

Inter Office Memo

To: Board of Directors
From: Anne Muzzini, Director of Planning and Marketing

Date: February 9, 2011

Reviewed By: *AKM* *PKH*

SUBJECT: Intelligent Transportation System (ITS) for Fixed Route

SUMMARY OF ISSUES:

The Operations and Scheduling Committee recommends that the voice and data communication system for the fixed route service be upgraded. Capital funds leftover from DVC and the Forty (40) bus purchase enable CCCTA to implement this project now as opposed to FY2013.

An Intelligent Transportation System (ITS) that utilizes existing onboard computers (Clever Devices IVN) has been designed.

The major components of the ITS system are:

- A replacement radio/ radio control system
- A replacement CAD/AVL (vehicle location) system
- New web-based passenger information system (BusTime)

The project will involve:

- Installation of on-board hardware and software
- Installation of radio controller software and servers at headquarters
- Installation of CAD/AVL (vehicle location) software and server at headquarters
- Installation of BusTime (real time passenger information) software and server
- Installation of modems and cell service for CAD/AVL and BusTime data

As a component of the ITS system the radio system will be replaced as it has become prone to failure. The software is no longer maintained by the developer and breakdowns have a significant impact on operations. The rate of change in this technology, and the lack of reliability of the current system, has made maintenance difficult.

Components of the proposed ITS system are designed to work together. All systems (CAD/AVL, BusTime, and radio controller), will use data that is collected and processed by same on-board computer, the Clever IVN or Intelligent Vehicle Network. Data sent from the bus via the cellular network will be used to inform dispatchers and passengers about bus location and on-time performance.

Similar to the purchase of the RSM Ridecheck software, this procurement will entail sole-source procurement with Clever Devices. The ITS project is an extension of the Clever Devices data collection, onboard computer data management system in place. Funds leftover from the DVC Transit Center and the Forty Bus procurement projects will be used to pay for the ITS project.

FINANCIAL IMPLICATIONS: The cost estimate for the ITS projects is \$900,000. This compares to a previous estimate for the radio replacement project equal to \$3 Million. The cost is lower now because many of the buses already have upgraded IVN's on board as a result of the recent bus purchase.

Most of the project cost is related to software (\$450,000) and labor (\$240,000). The rest, \$210,000 is for onboard hardware, modems, and one year of cell service. CCCTA has servers that can be used and will purchase the modems separately. The ongoing cost for cell service is estimated at \$47,000 a year. This estimate is based on recent Sacramento system cell cost where the State contract was used for procurement.

RECOMMENDATIONS: The O&S Committee recommends that the Board approve Resolution No. 2011-011, which authorizes the General Manager to negotiate and execute a contract with Clever Devices and to purchase the components necessary for the ITS project which include: a) an upgraded radio/ radio control system, b) a new CAD/AVL system, and c) a new passenger information system. The total project cost will not exceed \$900,000.

OPTIONS:

1. Support O&S Recommendation
2. Other action as determined by the Board