Technology in Rural Transportation

A recent study documented more than eighty proven, cost-effective, "low-tech" solutions to rural transportation needs, most developed or implemented by local transportation professionals. One of these solutions is outlined below:

Learn all about the simple solutions on the Internet at http://inform.enterprise.prog.org

The simple solutions report is available from Hau To at (503) 892-2533, or email: to@crc-corp.com

Grade-Crossing GIS Database

Overall goal:

The goal of this application is to efficiently determine where safety-related improvements should be made to roadways and at railroad grade crossing sites.

Technical approach:

A video log of track-side and roadway characteristics at grade-crossings and a log of the numbers of vehicles and trains per day at crossings is being created. The mileposts on rural roads assist in identifying, tracking, and documenting specific areas that need maintenance through the use of a Geographic Information System (GIS) database, coupled with a video log of the number of grade-crossings.

This system utilizes an in-vehicle video camera to document on film roadway and track-side conditions for early detection and examination of possible problem areas. The video camera is mounted to facilitate filming fifty feet ahead of the vehicle, and automatically records to disk for downloading onto a database. Multiple users access the database for various purposes including traffic counts, railroad crossing measures (i.e. crossings per day) and projections. Users that access the information include the legal department, statistical analysis specialists, general administration, infrastructure inventory personnel, and maintenance districts. Eight transportation districts throughout the state currently use the database.

Current status:

The Nebraska DOR started using video in 1975 and since then has phased it out completely. Railroad crossing attributes are strictly a GIS layer where attributes like roadway vehicle speeds, train speeds and type of crossing appear on the GIS layer when chosen. The information entered into the database conforms to Federal Railroad Administration standards for crossing

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	attribute description.
Location / geographic scope:	The system has expanded and is deployed statewide across Nebraska.
Agencies involved:	Nebraska Department of Roads.
Cost information:	A GIS database system for this application may cost $100,000 to set up. Personnel must also be trained to maintain the database.
Key contacts:	Dick Gingrick, GIS, Nebraska Department of Roads (402) 479-4550
Have goals been achieved?	Yes. The goals have been achieved and in some cases exceeded. New uses for the information are frequently discovered.
Solution timeline:	This project is ongoing. The GIS technology used for this simple solution is in the process of being integrated throughout the Department of Roads.

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