

Date: \_\_\_\_\_ March 11, 2008

Committee Meeting Date: \_\_\_\_\_ March 20, 2008

Board Meeting Date: \_\_\_\_\_ N/A

**BOARD MEMORANDUM**

**INFORMATION ITEM**

**TO:** Congestion Management Program and Planning Committee  
Santa Clara Valley Transportation Authority  
Board of Directors

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

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

**SUBJECT:** VTA Strategic Intelligent Transportation System (ITS) Planning

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**FOR INFORMATION ONLY**

**BACKGROUND:**

Santa Clara Valley Transportation Authority serves as both the countywide transit provider and the Congestion Management Agency (CMA) for Santa Clara County. As the CMA, VTA is responsible for countywide long-range transportation planning and is now currently working on an update of the long-range transportation plan, Valley Transportation Plan 2035 (VTP 2035). The plan includes a section entitled "Transportation Systems Operations and Management Program" (TSOMP) which incorporates the use of Intelligent Transportation System technologies into the transportation system including examples such as ramp metering systems, traffic signal systems, electronic traveler information systems, electronic tolling and traffic signal priority systems for transit vehicles.

In order to inform the long-range plan update, an effort to assess the TSOMP section of the current VTP was initiated in early 2007 by VTA staff and Santa Clara County agencies. The effort to assess the priorities and projects related to transportation technology is referred to as the Intelligent Transportation System (ITS) Strategic Plan. The remainder of this informational memorandum summarizes the findings of the ITS Strategic Plan.

**DISCUSSION:**

At the start of the effort to develop this ITS Strategic Plan, two main objectives were identified: 1.) to assess the priorities and projects related to ITS documented in VTP 2030; and 2.) to identify key ITS projects for implementation in the short term from now to three years.

VTP 2030 documents VTA Board adoption of four major funding allocation strategies related to ITS:

- 1) Give top funding priority to projects that improve mobility. This means funding for traffic signal systems for local roadways and expressways; ramp metering for freeways; priority treatments at traffic signals for transit (e.g., bus signal priority and light rail signal priority); and detection and signal timing improvements for bicycle traffic.
- 2) Reserve 20 percent of the fund allocation for a countywide ITS operations, management and maintenance program managed by VTA.
- 3) Use the remainder of the proposed allocation for other ITS projects that emphasize integration and connectivity of the transportation network.
- 4) Work with staff from the cities and county to identify a project list based on the above fund allocation strategies.

VTP 2030 identifies \$28 million in funds for ITS, with a capital funding need of about \$147 million represented by the projects included in the document.

As part of the strategic ITS planning effort, the VTP 2030 list of projects/initiatives and the four allocation strategies were distributed to the cities, the county, Caltrans and VTA transit for review. A series of meetings were held with each agency to solicit input on these items. The outcome of these series of meetings revealed even more emphasis on the need for funding for operations, management and maintenance of ITS. The greatest needs identified through this process in order of frequency in priority order, are as follows:

- 1) Operations, management, and maintenance programs
- 2) Traffic flow improvement projects such as improvement of traffic signal timing; improvements that provide better mobility for pedestrians and bicycles; and improvement for better transit operations
- 3) Improvements to upgrade traffic signal systems
- 4) Implementation of traffic operations centers
- 5) Traffic surveillance improvements (e.g., cameras and monitoring through loop detection)
- 6) Improvements to communications between traffic signals and other traffic operations systems (TOS)
- 7) Improvements to the emergency response system

Operations, management, and maintenance (OMM) have the greatest need in the region due to the inability to identify funding and hire staff at the needed levels. This is not only an issue in this region; it is a national issue as evidenced by the National Report Card on Traffic Operations released in 2007. In order to address this issue, the ITS Strategic Plan identifies the establishment of countywide OMM programs called the Regional Traffic Operations Personnel Service (RTOPS) and Regional ITS Maintenance Service to supplement the existing local traffic engineering and operations staffs. These programs would be managed by VTA and could be provided as part of the Congestion Management Program. The initial annual cost for these

programs to provide OMM staffing assistance is estimated at about \$500,000 and \$200,000 respectively.

The next tier of ITS improvements that could enhance the region's mobility are the "low-hanging fruit" projects, which have a five- to ten-year development horizon as shown in Attachment A. These projects would be aimed at upgrading existing systems and completing gaps in the existing systems. Examples include upgrading traffic signal systems, especially those that are still operating on 1980s or older technologies, and completing gaps in the freeway metering system.

Two reports, which are attached, have been prepared to summarize these findings:

- *Transportation Operations Strategic Plan for Santa Clara*, which is the main report that details the findings listed above.
- *Transit ITS Deployment Plan for Santa Clara County*, which is the companion report to Transportation Operations Strategic Plan for Santa Clara. This report is based on information from a series of meetings with VTA staff who operate, manage, and maintain transit operations. The VTP 2030 TSOMP section had only a single line item for transit ITS. This report develops a more detailed list of projects/initiatives with a conceptual timeline for deploying these projects/initiatives. The conceptual timeline recommends studies to clearly define the transit systems communications needs for VTA, and the implementation of an open architecture approach using industry standards with less proprietary systems. The report includes cost information for the transit ITS projects/initiatives. The report also includes a defined list of "low hanging fruit" (short term), medium term (five to ten year implementation projects), and long term projects with an implementation timeframe of more than 10 years.

Since the development of VTP 2030, the need for the use of technology-based systems for improving the area's mobility has increased as evidenced by the longer list of ITS projects. The updated list of identified ITS improvements, as developed with area stakeholders, totals well above \$200 million over the life of VTP 2035.

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