

**BETTER SERVICE**

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**GREATER  
EFFICIENCY**



**Transit  
Management for  
Demand Response  
Systems**

## Advanced Public Transportation Technologies Offer Advantages for Demand Response Transit Systems

"The Computer Assisted Dispatching/Automatic Vehicle Location System is a primary tool for managing our system. Mobile Data Terminals feed critical information into our scheduling software which we use to assign trip requests to specific routes. The system also helps us identify vehicles that are beginning to fall behind schedule, which allows dispatchers to be more proactive in problem-solving."

—Raye Miles, Manager of LIFT Operations, Tri-County Metropolitan Transportation District (TRI-MET) Portland, Oregon

## Automated Scheduling and Dispatching Software Helps Provide Better Customer Service

The assignment of requested trips to specific vehicles for busy systems, if done manually, is a complex and time-consuming task. Most paratransit systems operating more than a handful of vehicles have purchased scheduling software of some degree of sophistication to help in this process. Agencies using the least sophisticated packages normally require one or more days notice for requested trips. The more advanced software can quickly determine the best placement for trip requests, and allows agencies to accept trips on short notice, thereby providing better customer service. The most advanced software can also send the vehicle routing to the driver automatically via a Mobile Data Terminal.

"In the event of a cancellation or no-show, our scheduling and dispatching software attempts to fill the space created by the cancellation/no-show, while keeping other scheduled customers on time, and mitigating

the effects on productivity. Also, our automated scheduling and dispatching software interacts with the Mobile Data Terminals through radio communications to provide drivers with their scheduled pick-ups and drop-offs."

—Judith McGrane, General Manager, Community Transit of Delaware County, Pennsylvania

Automated scheduling and dispatching software can also be useful in managing paratransit services that are contracted out to several vendors.

"Our computer-assisted routing and dispatch system has provided us with consistency in the efficiency of our several service providers, has brought stability to our paratransit program, has shown us where we can consolidate service and take excess vehicles off the street, and has provided us with an enhanced monitoring capability."

—Edward Wisniewski, Manager of Paratransit Services, Broward County Mass Transit, Florida



## Mobile Data Terminals Have Proven to Be Very Effective Communications Devices

Text messages can be sent between the dispatch office and paratransit vehicles via Mobile Data Terminals. This capability offers several benefits to paratransit

agencies. It provides dispatchers with immediate contact to the vehicles, helps reduce voice communications between drivers and dispatchers, virtually eliminates communications mistakes, and automates some formerly manual recordkeeping functions.

"Mobile Data Terminals help us be more efficient in communications. It is a lot faster than voice and cuts down on the amount of voice traffic and communication errors. The drivers no longer have to remember or write down pick-up and drop-off changes to their schedule. The record of pick-ups and drop-offs are automatically logged now, whereas that was previously a manual operation. Overall, the degree of paperwork is considerably less."

—Donna Wickman, Oregon Housing and Associated Services

## Electronic Identification Cards Facilitate Trip Validation and Billing for Social Service Agency Clients

The use of electronic ID cards, which are read on-board the vehicles, is a useful method for validating a passenger's eligibility for social service agency subsidized tripmaking, for documenting that the passenger was actually picked up, and providing the information for subsequent billing.

"The automated identification card interacts with the Mobile Data Terminals to identify the customer to the driver and to verify trip eligibility. The use of the card creates a trip record that is used to insure that any trip maker's sponsoring agency is charged appropriately for the trip."

—Carol Schweiger, Consultant to Community Transit of Delaware County, Pennsylvania

# Improving Demand Response Transit Using ITS Technology

## Real-Time Automatic Vehicle Location Information Is Useful in Many Ways

Automatic vehicle location gives paratransit call-takers the ability to give patrons estimates of the arrival times of their pick-up vehicles. This is especially helpful when pick-ups are running late and patrons are getting anxious.

"The automatic vehicle location system allows the LIFT staff to provide a reasonably close estimate of arrival times to passengers calling to find out when their overdue bus will arrive. This is an important customer relations function."

—Raye Miles, Manager of LIFT Operations, Tri-County Metropolitan Transportation District (TRI-MET) Portland, Oregon

While short notice requests can be handled in some manner by most paratransit systems, automatic vehicle location greatly facilitates this process and increases the likelihood that the best choice of pick-up vehicle will be made.

"The automatic vehicle location system is of great assistance in scheduling delayed return trips. It gives the dispatcher the capability to see in real time which vehicle is the closest to the requested pick-up point."

—Larry Harman, Project Manager for Cape Cod Regional Transit Authority, Massachusetts

Automatic vehicle location also provides data that allows paratransit staff to review prior days' operations to investigate driver behavior or customer complaints.

"We are now better able to recreate the events of a prior day based upon pick-up, drop-off, and any text messages sent by the drivers combined with the automatic vehicle location position information."

—Kristie Chilcote, Operations Supervisor, Laidlaw Transit Company—Portland, Oregon

## Geographic Information Systems Support Paratransit Route Development

A Geographic Information System enables paratransit systems to identify the origins and destinations of trip requests. When these are plotted on maps, agencies can use the emerging patterns to select the most effective service strategies. This is perhaps most useful in developing paratransit routes for serving repetitive trips for social service agency clients.

"The ability to geocode trip origins and destinations using the Geographic Information System has enabled the Cape Cod Regional Transit Authority to optimize the routes for their social service agency contract services. The Geographic Information System has also been useful in analyzing welfare-to-work trip possibilities by locating potential employees and potential employers."

—Larry Harman, Project Manager for Cape Cod Regional Transit Authority, Massachusetts

### INTELLIGENT TRANSPORTATION SYSTEMS



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