MART ITS and M-ITS: MART’s Integrated Traveler Services

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Presentation Overview

Overview of MART’s Transportation Services

- Fixed Route & Paratransit Operations
  - Current Service Levels
  - ITS Technologies Deployed
- Human Service Transportation Brokerage Operation
  - Real World Experience
  - ITS Technologies Deployed
  - Coordination Results
  - Lessons Learned

M-ITS Project Path and MART Five Year Plan

- M-ITS Funding Sources
- M-ITS Measurable Objectives & Benefits
- Five Year Transit and Brokerage Operations Plan

Summary
Overview of MART Public Transportation Services
MART Transit/Paratransit Operations
MART Transit/Paratransit Operations

MART currently operates:

- 29 Fixed Route Buses
- 175 Paratransit Vans

which in FY09 provided:

- 610,801 Fixed Route trips
- 188,028 Demand Response trips
- 105,258 Human Service Transportation trips
- 96,412 Council on Aging trips
MART Transit/Paratransit Operations

MART’s ITS Technology:

- AVL/MDT (115 vehicles)
- Stop Annunciation / LED Display
- Automated Scheduling / Dispatching
- Web-based client and trip management software for affiliated agencies (COA’s)
- Vehicle Tracking, Incident Management and Data Uploading/Downloading
MART Coordinated Human Service Transportation Brokerage Services

Overview and Results
MART Transit & Brokerage Service Areas

Dark Blue Hashed: MART Transit / Paratransit Service Area
Light Blue: Four Areas (3/4/5/9) of MART Brokered HST Transportation which includes MART Service Area
MART’s Coordinated Human Services Transportation Operations

- Managing $72+ million of Massachusetts HST brokerage services
- Managing $5+ Million in local Special Education brokerage services
- Brokering 3.7 million HST trips
- Brokering 275,000 Special Education trips
- Brokering approximately 73% of Massachusetts’ HST Brokered transportation services
MART Coordinated HST Operations

MART’s ITS Technologies:

- **IVR** (Interactive Voice Response) and **VoIP** Distributed Telephony
- **Client and Trip Management Software**
- **Web-based Vendor Portal** providing:
  - Low-cost auto-assignment of trips to vendors
  - Trip Posting and Attendance Reconciliation
  - Automated Invoice Preparation and Reconciliation
  - Complaint Management - Tracking and Resolution
  - Vendor Rates Management
  - Vendor Vehicle and Driver Management
  - Automated Scheduling and Dispatching
  - Shared Ride Groups Scheduling
  - Vehicle Tracking Pilot Program
MART Coordinated HST Operations

- 50,000 – 55,000 calls / month (2,500 / day)
- 500-600 calls / day handled through the IVR
- 10,000 clients updated daily through automated eligibility verification
- 32,000 daily rides booked / month
- 1,800 long term rides booked / month
- 300 new clients added / month
- 280,000 billing transactions / month
MART Coordinated HST Operations

MART Services for HST Vendors / Providers

160+ e-Invoices generated for vendors twice each month by MART, saving vendor administrative costs and reducing per trip costs

70% Estimated Payments made to vendors twice a month within 20 days of processing initial bi-weekly invoices, assisting w/ vendor cash flow

600 (0.6%) Customer Complaints logged, reviewed and resolved / month via the vendor portal, helping to maintain a high level of quality service

50 Shared Ride groups created and 75 Shared Rides Groups are modified per month, reducing per trip direct service costs

Once per Month - Vendors can modify rates and trip capacities via the Vendor Portal, promoting competition and lowering direct service costs
2002 Expenses

- Administrative: 12%
- Transportation Services: 21%
- Brokerage Services: 62%
- Depreciation: 4%
- Amort: 1%
- Debt Service: 1%

2004 Expenses

- Administrative: 9%
- Transportation Services: 11%
- Brokerage Services: 78%
- Depreciation: 2%
- Amort: 3%
- Debt Service: 1%

2008 Expenses without Brokerage Services

- Administrative: 23%
- Transportation Services: 77%

2008 Expenses with Brokerage services

- Administrative: 8%
- Transportation Services: 10%
- Depreciation: 3%
- Amort: 2%
- Debt Service: 1%

Brokerage Services: 78%
MART Coordinated HST Operations

Brokerage Lessons Learned

- Vendors get very creative to beat the system
  - Identify and fill-in the loop holes

- Shared Ride Cost Allocation is extremely complex
  - Build strong rules

- Strong Organization & Training is a Must
  - Anticipate Turnover
  - Call center organization = shorter wait times

- Funding Sources often change the rules
  - Anticipate change & build flexible systems
M-ITS Project Path
M-ITS Project Funding

- **UWR/MSAA Grant for Phased Implementation** ($100,000)
  - Web-based trip management
  - Web Portal trip posting/acceptance
  - Centralized Billing/Reporting System Study

- **MART and MASSACHUSETTS HST commitments for:**
  - Fare Collection/Allocation System ($60,000)
  - Centralized Billing / Reporting System ($300,000)

- **Additional grants applied for through stake holders:**
  - Trip Planner Kiosks ($150,000) - PTP Grant
  - Vehicle Tracking ($150,000) - New Freedom Grant
  - Kiosk-based Data Collection/Planning Tool ($75,000) - ITS Stimulus Funds
M-ITS Project Geographic Footprint
M-ITS Measurable Objectives

- **Increased Coverage**
  - Provide transportation in areas where none exists
  - Provide transportation between areas (intercity) where public transportation agencies cannot operate

- **Expanded Services**
  - Demographic groups not currently covered under subsidized format
  - Increased awareness of transportation availability to General Public as well as social agencies
M-ITS Measurable Benefits

- **Riders**
  - Lower cost transportation options available
  - Employment and social transportation availability
  - Ownership of transportation less of a requirement

- **Funding agencies**
  - Access to low cost travel options for clients
  - Reduction in refused trips & booking time

- **RTA’s**
  - Increased ridership coming from other regions
  - Increased communication between RTA’s

- **Vendors / Providers**
  - Increased work coming from the system
  - Better utilization of existing resources
MART Future Plans

Transit and Paratransit Operations
- Integrate Fare Collection/Allocation System w/ AVL System
- Develop, Deploy and Integrate web-based Trip Management System for Clients

HST and Special Education Brokerage Operations
- Develop, Deploy and Integrate web-based Trip Management System for Clients
- Expand MDT Deployment to Program-based HST Vendors
- Expand HST and SPED Brokerages to Additional HHS Agencies and Districts
MART Goals

- MART has a comprehensive ITS infrastructure and over 18 years managing a successful brokerage system.
  - Leverage our real world experience to support existing and future partners to develop proper ITS infrastructure and partnerships
- MART built strong stakeholder partnerships during Phase I which has led to the availability of alternative funding sources
  - Assist partners with similar vision to acquire funding sources for ITS
- MART is excited to be a part of the Phase II Implementation
  - To expand the reach of coordinated human service transportation through ITS in the United States
Presentation Summary

- MART’s Fixed Route and Paratransit Transportation Services are extensive and have a high level of ITS technologies deployed.

- MART’s Human Service Transportation Brokerage Operation is deployed over a wide geographic area and has utilized ITS Technologies to minimize staffing levels, reduce costs and maximize coordination.

- MART’s Phased Deployment of its M-ITS Project has secured funding beyond the FTA grant which will provide a platform for MART to develop and deploy additional ITS technologies.