AC TRANSIT DISTRICT
Board of Directors
Executive Summary

GM Memo No. 05-046
Meeting Date: February 16, 2005

Committees:
Planning Committee ☐ Finance Committee ☐
External Affairs Committee ☐ Operations Committee ☒
Board of Directors ☐ Financing Corporation ☐

SUBJECT:
Maintenance Contract With Alameda County Congestion Management Agency to Pay a Portion of Costs Related to Operation and Maintenance of Opticom Transit Signal Priority Hardware and Intersection Camera Hardware and Delivery, on the San Pablo Rapid Corridor and the Telegraph/International/East 14th Rapid Corridor.

RECOMMENDED ACTION:
☐ Information Only ☐ Briefing Item ☒ Recommended Motion

Authorize General Manager to Enter Into a Contract with the Alameda County Congestion Management Agency to Pay a Portion of Annual Operating and Maintenance Costs for Opticom Transit Signal Priority Intersection Hardware and a Portion of SMART Corridor Costs related to the San Pablo Rapid and Telegraph/International/East 14th Rapid Corridors.

Fiscal Impact
AC Transit would contribute $127,000 during FY2005-2006 and $150,000 during FY2006-2007, towards operating and maintenance (O&M) costs in the San Pablo Corridor for Opticom Transit Signal Priority (TSP) hardware, and for operation and maintenance of the SMART Corridor intersection camera hardware and delivery system. Total O&M costs for the SMART Corridors are in excess of one million dollars.

BOARD ACTION: Approved as Recommended ☐ Other ☐
Approved with Modification(s) ☐

[To be filled in by District Secretary after Board/Committee Meeting]

The above order was passed on ______________________, 2005.

Rose Martinez, District Secretary
By ______________________
in FY05-06, and about $1.1 million in FY06-07. The contribution by AC Transit represents approximately 13 per cent of these costs. The remaining 87 percent would be divided into equal thirds, with the Congestion Management Agency (CMA), Metropolitan Transportation Commission, and participating local cities contributing the balance of the costs.

After the Telegraph/International/East 14th Street Rapid has been operational for one year, AC Transit’s share of Opticom and other costs would increase to $310,000 in FY07-08, and $325,000 in FY08-09. In these two years the AC Transit share of total SMART Corridor O&M costs constitutes approximately a 19 per cent contribution, with the remaining 81 percent continuing to be divided into thirds, as noted above. These costs would become a line item in the AC Transit District budget, funded by District revenues.

**Background/Discussion:**
Transit Signal Priority (TSP) has been designated by the Board as one of the components required in any implementation of Rapid or BRT corridors (GM Memo 03-214a). The Opticom TSP system has been operational on San Pablo Avenue for over 18 months; it has the virtue of being available for occasional emergency vehicle preemption, as well as full time transit signal priority.

Review and analysis of essential operation and maintenance components of the Opticom system resulted in a three-part TSP program generated by AC Transit staff, described as part of GM Memo 05-002, and outlined below:

**Part One:** Regular testing and maintenance of the Opticom emitters located on AC Transit Rapid buses. Utilizing grant funds for equipment, AC Transit Maintenance staff has developed test equipment, and tests all San Pablo Rapid emitters monthly. This program will be extended to additional emitters as they are installed.

**Part Two:** Regular testing, calibration and maintenance of the Opticom emitters, located at 72 signalized intersections along the San Pablo Rapid route. The Opticom system works on the basis of infra-red emissions from emitters on board the Rapid buses, which are “read” at a pre-calibrated distance from the intersection by the detector. A message is then sent to the traffic controller box, which on the basis of installed software determines whether or not to grant priority to the approaching Rapid bus. A combination of dust, grime and pollution will produce a film on the detectors over time, which will degrade the ability of the detector to read approaching Rapids. In addition, the angle of the detector can be disturbed by many factors. Finally, although the units are warranted for five years, failures can occur; those failures are not readily discernible. Therefore, regular testing and maintenance of the Opticom units is
essential. Since two counties, seven cities and CalTrans, as well as AC Transit, are involved, the CMA is the logical public agency to coordinate maintenance activities along the corridor. CMA has an existing O&M agreement in place, and understands the needs of AC Transit. The CMA has allocated a modest portion of their overall O&M costs to AC Transit, based on the fact that the District is using only two SMART Corridor systems, Opticom and intersection camera.

Operations staff is transitioning to Rapid bus management from within Central Dispatch, for several reasons:

- Grant support for supervisorial support has ceased
- Desire to use Transportation Supervisors more efficiently
- Technology exists to allow remote supervision

Grant funds are being utilized to purchase additional monitors for several Dispatch Consoles, to show both NextBus mapping and SMART Corridor intersection camera images. The funds will be used to purchase and install end-of-the-line cameras as well. While this approach increases the efficiency of managing the Rapid lines, it also requires participation with CMA in the operation and maintenance of the camera hardware and transmission of images.

**Part Three:** Upgrading of field hardware and software, so that staff can extract useable data to clearly and regularly analyze the use of transit signal priority, and calculate its cost effectiveness to the District. There is considerable national interest in this particular effort, which will be the first time such information will be directly calculated, rather than projected or extrapolated from a limited sample. Grant funds will cover these costs in their entirety. The work scope for this effort has been completed and work is beginning before the end of the first quarter of 2005.

Because AC Transit is a participant in the O&M of both the Opticom Transit Signal Priority System and the SMART Corridor intersection camera network, staff recommends that the District participate in the costs of those systems.

**Prior Relevant Board Actions/Policies:**
GM Memo 05-002: Consider Update on San Pablo Rapid Bus and San Pablo Corridor Rapid Stop Amenities
GM Memo 03-214a: Semi-Annual Review of Priority Corridors
GM Memo No. 05-046  
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Attachments: None  

Approved by: Rick Fernandez, General Manager  
Nancy Skowbo, Deputy General Manager Service Development  

Prepared by: Jon Twichell, Transportation Planning Manager  

Date Prepared: February 4, 2005