



kansas intelligent transportation systems

Implementing technologies that improve the safety and efficiency of the transportation system

# Newsletter

## Improved Service, Greater Efficiency -- Rural Transit Benefits from ITS Technology

Two Rural Public Transit agencies, ACCESS Transportation in Hays and Reno County Area Transit located in Hutchinson have begun operation of Automatic Vehicle Locator/ Computer Aided Dispatch (AVL/CAD) systems designed to better utilize resources and improve service to customers. Implementation of the system is the result of a joint planning effort by the two rural transit agencies and KDOT.

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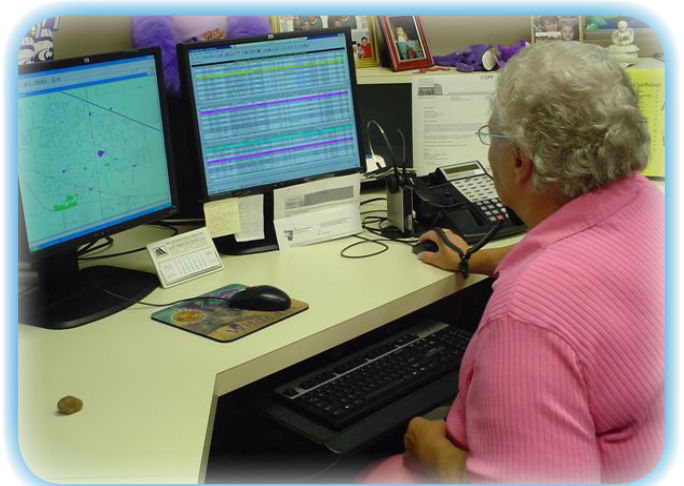
Summer/Fall 2006

The Kansas Department of Transportation (KDOT), Office of Public Transportation assisted both agencies in obtaining funding assistance from the Federal Transit Administration (FTA) and also in the planning process.

AVL systems allow dispatchers to monitor transit vehicle positions

using Global Positions System (GPS) data provided by units that are mounted in transit vehicles. Vehicle positions are then relayed to dispatchers providing a "real time" position of each vehicle. Data provided by the AVL system is utilized by CAD software to provide:

- vehicle status
- quick scheduling of ride requests
- selection of ideal vehicle to provide service
- improved customer information
- improved safety
- analysis of system performance
- data collection
- automatic reporting



*A dispatcher monitors the AVL/CAD system*

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(customer counts, etc.)

At the outset of the Rural Transit project, anticipating future needs and providing a system that would be flexible and have the ability to encompass other rural providers were key considerations in design of the system. Radio Satellite Integrators (RSI) located in Torrance, California was selected to provide the AVL system known as V-Track. They worked in conjunction with the Trapeze Group located in Scottsdale, Arizona who provided the CAD software.

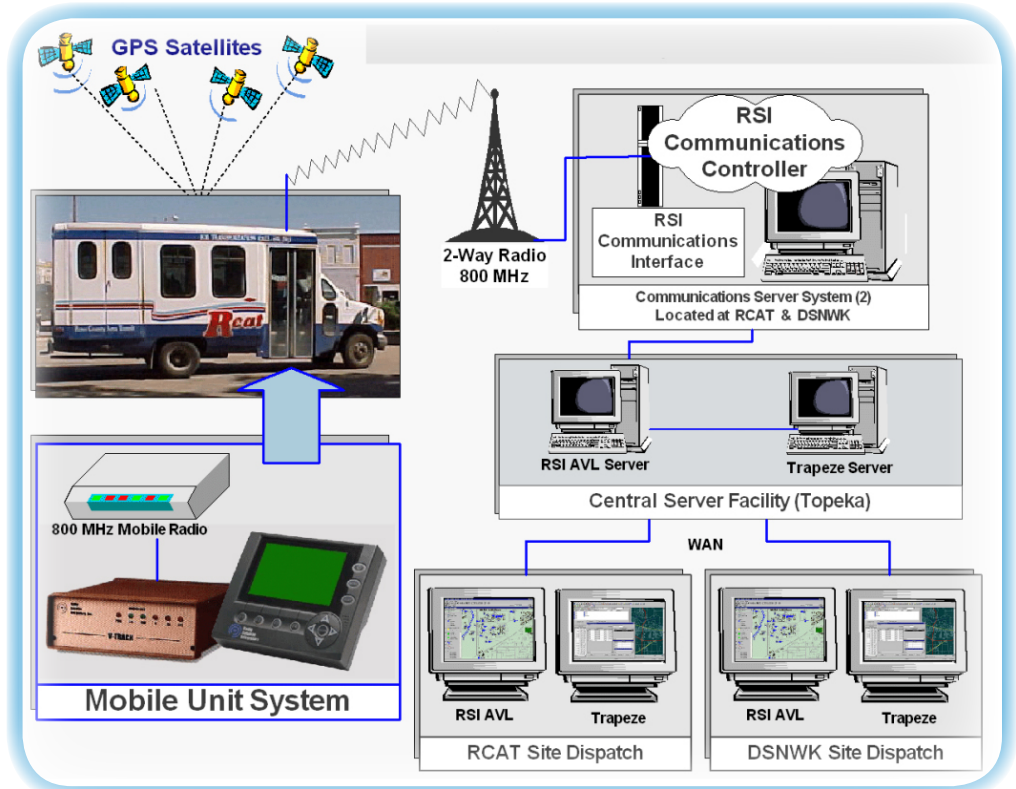


Figure 1: AVL/CAD System Design

Figure 1 shows the basic design of the system developed by the two rural transit agencies and KDOT. Equipment utilized includes:

- In vehicle (shown in Figure 2) – mobile radio units, V-track mobile data unit, and mobile data terminals, including emergency button.
- In dispatch – computer work stations (both

Trapeze and AVL)

Typically the ride requests are received by dispatchers who utilize the Trapeze dispatching software to schedule and send the information to each vehicle. The information is transmitted via KDOT's 800 MHz radio system and is displayed on a Mobile Date Terminal (MDT) located within reach of the vehicle operator. The ride requests are displayed according to the time determined by the Trapeze system. The vehicle operator has the capability of scrolling up and down to see ride requests. This allows the vehicle operator to vary the route due to unforeseen road and/or traffic conditions. The vehicle operator can confirm completion of a trip request via the MDT, which is automatically forwarded to the central dispatching computer.

The V-track mobile data unit also forwards the vehicle location to allow efficient scheduling of future ride requests. All of the data obtained by the AVL/CAD system is stored on a server located in a KDOT

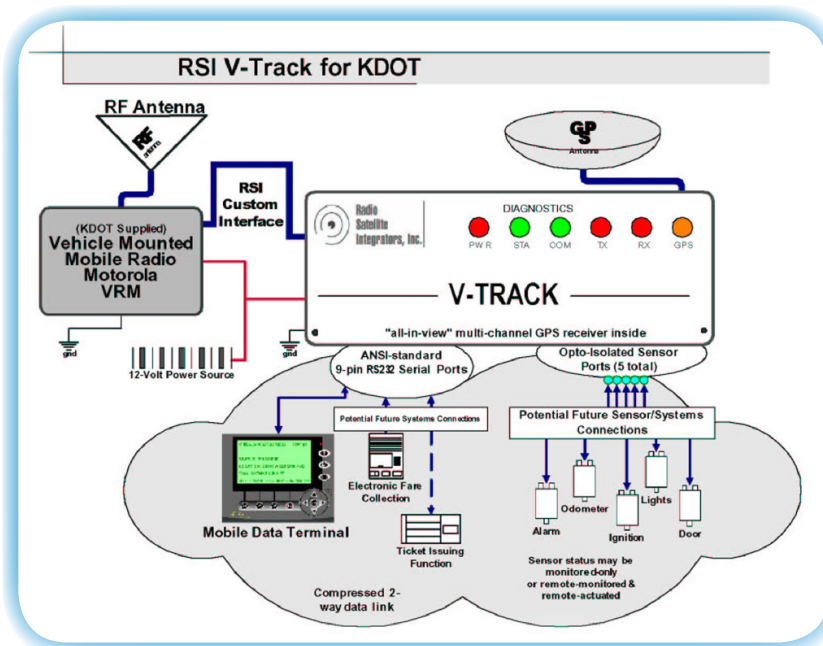


Figure 2: RSI Mobile System



# Kansas 511: A System in Progress

## KDOT Plans Improvements for Advanced Traveler Information Systems (ATIS)

Currently, travelers in Kansas can obtain road condition information by simply dialing 511 on their landline or cell phone. Kansas 511 provides route-specific road condition, construction/detour and weather information for the Kansas State Highway System (includes Interstate, Turnpike, US and Kansas State routes) as well as alerts for travel-related emergencies, AMBER Alerts, and national emergencies. The system is flexible, allowing callers to obtain information by using either voice commands or keypad entry. Travelers may also obtain travel information on the 511 website at <http://511.ksdot.org> or through KDOT's general website at <http://www.ksdot.org>.

The Kansas Department of Transportation (KDOT) is planning several enhancements to the existing system. Currently, Kansas 511 does not provide Kansas City metro area content due to the need to coordinate services for the Missouri portion of the metro. KDOT has been working to provide this coverage on Kansas 511 through coordination with the Missouri Department of Transportation (MoDOT) and the Kansas City Mid America Regional Council (MARC). Initial planning has begun to provide not only expanded regional coverage, but enhanced content such as travel times and metro transit information.

Other system enhancements in the works include improving the 511 voice recognition system and incorporating landmark references (versus mile markers) for every mile of the State Highway System. Automating the processes used to send construction/detour details and AMBER Alerts to 511 is also planned so that 511 information is as near real-time as possible.

### Wi-Fi on the Horizon

KDOT will soon launch a one-year pilot with Coach Connect from Austin, TX, to provide WiFi connectivity at four Kansas rest area locations. Upon successful completion of the pilot, future plans call for providing WiFi at all 42 rest areas across Kansas at no cost to KDOT.

This project will provide generic Internet access for a fee, but travelers will have free access to a Kansas traveler information portal that will also include traveler information in neighboring states. Free internet connectivity will also be available for highway safety personnel. KDOT will also provide appropriate roadway signage and assist with program promotion.

### ATIS Study/Strategic Plan Underway

KDOT kicked off a study in July that will result in an ATIS Strategic Plan for Kansas. Scheduled for completion in 2007, the purpose of the plan is to recommend strategies and direction for future development of an ATIS in Kansas that is cost-effective and that will improve traveler access to consistent, accurate and timely information.

ATIS Strategies for the Study/Strategic Plan will focus on the potential for increased safety, transportation system efficiency and customer service, and reduced stress for travelers.

### 3rd National 511 Conference Held in San Diego

In celebration of the 5th anniversary of the first 511 system deployment, the 511 National Coalition sponsored a substantive and successful Third National 511 Conference. The conference, using the theme 511...Where Travel Starts, was held July 17-19, 2006, in San Diego, CA. More than 230 participants attended, with representatives from 35 states, the District of Columbia, Canada, Finland, Germany and the United Kingdom. The conference covered marketing and outreach, 511 costs, 511 content, web-based information, public-private partnerships, business models and plans, evaluating systems, leveraging 511 investments, customer research, and interoperability. AASHTO, U.S. DOT, APTA and ITS America cosponsored the conference. More conference information, including downloads for conference presentations, is available at <http://www.deploy511.org/NationalConferenceJuly2006.htm>.

Information for this article provided by Barb Blue, KDOT ATIS Coordinator.

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facility in Topeka allowing seamless data collection and reporting. Communication to this central location is a combination of leased telephone lines and KDOT radio towers.

The AVL/CAD system implementation began in April – October of 2005 after the CAD software was installed by the Trapeze Group and ACCESS staff was trained on the use of their PASS dispatching system.

Response to the system has been positive. Ron Straight, the ACCESS transportation manager, is pleased with the system. “Data collection is vastly improved for dispatching, paperwork has been simplified for vehicle operators and the vehicles can be visually tracked, assisting the dispatcher in decision making. Individuals needing transportation are benefiting through more efficient and timely transportation”.

Information for this article provided by Ron Straight, Transportation Manager, Developmental Services of Northwest Kansas.

## ITS Calendar

- |               |   |
|---------------|---|
| October 3-4   | KDOT Operations Meeting<br>Great Bend, KS         |
| November 6    | KDOT-KCE Partnering<br>Conference<br>Topeka, KS   |
| April 10 – 11 | 2007 ITS Heartland Annual<br>Meeting<br>Omaha, NE |

## KDOT Begins Statewide ITS Architecture

KDOT has begun the process of developing a state-wide architecture which will guide the development of future ITS projects throughout the state. One of the goals of the architecture is to coordinate data sharing between agencies so that new projects are planned in a manner that maximizes resources.

Completion of the architecture is required to obtain federal funding for future ITS projects. URS Corporation of Minneapolis, MN has been contracted to conduct the study.

Stakeholder meetings will be held in each KDOT District in late October to obtain initial feedback and recommendations from City and County agencies as well as District staff. Participants will be asked to provide information on existing ITS systems, help identify needs, and help in the prioritization of projects. Once a draft architecture is developed, a second round of meetings will be held in March of 2007 to present the plan and obtain feedback.

## Scout wins MOVITE's Transportation Achievement Award

The Kansas City Scout traffic management system, jointly operated by KDOT and MoDOT, has won the Missouri Valley Section of the Institute of Transportation Engineers (MOVITE) Transportation Achievement Award. Scout was commended for its use of technology in traffic management, its comprehensive system and partnerships. The award will be presented to Scout staff at MOVITE's annual awards ceremony in Topeka, KS on September 28 during its fall meeting.

KDOT is currently working on expanding Scout coverage to include I-635 (installation of Dynamic Message Signs (DMS), cameras, and vehicle detection) and adding cameras to expand coverage on I-435, K-10, I-35, and US-69. Both of these efforts are currently in the design phase. Live traffic and DMS messages for the Scout system can be viewed on Scout's website at [www.kcscout.net](http://www.kcscout.net).



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