

The feasible TMCC systems requirements provide:

- A comprehensive description of what the TMCC will accomplish;
- A description of the functions that are required to make the Atlanta regional TMCC Concepts of Operations a reality; and
- A discussion of what minimum standards must be met to accomplish the vision and goals of the TMCC.

The Feasible Short-Term TMCC actually is composed of three elements, or subsystems:

1. The HST Information Subsystem, which is an information referral service only and does not include centralized scheduling, dispatching, vehicle tracking or trip booking;
2. Americans with Disabilities Act (ADA) Paratransit Coordination;
3. The HST Fare Payment and Management Subsystem; and
4. The systems requirements report includes the functional requirements, which describe the activities that customers, agencies, and providers can perform using the TMCC, and the nonfunctional requirements, which describe the manner in which the system will be designed, developed, and deployed.

3.5 Overview of System Design

During development of the system design document, ARC came to the conclusion, with input from HST stakeholders that the region is not ready at this time to move forward on two of the TMCC subsystems:

- The ADA Paratransit Coordination Subsystem; and
- The Fare Payment and Management Subsystem.

ARC came to this conclusion as a result of stakeholder meetings and interviews conducted as the project progressed. In these discussions, it was clear that additional coordination and collaboration would be needed to address stakeholder concerns. The key stakeholder agencies, while interested in the TMCC initiative, felt that the timing of the TMCC model project was out of step with the timing that would be necessary to incubate various ideas and form the interagency agreements necessary to progress. With HST coordination in Atlanta still in its infancy, there was a strong sentiment that more dialogue and consensus-building would be needed prior to implementation of the paratransit coordination and fare payment/management subsystems.

Therefore, the system design document focused primarily on the information management subsystem design. The three subsystems identified in the feasible Concept of Operations remain as the region's comprehensive vision for mid-range TMCC project implementation, but only one, the Information Subsystem, is ready for deployment now. When all the TMCC

subsystems are implemented, each subsystem will perform different tasks. The staggered implementation of the three subsystems will not affect the overall integrity of a full-scale TMCC. Rather, all subsystems will connect to a common data store for information necessary to provide the full range of functionality. The System Design thus details the Information Subsystem as the short-term deployment-ready, replicable, and scalable TMCC. It is the region's starting point for the ultimate TMCC vision.

The Information Subsystem of the TMCC will serve as a one-stop shop for information and referral related to HST. The TMCC will be a centralized system with physical location that will have a one-stop telephone information access number and a corresponding one-stop information access web site. The customer will be able to call one telephone number to obtain information on any type of HST service (e.g., Medicaid, ADA, workforce, low-income, elderly), as well as obtain contact information for providers and information about eligibility requirements, service coverage areas, service hours, and access points. The customer also will be able to fill out a detailed profile so that future trip requests can be made without reentering personal data. This interaction may be conducted through an Interactive Voice Recognition (IVR) system or by a live operator upon request. The information will be available in English and Spanish and access for persons with disabilities will be provided. The same services and information also will be available on a TMCC web site. All profile information will be stored in a database.

As customers request information and referral, their calls or Internet requests will be forwarded to the appropriate provider who will book the trip directly with the customer. The transportation providers will then take the trip request, as well as schedule and dispatch the trip. That trip referral process keeps the three functions of reservations, scheduling, and dispatch together, which is critical to ensure operational cohesion.

The TMCC also will include a GIS platform to allow for data analysis, such as identification of gaps and duplications in service by location, type, and time of day. These service gaps and duplications will then be used to assess service improvements and coverage and for justification of new and expanded services as the TMCC grows in capacity and function.

In summary, the TMCC Information Subsystem design includes the following components:

- An IVR system programmed to perform activities available to public customers;
- A telephone-based system with both English and Spanish capability and with TDD capability for operators to answer calls from public customers;
- A computer-based administrative system to allow operators to perform actions on behalf of public customers;
- A secure Internet-based system for public customers to retrieve information, including referrals for HST providers and trips;
- A secure Internet-based system for authorized HST providers to retrieve and provide update information;

- A secure Internet-based system for authorized TMCC, ARC, and Human Service Agency staff and consultants to manage information and run reports;
- A telephone-based helpdesk and corresponding computer-based helpdesk tracking system that TMCC staff will use to support all users;
- A centralized database that holds TMCC information on customers, programs, service providers, routes, schedules, services hours, service areas, trips, fares, call logs, etc.; and
- Links to an existing Geographic Information System (GIS) for performing geographic operations.

3.6 System Implementation Planning

The TMCC Information Management subsystem is ready for implementation and the other two subsystems are proceeding forward but with a different timeframe and under different leadership. The subsystems for fare management and regional ADA complimentary paratransit operational coordination are proceeding in more of a mid-range (three- to six-year) timeframe under the direction of MARTA. Thus, a phased implementation plan is critical to system implementation planning for the Atlanta TMCC, and the entire TMCC concept will need to be implemented incrementally, as consensus and funding is obtained with key stakeholders. Table 2 outlines the timeline for incremental implementation.

Table 2: TIMELINE FOR INCREMENTAL IMPLEMENTATION

TMCC Operational Subsystem	Timeframe for Implementation
Information Management	Short-term (1 to 3 years)
Fare Payment and Management Subsystem	Mid-term (3 to 6 years)
ADA Paratransit Coordination	Mid-term (3 to 6 years)
Additional elements to be added incrementally to reach long-range vision of full HST coordination	Long-term (20 years)

Prior to deployment, the TMCC Information System host agency needs to be identified. Ongoing dialogue and discussion also is needed to identify the Federal, state, regional, and local funding available to serve as the local matching funds. Once these items have been addressed, next steps include formation of a TMCC Board and completion of associated administrative and legal tasks.

The fare payment and management subsystem deployment and start-up plan is under the direction of MARTA, who has initiated a breeze card system on all fixed routes. Since its implementation in 2007, MARTA has been proceeding with phased implementation of additional facets of the system, including regional coordination of fare payment and

management. The application of breeze card technology for ADA paratransit operations is included in their implementation plan, and will occur as the phased sequence unfolds.

ADA paratransit regional coordination deployment and start-up currently is in the planning phases and also is under the direction of MARTA. The goals of their ADA paratransit study include establishment of the baseline conditions for ADA complimentary paratransit services and an examination of ADA complimentary paratransit services in peer agencies in other regions. Ultimately, the goal is to improve efficiency, quality of service, and cost-effectiveness of paratransit operations throughout the region.

3.7 Benefits of TMCC

The expected benefits of the TMCC Information Subsystem are related to improved customer service and ease of access to important and accurate information. In addition, the TMCC will improve trip request process for both clients and providers, and will increase availability of data on trips for providers to conduct planning and schedule/route improvements. Finally, it will provide a foundational platform for additional coordination activities as they become implementable.

Additional benefits to be obtained from the TMCC in a mid-range timeframe include: 1) creation of a central repository of transportation service information, customer data, and service provider information; 2) a technology to support coordinated ADA paratransit services; and 3) single-card fare payment for all ADA paratransit providers. Customers will have access to HST service information and will be able to make trip requests. The participating agencies and providers will have electronic access to the transportation subsystems. The TMCC also will track customer, provider, and program eligibility in order to provide trip cost and payment allocations and track provider performance metrics so that system efficiency can be determined and problems addressed.

Ultimately, the long-range TMCC will provide further benefits, such as: 1) improving multijurisdictional coordination; 2) improving communications and information sharing among agencies; 3) disseminating real-time travel information, including real-time vehicle tracking; 4) improving cost-effectiveness of HST; and 5) greatly improving customer service.

Chapter 4.0 CONCLUSIONS/RECOMMENDATIONS/LESSONS LEARNED

Conclusion

The conclusion of the final report for the Demonstration of Enhanced Human Service Transportation Models: Phase 1 – Systems Development and Design is that the Atlanta Region is not ready at this time to move forward with deployment of a replicable, scalable TMCC to enhance delivery of HST. ARC believes that additional HST coordinated planning and stakeholder dialogue is needed prior to the application of Intelligent Transportation Systems (ITS) technology in a regional context.

Recommendations

ARC does not recommend moving forward with the U.S. DOT Federal Transit Administration Administration’s Demonstration of Enhanced HST Models Phase 2 grant opportunity at this time. The reason for this recommendation is due to the project’s inability to secure an agency commitment to host the deployment-ready, replicable, scalable TMCC.

Rather, ARC recommends that the region proceed with ongoing HST coordination efforts and focus on strengthening regional collaboration and cooperation among HST providers and agencies. Continued discussions about TMCC development also are recommended.

Lessons Learned

A number of lessons were learned during the TMCC project. These are outlined below.

- **Timing of implementation proved faster than agencies could make decisions** – As stakeholder discussions progressed, it became clear that the schedule for TMCC project completion and implementation was on a faster track than the HST coordination efforts in the region. While all stakeholders agreed that the TMCC was much needed, there was simply not enough time to alleviate everyone’s concerns and develop interagency agreements within the constraints of this project’s schedule. Some of the main concerns expressed by the stakeholders included:
 - Who would be the lead or host agency of the TMCC?
 - How would the operations and management of the TMCC be sustained?
 - What would the criteria including cost, information sharing and reporting requirements be for agencies to participate in the TMCC?
 - Who would be responsible for providing the local match (operating entity, participating agencies, local governments, etc.)?
 - How would the public be informed about the purpose and benefits of the TMCC?
 - What are the projected cost benefits associated with implementing the TMCC?

- What type of long term support technical and financial would be guaranteed by FTA after the initial 1-3 year deployment phase?
- What commitment and guarantee do we have that will ensure that the TMCC Information Center will evolve into our long term vision of being a One-Stop-Shop for transportation?

In addition to the concerns mentioned above, stakeholders also felt that there was not enough time to address the nine fundamental areas of agreements and memorandum of understandings identified in Section 6 (Enabling Requirements) of the TMCC Systems Requirement Report. Listed below are the nine areas of agreement established in that document which would be required in order to implement the operations and management of the TMCC:

- Agreement to coordinate TMCC operational aspects (receive calls, link to fixed-route services planners);
- Agreement to share eligibility information;
- Agreement to share services information and track trips requested;
- Agreement among ADA providers to coordinate interjurisdictional trips;
- Agreement among ADA providers and MARTA to use the Breeze Card program;
- Agreement on fares and revenue distribution among ADA providers for interjurisdictional trips;
- Agreement between the TMCC and MARTA to provide any needed changes to the Breeze card system and application process that will allow ADA paratransit users to receive a card that reflects their eligibility;
- Agreements among HST agencies and providers to support the TMCC and participate in an ongoing TMCC stakeholder committee;
- Agreement between a selected host agency and the TMCC to provide physical space, permanent staff and ongoing operations and maintenance for the TMCC.

Stakeholders agreed that the Enabling Requirements listed above could not be met within the established project timeline.

- **Timing of planning versus timing for TMCC design** - Similarly, additional time was needed for coordination planning and developing stronger ties among the various HST agencies in the Atlanta Region. While initial agreement on the benefits of the TMCC was evident, it did not translate to a sense of ownership for the TMCC as planning talks moved to systems engineering and implementation. As continued efforts were made to identify potential candidates to host the TMCC Information

Center the Area Agency on Aging (AAA) a division of ARC and the United Way were identified as possible champions. Follow up meetings were scheduled with each agency to further explore their ability and capacity to operate and manage the TMCC Information Center. Both the Area Agency on Aging and the United Way considered the possibility of integrating the TMCC Information Center as an extension of current programs that were already operational. However, neither of the agencies was comfortable making a commitment, as more time than the project schedule would allow would be needed to take their proposal of the TMCC Information Center through their established organizational processes to obtain financial support and final approval.

Also as documented above in Section 3.6 (System Implementation Planning), the successful deployment and implementation of the TMCC Information Center would require:

- A phased and incremental approach of 1 to 3 years;
- Identification of a host agency;
- Identification of federal, state, regional and local Funding to meet 50/50 local match requirement ;
- Establishment of TMCC Board;
- Identification and completion of administrative and legal tasks.

Finally, the ARC initially dedicated five months in our original TMCC project scope to provide for planning, public involvement, and consensus buildings as we assessed these elements to be essential in building an adequate institutional framework to ensure success of the TMCC project. The planning phase for the TMCC project was collapsed into one month as FTA advanced to the design phase of the project. This condensed schedule hindered our ability to thoroughly address the questions raised and documented in this section to the satisfaction of upper management and policymakers.

- **Scale of region's size and corresponding complexity hindered project** - In hindsight, the geographic size of the region and the project's study area brought a level of complexity to the project that made it difficult to advance to a deployment-ready, scalable TMCC quickly. It may have been more prudent to begin in a smaller geographic area and build a model of technology assisting coordination efforts from that vantage point.

Because the TMCC project study area included 10 counties and over 80 municipalities, with all the attendant agencies providing human service transportation within those entities, stakeholders agreed it was impossible to gain the political will and financial support necessary to implement the TMCC Information Center on a regional basis within the established project timeline. On the other hand, stakeholders also agreed since most HST agencies provide services across jurisdictional boundaries and many

clients have to travel across these boundaries to receive services, scaling back the TMCC project study area once the study was underway was not desirable either. As the TMCC project progressed, ARC identified other HST coordination efforts going on concurrently in the region involving many of the same stakeholders. This made it difficult for some participants to see the TMCC project as a priority when compared to the other ongoing initiatives.

- **Agency resources are very strained already** – Stakeholders expressed much hesitation about assuming additional responsibilities given the already strained nature of funding and resources. This issue became even more pressing as gas prices rose rapidly and transit providers expended their entire annual fuel budget long before the year was over.

Transit operator participants expressed that they found it difficult to think collectively while they were all fighting just to stay in existence and maintain their current services. As the national and local economies continued to rapidly deteriorate in 2008, the focus on maintaining core services and staying solvent led to an attitude among key agencies where assuming any additional financial risk was simply not an option. Stakeholders agreed that given the current economic environment, their executive management and agency boards would not be receptive to any proposal requiring the need for additional agency resources.

Although this initiative likely would result in long-term cost savings for many agencies, more time was needed in order to conduct a cost/benefit analysis to demonstrate the financial implications of the TMCC project for the region. And in order to achieve a long-term savings, the ability to invest funds in the short-term was a critical element that was lacking at the time this study was completed.

- **There is not much incentive for agencies to cooperate on a regional basis** – Presently, funding streams and regulatory requirements inhibit incentive to cooperate on innovative ideas that involve interagency cooperation. For example, paratransit operators are concerned about eligibility requirements and their different manifestation in urban and suburban communities. Much discussion will be needed to work through the perceived issues concerning equity among agencies.

Stakeholders expressed that regional coordination is important, but from a practical standpoint on a day to day basis, their primary goals are to efficiently manage their agency's programs and to meet the needs of their clients. Stakeholders agreed in order to gain the momentum to encourage and incentivize agencies to adequately coordinate services, federal, state, and local funding for programs should be contingent upon documented and proven coordination efforts. Stakeholders also agreed the best way to incentivize regional coordination would be to demonstrate the financial benefit to agencies on both the individual and regional level. Listed below are additional barriers to regional cooperation within the Atlanta region:

- The regional transportation system is very fragmented and unstable (the "regional" transit agency MARTA services only two counties and receives no state financial support, with independent county-based systems in three other

jurisdictions and a state-managed express bus system operated by the Georgia Regional Transportation Authority that has no sustained funding source);

- Historical background and territorialism in the provision of transportation services;
 - Department of Human Resources (DHR) has a completely separate process for transportation, information, and referral for Section 5310 services;
 - Individual agency agendas;
 - Lack of interest in this initiative from key regional transportation stakeholders, such as DHR and GRTA;
 - No state mandate on coordination of HST services.
- **FTA Oversight and TA** - FTA oversight and TA support has been extensive. They were very engaged and responsive to the project team throughout the process especially with our monthly calls.



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