

Date: September 14, 2007

Committee Meeting Date: \_\_\_\_\_

Board Meeting Date: October 4, 2007**BOARD MEMORANDUM**ACTION  DISCUSSION \_\_\_\_\_ INFO \_\_\_\_\_

**TO:** Santa Clara Valley Transportation Authority  
Board of Directors

**THROUGH:** Michael T. Burns  
General Manager

**FROM:** John H. Ristow  
Acting Chief CMA Officer

**SUBJECT:** Santa Clara/Alum Rock Transit Improvement Project

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

Approve the Bus Rapid Transit (BRT) alternative as the preferred near-term development strategy for the Santa Clara/Alum Rock Transit Improvement project, pending environmental analysis.

**BACKGROUND**

The Santa Clara/Alum Rock corridor has been the subject of a significant level of analysis beginning with the 1999 Major Investment Study and continuing on with additional conceptual planning studies and environmental documentation since early 2001. Project alternatives considered for implementation include Enhanced Bus Service, Bus Rapid Transit using exclusive lanes and Single-car Light Rail service.

Based on a new approach of developing transit service gradually in a corridor over time as defined in VTA's Transit Sustainability Policy (TSP), the conceptual analysis now proposes the phasing of transit improvements in the Santa Clara/Alum Rock corridor as land uses develop and the demand for transit service grows. According to the TSP, a corridor can develop transit services beginning with enhanced bus as a lower cost and an early implementation opportunity for improvement. Enhanced Bus is then followed by a more capital-intensive BRT product, which utilizes components such as dedicated lanes and a higher grade of pedestrian and station facilities. Finally, fixed rail service such as Light Rail can be developed as demand for transit reaches a level requiring higher capacity and land uses within the corridor intensify.

Following this model, VTA implemented the new Route 522 Rapid Service in the corridor in 2005. Since early 2006, the two original project alternatives (Single-car Light Rail and Enhanced Bus) have undergone revisions in scope. The redefined BRT alternative is more capital intensive with a dedicated busway in the median of Alum Rock Avenue and rail-like stations both in the Alum Rock median and at bulb-outs on Santa Clara Street. The BRT alternative will be designed for easy conversion to Light Rail at a future date, minimizing “throw-away” costs. The Light Rail alternative has undergone less extensive changes in the update but there have been some adjustments based on operational considerations. The alternative remains a single-car train due to physical constraints on Santa Clara Street and headways will be 15-minutes due to constraints in the larger Light Rail system.

Additionally, the Metropolitan Transportation Commission recently allocated \$45 million from the State Proposition 1B funds to VTA to be used for BRT in the Santa Clara/Alum Rock corridor. The funding is part of a larger package of up to \$150 million being generated for Santa Clara County through the Public Transportation, Modernization, Improvement and Service Enhancement Account.

## **DISCUSSION**

Based on funding opportunities, the refined scope of both alternatives and the results of the TSP ridership evaluation, the Downtown East Valley PAB recommended proceeding with BRT as the next phase of transit improvement for the Santa Clara /Alum Corridor at its September 6, 2007 meeting. The TSP ridership evaluation for both Santa Clara/Alum Rock alternatives is included here in Attachment A. The evaluation shows that the BRT project is clearly the superior alternative from the perspective of cost, ridership and transit productivity.

Provided the Board of Directors concurs with the PAB recommendation for near-term BRT development, staff will be carrying the updated project alternatives into the environmental review process. State-level environmental clearance of the project will begin in September and be expected to conclude in late 2009.

## **ALTERNATIVE**

The Board can elect to not accept the PAB recommendation and proceed into the environmental documentation process without identifying a near-term development strategy. A preferred alternative would have to be identified at the conclusion of the environmental process, however.

## **FISCAL**

Budget for both alternatives are included in the Measure A Expenditure Plan adopted by the Board of Directors on June 15, 2005. There are no direct fiscal consequences to accepting or rejecting the staff recommendation.

Prepared by: Kevin Connolly, Transportation Planning Manager

## Attachment A

### **Santa Clara/Alum Rock Project Transit Sustainability Policy Evaluation**

The Transit Sustainability Policy (TSP) is a ridership-based policy that provides a framework for the efficient and effective expenditure of transit funds, and for realizing the highest return on investment in terms of public good and ridership productivity. The Service Design Guidelines (SDGs) are a mode specific step in the TSP process to evaluate, design, implement and monitor transit services in the region. They provide a link between local commitments to transit service, construction and operational feasibility, and overall operational efficiency. In accordance with the TSP, all transit projects are subject to an evaluation of the effects the proposed capitol project or service improvement will have on transit ridership and operating efficiency. The Service Design Guidelines are comprised of two parts: 1) Service Performance Standards, and 2) Design Guidelines.

The Service Design Guidelines provide specific performance standards based on ridership and productivity to help achieve the goals of the Transit Sustainability Policy. The Santa Clara/Alum Rock (SC/AR) project alternatives have been measured against the SDGs standards to determine if they meet, do not meet, or exceed these standards based on the goals of the Transit Sustainability Policy. Under the Board adopted TSP/ Service Design Guidelines, VTA projects will be evaluated based on the measures in the policy including: Boardings Per Revenue Hour; Boardings per Route Mile and Boardings Per Station.

**Boardings per Revenue Hour** is VTA's established evaluation criteria to assess productivity of transit services. This indicator shows how well a unit of cost (vehicle revenue hours) is utilized. It also indicates whether the transit capacity offered is appropriate, and how well operating resources are deployed to provide service.

**Table 1** shows Boardings per Revenue Hour for the SC/AR project alternatives. As Table 1 shows, both the BRT and LRT alternatives exceed the SDG standard of 55 Boardings per Revenue Hour.

**Table 1 -- Boardings per Revenue Hour**

<b>Project Alternative</b>	<b>VTA Standard</b>	<b>Alternative Performance</b>	<b>Variance</b>
BRT	55	434	+379
Single-car LRT	55	114	+59

**Boardings per Route Mile** compares the number of daily boardings versus the total length of the route or network. This gives a sense of whether a route is effectively designed, given its length, and whether extraneous destinations are included in the project limits that reduce overall productivity and efficiency. Furthermore, it can be used to identify route segments with higher intensity demand and thus allow the agency to best tailor service and capacity to serve this ridership.

**Table 2** shows the standard established by the Service Design Guidelines for Boardings per Route Mile. This standard varies depending on the mode or technology under consideration. Thus, a less capital-intensive mode results in a lower criteria for Boardings per Route Mile because the per mile capital cost is lower. The SC/AR BRT alternative far exceeds the SDG standard of 350 for BRT while the Light Rail standard of 1,250 is not met by the Single-car LRT alternative.

**Table 2 -- Boardings per Route Mile**

<b>Project Alternative</b>	<b>VTA Standard</b>	<b>Alternative Performance</b>	<b>Variance</b>
BRT	350	3,509	+3,159
Single-car LRT	1,250	921	-329

**Boardings per Station** measures the number of daily boardings entering a transit station and gauges how well a station is being utilized. This is important given operating and maintenance costs associated with keeping a station operational, as well as sunk costs for selecting and developing a station. An under-used station impacts transit operating performance, as well as farebox recovery and cost efficiency. Highly utilized stations can be considered for additional station amenities.

The Service Design Guideline for Boardings per Station for Bus Rapid Transit is 350 average daily boardings. **Table 3** presents the Boarding per Station for the BRT alternative stations against the SDG standard. As the table indicates almost all of the BRT stations meet or exceed the standard established by the Service Design Guidelines. The exception is 16<sup>th</sup> Street with 238 average daily boardings.

**Table 3  
Boardings per Station  
Bus Rapid Transit Alternative**

<b>BRT Station Standard:</b>		<b>350</b>
<b>Stations</b>	<b>Boardings</b>	<b>Variance</b>
Bird Street	445	+95
Convention Center	795	+445
Diridon	971	+621
Transit Mall	3,976	+3,626
6 <sup>th</sup> Street	1,149	+799
16 <sup>th</sup> Street	238	-112
28 <sup>th</sup> Street	4,255	+3,905
King Road	890	+540
Jackson Avenue	1,505	+1,155
Alum Rock Transit Center	865	+515
Corridor Ridership	15,089	

The SDG standard established for Boardings per Station for Light Rail is 600. **Table 4** evaluates the Single-car LRT alternative against this standard. Seven of the LRT stations are below the SDG standard. Three SC/AR LRT stations (King, Jackson, and Alum Rock Transit Center) are above the standard.

**Table 4**  
**Boardings per Station**  
**Single-car Light Rail Alternative**

<b>LRT Station Standard:</b>		<b>600</b>
<b>Stations</b>	<b>Boardings</b>	<b>Variance</b>
Diridon	221	-379
Delmas	98	-502
Almaden	92	-508
Transit Mall	540	-60
6 <sup>th</sup> Street	148	-452
16 <sup>th</sup> Street	167	-433
28 <sup>th</sup> Street	286	-314
King Road	726	+126
Jackson Avenue	891	+126
Alum Rock Transit Center	790	+190
Corridor Ridership	3,959	