System Design Characteristics of Coordinated Public Transportation Services Using ITS

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2008 National Rural ITS Conference
September 3, 2008
Outline

- Challenge and Vision
- Intelligent Transportation Systems (ITS) Role
- UWR/MSAA Joint Demonstration
- Common System Design Characteristics
Challenges
One Integrated Vision

Consumer with Mobility Needs

U.S. State & Local Government Funds, Policies, and Regulations

One Call

Funding Agencies

Transportation Service Providers

Education
Interior
Social Security
Transportation
Labor
HHS
Agriculture
Veterans Affairs
Housing
ITS Role

• ITS is an enabler to improve service and enhance accessibility
ITS & Rural Public Transportation

- Fixed Route Transit
- Paratransit/Dial-a-Ride
- Rural Community Transportation Applications
- Traveler Tools & Information
- Agency Billing & Reporting
- Fare Collection & Processing
Examples of Paratransit In-Vehicle ITS Apps.

- Navigation
- Dynamic Manifests
- Passenger ID/Fare Media
- MDT/VLU:
  - Trip Manifests
  - Data Collection
  - GPS
  - Driver Messaging
  - Navigation
  - Real-time Communication
- Video Surveillance Camera
MSAA Initiative

- A major USDOT ITS initiative
- Demonstration of technical and institutional feasibility of Travel Management Coordination Centers (TMCC)
  - Two-phased Approach
    - Phase 1: TMCC system planning and design
    - Phase 2: TMCC system deployment
  - System Engineering “Structured Approach”
MSAA/UWR Demo Structured Approach – the “V”

- Concept of Operations
- High Level Requirements
- Detailed Requirements
- High Level Design
- Detailed Design
- Implementation
- Operations & Maintenance
- System Acceptance
- Subsystem Verification
- Integration & Test

Demo Phase 1
Demo Phase 2

Relates to
Common TMCC System Needs

• One call or no wrong door
• Multi-media and flexible access (phone, text messaging, IVR, kiosk, internet, 24X7, etc.)
• Travelers manage own accounts (e.g., individual accounts for customized personal preferences)
• Service flexibility
• Customer information sharing (e.g., eligibility and certification)
• Easy fare payment or ID card
• Quick performance monitoring, billing and reporting
• Safety and security (benefit all parties involved)
TMCC System Design – a Consolidated View

One Stop / No Wrong Doors

Virtual / Physical

Transparent to travelers

Centralized Operations

Traveler

Walk in

IVR

TMCC

Joint fleet

Operator

Human Service

Funding Agencies
Common TMCC Concepts

**Centralized**
- Eligibility
- Reservation
- Scheduling
- Dispatching
- Fare collection
- Fleet management
- Billing
- Reporting

**Decentralized**
- Remote access (functions)
- Database integration
- Information clearinghouse

**Hybrid**
- Some functions centralized
  - Centralized functions for some providers, but not all
  - Some centralized functions subject to individual agency approval
UWR/MSAA Joint Demonstration Status

- Two-phased Approach
  - Phase 1: TMCC system planning and design
  - Phase 2: TMCC system deployment
- Phase 1 RFP release: April 2006
- Phase 1 sites selection announcement: Jan. 2007
- Phase 1 project kick-off: March 2007
- Phase 2 proposals received: July 2008
- Proposals currently under review
- Phase 2 kick-off: spring 2009 (expected)
- Demonstration completion: June 2010 (expected)
How to Participate and Stay Informed

• Subscribe to UWR newsletters/news releases
• Visit UWR/MSAA websites
• Utilize industry resources such as APTA, CTAA and ESPA
• Communicate directly with UWR/MSAA staff
Thank You

Questions and Discussions

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