicated bus lanes which can increase reliability, operating speeds, and the attractiveness of bus travel, while decreasing operating costs

The BRT Strategic Plan recommended placing dedicated lanes in the middle of the street rather than the curb lane due to the operational conflicts with driveways and right turns endemic to the three corridors being considered for immediate implementation.

• **Stations** - BRT stations typically are equipped with enhanced amenities, similar to light rail stations. Stations would typically have larger and more elaborate shelters with real-time information displays showing next arrivals for each route, larger waiting areas, and ticket vending machines (TVMs). It assumed that median stations would have 90-foot platforms, while curbside stations would vary in length depending on the amount and type of local service in the corridor. Stations would be situated for right-side boarding only, have a platform for each direction of travel, and be located at the far side of intersections. The operation of the station, with rapid all-door boarding made possible through design and off-board fare collection is a critical element in making BRT travel time competitive.

• **Traffic Signals** - Buses currently have signal priority along much of the El Camino Real and Alum Rock corridors to facilitate the Rapid 522 service. However, several intersections in the Santa Clara portion of the El Camino Real corridor near the Santa Clara Transit Center lack signal priority. It is also lacking along Stevens Creek but will be installed over the next year as part of a grant from MTC’s Transit Performance Initiative program. Signal priority enhancements could range from software coordination on the low end to complete signal replacement on the high end.
• **Vehicles** - Specialized BRT vehicles are designed to operate in both mixed-flow and dedicated lane environments and carry the branding and identity of the BRT service. For the VTA BRT corridors, vehicle considerations include all-door boarding, capacity to handle heavy passenger loads, and the flexibility to store bicycles on-board as well as on the conventional front bumper rack. An additional consideration is sufficient seating, given the 5-8 mile average trip length of Rapid and BRT riders.

• **Complete Streets Improvements** - The BRT projects are transit improvement projects funded with local, state and federal transit money intended to make transit more competitive and improve the experience for existing and potential customers. Additionally, VTA recognizes that an inviting and safe environment for pedestrians and bicyclists contributes to a better transit environment as well; transit-friendly places are pedestrian-friendly places, and vice-versa. In dedicated lane configurations where streets undergo wholesale reconstruction, there is the possibility of including other infrastructure improvements transforming a street from auto-oriented to a “complete” street as envisioned in many policy documents such as the Grand Boulevard Initiative or city General Plans. While these are not a prerequisite for an effective BRT service, the project presents a construction and funding opportunity for cities to consider implementing policies that call for more multimodal, complete streets.
Valley Rapid Branding

What’s next for BRT on El Camino Real?

Posted on July 25, 2012 by VTA
Bus Rapid Transit

Valleymapid

Photosimulation - El Camino Real at Scott Blvd

Valley Rapid Station

4.1.B

4.1.b

Bus Rapid Branding
BOARD MEMORANDUM

TO: Santa Clara Valley Transportation Authority
    Board of Directors

THROUGH: General Manager, Michael T. Burns

FROM: Chief CMA Officer, John Ristow

SUBJECT: BRT Strategic Plan Implementation Options

BACKGROUND:

The adopted BRT Strategic Plan calls for implementation of the selected corridors in the following priority:

1. Santa Clara/Alum Rock from Eastridge to Downtown San Jose
2. El Camino Real from Downtown San Jose to Palo Alto Transit Center
3. Stevens Creek from Downtown San Jose to De Anza Transit Center in Cupertino

As the three projects have moved forward, VTA staff has, through conceptual engineering and environmental review, continually reassessed the order and opportunities for implementation that arise during the project development process.

This approach was developed consistent with the Board-adopted Service Design Guidelines and the Comprehensive Operations Analysis and represents a comprehensive approach to a BRT system implementation. Further explanation is provided below:

- **Santa Clara/Alum Rock and El Camino Real are served by the same bus routes**, Rapid 522 and Local 22, so under any circumstance, BRT-branded buses will travel from Eastridge to Palo Alto. This serves as an opportunity to have a full BRT set of improvements for these two key bus routes that together serve approximately 20 percent of VTA’s bus ridership.

- **El Camino Real serves twice the ridership of Stevens Creek**

- **El Camino Real has the best opportunity to receive federal funds.** The higher ridership on El Camino Real and the synergy with the Grand Boulevard Initiative which has already received federal discretionary grants will present the most compelling case to the Federal Transit Administration for receipt of a federal Small Starts grant for VTA BRT.
The table below provides the projected key operational and cost data for each of the three priority corridors.

<table>
<thead>
<tr>
<th></th>
<th>Santa Clara/ Alum Rock</th>
<th>El Camino Real</th>
<th>Stevens Creek</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Total Miles</strong></td>
<td>7.2</td>
<td>17.3</td>
<td>8.5</td>
</tr>
<tr>
<td><strong>Dedicated Lane Miles</strong></td>
<td>1.9</td>
<td>2.97</td>
<td>Still in project definition stage</td>
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<tr>
<td><strong>Forecast Ridership (2030)</strong></td>
<td>34,764</td>
<td>32,938</td>
<td>15,840</td>
</tr>
<tr>
<td><strong>Full Build Construction Cost Estimate</strong></td>
<td>$128 M</td>
<td>$109-125 M</td>
<td>$145.2 M (Strategic Plan)</td>
</tr>
<tr>
<td><strong>Current Authorized Budget</strong></td>
<td>$114 M</td>
<td>$19.4 M</td>
<td>$5.0 M</td>
</tr>
<tr>
<td><strong>Projected Funding Source:</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Federal</td>
<td></td>
<td>$54.6 -62.5 M</td>
<td>$72.6 M</td>
</tr>
<tr>
<td>State</td>
<td>$90 M</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Local</td>
<td>$38 M</td>
<td>$54.6 - 62.5 M</td>
<td>$72.6 M</td>
</tr>
</tbody>
</table>

**DISCUSSION:**

The fully funded priority BRT Corridor, Santa Clara-Alum Rock, is progressing to construction. The El Camino Real project is nearing the conclusion of conceptual engineering, and Stevens Creek is at the early stages of conceptual engineering.

During development of the Conceptual Design for El Camino Real, the El Camino Real Policy Advisory Board directed staff to visit each of the affected cities to receive their input on staff’s recommended configuration. As described in detail in the next agendized item, the cities of Santa Clara and San Jose supported the staff recommendation, while the cities of Sunnyvale, Mountain View did not. Staff has yet to receive a formal position from the cities of Los Altos and Palo Alto.

Given the opposition to the full-build staff recommendation by several of the core cities along the route, it has been suggested that VTA re-evaluate the direction of the BRT program as it evolved from the Board-adopted Strategic Plan.

**ALTERNATIVES:**

1. **Do not pursue BRT beyond the existing, fully funded Santa Clara-Alum Rock segment.** Staff does not recommend this alternative, as there are many benefits from BRT on El Camino Real and Stevens Creek, even in a compromised configuration.

2. **Re-prioritize the Stevens Creek corridor ahead of the El Camino Real corridor.** Staff does not support this alternative at this time, since the El Camino Real project, as modified, rates positive for federal funding criteria. Also, the Stevens Creek corridor is in an earlier
stage than ECR, and while the degree is unknown at this time, is likely to generate similar concerns to businesses and communities once conceptual engineering is further defined.

3. Develop El Camino Real Corridor after Santa Clara-Alum Rock and prior to Stevens Creek. Staff believes this approach demonstrates maximum benefit. There is a synergistic relationship between Santa Clara-Alum Rock and El Camino Real. Transit improvements over this total corridor provide rider benefits greater than either corridor developed separately. Approaches to developing El Camino Real are discussed more fully in the following memo.

Prepared By: Steven Fisher
Memo No. 3737
BOARD MEMORANDUM

TO: Santa Clara Valley Transportation Authority
   Board of Directors

THROUGH: General Manager, Michael T. Burns

FROM: Chief CMA Officer, John Ristow

SUBJECT: Consider an Investment Strategy for the El Camino Real Bus Rapid Transit Project

RECOMMENDATION:

Consider an investment strategy for the El Camino Real Bus Rapid Transit Project.

BACKGROUND:

The El Camino Real Bus Rapid Transit Corridor is one of three BRT corridors recommended for immediate implementation in the 2009 BRT Strategic Plan. Conceptual Engineering, the first step in project implementation, began in the summer of 2010. The analytical work consists of alternative project layouts, ridership analysis, traffic analysis, capital and operational costing, urban design analysis and an environmental scan. A continuing process of working with city staffs and outreach to community stakeholders has progressed to a point where VTA as lead agency is seeking an investment strategy to further advance the project. The project team provides regular status updates to a policy advisory board made up of city and county elected officials representing the corridor.

DISCUSSION:

Project Description: The BRT Strategic Plan recommended implementation of BRT service on El Camino Real as well as on the Santa Clara-Alum Rock and Stevens Creek corridors. The El Camino Real BRT Corridor (See Map) is 17.4 miles in length and traverses the cities of Palo Alto, Los Altos, Mountain View, Sunnyvale, Santa Clara, and San Jose. It will include some portions of dedicated, center-running transit lanes and some portions where the transit vehicles operate in mixed flow lanes with automobile traffic. There will be 16 stations spaced approximately one mile apart. There is already highly productive transit service on El Camino
Real through the Local 22 and Rapid 522 service. While these lines carry close to 14,000 riders on an average weekday combined, there is still significant unmet demand and the rider experience on the existing service has suffered from delay and reliability issues.

**Context of the El Camino Real Corridor:** The corridor is centrally located through many of these communities, and serves a wide variety of land uses including locally oriented retail stores, regional shopping centers, civic facilities, and numerous residential and office complexes. In general, traffic volumes are high and trips average 6-7 miles in length. All of the cities connected by El Camino Real participate in the Grand Boulevard Initiative, which advocates transforming the corridor into a walkable, transit-friendly street with a more modern land use pattern. Many of these communities have also developed General Plans or Specific Plans with this goal in mind. Palo Alto, Sunnyvale, Santa Clara and San Jose have developed specific plans for El Camino Real. Mountain View is currently updating its General Plan.

Two other key interests in changing the character of the corridor are addressing the barrier to pedestrian travel that El Camino Real represents through the various cities, and reduction in auto travel-generated greenhouse gases as required by California SB 375. The City of Mountain View recently signed a Bay Area Climate Compact which encourages transportation mode shifts to reduce 2008 baseline gasoline consumption by 8% by 2018.

**Desired Project Outcomes:** El Camino Real BRT is a transit project, but it can also be a catalyst for cities striving to accomplish the goals supported by the Grand Boulevard Initiative to make El Camino Real into a multi-modal street, friendlier to pedestrians, bicyclists and transit. The El Camino Real BRT Policy Advisory Board (PAB), consisting of elected officials representing corridor cities and Santa Clara County, adopted a set of Project Goals:

1. Ridership
2. Transit Travel Time Savings
3. Competiveness with Automobile Travel Times
4. Bus Signal Priority
5. Station Design
6. Vehicle Design
7. Support City Land Use Plans
8. Enhance El Camino Real as a Multimodal Complete Street
9. Create a Pedestrian Oriented Environment and Improve Streetscapes
10. Develop a Balanced Multimodal Corridor to Maintain and Improve Mobility of People and Vehicles

There are two overriding themes in the project goals and subsequent analysis that the preliminary investment strategy recommendation attempts to address:

1. The routes that serve El Camino Real, Rapid 522 and Local 22 are VTA’s most productive bus routes, already having a high degree of traffic signal priority and frequent service, meaning the BRT project must result in a meaningful improvement upon existing
transit conditions. This is supported by Project Goals 1 through 6.

2. The Grand Boulevard Initiative and city policy goals indicate there is a desire for transformation of El Camino Real’s land use and streetscape. The BRT project has the opportunity to implement the Grand Boulevard and policy vision expressed by corridor cities, as well as the visions some cities have expressed in their General or Specific Plans. This is supported by Project Goals 7 through 10.

Analysis of Alternatives: The project has analyzed two potential configurations within the existing 120 feet of right-of-way on El Camino Real and one that would exceed the current roadway boundaries:

1. Six travel lanes with buses operating in mixed-flow traffic with curb side bulb-out stations;
2. Four travel lanes with buses operating in dedicated transit lanes and center median stations; and,
3. Six travel lanes with dedicated center median transit lanes and median stations. This last alternative would require extensive right-of-way acquisition and was found not to increase transit ridership or contribute to the goal of a more multi-modal corridor and will not be subject to further analysis.

Thus, the comparison was between alternatives with mixed-flow and dedicated transit lanes within the current right-of-way constraints. The remaining project options were then evaluated for ridership, travel time, capital cost, operations and maintenance cost, and how well they achieve the project goals.

Operating in mixed flow has the advantage of a lower capital cost and does not require significant construction, except at station locations. Bulb-out stations and transit signal priority provide a travel speed advantage over existing operations. A mixed flow configuration minimizes potential impacts - both during project construction and after the improvement is in place - on automobile travel in the corridor. The major disadvantage of the mixed flow configuration for transit service is that transit vehicles are constrained by general traffic congestion, resulting in longer transit travel times, higher operating cost, lower ridership and a less-efficient transit system. In addition, the mixed flow configuration substantially reduces the possibility of non-transit project components such as bicycle lanes, pedestrian bulb-outs at intersections and pedestrian crossing improvements as part of the BRT project.

Dedicated lane configurations provide an advantage to transit service by allowing BRT vehicles to bypass general automobile congestion and eliminating conflicts between general traffic and transit vehicles. Higher transit speeds and more predictable operations actually reduce operating costs and better address the Project Goals. In addition, the dedicated lane configurations introduce non-transit components to the street reconstruction such as bicycle lanes, pedestrian bulb-outs at intersections and pedestrian crossings. As a result, the project improves the environment for non-automobile modes in the corridor. The disadvantages of dedicated lanes are that it inconveniences automobile travel by reducing automobile capacity on El Camino Real and it has greater impacts during construction. Dedicated lane configurations and the inclusion of
bicycle and pedestrian improvements, also result in a more costly initial capital investment.

A cost/benefit analysis was completed to evaluate the sensitivity of travel time, costs and projected ridership to changes in the length and location of dedicated transit lanes. The resulting analysis was used to help determine the optimum configuration or “Optimized Transit Project” to advance as an investment strategy to cities on the corridor. The analysis also included a qualitative evaluation of each project variation’s ability to meet the project goals adopted by the Policy Advisory Board. The options analyzed included dedicated transit lanes or mixed flow with bulb-out stations in every city, with the option for a 10.3-mile continuous dedicated lane from Lafayette Street in Santa Clara to Showers Drive in Mountain View ranking the highest, although it was not ultimately selected to move forward.

Project Concerns: VTA has received substantial input from the public and city staffs, most notably on dedicated transit lanes displacing two general purpose lanes on El Camino Real, as well as the location of those lanes. The comments revolve around these broad themes:

- Traffic Impacts, On and Off El Camino Real: Stakeholders have expressed concern with the potential for increased traffic congestion, both on El Camino Real and parallel routes. A traffic study was conducted for the project by DKS Associates. More detailed traffic studies will be conducted as part of the environmental review of the project and the Caltrans Project Study Report process. Findings to date indicate that a majority of traffic congestion in the corridor is caused by general population and employment growth as forecast by the Association of Bay Area Governments. With the anticipated growth in population and employment throughout Santa Clara County, automobile traffic volumes are expected to increase on El Camino Real and other roadways in the corridor by 2035 if no changes are made. Along El Camino Real, this background growth would result in increased delays and degradation in service levels at most intersections. Under the dedicated lane option, two of the six lanes would be converted to exclusive bus lanes for a portion of El Camino Real, which necessarily reduces the capacity of that portion of the street. However, the level of service at intersections, already projected to worsen in some locations because of background growth, generally is projected to stay about the same with the project, and in fact, in terms of average delay at the intersections, a number of El Camino Real intersections would improve. The reason that service levels generally do not change is that traffic volumes on El Camino Real would decrease with the project as some vehicle trips would shift to transit, while others would shift to alternative routes.

A comparison of volume increases and decreases on the roadway network around El Camino Real between I-280 and US 101 indicates that no single route is overburdened with the diverted traffic. A basic capacity analysis of parallel streets indicates that, while there is a large increase in the amount of street capacity used up by growth in the future, a small incremental increase -- typically on the order of two to four percent -- is due to the traffic diverted from El Camino Real because of the BRT project.

Left Turns: Concerns over changes in traffic operations have been expressed, specifically for locations currently allowing cars to turn left without a signal. There are numerous locations along El Camino Real where permissive (no traffic signal) left turns are currently allowed. The project has proposed two design options to address this
condition given a dedicated lane configuration:

1. The Project will install a traffic signal allowing all movements and include crosswalks and a pedestrian-activated phase permitting safer street crossing; or

2. Close the left turn movement and redesign those locations to be limited to right-in, right-out operations.

The project team will work with staff and stakeholders of the City of Santa Clara, where the only dedicated lanes on El Camino Real are currently planned, on recommended design configurations at these locations, as either design treatment preserves transit operations. Further analysis of intersection design changes will occur as the project moves into environmental clearance and completes required Caltrans documentation.

- **Pedestrian Crossings:** Community residents, city staff and elected officials have all identified El Camino Real as a barrier in communities for pedestrians, citing safety and the lack of adequate crosswalks as a major concern. The project in the dedicated lane portion of Santa Clara can aid pedestrian street crossings by installing pedestrian activated signals and providing median refuges at station areas. In addition, the dedicated lane configuration allows the project to install signals and control intersections where there is currently an uncontrolled crossing. It should be noted that in a No-Build scenario, traffic will continue to grow and challenge pedestrian movement across the corridor.

- **Landscaped median:** Santa Clara has expressed a strong desire to maintain median landscaping for the length of El Camino Real in Santa Clara, while recognizing that the median width may change in order to achieve other goals for a multi-modal design. VTA will work with Santa Clara to achieve this design.

- **Bicycle lanes:** Residents, city staff, elected officials and bicycle advocacy groups have expressed a desire for bicycle lanes on El Camino Real, linking major destinations throughout the corridor. The project is proposing to install bicycle lanes in the Santa Clara dedicated lane segment. Mixed-flow configurations would not include a bicycle lane. The installation of bicycle lanes will be reviewed by Caltrans as part of the Project Study Report process.

- **Extent of Dedicated Transit Lanes and Grant Funding:** Many stakeholders have wondered why the project is not seeking dedicated lanes for the entire 17-mile length of the corridor and how the impact of not having a majority of the project in dedicated lanes would affect potential federal grant funds. To compete for federal Small Starts program grants, the capital cost of the project cannot exceed $250 million. Seeking more than 10 miles of dedicated lanes would have pushed the project costs over this threshold. **The federal Small Starts grant program has been revised to no longer include a requirement for a specified length of dedicated lane.** The transit goals of the project including travel time savings and ridership growth can be achieved with a mixture of dedicated lanes and mixed-flow operation.
**Project Engagement Process:** After an extensive outreach process to stakeholder groups, community organizations, businesses and the general public throughout 2011, the project team suggested to the El Camino Real BRT Policy Advisory Board in December 2011 that a preliminary staff recommendation be presented to the VTA Board and corridor city councils to achieve policy-level support prior to moving the project into the Caltrans and Federal funding processes. The PAB countered that city councils should have an opportunity to provide input on the project recommendation prior to the VTA Board. Policy-level input and acceptance of the investment strategy would be required by Caltrans, and to a lesser degree, the Federal Transit Administration.

The preliminary staff recommendation proposed dedicated lanes through parts of Santa Clara, Sunnyvale, Mountain View and Los Altos. Several public workshops were held and presentations were made to each city council in the corridor including multiple visits to Santa Clara, Sunnyvale, Mountain View and Palo Alto. At this time, only Santa Clara is willing to support the dedicated lane configuration.

Following extensive input from the public and city officials, described above, the investment strategy was refined, resulting in a project with dedicated lanes from Lafayette Street in Santa Clara to Halford Avenue in Santa Clara, and mixed flow operations elsewhere. The project team took the opportunity of redefining the project to identify cost savings in specific areas of the project. In addition, the new federal transportation legislation (MAP-21) was released during this period, and it revised how Bus Rapid Transit projects would be categorized, resulting in more opportunity for projects with majority mixed-flow (no dedicated lanes) operation.

The table below shows the value of dedicated lanes by comparing a No-Build scenario or an All Mixed Flow Option to the investment strategy. The investment strategy features 2.97 miles of dedicated lanes in the City of Santa Clara.

### Table - 1 - Ridership, Capital and Operating Cost

<table>
<thead>
<tr>
<th>Option</th>
<th>Daily BRT Ridership - 2020</th>
<th>Capital Costs</th>
<th>Annual Net Cost of Operations - 2020*</th>
</tr>
</thead>
<tbody>
<tr>
<td>No-Build</td>
<td>5,748</td>
<td>$0</td>
<td>$17.0 Million</td>
</tr>
<tr>
<td>All Mixed Flow</td>
<td>9,950</td>
<td>$82.7 Million</td>
<td>$14.5 Million</td>
</tr>
<tr>
<td>Partial BRT Project in San Jose and Santa Clara i.e No Build North of Santa Clara</td>
<td>6,100</td>
<td>$75 Million</td>
<td>$12.9 Million</td>
</tr>
<tr>
<td>Investment Strategy</td>
<td>11,200</td>
<td>$109.2 - $125.1 Million</td>
<td>$12.7 Million</td>
</tr>
<tr>
<td>Original Staff Recommendation</td>
<td>14,960</td>
<td>$183 - 199 Million</td>
<td>$7.8 Million</td>
</tr>
</tbody>
</table>

*Net of farebox revenue, 5307 revenue, and 5309 revenue (starting in year 8)
**Funding Strategy:** The Project will be funded by a combination of local and federal funds. The table below shows a preliminary funding plan with a federal Small Starts grant funding 50 percent of the total project cost.

**Table 2 - Preliminary Funding Plan**

<table>
<thead>
<tr>
<th></th>
<th>Local</th>
<th>Federal Funds*</th>
<th>Project Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>No-Build</strong></td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td><strong>Mixed Flow</strong></td>
<td>$41.5 Million</td>
<td>$41.5 Million</td>
<td>$83 Million</td>
</tr>
<tr>
<td><strong>Partial BRT Project in San Jose and Santa Clara</strong></td>
<td>$75 Million</td>
<td>0</td>
<td>$75 Million</td>
</tr>
<tr>
<td><strong>Investment Strategy</strong></td>
<td>$54.6 - 62.5 Million</td>
<td>$54.6 - 62.5 Million</td>
<td>$109 - 125 Million</td>
</tr>
<tr>
<td><strong>Original Staff Recommendation</strong></td>
<td>$108 - 124 Million</td>
<td>$75 Million</td>
<td>$183 - 199 Million</td>
</tr>
</tbody>
</table>

*Small Start grant guidance strongly encourages a 50% local match

- **Range of Capital Costs:** The range of capital cost is attributable to the methodology and level of improvement to the bulb-out stations in the mixed flow segment, north of Santa Clara. VTA is investigating ways to bring “system” components to the station i.e. fiber hardwire vs. wireless, TVM size and functions and real time information. There are a number of products used by other transit systems that could yield capital cost savings.

- **Can components of the bulb-out stations be used if a city decides on dedicated lanes in the future?:** There is a question of what portions of a built project can be used if a city opts for dedicated lanes in the near future. In general the vertical elements of stations, shelters and furniture (approximately 50 percent of the station costs) can be reused if this occurs, so they are not a lost investment.

- **Traffic will grow irrespective of the project and improving transit service can only have a positive impact:** It is important to understand that because of city general plan decisions to cluster development on El Camino Real and a healthy outlook for this region’s technology-based economy, that the traffic situation on El Camino Real will become worse. It is important for VTA, as a congestion management agency and transit operator, to be part of the solution. This project provides a viable transit alternative in the Corridor.

- **El Camino Real BRT reduces transit operating costs:** El Camino Real will remain the backbone of VTA’s San Jose to Palo Alto running frequent headways in the corridor. The implementation of the Santa Clara dedicated lane, bulb-out stations, all door boarding, bus signal priority and the other aspects of BRT, will improve ridership and reduce VTA’s operating costs -- both important to running more efficient and effective transit and preserving operating funds for improvements in other areas of the VTA system.
**Next Steps:** The investment strategy will be used as the basis for a Project Initiation Document (Project Study Report-Project Development Support), which starts the Caltrans review process, an Initiation Package to enter the Federal Transit Administration’s Small Starts Program, and an environmental review process. In addition to investment strategy, other alternatives will be fully studied in the environmental review process, both NEPA and CEQA, including mixed flow and bulb-out stations for the entire corridor together with the No-Build alternative.

The Board of Directors will see three actions at the November 2012 meeting to advance the project:

1. Authorize the General Manager to sign a cooperative agreement with Caltrans to kickoff their project review.

2. Authorize the General Manager to file the required reports to compete for federal Small Starts funds.

3. Amend the contract with the Parsons Transportation Group to include environmental analysis as part of their scope.

**ALTERNATIVES:**

The Board of Directors can select a different investment strategy to include a greater or lesser extent of dedicated lane or decide not proceed with the project.

**FISCAL IMPACT:**

Appropriation is available in the FY 2013 Adopted 2000 Measure A Transit Improvement Program Fund Capital Budget to continue planning, engineering and the environmental process on any selected alternative. However, any alternative will rely heavily on federal funds to reach completion. Appropriation for the remainder of the project costs will be included in subsequent budgets. The Preferred Investment Strategy will result in a decrease in annual net cost of operations of $4.3 million from the No-Build Option based on 2020 data.

Prepared by: Steven Fisher

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