City of Palo Alto
City Council Staff Report

Report Type: Study Session  Meeting Date: 6/20/2011

Council Priority: {ResProject:ClearLine}

Summary Title: El Camino Real Bus Rapid Transit Project

Title: Study Session Regarding the Valley Transportation Authority’s El Camino Real Bus Rapid Transit (BRT) Project

From: City Manager

Lead Department: Planning and Community Environment

Recommendation
Staff recommends that Council receive the Valley Transportation Authority (VTA) staff report regarding the VTA El Camino Bus Rapid Transit project and provide comments and discussion.

Executive Summary
The El Camino - Bus Rapid Transit (BRT) project is supported by the VTA's Measure A Transit Sales Tax program along with federal and state sources. The goal of the project is to improve transit access along the El Camino Real Corridor by providing faster service with target stops and more reliable service with specialized transit vehicles and facilities.

The El Camino Real BRT Corridor extends from Downtown San Jose (Arena Station) to Downtown Palo Alto (Palo Alto Transit Center) passing through the cities of Santa Clara, Sunnyvale, Los Altos, and Mountain View. The El Camino Real Corridor is currently served by the VTA Local 22 bus route and the VTA Rapid 522, which together carry 20% of the VTA’s daily ridership. The current Rapid 522 is the first step to initiating a BRT type of service with limited stops, but lacks the upgraded stations and branded vehicles. An example of a branded VTA BRT vehicle is illustrated in Attachment A.

In May 2009, the VTA Board of Directors adopted the El Camino Real BRT Strategic Plan, which identifies the goals that the BRT project would be measured against. The goals are described in more detail in the Discussion section of this report.

Staff from VTA will be making a presentation to Council regarding the El Camino Real BRT Project. Staff and VTA will outline the next steps in the process.
Background
The 2000 Measure A VTA Transit Sales Tax program identified an integrated transit network linking target “activity centers” comprised of regional business districts, shopping centers, and mixed-use projects throughout Santa Clara County, through an enhanced bus service known as Bus Rapid Transit (BRT). In March 2008, VTA initiated a BRT Strategic Plan, the goals of which 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,
3) Seek input from project stakeholders prior to beginning engineering efforts, and
4) Develop an action plan for implementation in each corridor.

The El Camino Bus Rapid Transit project supports the goals of the ongoing Peninsula El Camino Real Grand Boulevard Initiative by enhancing El Camino Real as a multi-modal complete street by making improvements to the pedestrian connections at stations and to the streetscape in selected areas. The BRT network will create a pedestrian oriented environment and maintain and improve mobility of people and vehicles.

Discussion
VTA has contracted with Parsons Transportation Group as the lead design consultant for the El Camino Real BRT Corridor project. Meetings with City staff began in summer 2010 in the form of a Project Development Team (PDT). The PDT meetings include staff from the northern County cities of Palo Alto, Los Altos, and Mountain View, along with VTA and the consultant team. The PDT meetings focus on potential roadway configurations along El Camino Real to help support BRT activities including the use of exclusive (dedicated) bus lanes down the center of El Camino Real, shared-use mixed-flow lanes travelling along the curb lanes of El Camino Real, and enhanced station location alternatives. In Palo Alto, mixed-flow lanes (at the curbs) with two potential enhanced stations are proposed.

A Policy Advisory Board (PAB) for the El Camino Real BRT Corridor was established in 2010, comprised of elected officials. The PAB meetings began in February 2011 and the group meets quarterly. Councilmember Shepherd represents the City of Palo Alto at the PAB.

Design Options
The El Camino Real BRT Corridor project represents a unique opportunity to implement specialized transit access through the City of Palo Alto with vision-setting civil improvements through the City’s most heavily-traveled corridor. Alternatives proposed for the BRT have three potential cross sections:

• BRT operating with automobile traffic in mixed flow lanes (at the curbs) with the existing six travel lanes (three lanes in each direction)
• BRT operating in an exclusive median lane with six travel lanes, and
• BRT operating in an exclusive median with four travel lanes (two lanes in each direction)
Proposed renderings for each of the potential street cross-sections are provided in Attachment B. An illustration of the BRT branded vehicle is provided in Attachment A.

Based on input from the PDT, preliminary design, and cost estimates, VTA staff is recommending that the project include a combination of BRT operating in either a mixed flow lane with six travel lanes or BRT in the center (dedicated) median lanes with four regular travel lanes on El Camino Real. Cross sections with BRT in the median lanes with the six travel lanes will have significant impact on private property along El Camino Real, especially at the station locations and intersections.

Where conditions do not warrant dedicated bus lanes, such as is the case through the City of Palo Alto, BRT would operate in mixed flow lanes along the curb (with appropriate street and signal enhancements) alongside local automobile traffic. Staff has expressed concern with the impacts that a dedicated lane would have in the City, such as loss of parking, right of way take of private properties and removal of the landscaped medians along El Camino Real. Segments with the dedicated BRT lanes, such as through the City of Mountain View, would have two 12-ft lanes in the median and would be restricted to only the BRT buses. These 12-foot wide lanes would be placed in the median and would be separated from the mixed flow lanes by 6-inch concrete curbs. On these streets, the original number of traffic lanes would be maintained to the extent possible, with additional width gained by removing existing curbside parking or by cutting into the existing medians and dedicated left-turn lanes. Additional right-of-way acquisition may be required where center median BRT stations are needed. These buses would also have Bus Signal Priority, so that as the bus approaches the intersection, the traffic signal will turn green to allow the vehicle to move through without sitting at a red light. Buses would also be able to accommodate additional bikes both outside of the vehicle and possibly inside. More detail will be available as VTA continues with the design phase of this project.

BRT Stations

Station locations will be selected based on transit demand, station visibility and access, connections to bus and rail, surrounding land uses, station spacing, public support and right-of-way impacts. The potential BRT station locations in Palo Alto are being proposed at the vicinity of Maybell Avenue/Arastradero Road, California Avenue and the Palo Alto Transit Center (near University Avenue).

Station design would include an off-board fare collection system where passengers would buy tickets at the station and board the bus through the front and rear doors without needing to show proof of payment. This would allow faster boarding and, like the light rail, transit officers would be onboard checking passengers for tickets.

The enhanced stations would be more substantial than regular bus stations by providing shelters for weather protection, more seating and better lighting for safety. The station locations in the areas without dedicated lanes (mixed – flow option) would be designed to have
sidewalk bulb-outs, where the station platform would extend out into the travel lane, so that the bus would stop in the travel lane while the passengers board. This would potentially speed up the travel times since the buses would not have to pull in/out of traffic, like regular buses do.

Development of this study will also include data collection efforts for ridership modeling, traffic analysis, parking inventory and occupancy survey, urban design inventory and land use analysis of the El Camino corridor. Staff from both Planning and Transportation will review and provide comments as needed. Architectural and design elements for the BRT will be a focus of intensive design study and stakeholder outreach in the Preliminary Engineering phase of the project. The community outreach process during preliminary engineering will build on the outreach work already accomplished in conceptual engineering by continuing to include business and property owners along the project corridor. VTA will also continue to work with Caltrans on the approval of the design of the roadway since El Camino Real is a State highway (Route 82).

More information can be found on VTA's project website at: [http://www.vta.org/brt/index.html](http://www.vta.org/brt/index.html), which covers the entire El Camino Real corridor.

**El Camino Real Bus Rapid Transit Project Goals:**
The BRT project will be measured against quantitative and qualitative goals that will be revisited as the project progresses. The following sets of goals have been adopted by the VTA Board of Directors and the 2009 Bus Rapid Transit Strategic Plan. The primary goal of the project is to improve transit in the El Camino Corridor by providing faster, more frequent and more reliable service with specialized transit vehicles and facilities. Also, as part of the effort to improve transit, improvements will also be made to pedestrian connections to the stations and improvements to the streetscape in selected areas.

The Policy Advisory Board was asked to endorse the following goals at its May 13, 2011 meeting:

1) **Ridership**
   El Camino BRT project will achieve increased ridership (compared to the existing bus service) and improve efficiency, consistent with VTA's Service Design Guidelines:
   
   o Average boardings per revenue hour: 45 -55
   o Average boardings per route mile: 200 - 350
   o Boardings per station per day: 150 – 350

2) **Transit Travel Time Savings**
   El Camino BRT Project improvements will reduce bus in-vehicle travel time by 30% when compared to a local bus (Line 22).
3) **Competitiveness with automobile travel times**
   El Camino Rapid BRT Project exclusive lane improvements will achieve Rapid Transit travel times within 10% of automobile travel times.

4) **Bus Signal Priority**
   All signals on El Camino will have bus signal priority for Rapid Transit vehicles.

5) **Station Design**
   All BRT stations will have branded shelters and amenities such as real-time arrival and departure information, fare collection machines and upgraded lighting.

6) **Vehicle Design**
   All BRT buses will be articulated, hybrid powered, branded vehicles.

7) **Support City Land Use Plans**
   The BRT Project will be consistent with the goals of city general plans and precise plans.

8) **Enhance El Camino as Multimodal “Complete” Street**
   Ensure good pedestrian environment adjacent to stations.

9) **Create a pedestrian-oriented environment and improve streetscapes, ensuring full access to and between public areas and private developments**
   Provide an integrated pedestrian environment with wide, continuous sidewalks, landscaping, lighting and signage, all with human-scale details, with a commitment to maintain those amenities.

10) **Develop a balanced multimodal corridor to maintain and improve mobility of people and vehicles along the corridor**
    • Design transit stops for easy passenger loading, unloading and fare payment.
    • Improve signal timing
    • Implement transit-preferential street treatments such as signal priority, bulb out stops, bus by-pass lanes and high occupancy vehicle (HOV)/Bus-only lanes where needed and feasible
    • Implement programs designed to reduce auto trips during congestion periods

VTA staff will continue to provide updates on how well the goals are met throughout the project definition process.

**Timeline**
The VTA is proposing the following schedule for the El Camino Real BRT Corridor project:

- Conceptual Engineering thru Summer 2012
• VTA Board Approves Project Description  Fall 2011
• Begin Environmental Studies  Fall 2011
• Final Environmental Document  Winter 2012
• Preliminary Engineering Begins  Summer 2012
• Final Design  Summer 2014
• Construction Award  Fall 2014
• Begin Operation  2016

Conceptual engineering will continue through Summer 2012 and will include civil engineering, transit operations, branding and marketing of the vehicles and stations. Staff from the participating cities and Caltrans will continue to meet monthly to provide input to the study. The Policy Advisory Board will continue to provide policy input. Community input will be sought through multiple outreach effort later this year and as planning activities proceed.

**Resource Impact**
Staff participates in monthly Project Development Team meetings. Upon project implementation, the corridor will be operated and maintained by the Valley Transportation Authority so there are no on-going resource impacts to the City of Palo Alto.

**Policy Implications**
The proposed BRT project is consistent with the City’s Comprehensive Plan policies:
- Policy T-1: Make land use decisions that encourage walking, bicycling and public transit use;
- Policy T-4: Provide local transit in Palo Alto.
- Policy T-6: Improve public transit access to regional destinations, including those within Palo Alto.
- Policy T-7: Support plans for a quiet, fast rail system that encircles the Bay, and for intra-county and transbay transit systems that link Palo Alto to the rest of Santa Clara County and adjoining counties.
- Policy T-10: Encourage amenities such as seating, lighting, and signage at bus stops to increase rider comfort and safety.

The proposed BRT project is consistent with the El Camino Real Master Planning Study which was drafted in 2003 providing detailed design guidelines for the El Camino Real Corridor through Palo Alto. This project also supports the ongoing Peninsula El Camino Real Grand Boulevard Initiative, with the goal of improving the performance, safety and aesthetics of El Camino Real for all users.

**Environmental Review**
Upon completion of the conceptual design/engineering, VTA will begin environmental analysis of the proposed alternatives in order to identify impacts, if any, along the El Camino Corridor.
ATTACHMENTS:

- Attachment A: Proposed BRT Vehicle  (PDF)
- Attachment B: Proposed BRT Cross Sections  (PDF)

Prepared By: Shahla Yazdy, Traffic Engineer

Department Head: Curtis Williams, Director

City Manager Approval: James Keene, City Manager
BUS RAPID TRANSIT

Attachment A
3 Travel Lanes, BRT in Mixed-Flow
3 Travel Lanes, BRT in Dedicated Lane, Parking Removed

120' RIGHT-OF-WAY

132' RIGHT-OF-WAY
2 Travel Lanes, BRT in Dedicated Lane