

ITS OPERATIONAL TEST SUMMARY

Advanced Rural Transportation Information and Coordination (ARTIC)

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Introduction

The ARTIC ITS Field Operational Test combines the communications dispatch operations of four public service agencies into a single communications center that serves a remote area in the Arrowhead region of northeastern Minnesota. The ARTIC partnership crosses state agency jurisdictions and functions, and fosters cooperation between highway and transit interests. This cooperation is critical in remote, rural regions where resources are limited and pooling of assets is necessary to satisfy the operational requirements of multiple agencies.

The goals of the project are to coordinate and pool resources to reduce duplication, improve transportation system efficiency, and improve user and driver safety. ARTIC responds to the challenges of providing transportation services in a remote area with low population density, a harsh winter climate, an aging population, and the inefficient use of existing transportation resources.

The testing phase began in October 1997 and is continuing. Evaluation of the project focuses on user acceptance and satisfaction, system technical and functional performance, system efficiency and effectiveness, system costs, and legal and institutional issues.

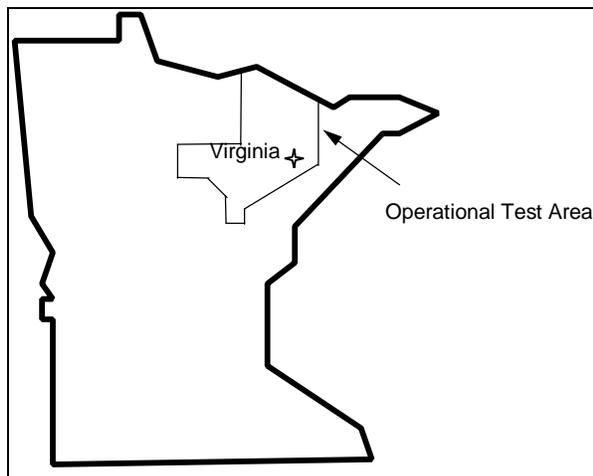


Figure 1: ARTIC Operational Test Area in Northeast Minnesota

Project Description

The test operation commenced in October 1997. Figure 1 illustrates the test area. A consolidated center located in Virginia, Minnesota, houses the emergency response functions and communications equipment for both the State Patrol and the Minnesota Department of Transportation (MnDOT). The center also houses the fleet management operations for Virginia Dial-a-Ride and Arrowhead Transit. Automatic Vehicle Location (AVL) devices and Mobile Data Terminal (MDT) equipment have been installed in 4 State Patrol cruisers, 15 MnDOT plow

trucks, 12 Arrowhead Transit buses, and 3 Virginia Dial-a-Ride buses. This equipment provides operations personnel with the following features:

- Up-to-date information on vehicle location and availability
- Improved communications capability during emergencies.

The test implemented a computer-assisted transit scheduling system. The test also deployed a computer-aided dispatch (CAD) system to automate State Patrol call taking, communications, and records management functions. This deployment is part of a statewide program to expand the CAD system currently under development in the Twin Cities metro area to all Patrol districts outside the metro area.

The evaluation of the project focuses on

- User acceptance and satisfaction
- System technical and functional performance
- System efficiency and effectiveness
- System costs
- Legal and institutional issues

Test Status

The project began operations in October 1997. Data collection will continue until September 1998. The Final Evaluation Report is anticipated in December 1998.

Although system operations have just begun, the use of the communications facility is already yielding benefits. Anecdotal evidence exists that describes rapid responses to emergencies, particularly in winter conditions, that would not have been possible prior to system deployment. In one case, a MnDOT snowplow responded to a vehicle accident location in a fraction of the time that it would have taken for other law enforcement assets to respond. The snow plow operator was able to relay critical information to help resolve the accident situation.

All of the participating agencies are very enthusiastic about the project. The agencies look on the project more as an actual deployment than as a test. The transit agencies in the project have begun specifying that their vehicles be equipped with AVL technology as part of the original purchase. State agencies are already planning to include continuing operation funding in their respective budgets. In short, the participating stakeholders already consider the test a success.

Test Partners

Arrowhead Regional Development Commission

Arrowhead Transit

City of Virginia Transit

Federal Highway Administration

Minnesota Department of Transportation

Minnesota State Patrol