

# County of Santa Clara

## Roads & Airports Department

### Infrastructure Development Division



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RA01 091509

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Reviewed by: Dan Collen  
Deputy Director

DATE: September 15, 2009

TO: Board of Supervisors

FROM: *M. J. Murdter*  
Michael Murdter  
Director, Roads & Airports Department

SUBJECT: American Recovery and Reinvestment Act (ARRA) TIGER Grant Application

### **RECOMMENDED ACTION**

Approve delegation of authority to Director, Roads and Airports Department to submit a grant application to the U. S. Department of Transportation relating to Transportation Investment Generating Economic Recovery (TIGER) grant funds for various roadway and traffic operations improvements as part of a sustainable Intelligent Transportation System (ITS) project on County expressways in the amount of \$25.2 million for FY 2010.

### **FISCAL IMPLICATIONS**

There is no fiscal impact to the County General Fund.

No local match fund is required by the TIGER grant. Should the grant application be selected for funding, the Department will submit an Appropriation Modification (F-85) for Board approval to establish revenue and expenditures for the project.

### **CONTRACT HISTORY**

None.

## **REASONS FOR RECOMMENDATION**

The Department has prepared a federal TIGER Grant application for a sustainable Intelligent Transportation System (ITS) project along County expressways as described in the attached grant proposal. The total estimated cost of the projects is \$25.2 million. The Department recommends that the Board delegate authority to the Director, Roads & Airports Department to submit the grant application to the U. S. Department of Transportation by the September 15, 2009 deadline.

## **BACKGROUND**

The American Recovery and Reinvestment Act (ARRA) includes a \$1.5 billion competitive grant program for surface transportation infrastructure projects that will have a significant impact on the nation, a metropolitan area, or a region. On May 18, 2009, the United States Department of Transportation (US DOT) announced the availability of TIGER discretionary grants for eligible projects including, but not limited to, highway or bridge projects, public transportation projects, passenger and freight rail transportation projects, and port infrastructure investments.

County staff is aware that the Metropolitan Transportation Commission (MTC) has developed a priority list of projects for the region and is advocating for inclusion of these projects in a statewide list of projects for TIGER discretionary grants. The Department did not submit the Expressway System Sustainable ITS project to MTC because it did not meet MTC's adopted principles for projects they will accept and promote. MTC's principles focused on San Francisco's Doyle Drive, goods movement, and transit projects. While MTC left the door open for a second road project, they were focused on traditional road expansion projects, and ultimately there was no capacity for a second road project on MTC's list.

Fortunately, individual cities and counties are eligible to submit applications directly to the US DOT. According to the US DOT web site, "Inclusion on a list of pre-screened projects endorsed by the State or governor is a good way to demonstrate State support, but absence from any such a list would not in itself preclude a municipality from being eligible for a TIGER Discretionary Grant. While being on such a list could help demonstrate State support and will be viewed positively by the Department in assessing a project's readiness to proceed quickly, an application for a local project that otherwise enjoys broad support from public officials and rates well under the criteria specified in the Notice is not going to be viewed less favorably for not being on the list."

Many of the elements in the proposed project are included in the 2008 Update of the Comprehensive County Expressway Planning Study, which was endorsed by most of the cities in Santa Clara County and adopted by the Board of Supervisors earlier this year. In addition, the larger scale project elements (e.g., installing Traffic Operations System infrastructure on Capitol Expressway and Santa Teresa Boulevard as well as replacing the older Traffic Operations System infrastructure) are included in the Valley Transportation Authority's recently adopted Valley Transportation Plan (VTP) 2035 and MTC's

Transportation 2035 Plan. Other elements, such as the bicycle and pedestrian signal detection sensors, are consistent with policies in the VTP 2035 and Transportation 2035 to promote bicycling and walking. According to the US DOT web site, documentation of the project's consistency with these regional planning documents will help demonstrate broad support from public officials.

At a recent ITS conference, County staff learned from US DOT officials that the agency hopes to receive some innovative projects rather than just the usual highway and transit expansion projects. The maximum amount of TIGER funding that a state may receive is \$300 million but there is no guarantee amount for any state. In other words, the amount of funding California will receive depends on how the projects fare in the US DOT evaluation process. A

sustainable ITS concept using the latest technology in a "whole system" approach could provide enough of an edge to help California achieve the full maximum funding potential of \$300 million.

### **CONSEQUENCES OF NEGATIVE ACTION**

The TIGER grant application will not be submitted.

### **STEPS FOLLOWING APPROVAL**

Send notification of completed processing to: Ananth Prasad, Roads and Airports Department, Infrastructure Development Division.

### **ATTACHMENTS**

- Project Description

# **Sustainable ITS System for County Expressway System ARRA TIGER Discretionary Grant Proposal**

## ***Background***

The County of Santa Clara operates a 62-mile expressway system that serves 1.5 million users daily. The eight expressways in the system crisscross the county supplementing the freeway system and relieving local streets of commuter traffic. These expressways connect to all the major job centers in what is widely known as Silicon Valley, one of the primary economic engines of the nation. Several of the expressways include high-occupancy vehicle (HOV) lanes promoting carpooling and transit use. More info about the expressways is available at [www.expressways.info](http://www.expressways.info).

Intelligent Transportation System (ITS) technologies are a vital part of the County's approach to serving the high daily traffic demands on the expressways. In 2008, the County celebrated 10 years of operation of its Traffic Operations Center (TOC), and the County has a list of awards to its credit for implementing innovative traffic signal re-timing projects and pioneering an adaptive bicycle signal timing system. The County has also been in the forefront of using technology to communicate expressway traffic conditions to motorists by providing web access to real-time traffic cameras and expressway congestion maps (see [www.countyroads.org](http://www.countyroads.org)).

However, due to the economic downturn and a lack of resources, the County is unable to replace the current aging ITS system that is reaching the end of its useful life and has been unable to install the latest technologies on all expressways. Recognizing that innovation and new technologies are what made Silicon Valley an international phenomenon, the County of Santa Clara proposes to use a TIGER discretionary grant to create a comprehensive systemwide approach to using the latest ITS technologies in a sustainable manner. This system could showcase for the country the effective use of sustainable ITS technologies.

## ***Project Description***

There are many elements to the project – all with the single goal of installing a cutting-edge sustainable ITS for the County of Santa Clara's expressway system. It involves replacing the aging ITS infrastructure on the whole system, bringing additional expressway corridors on line with ITS, using solar power for the traffic signals and ITS system, implementing adaptive signal timing, and installing pedestrian and bicycle detection sensors to serve all users in the most efficient manner possible. Below is more specific information about each of the elements:

- Replace old video cameras at arterial intersections with new technology high definition cameras that support video analytics to collect traffic counts, speed, and occupancy for implementing adaptive traffic signal timing coordination on the expressways.
- Replace underground traffic signal conduits with larger conduits to accommodate ITS improvements.

- Install ITS infrastructure (cameras, underground conduits, and fiber optics to connect to the traffic operations center) on all of Capitol Expressway and on Santa Teresa Boulevard through Gilroy as listed in the 2008 Update of the Expressway Study.
- Upgrade the quality of real-time traffic information provided to the traveling public with the new cameras and by connecting with other sources of traffic information, such as 511.
- Create one of the first sustainable ITS systems by installing solar panels to power traffic signals, fiber optic hub buildings and the traffic management center to conserve energy and promote green solutions.
- Install electronic pedestrian detection sensors at signalized crossings to dynamically extend pedestrian clearance time when needed to accommodate pedestrians who may need extended time to cross the expressway.
- Install rat boxes at key intersections on the expressway system to curb red light violations (see video about rat boxes on our website at [www.countyroads.org](http://www.countyroads.org) )
- Install bicycle detection at signalized intersections to provide bicycle specific timing for bicycles to safely cross expressway intersections (see video about how this County pioneered adaptive timing for bicycles works on our website at [www.countyroads.org](http://www.countyroads.org)).