The County Connection

Inter Office Memo

To: Operations and Scheduling Committee **Date:** January 26, 2011
From: Anne Muzzini, Director of Planning and Marketing
Reviewed By:

SUBJECT: Intelligent Transportation System (ITS) for Fixed Route

SUMMARY OF ISSUES:

Staff is recommending 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 the scheduled replacement of the radio system in 2013.

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

It is important to replace our radio control system prior to 2013 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 The software is no longer maintained by the developer and breakdowns have a significant impact on operations.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 replacement year, 2013, was set based on the federal definition of the useful life for radio systems which is equal to 15 years. The rate of change in this technology, and the lack of reliability of the current system, has made maintaining it for another 3 years difficult at best.

Components of the proposed ITS system are designed to work together. All systems, CAD/AVL, BusTime, 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 would 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 be a sole-source with Clever Devices. The ITS project is an extension of the Clever Devices data collection, onboard computer data management system in place.
FINANCIAL IMPLICATIONS:	The cost estimate for the ITS projects is $898,000. This compares to the previous estimate for a 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 is for onboard hardware, modems, and one year of cell service. CCCTA has servers that can be used and will be responsible for the purchase of the modems. 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:	Staff recommends that the Committee approve for Board action the purchase an ITS system the components of which include: a) an upgraded radio/ radio control system, b) a new CAD/AVL system, and c) a new passenger information system - BusTime. The new ITS system will be procured as "sole source" as it is an extension of the Clever Devices Intelligent Vehicle Network. The cost will not exceed $898,000.
OPTIONS:	1. Support staff recommendation 2. Other action as determined by the Committee