



U.S. Department of Transportation

Federal Highway Administration

Research and Development

Turner-Fairbank Highway Research Center  
6300 Georgetown Pike  
McLean, Virginia 22101-2286

# ITS Field Operational Test Summary TRAVLINK OPERATIONAL TEST

## Introduction

TRAVLINK demonstrated the use of Automatic Vehicle Location (AVL), Computer-Aided dispatch (CAD), and Automatic Vehicle Identification (AVI) systems on Metropolitan Council Transit Operations (MCTO) buses in Minneapolis, Minnesota and western suburbs, and the distribution of real-time bus schedule information and traffic information to travelers using Advanced Traveler Information Systems (ATIS). The ATIS network consisted of a computer on-line service using videotext terminals and personal computers, "smart" kiosks, electronic signs, and display monitors. The project location was a newly reconstructed freeway that was designed to include a significant transit and ridesharing element. TRAVLINK was the first operational test to tie together AVL, CAD, and AVI to provide real-time bus information to passengers and transit providers.

## Purpose

The specific objectives of the project were to:

- Improve MCTO transit fleet management in the project area
- Improve timeliness and accuracy of transit information to riders
- Encourage transit ridership

## Methodology

Eighty MCTO buses were equipped with AVL transmitters. A workstation at MCTO's Transit Control Center provided two-way

communication with the buses and sent real-time bus status information to a computer server at Minnesota Department of Transportation (MnDOT) Traffic Management Center (TMC). From the TMC, bus status and other travel information, such as real-time traffic conditions, was reported to three travel information kiosks located in downtown Minneapolis, two video monitors and four electronic signs located at park-and-ride lots in the I-394 corridor, as well as to 212 Travlink on-line users with videotext terminals or personal computers at home or work.

Figure 1 illustrates the location area of the TRAVLINK Operational Test.

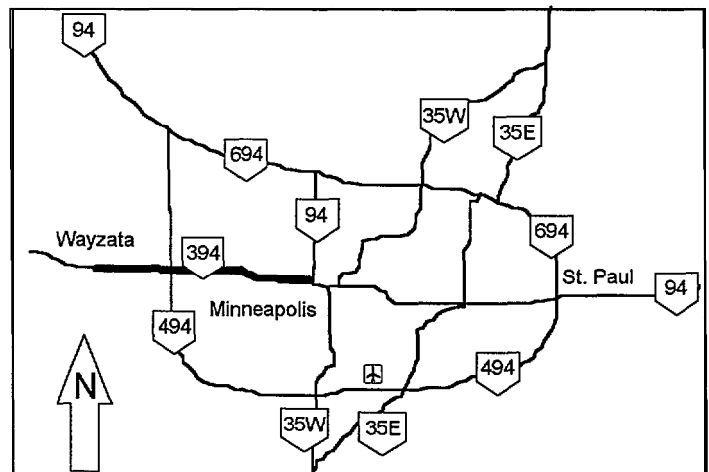


Figure 1. Travlinc Test Area

## Results

Travlink made strides towards improving transit information for commuters, with the use of



the kiosks, signs, and computers. However, significant obstacles, primarily funding limitations, MCTO operations cutbacks, a 3-week bus strike and limited test area (the I-394 corridor only) resulted in moderate use of the kiosks, limited use of the electronic signs and declining on-line use during the 12 month test period.

Enhanced security was demonstrated during an actual incident involving a bus driver who was being threatened and activated the "silent alarm." An MCTO police officer, who was fortunately nearby was vectored to the bus and arrested the perpetrator.

Travlink was an early demonstrator of the combined use of Advanced Public Transportation System technologies, including AVL, AVI, and CAD under operational conditions. This combination of capabilities provided information to daily commuters about the location and status of buses they planned to board, along with real-time traffic conditions and other static traveler information.

### **Future Application**

There was general agreement among the partners that if such a system were to be implemented on a permanent basis (rather than as a 1-year operation) that more benefits would have been realized. However, an expanded

deployment would require a considerable amount of funding and commitment from a transit operator, to include:

- All buses for which ATIS is provided are AVL-equipped
- Transfer of data from the authority to AVL/ ATIS systems is streamlined
- Adequate funding available for hiring/training of necessary staff
- Transit schedules and real-time transit information is integrated into a multi-modal ATIS service, as it was in Travlink
- To the extent possible, the service is integrated with a commercial, on-line information provider
- The service include transit trip planning
- Information displays include maps and other useful graphics.

### **References:**

1. Travlink Operational Test Evaluation Report, Minnesota Department of Transportation, Guidestar Office, August, 1996.
2. Travlink Project Completion Plan, Booz-Allen & Hamilton Inc. February, 1996.