

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

Traveler Information using Fax

Overall goal:

To provide weather and road condition information to a wide range of users in a cost-effective manner.

Technical approach:

Current weather and road condition information and short-term forecasts are faxed to a list of approximately 200 user agencies, including freight haulage companies, ports of entry, visitor centers, ski areas, radio stations and television networks. The information, which is around two pages in length, is usually faxed out once a day in the summer months and approximately four or five times a day during the winter. In addition to these regular bulletins, supplementary faxes are also sent to warn of unusual or particularly severe conditions, such as avalanches, the opening and closing of passes, or to advise travelers to put on or remove snow-chains. The information is collated using a variety of sources including Colorado DOT's 88 weather stations installed around the state, a NOAA terminal situated at the Traffic Operations Center, the Colorado State Patrol, and verbal reports from ports of entry personnel.

Current status:

The information used to be sent out from the Traffic Operations Center itself, using a series of six fax machines using pre-programmed broadcast lists. Given the number of recipients and the frequency of faxes, especially in winter, this system was very labor-intensive. Recently, CDOT contracted with a consultant and telecommunications company to provide fax services. The information is faxed from a CDOT PC to the service provider, from where information is broadcast virtually simultaneously to all recipients. Users receive the information in between three and nine minutes from the time of receipt at the service provider depending on the number of "retries"



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Location / geographic scope:

that are necessary to connect with their fax machines.

Agencies throughout the state of Colorado receive the information. In addition, agencies along the I-70 and I-80 corridors into Wyoming and Utah are also provided with the information.

Agencies involved:

The system is operated by the Colorado Department of Transportation Traffic Operations Center. The fax services are provided by Expedite through the IdealDial service provider.

Cost information:

IdealDial charged CDOT \$250 for the set-up fee. However, the customary fee for setting up such a service depends on the number of fax recipients, and is usually around \$1,000. As CDOT uses IdealDial for other services a discount was applicable. In addition to the set-up fee, a fee of 25¢ a minute for fax transmission is charged. CDOT estimates that this can be equated to 25¢ a page. The costs for transmission also vary by volume of transmissions and would decrease significantly for greater quantities of information.

Key contacts:

Michele Kayen, CDOT Traffic Operation Center. (303) 239-5808.

Have goals been achieved?

The current system has been in operation since the beginning of December 1996. So far, the system has proved to be a vast improvement over the previous method due to the increased speed with which information is transmitted to the users. In addition, TOC staff time can be better utilized, now that CDOT personnel do not fax the information themselves. No staff positions have been lost as a result of the fax automation.

Solution timeline:

CDOT plans to work with the telecommunications service provider to customize the system to better meet their needs. Additional features CDOT requires are as follows:

- More detailed transmission reports providing details of failed transmissions in a timelier manner so faxes can be sent to these recipients manually by CDOT.
- More flexibility to stop the fax runs partway through if new information is received.
- One rather than two retries if a fax number cannot be reached at first in order to speed up the overall process.



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