



Intelligent Transportation Systems
U.S. Department of Transportation



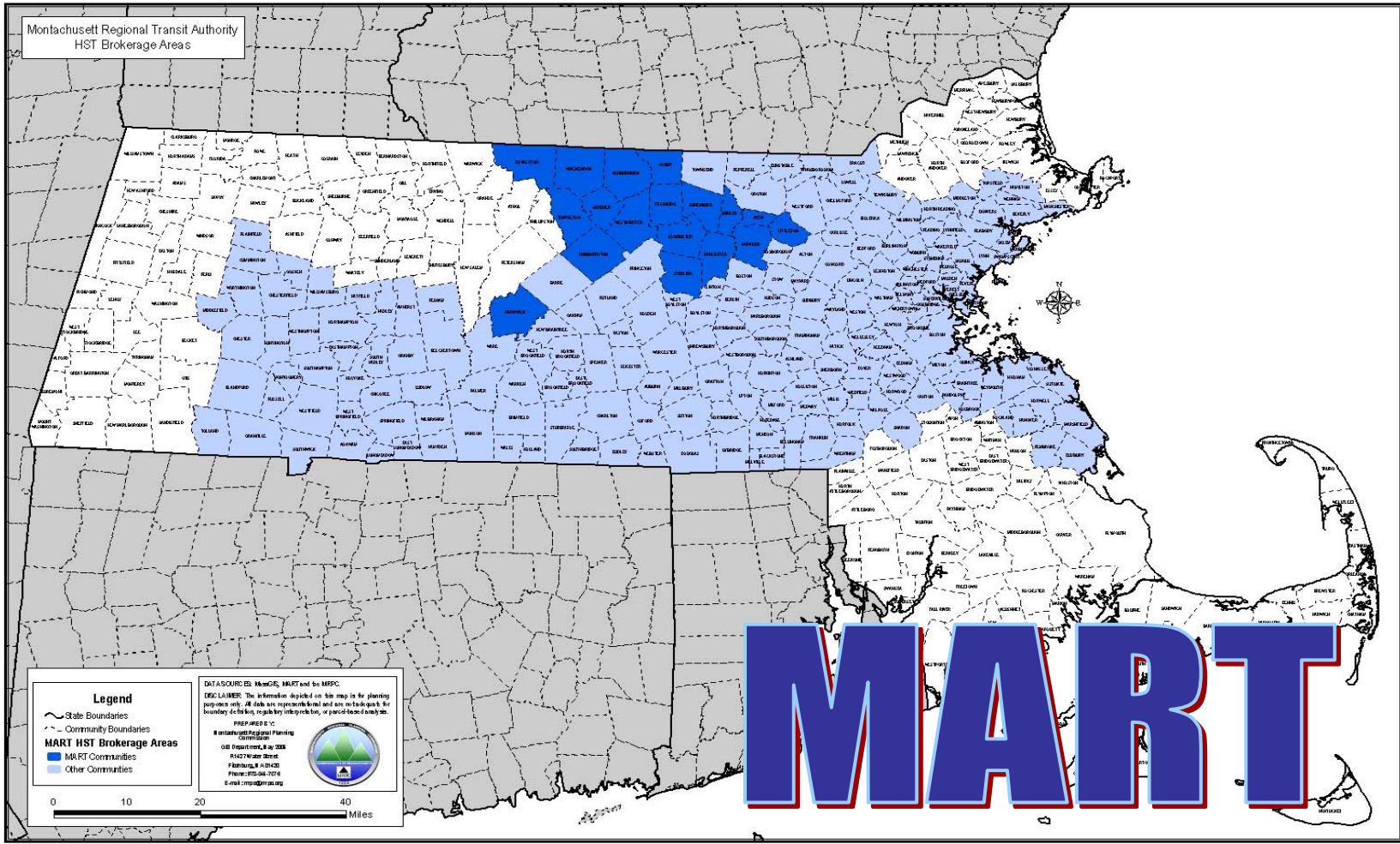
M-ITS: MART's Integrated Transportation System

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M-ITS TMCC Project Scope



M-ITS TMCC Project Scope

- M-ITS TMCC offers an opportunity to build upon an advanced, coordinated transportation system at MART which:
 - Manages 17 funding sources and associated regulations
 - manages 75% of Massachusetts brokered HS transportation
 - has its own fleet of approx. 180 vehicles
 - has access to approx. 1200 vehicles through approx. 200 vendors
 - has a web-based system with 230+ users state-wide
 - performs automated, web-based invoicing for approx. 200 vendors
 - has an AVL/MDT system on its Paratransit vehicles
 - has an Intermodal Transportation Center to implement M-ITS

M-ITS Goals and Objectives:

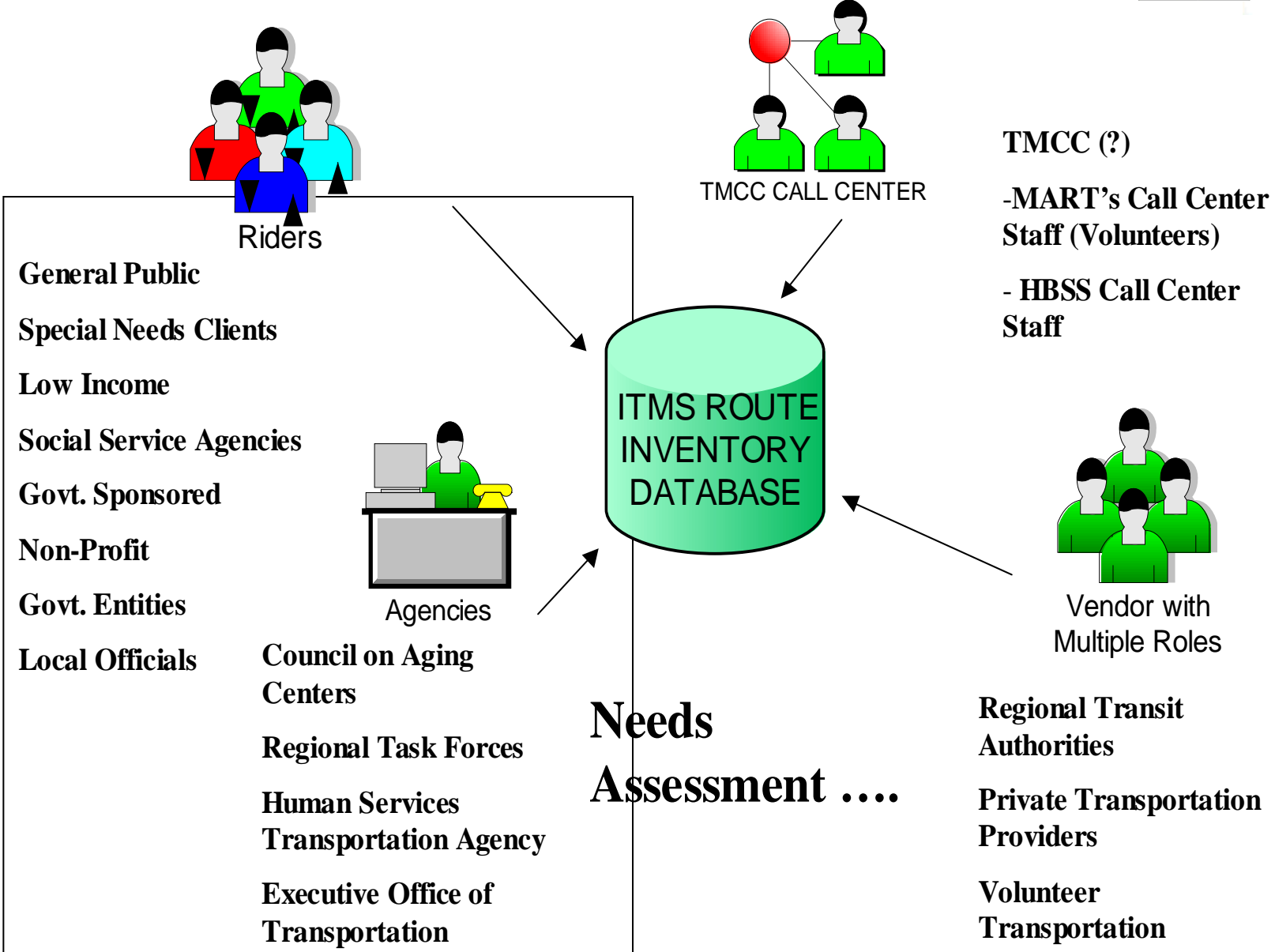
- **Meet the stated goals of Phase I Demonstration Grant :**
 - Establish comprehensive transportation services to meet the needs for all, including low-income individuals, older adults, and persons with disabilities by coordinating resources
 - Create a simple point of access for consumers to obtain services
 - Use intelligent transportation systems to enhance transportation service delivery and system accessibility
- **Develop the M-ITS TMCC to provide:**
 - **scalability** to add more services or agencies and **replicability** within various operational scenarios
 - Integration across a wide range of platforms and ITS strategies
 - Optimization of transportation and administrative resources
 - Riders with access to low cost, multiple itinerary travel options

M-ITS Goals and Objectives



- Meet requirements for All Americans including:
 - Huge increase in availability of travel options as:
 - Providers w/ any type of software/hardware can join the network
 - Providers operating w/ paper and pencil can join and grow the network
 - Any existing program may add more riders to the system
 - Any transportation coordination effort or program can join the network
 - Any individual rider or group can join irrespective of ‘qualification’
 - Tremendously Simplified Booking and Account Management on an Individual Rider Basis
 - Transparency in Provisioning of Services:
 - Enable open enrollment of providers w/ credentialing process
 - Any individual rider – irrespective of education level or availability of access mechanisms can access this system

M-ITS Stakeholders – No Changes



M-ITS TMCC Impacts

- Centralized Billing and Reporting for Massachusetts HST Office will impact 4+ million trips per year
- The number of riders utilizing the expanded transportation network and M-ITS components could total several hundred daily initially
- Approx. 300 – 400 service providers would likely utilize M-ITS
- Approx. 50 – 75 government and non-government agencies would be positively impacted by the M-ITS system

• M-ITS Key Stakeholder Needs Identified

- What is in it for me?
 - Where's my bus? Integrated AVL / web-based vehicle tracking
 - On-line Purchasing of Trip Tickets, Passes, etc.
 - Fixed Route Trip Planner and Flexible Trip Times
 - Trip Coordination and Group Scheduling
 - Fare Collection/Distribution and Cash Management
 - Complaint Management and Dispute Resolution
 - Information Management, Access and Transfer
 - Rider Accounting System
 - Cost Management and Expense Planning
 - Lack of Access to Technology and Technology Integration

M-ITS Key Stakeholder Needs Identified

- Full Interoperability with Electronic Fare Card in the Future
 - Mixing Public and Private Transportation / More Providers
 - Cost Allocation ~ Multiple Funding Sources / Multiple Providers
 - Centralized Billing System
 - On Time Performance and Safety
 - Driver Timesheet availability with AVL
 - Vehicle Inspections and Driver Verification
 - Scheduling Across Multiple Regions and Providers
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- MART Team has a requirements finalization meeting with CWREST on 1/15/08, and
 - MART team has a hands on 'cardboard prototype' review of a potential system on 1/25/08 with CWREST and other stakeholders

M-ITS Stakeholder Participation Approach

- One on One Meetings
- Extensive Phone Interviews and Conference Calling
- Email Questionnaires / Surveys
- IssueTrakker → On-line Tracking Tool

Lessons Learned - Effective Stakeholder Participation

- All want to participate but no one has the time
- Their requirements are fairly similar
- Difficult to arrange group meetings for all stakeholders
- Need to address “what they will get” on a regular basis
- Refrain heard: “Everyone talks, very little action”

M-ITS Stakeholder Participation Approach



- **Obtaining Leadership Support**

- Understanding Statewide Programs and Managers Needs
- Demonstrating Alignment of Statewide Goals with M-ITS TMCC
- Aligning M-ITS TMCC with Current and Future Projects – (CWREST, HST Centralized Billing, etc.)
- Showing Progress on work on a regular basis

- **Evidence of Leadership Support**

- Numerous Agencies Across the Country visiting our Operations Center
- NH DHHS Office patterned brokerage RFP after MA Model
- Meeting w/ HST Office on a Centralized Billing subsystem statewide
- Meeting w/ MA EOT on policy waivers for MART paratransit vehicles

M-ITS TMCC System Concepts

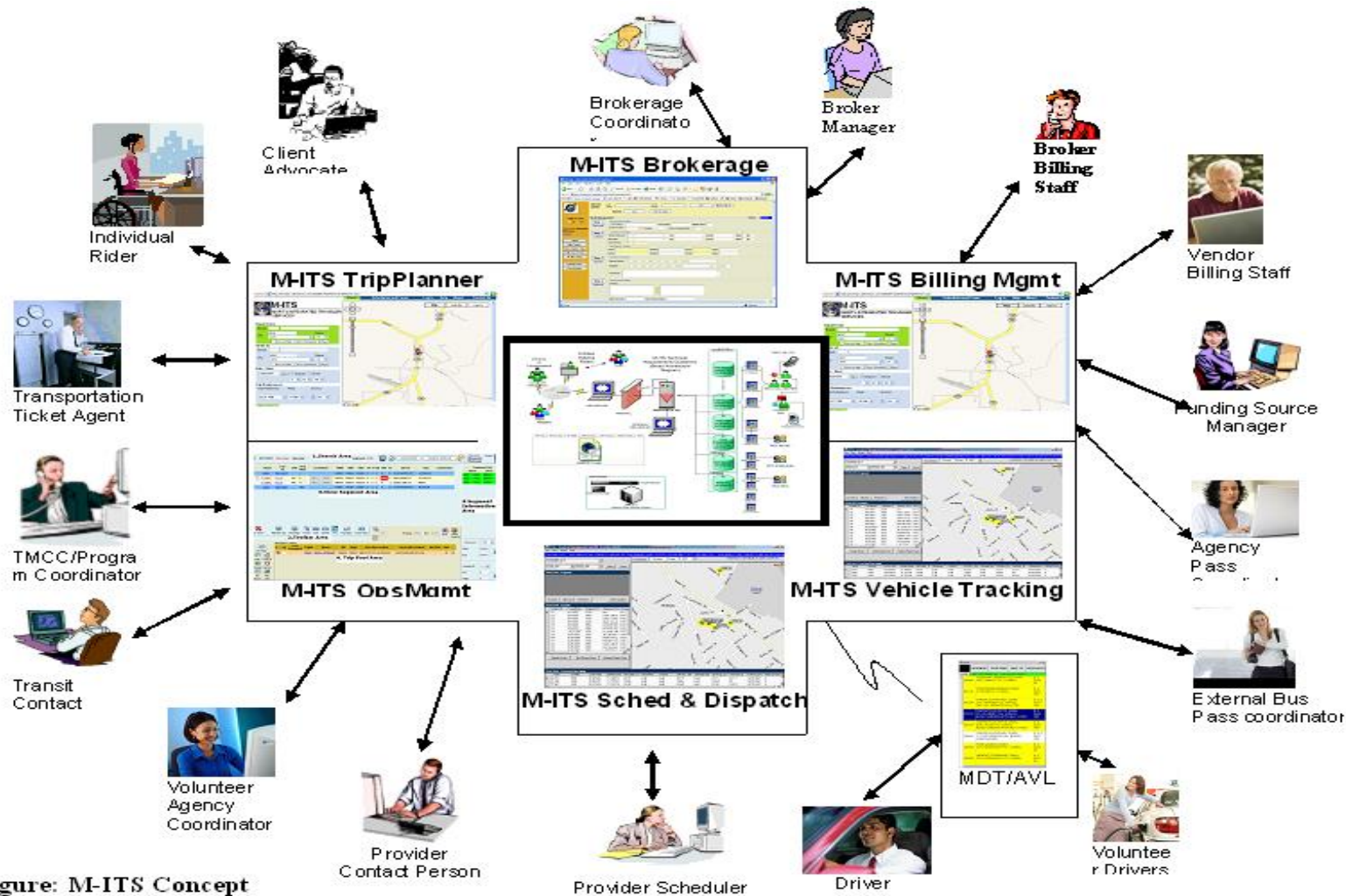


Figure: M-ITS Concept
A Virtual Transportation Services Portal
Where Transportation People Offer and Avail Transportation Services

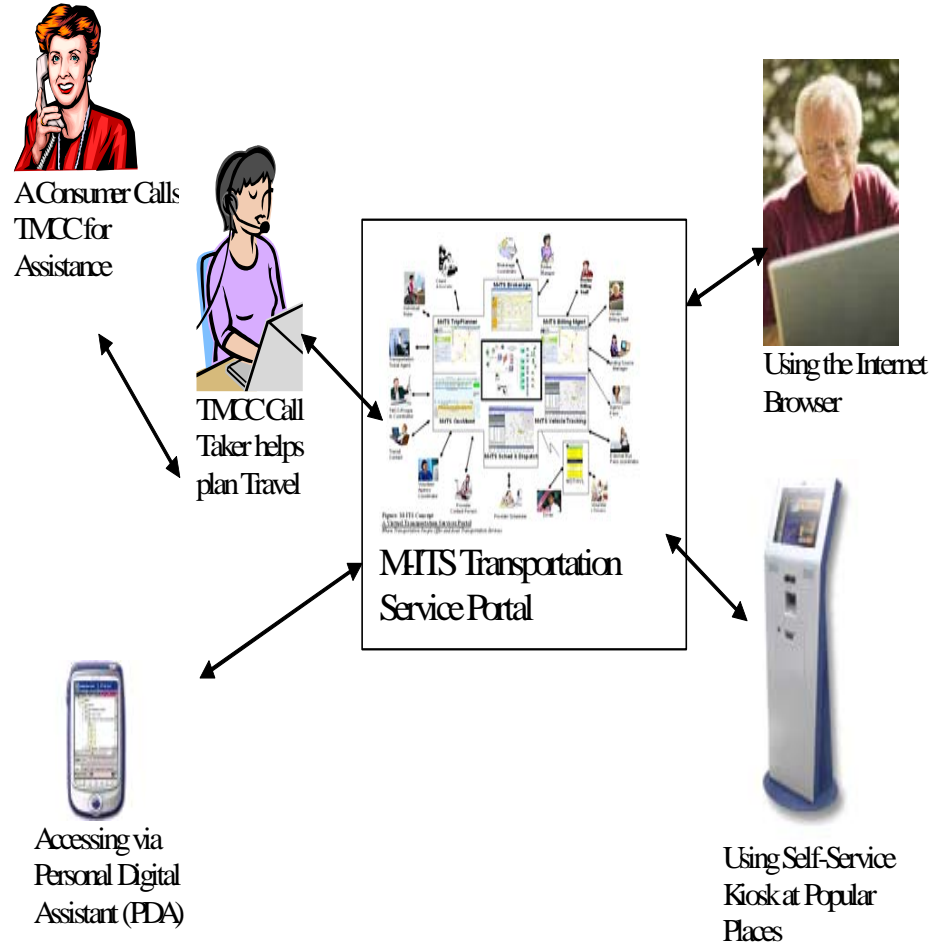
M-ITS TMCC System Concepts



• System Components

– Technology Infrastructure to Support a Simple, Unified User Interface

- Handheld Devices
- Phone Interface
- Internet Telephony Interface
- Instant Messaging Interface
- HIPAA Compliant Communication System
- Short Messaging Service (SMS)
- Information Availability in 2 Clicks or Less
- Trip Booking Front End
- Service Provider Front End



M-ITS TMCC System Concepts



- **Advancements Provided by the New TMCC**
 - Web Based Trip Planning vs. Verbal Exchanges
 - General Public Brokerage vs. Human Service Brokerage Only
 - Rider Accounting System vs. Paper Trail System
 - Automated Phone Based Trip Reviews vs. Verbal Exchanges
 - Automated Agency Audit Capabilities vs. Paper Trail System
 - Vehicle & Driver Inspections of All Transportation vs. Human Service Brokerage Only
 - Kiosk based Access vs. Ticket Agency or Verbal Exchanges
 - Web based Where's My Bus Capabilities vs. Verbal Exchanges

M-ITS TMCC System Concepts



- ***HST Needs: Specific Needs Addressed by M-ITS***
 - **HST → Billing & Financial Management**
 - **Centralized Billing**
 - Different Systems
 - Information Provisioning Lag
 - Cost Management and Expense Planning
 - Ready Access to Member Ridership Information
 - Aggregated Billing Information by Region or Across Regions
 - Expense Distribution by Geography, Demography or Funding Department
 - Determination of Overlap of Services and Better Coordination Statewide
 - Single Upgrade when Billing Rules Change
 - All Brokers Operate with the Same HST Billing Rules
 - Reduced Overhead for Brokers to Upkeep the Billing System

M-ITS Operational Scenario # 1

- **Step 1: Rider connects to M-ITS Trip Planner or contacts M-ITS TMCC**
- Step 2: Rider enters and submits trip information including vehicle type needed in the M-ITS Trip Planner interface or to the M-ITS TMCC reservationists
- **Step 3: The M-ITS Trip Planner evaluates request and responds with 1 or more itineraries w/ provider(s), pick up, drop-off time and fare for each leg**
- Step 4: Rider selects one and proceeds to book the return leg of the trip
- **Step 5: M-ITS reverses source destination and offers itineraries to select**
- Step 6: Rider selects itinerary and requests confirmation of the booking, as well as providing fare payment through credit/debit card, etc.
- **Step 7: Confirmation given to Rider after receiving Provider approval**
- Step 8: Rider can communicate with the Provider(s) for any clarification
- **Step 9: MART handles fare collection and distribution process**



M-ITS Operational Scenario # 2

- **Assumptions: OMM awards MART Region 3 through RFP and all current sub-contractors continue to provide services**
 - OMM notifies NEMT recipients in Region 3 of Brokerage award to MART
 - Either OMM or MobiLove provide MART with e-file of active recipient data including eligibility and standing order trips to be continued
 - MART uploads all data into the M-ITS TMCC Trip Reservation system
 - Either OMM or MobiLove provide MART with current sub-contractor list
 - Sub-contractors sign contracts w/ MART and are provided access to the M-ITS Web-based “Transportation Portal” to securely access:
 - Vendor Profile Management
 - Vendor Work Download
 - Vendor Trip Completion Update
 - Integration with ITMS/HIPAA Compliant Communication Server
 - On-line Rate Management
 - On-line Invoice Management
 - On-line Shared Ride Negotiations



M-ITS Operational Scenario # 2

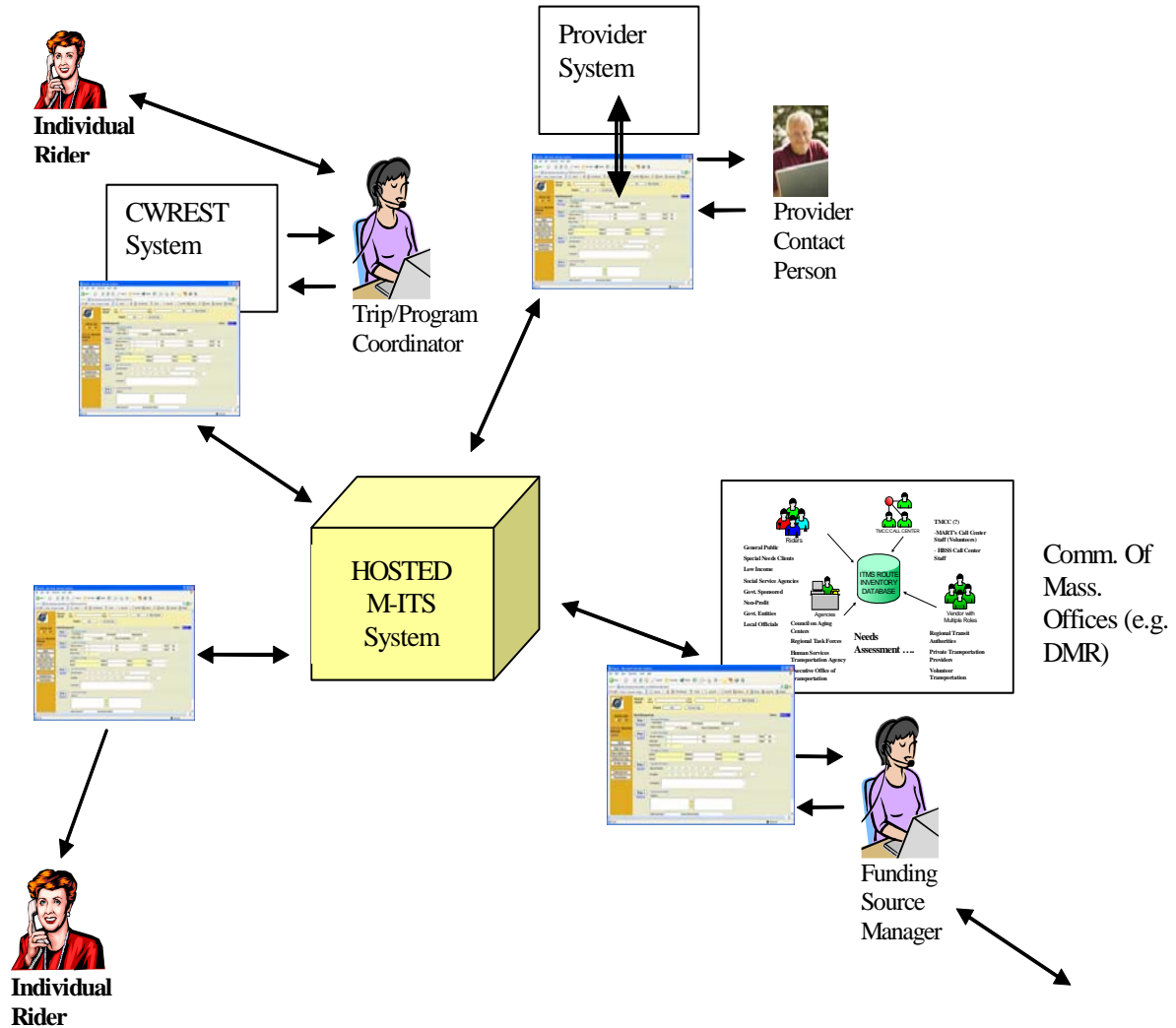
- **M-ITS Transportation Portal allows OMM & MART and MART & its sub-contractors to interact using a secure internet for:**
 - Automated routing/scheduling system for reserved trips
 - Computerized vendor rates management system
 - Automated updating of client eligibility and verification
 - Automated Vendor Invoice management system which produces invoices for vendor review, drastically reducing vendor staffing and furthering lowering costs
 - Computerized complaint management system
 - Additional systems under design and development.
 - Members of NEMT Region 3 call MART and continue services uninterrupted
 - OMM now calls MART but continues business as usual
- **When MobiLove departs, MART takes over from Massachusetts**
 - Total estimated time for transition: 4 - 8 weeks from award date !!

M-ITS Operational Scenario # 3

Employment Related Transportation Planning - Central West Regional Employment Solutions Team (CWREST)



CWREST's Viewpoint:
An Individual Rider, Agency Coordinator, Funding Source Manager, and Provider Contact Person can interact via M-ITS to provide Employment Related Transportation to CWREST Members





M-ITS Operational Scenario # 3

- Currently, Case Workers/Job Coaches and coordinators (advocates) manually search transportation options with relatively expensive per trip costs for riders
- Under M-ITS TMCC, the advocates interaction is as follows:
 - **Step 1: Advocates gets request for trip from an employment seeker Advocates connects to M-ITS Trip Planner or contacts M-ITS TMCC**
 - Step 2: Advocate enters and submits trip information including vehicle type, the start date, the job start time, etc. in the Trip Planner interface or to the M-ITS TMCC reservationists for travel options.
 - **Step 3: The M-ITS Trip Planner evaluates request and responds with 1 or more itineraries w/ provider(s), pick up, drop-off time and fare for each trip leg with any special booking hyper-linked to a reservation system.**

M-ITS Operational Scenario # 3

- Step 4: Advocate selects one itinerary and proceeds to book the return leg of the trip
- **Step 5: M-ITS reverses source data and offers advocate itineraries to select**
- Step 6: Advocate selects itinerary and requests confirmation of the booking, as well as providing fare payment through credit/debit card, etc.
- Step 7: **If Advocate needs other clarification/approvals for the trip, they contact the Funding Source Manager. The M-ITS TMCC shall have the option to ‘send’ request for clarification or approval to the Funding Source Manager**
- **Step 8:** Confirmation of Travel Itinerary to Advocate confirmed only after receiving approval from the Funding Source Manager and the Provider(s)
- Step 9: **Advocate can communicate with the Provider(s) for any clarification**
- Step 10: **MART handles funding allocation, transfer and distribution process**

MART Moment of Sharing



- **Since the project kick-off...**
 - The most pleasant surprise has been the strong participation and commitment from CWREST – a partner representing multiple agencies on the project (will elaborate)
 - The most satisfactory moment was a presentation of our current brokerage system and proposed TMCC to MA State Senator Baddour – Co-chair of the Transportation Committee (will elaborate)
 - The most difficult challenge encountered is the document writing (relative to form and formatting), as opposed to substance and content.

MART Moment of Sharing



One Wish

“For Transit, Planning and Human Service Agencies to Really Start Believing They Need to Work With One Another ”

Although Massachusetts is now focusing the combined coordination efforts of these types of agencies, there is still a significant amount of effort needed to make each understands that their mutual goals can be achieved by working with the others and sharing resources

Experiences and Lessons Learned

- Communication w/ stakeholders and partners – Frequent and Freewheeling
- Utilization of TA TEAM/Federal Liaison for identifying resources, project scoping, etc.