

AGENDA ITEM 7 A  
(Action Item)

**MEMORANDUM**

**DATE:** January 30, 2008

**TO:** El Dorado County Transit Authority  
Transit Advisory Committee

**FROM:** Mindy Jackson, Transit Director  
Matt Mauk, Transit Services Assistant

**SUBJECT:** El Dorado Transit's participation in a Universal Transit Farecard (UTFC) program for the Sacramento region.

**REQUESTED ACTION:**

**BY MOTION,** Advise staff as to El Dorado Transit's recommended level of participation in the Sacramento regional UTFC program.

**BACKGROUND**

In 2006 the Sacramento Area Council of Governments (SACOG) commissioned LTK Engineering, in association with TranSystems, Inc. and the Hoyt Company to perform the Universal Transit Farecard Feasibility Study. This study, completed in December 2007, examines available fare system technologies and evaluates the benefits and costs of their application to the Sacramento region. The purpose of the study was to assist SACOG and the fourteen area transit providers, including El Dorado Transit, in determining if investment in one of these technologies is practical for the region. The study also examined alternative strategies for system implementation.

The objective of implementing new fare system technology is to provide a fare card that is accepted by all transit operators in the Sacramento region, thus providing seamless travel among their services. This initiative could be an important step toward the overall goal of moving the various operators toward a regional system that expands customer options and convenience while retaining each agency's fare policy-setting authority.

As the study progressed, SACOG and the participating agencies reached a consensus to focus on contactless smart card technology. The contactless smart card is a credit card-sized card with a microchip and antenna embedded inside. It has data storage capacity and processing power to electronically accommodate the different fares of each transit agency. The user can purchase and encode on that one card any fare or fares suited to his or her travel needs. The card is durable enough to last up to five years. Throughout the life of the card the user simply purchases more fare, which is then encoded onto the card. As travel plans change throughout the year, the user can adjust his or her purchases. Payment and validation of fare is done by touching the card to a target on a toaster-sized

device near the farebox. Fare can be purchased and loaded onto smart cards at ticket vending machines, customer service centers, retail outlets and onboard vehicles. The individual users, employers, benefits coordinators and/or colleges will all have the ability to manage the farecard accounts online. The user will have the flexibility of linking the farecard to a bank account to ensure that the card is always loaded to pay the fare. The benefits coordinator will no longer need to place monthly orders for printed passes and ticket books, and agencies will be able to reduce the process of reconciling consignment sales. Each agency receives an improved means of recording transit use, providing a more accurate basis for allocating revenue among operators for transfers, and for calculating transit use by students.

Smart card programs have been implemented with various procurement strategies, and with varying success, in numerous other regional transit systems. In some cases, the smart card is part of a purchase of an entirely new fare collection system. Other programs add smart card capability without changing out existing equipment. Seattle, the Bay Area, Chicago, Houston and Minneapolis are examples of systems that chose to participate in smart card programs while retaining their existing fareboxes. In these systems, onboard smart card equipment has no or very limited interface with the farebox, although there may be an interface with other onboard systems.

### **DISCUSSION/FISCAL IMPACT**

A smart card system would require the procurement and installation of smart card readers on each bus. Computers and communications system networks would retrieve and process transaction data from each unit on a daily basis. A regional center, maintained by a third party clearinghouse, would be equipped to process the transaction data from each transit agency, from online fare purchases and from retail outlets equipped with smart card readers. The computer system at this regional center will maintain a complete database of all transactions and calculate the revenue to be allocated to each agency. The system will also maintain a database of all registered cards so that lost or misused cards can be deactivated. If registered by the user, lost or damaged cards can be replaced with the remaining value restored.

Under the likely structure of a Sacramento regional farecard system, maintenance of the readers, vending machines and point of sale systems would be done by the lead agency or a third party. Each agency would keep an inventory of spare units so that malfunctioning equipment could be swapped out at the yard. Faulty units would then be sent to a main depot for repair or replacement. The lead agency or third party would also handle the majority of customer service issues involving individual farecard accounts. Each agency would be equipped to sell and distribute new or replacement cards and staff would be trained to field some general customer service inquiries.

The cost of procuring and installing a regional smart card system will be \$5.6-8.3 million based on a scenario in which at least eight agencies elect to participate in the initial procurement and implementation. At this time, SACOG reports having secured full funding for those agencies within the four county region for which it serves as the

Regional Planning Agency. Of the eight agencies included in the above scenario, El Dorado Transit, Placer County Transit and City of Roseville Alternative Transportation would be responsible for the full cost of equipping their own fleet by the FY 09/10. Both Placer County and Roseville staff have expressed their intention to participate in the program.

The overall regional cost impact of implementing a smart card system is estimated to be in the range of \$1.3-2.0 million annually. Decisions made on a number of policy issues will affect the cost impacts of operating and maintaining the regional system once in place. Overall, with any scenario, implementing a smart card system will increase the cost of collecting fares in the region. This is because the costs of operating the regional center are greater than the reductions in cost and improvements in revenue capture experienced by the individual agencies. The percentage of riders shifting to the use of a smart card will have a considerable effect on operating costs. Eliminating fare medium, such as paper transfers, monthly passes and ticket books, eliminates the costs associated with its printing, distribution, sales and revenue counting and reconciliation. Replacing printed transfers and passes with electronic fare media can also reduce loss of revenue, which occurs through the fraudulent use of expired transfers or student IDs and altered monthly passes.

The following table contains a brief discussion of advantages, disadvantages and cost impacts of three possible scenarios, as identified by staff for consideration:

Timing/Description	Advantages	Disadvantages	Cost
Scenario 1			
Full participation in the initial procurement and implementation of equipment for entire Local Fixed Route, contracted service and Commuter Route vehicles by FY 09/10	<ul style="list-style-type: none"> <li>• Expanded customer options and conveniences available on all fixed route services</li> <li>• Full participation in development of technical standards and governance structure</li> <li>• Full inclusion in regional testing, rollout and marketing</li> <li>• No interruption in transfer arrangement with Regional Transit and full participation in Transit Pass program for area colleges</li> <li>• Elimination of most costs associated with printing, distribution, sales, revenue counting and reconciliation of paper transfers, monthly passes and ticket books</li> <li>• Marketability of enhanced services to system-wide ridership</li> <li>• Reduction in per unit costs as compared with Scenario 2</li> <li>• Availability of Prop 1B funding for full project costs</li> </ul>	<ul style="list-style-type: none"> <li>• Higher initial cost as compared with Scenario 2</li> <li>• Higher operating costs as compared with Scenario 2</li> </ul>	Capital: \$503,000 (\$8,100 per vehicle)  Annual operating: \$65,000  (based on 62 vehicle fleet)

Timing/Description	Advantages	Disadvantages	Cost
<b>Scenario 2</b>			
Participation in initial procurement and implementation of equipment for Commuter Route vehicles only by FY 09/10 Possible later procurement of equipment for remaining fixed route vehicles	<ul style="list-style-type: none"> <li>Expanded customer options and conveniences available on commuter route services</li> <li>Full participation in development of technical standards and governance structure</li> <li>Full inclusion in regional testing, rollout and marketing</li> <li>Minimal interruption in transfer arrangement with Regional Transit</li> <li>Elimination of some costs associated with printing, distribution, sales, revenue counting and reconciliation of paper transfers, monthly passes and ticket books</li> <li>Marketability of enhanced services to commuter ridership</li> <li>Lower initial capital and operating costs as compared with Scenario 1</li> </ul>	<ul style="list-style-type: none"> <li>Increased per unit equipment costs as compared with Scenario 1</li> <li>Possible exclusion from participation in Transit Pass program for area colleges</li> <li>Possible loss of Prop 1B funding source for later procurement</li> <li>Minimal overall cost savings as compared with Scenario 1</li> </ul>	Capital: \$282,000 (\$10,850 per vehicle)  Annual operating: \$36,000  (based on 26 vehicle fleet)
<b>Scenario 3</b>			
No participation in initial procurement and implementation of regional farecard program	<ul style="list-style-type: none"> <li>No costs as compared to Scenario 1 and 2</li> </ul>	<ul style="list-style-type: none"> <li>Possible elimination of transfer agreement with Regional Transit</li> <li>Possible exclusion from participation in Transit Pass program for area colleges</li> <li>No participation in development of technical standards and governance structure</li> <li>No inclusion in regional testing, rollout and marketing</li> <li>Potential loss of ridership/fare revenue</li> <li>Potential fiscal penalties for later participation as established by governance</li> </ul>	None

El Dorado Transit staff recommends participation in the UTFC program under Scenario 2. The initial capital outlay is for commuter buses that directly connect to other operators. Participation at this level requires El Dorado Transit be included in the development of technical standards and governance structure and the opportunity to expand to the local fixed routes after working with the commuter application.