TMCC GUIDE

Community Transportation Coordination Workshop
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Agenda

- Goals and Objectives of Guide
- Some Lessons Learned from MSAA Program
- Planning for a TMCC
- Clarifying TMCC Institutional Vision: A Framework
  - Customer Experience Map
  - Service Provision Stages
  - Key Choices
  - Mapping Examples
- Challenges
Goals and Objectives

- Summarize knowledge gained through MSAA R&D
- Encourage adoption of TMCC
- Facilitate TMCC planning (make it easier)

Objectives:

- Summarize Lessons Learned
- Overview of Available ITS Technologies
- Provide a framework that captures at a high level all the main alternatives
- Identify Generic Stages / Components of TMCC
- Identify Key Decisions at each Stage
- Make Choices Visual
- Provide List of Key Resources
The Guide is primarily aimed at those communities that have

- agreed that human service transportation coordination is of the highest priority,
- already taken concrete steps to create an appropriate institutional framework, and
- concluded that technology is a valuable "enabler" of enhanced transportation coordination.
Summary of Lessons Learned

- Customer Barriers
- Coordination is Sharing
- Organizational Lessons Learned
- Building a Partnership
Customer Barriers

- Suppressed Demand
- Limited Service Area and Hours
- Complex Customer Communications
- Limited Coordination among Area Providers
- Limited Integration of Human Service Transportation with Traditional Public Transportation
Coordination is **SHARING**

- Using technology to share:
  - Resources
  - Tasks
  - Clients
  - Data

- Sharing of non-technological resources as well
  - Pooled development and implementation of travel training
  - Pooled purchasing of products (e.g. fuel) or services (e.g. insurance)
  - Shared maintenance facilities
Organizing for the planning and deploying of a TMCC: Lessons Learned

- **Building a partnership of stakeholders**
  - Common Vision
  - Identifying Potential Stakeholders
  - Addressing Specific Benefits and Concerns: PARTNERSHIP
  - Special Partnership with the State

- **Leadership and Cohesive Team**
  - Leadership
  - The Role of the Champion
  - Cohesive Team
Lessons Learned (ctd)

- Careful Management of Stakeholder Involvement and Flexibility
  - Inter-Agency Agreements
  - Stakeholder Involvement Over Time

- Technological Expertise and Decisions
  - Building Technology Awareness
  - Technical Assistance
  - Communicating Technical Issues to Stakeholders
Concrete steps to creating an institutional framework would include:

- A consultation process to identify the key pertinent stakeholders;
- An institutional structure to conduct ongoing communications between key mobility stakeholders;
- Formal agreement among key stakeholders that SHARING (of resources, tasks, and / or clients) is critical to enhancing the effectiveness and efficiency of the overall system,
- Development of a consultation and governance process to pursue this agreement; and
- Agreement to pursue the use of advanced technology (ITS) to enhance the sharing of resources, tasks, and / or clients, and the coordination of mobility services.
Planning for a TMCC

- Knowledge of ITS Technologies
- Systems Engineering Approach
  - ConOps
  - Systems Requirements
  - High-Level Design

- From Institutional Agreement to….Systems Engineering:
  ➔ There is a need to clarify the Institutional Vision of the TMCC
Systems Engineering V-Diagram
From ConOps to Requirements to High-Level Design

**ConOps**
- User needs
- Expectations
- Goals
- Objectives
- System operation

**System Rqmts**
- Complete
- Verifiable
- Validated
- Review/approval

**High-Level Design**
- Develop/evaluate alternatives
- Identify interfaces
- Consider standards
- Preliminary design review
But Need a Higher Level Basis for Clarifying TMCC Institutional Vision

- Customer Experience Choices and Map
- 9 Stages of Service Provision Process
- High Level Decisions at Each Stage:
  - Centralized (resources are shared), or Decentralized, with each stakeholder carrying out the tasks on their own.
  - Automated or Manual: desire to see the tasks of the stage automated where feasible, or continue to conduct them as manual processes.
  - In several cases, hybrid choices also exist.
- Secondary Choices at Each Stage
The Customer Experience - Key Choices

- Request for a trip reservation
- Confirmation of booking
- Reminders about trip
- Payment
- “Will Call” return trip
The Customer Experience - Key Choices
Examples of questions to be asked

- Request for a trip reservation:
  - Does the customer have a single number to call in the region regardless of which agency will provide the ride?
  - Does this call lead to a call agent, or does the customer have access to a self-service menu to request a reservation?
  - Does the customer have the choice to call either a central number or the number with the service provider that they are familiar with?
  - Can the customer make a reservation through a web site on the internet?
  - Can the customer check eligibility for the desired trip through an automated system, or must he or she interact with a call agent?
## The Customer Experience Map

<table>
<thead>
<tr>
<th>Customer Access</th>
<th>Eligibility Determination</th>
<th>Scheduling / Routing</th>
<th>Booking and Confirmation</th>
<th>Vehicle Pick-Up and Ride</th>
<th>Payment</th>
<th>Return Trip</th>
</tr>
</thead>
<tbody>
<tr>
<td>Call individual provider and guided by IVR menu (manual option to talk to agent always exists)</td>
<td>No action required; eligibility automatically pre-determined by system</td>
<td>Provide trip request information to computer system</td>
<td>System can find option immediately, and books and confirms trip</td>
<td>Pick up reminder is provided to customer 15 minutes before pick-up</td>
<td>Customer security is enhanced by knowledge that driver is in constant communication with call center</td>
<td>If a return trip is required, customer or nurse can call 8-802 number or log into web site, and estimated pick-up time is provided immediately</td>
</tr>
<tr>
<td>Access website and guided by on-line menu</td>
<td>Need to validate eligibility by talking to call agent</td>
<td>System seeks to schedule trip on available vehicle</td>
<td>Automatic reminder is sent right before to customer by telephone. Option is given to cancel or reschedule trip</td>
<td>No reminder is provided to customer</td>
<td>Balance of payment will be billed to a customer account, so no fare transactions happen on-board</td>
<td>Payment by cash or tokens only</td>
</tr>
<tr>
<td>Call 8-802 number and guided by IVR menu (manual option to talk to agent always exists)</td>
<td>Provide trip request information to call agent</td>
<td>System cannot find option immediately. Contacts customer later to confirm booking or seek alternative</td>
<td>No way exists to know estimated time of arrival for pick-up and no technology exists on-board</td>
<td>No way exists to know estimated time of arrival for pick-up and no technology exists on-board</td>
<td>Automated fare options exist in the form of a fare card, or commercial credit/debit card</td>
<td>If a return trip is required, customer or nurse must call call center and wait for estimated pick-up time</td>
</tr>
<tr>
<td>Call 2-802 number to talk to a call agent (900 731)</td>
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Nine Stages of Service Provision

- Customer Access Mechanisms
- Eligibility Determination
- Scheduling / Routing
- Booking and Confirmation
- Dispatching
- Vehicle Management
- Fare Management
- Data Management
- Reporting / Billing

- Two examples: Customer Access and Eligibility Determination
Customer Access Mechanisms - Primary Choices

- **Manual Centralized:** Centralize the access point for the customer, either through a single 1-800 number or by directing all previous access telephone numbers to a central call center. The customer access process remains manual and the customer still talks live to a customer agent (can also serve 211 I&R).

- **Automated Centralized (with Manual Option):** Centralize the access point for the customer through a single 1-800 number, but decide to use technology (e.g. IVR) to automate the access into the next stage.

- **Automated Decentralized (with Manual Option):** The TMCC stakeholders decide to retain their own individual customer access means, but decide to use technology (e.g. IVR) to automate the access into the next stage.

- **Automated Hybrid Centralized / Decentralized (with Manual Option):** The TMCC stakeholders decide to retain their own individual customer access means, but to create a centralized access point as well. This enables a “No wrong number” approach to customer convenience whereby the customer gains access to the same support for requesting a reservation regardless of the number called. At the same time the TMCC stakeholders decide to use technology (e.g. IVR) to automate the access into the next stage.
Customer Access Mechanisms-Note and Secondary Choices

- **Note that for all three “automated” approaches, there must be an option available to reach a human customer agent. This is especially important for the human services customers who may not always have the ability to use fully automated interfaces.**

- **Automated interfaces to be included:**
  - There are three types of interface for automating customer access to the reservation system. These can be used alone or in combination, and are:
    - Telephony with IVR
    - Web portal (with potential for web-based mobile device)
    - Kiosks located at key locations (e.g. health centers, intermodal terminals, etc.)

- **Special Customer Interface Needs/Features**
  - Another secondary choice that must be considered and decided upon concerns any special customer interface features that will be required. Examples include:
    - TDD/TTY
    - Multi-lingual capability for the automated systems
## Visual Mapping of Primary Choices of Service Provision Stages

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<tr>
<td>Automated Hybrid Centralized/ Decentralized (+ Manual)</td>
<td>Automated Decentralized</td>
<td>Decentralized Scheduling w/ Trip Planning Interface</td>
<td>Complementary Decentralized Trip Request Sharing &amp; Booking (Separate confirmation)</td>
<td>Automated Decentralized w/ Potential Transfer of Control</td>
<td>Automated Decentralized w/ Potential Transfer of Control</td>
<td>Automated Commercial Centralized</td>
<td>Automated Decentralized W/ Common Data Repository</td>
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Map: One Call-One Click

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Customer Access - Manual Centralized (Only)

Eligibility Determination - Manual Centralized

Scheduling / Routing - Automated Centralized

Booking and Confirmation - Centralized Scheduling

Dispatching - Automated Centralized

Vehicle Management - Automated Centralized

Fare Management - Automated Centralized

Data Management - Automated Centralized

Reporting/Billing - Manual
### Map: Centralized Reservation / Scheduling

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<td>Decentralized Scheduling w/ Trip Planning Interface</td>
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Map: Centralized Approach: Transportation Agency Lead

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Note: The diagram illustrates the centralized approach in transportation agency lead with various types of processes and their automation levels.
Map: Coordinated Reservation / Decentralized Provision
Phased Deployment

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<td>Automated Hybrid Centralized / Decentralized (+ Manual)</td>
<td>Automated Centralized</td>
<td>Shared Scheduling Platform w/ Shared Coordination</td>
<td>Decentralized Trip Request Sharing &amp; Booking ( Separate confirmation)</td>
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The Challenges

- Audience for Guide are small agencies with very limited resources and little knowledge of technology
- No “one-size-fits-all” model of a TMCC
  - Common Elements but many variations (great and small)
- Non standardized components and terminology (e.g. reservation)
- Much planning, but very few deployments and actual experience
  - No multi-platform, multi-vendor deployment to date (The Travelocity Vision)
- MSAA provided considerable financial and technical resources, that won’t be available for future deployments
- Non-competitive procurements in a research setting with R&D on new systems: unclear how this will translate in the future
- Evaluation still underway, and many resources not publicly accessible
Nonetheless, exciting times!

The MSAA Program and TMCC Concept have shown the important role technology can play in enhancing the coordination of community transportation services.

Thank You!