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Model Orlando Regionally Efficient Travel Management Coordination Center (MORE TMCC)

Phase II Final Report

SEPTEMBER 2012

FTA Report No. 0061
Federal Transit Administration

PREPARED BY

Central Florida Regional
Transportation Authority (LYNX)

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Federal Transit Administration
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1200 New Jersey Avenue, SE
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Metric Conversion Table

SYMBOL	WHEN YOU KNOW	MULTIPLY BY	TO FIND	SYMBOL
LENGTH				
in	inches	25.4	millimeters	mm
ft	feet	0.305	meters	m
yd	yards	0.914	meters	m
mi	miles	1.61	kilometers	km
VOLUME				
fl oz	fluid ounces	29.57	milliliters	mL
gal	gallons	3.785	liter	L
ft^3	cubic feet	0.028	cubic meters	m^3
yd^3	cubic yards	0.765	cubic meters	m^3
NOTE: volumes greater than 1000 L shall be shown in m^3				
MASS				
oz	ounces	28.35	grams	g
lb	pounds	0.454	kilograms	kg
T	short tons (2000 lb)	0.907	megagrams (or "metric ton")	Mg (or "t")
TEMPERATURE (exact degrees)				
°F	Fahrenheit	5 (F-32)/9 or (F-32)/1.8	Celsius	°C

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13. ABSTRACT

The final report for the Model Orlando Regionally Efficient Travel Management Coordination Center (MORE TMCC) presents the details of the 2½-year process of the partial deployment of the original MORE TMCC design created in Phase I of this project. The purpose of Phase II was to deploy certain modules of the original design, given the limited funding and resources that were available to the project team. As part of the Phase II partial deployment, one aspect of the original design was implemented—multimedia trip management. This report reviews the project methodology, Phase II deployment, self-evaluation, outreach, and results and findings.

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FOREWORD

The Model Orlando Regionally Efficient Travel Management Coordination Center (MORE TMCC) Phase II is a joint effort on the part of the Central Florida Regional Transportation Authority (LYNX) and human service agencies, with the primary goal to use existing resources to expand customer transportation options.

The MORE TMCC Phase II project is a partial implementation of the blueprint that was designed as part of MORE TMCC Phase I. Due to insufficient funding resources, the entire system designed as part of Phase I could not be implemented. Partial funding both from the Federal Transit Administration and the State of Florida were used to implement one of the modules of the initial design – multimedia trip management. The system has expanded the functionality of existing technologies already implemented by stakeholders and, in the future, the system can easily support and integrate additional transportation providers, human service agencies, and funding sources on a larger scale. The following stakeholders were involved with the MORE TMCC Phase II System Implementation:

- Public transportation providers:
  - Central Florida Regional Transportation Authority (LYNX)
- Human service agencies:
  - Florida Agency for Persons with Disabilities
  - Area Agency on Aging d/b/a Senior Resource Alliance
  - Florida Department of Children and Families
  - Seniors First
  - Seminole Community Mental Health
- Other partner agencies:
  - Florida Commission for the Transportation Disadvantaged (FCTD)
  - Florida Department of Transportation (FDOT)

This document summarizes the processes, deliverables, and results of MORE TMCC Phase II System Implementation, which began in November 2009.

ABSTRACT

The final report for MORE TMCC Phase II presents the details of the 2½-year process of the partial deployment of the original MORE TMCC design created in Phase I of this project. The purpose of Phase II was to deploy certain modules of the original design given the limited funding and resources that were available to the project team. As part of the Phase II partial deployment, one aspect of the original design was implemented—multimedia trip management. This report reviews the project methodology, Phase II deployment, self-evaluation, outreach, and results and findings.

EXECUTIVE SUMMARY

Purpose

The purpose of this report is to document the Model Orlando Regionally Efficient Travel Management Coordination Center (MORE TMCC) Phase II system implementation and how the system met the goals from Phase I of the MORE TMCC design. The goals are:

- Increase accessibility for the transportation disadvantaged and general public.
- Be driven by the local community.
- Provide a simplified point of access for traveler support.
- Support coordinated and comprehensive service operations and management.
- Streamline program management requirements and procedures.

Results

The goals for the MSAA demonstration of the system design of a travel management coordination center were met by the MORE TMCC. The first goal was met by deploying a system that gave the traveling public more options and access to the current services provided by LYNX (the Central Florida Regional Transportation Authority). The MORE TMCC met the second goal by involving the local community as stakeholders in the process, including transportation agencies, human service agencies, customers, and consumer advocates. The third goal was achieved by providing the customer with 24/7 access to the system with the flexibility of talking with a Customer Service Representative (CSR) if required. The fourth goal was achieved by ensuring that if, in the future, additional agencies join the MORE TMCC, the technology has the ability to support these comprehensive service requirements. The fifth goal was achieved by creating a set of best practices and templates that can be used by similar projects.

Recommendations

Strategy: Plan and pace the project in a realistic manner that evenly distributes work over the lifetime of the project, but prepare to be flexible in the deployment and implementation phases. Also be aware that due to shifting agency priorities, deadlines could be extended, and the team has to prepare for these expanding deadlines.

People: Form a cohesive team that understands the benefits of a TMCC and shares the common goal of providing more efficient transportation services to the public. Understand the local audience and the local customers you serve.

Process: Create repeatable processes and practices that can be used by other projects around the U.S.

Technology: Be aware of the existing technology and plan from the beginning as to how the new technologies being implemented can integrate with existing technologies to provide a seamless service to the customer. Plan to have shorter deployment deadlines as technology changes and if deployment is extended to over a two-year period, the original design and planned technology may no longer be up-to-date or may be obsolete.

SECTION 1

Background and Document Contents

MORE TMCC Background

The Travel Management Coordination Center (TMCC) is a unique concept that creates efficiencies in transportation service delivery through optimal multi-jurisdictional reservations and scheduling, provision of seamless transportation services, utilization of a universal cashless fare payment system, and automated billing. The Model Orlando Regionally Efficient Travel Management Coordination Center (MORE TMCC) Phase II system deployment for the Central Florida area serves rural, suburban, and urban travel of older adults, people with disabilities, economically-disadvantaged citizens, and Medicaid recipients.

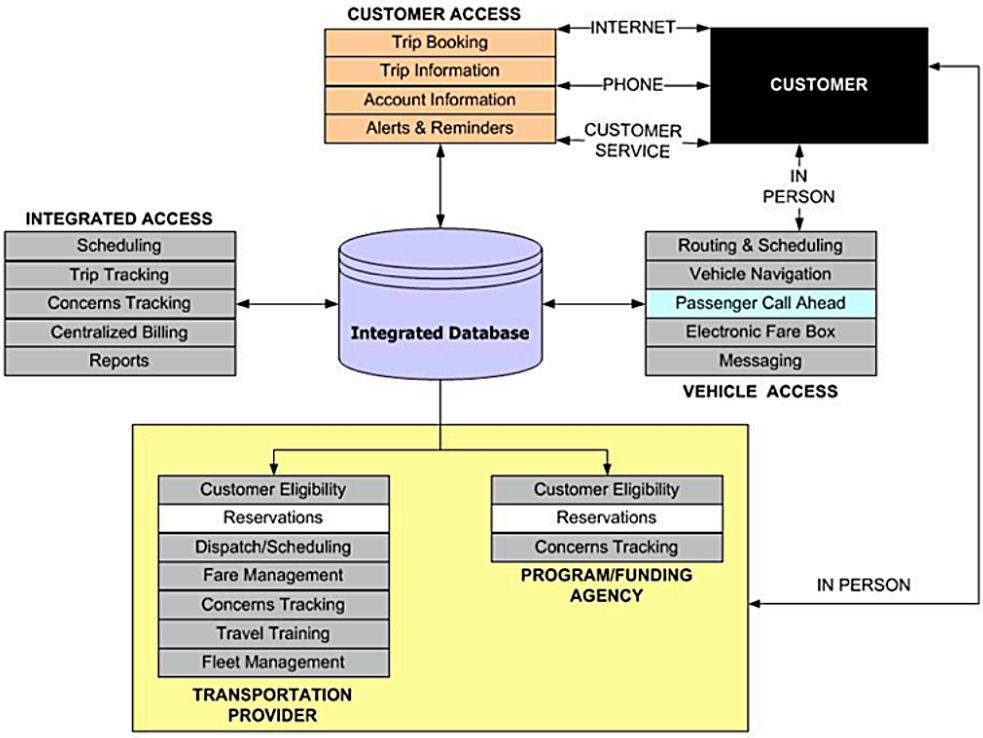
The MORE TMCC is a system that benefits both the customer and the agency. The customer gains additional service options and an easier way to move from one point to another. The participating agencies gain the ability to streamline their administrative processes with the end goal of providing better service.

In Phase I, the MORE TMCC system was designed and included Customer Modules, Agency Modules and Vehicle Modules. The limited Phase II design, including the Customer Modules and Agency Modules, was implemented by LYNX but potentially will be expanded to include Polk County and local human service agencies in the near future.

Figure 1-1 shows the original Phase I design. The modules in grey were not implemented in Phase II.

As part of Phase II, only a partial deployment of the original scope of the Phase I design was implemented. The component that was deployed was multimedia-based trip management.

Figure 1-1
MORE TMCC Vision



Multimedia Trip Management

As one of the foundations of MORE TMCC, enhanced trip management, allows customers "around the clock" access to book, view, or cancel trips online or via Interactive Voice Response (IVR) telephone. Additionally, representatives such as human service agencies, dialysis clinics, or nursing homes are able to access their customers' trips. This system reduces telephone call hold times and customer no-shows because they are able to manage their trips online. Additionally, at the customer's option, Customer Call Ahead (a Short Message Service [SMS] system) has been implemented to notify customers of their vehicles imminent arrival.

Project Jurisdiction

The MORE TMCC project was deployed in the Orange, Osceola, and Seminole counties in Florida, with Orlando serving as the major central urban area. The public transportation agency that serves the area is the Central Florida Regional Transportation Authority (d/b/a LYNX). Some additional transportation needs are met by area human service transportation providers and private transportation providers. Publicly-funded human service transportation services are coordinated regionally in Florida by Community Transportation Coordinators (CTCs), designated by the Florida Commission for the Transportation Disadvantage (FCTD). LYNX is the appointed CTC for Orange, Osceola, and Seminole counties.

At this time, the TMCC is serving Orange, Osceola and Seminole counties. The future may include Polk County.

- Orange County is Central Florida's most populous county and includes the city of Orlando and 12 other incorporated cities. The 2010 Census ranks Orange County 35th in the nation in terms of population. As per the 2010 Census, Orange County had a population of 1.145 million.
- Osceola County serves as the south/central boundary of the greater metropolitan area. The county's only incorporated cities are Kissimmee and St. Cloud. The county has a total population of 268,685 and grew by 55.8 percent from 2000 to 2010. Osceola's economic base is dominated by tourism and agriculture.
- Seminole County is located north of Orange County and is made up of seven incorporated cities: Altamonte Springs, Casselberry, Lake Mary, Longwood, Oviedo, Sanford, and Winter Springs. Seminole County's is located between Volusia and Orange counties and has a population of 422,718, growing by 15.8 percent from 2000 to 2010.
- Polk County is located in central Florida along the Interstate 4 corridor, 35 miles west of Orlando and 25 miles east of Tampa. Covering 1,875 square miles, Polk County has 602,095 residents and grew by 24.4 percent from 2000 to 2010.

Project Team

The Project Team consists of the U.S. Department of Transportation, the MORE TMCC Core and Project Management Team, the Technical Advisory Committee, the Service Advisory Committee, and Internal Evaluation, System Development, Outreach and Marketing, and Vendor teams. Table 1-1 shows these groups as part of the Project Team, their responsibilities, and the representatives involved during the project.

Table 1-1

Project Team

Group Name	Responsibilities	Representatives
U.S. Department of Transportation (USDOT)	• Overall program management • Project funding • Approval of project timeline and deliverables	• Aletha Goodine (FTA)
MORE TMCC Core and Project Management Team	• Track and monitor project • Review and approve all deliverables • Resolve project issues • Status reports to DOT	• Doug Jamison (LYNX) • Bill Hearndon (LYNX) • Tori Iffland (LYNX)
Technical Advisory Committee	• Provide project management and technical assistance to the Core and System Development teams as required • Assist in creating project documentation as required • Assist in reviewing specifications and MORE TMCC design • Liaison to System Development Team	• Gisela Ghani (Alesig Consulting)
Service Advisory Committee	• Provide project management and technical assistance to the Core and System Development teams as required • Assist in operational and policy issues as required	• Grisela Hernandez (APD) • Sarah Lightell (SRA) • Daisy Gonzales (Goodwill) • Dave Lawson (Seniors First) • Robert La Perla (Lakeside Behavioral) • Robert Brown (SCMHC) • Diane Poitras (FDOT)
Internal Evaluation	• Ensure quality products from vendor team • Involved in project testing	• Bill Hearndon (LYNX) • Joe Temples (MV)
System Development	• Direct liaison with Vendor team • Assist in any issues with Vendor team • Ensure Vendor team is on track with implementation	• Tori Iffland (LYNX) • Joe Temples (MV) • Roger Helmy (Trapeze)
System Advocates	• Customer outreach and training • Customer education • TMCC volunteer initiatives	• Transit Advisory Committee • Local Coordinating Boards/CTD • Senior Resource Alliance • Agency for Persons with Disabilities • Goodwill Industries • Seniors First
Outreach & Marketing	• General public awareness of MORE TMCC • General public education and outreach	• Bill Hearndon (LYNX) • Ro Norman (LYNX) • Reginald Mells (LYNX)
Vendor Team	• Respond to specifications • Detailed Design document • MORE TMCC implementation	• Roger Helmy (Trapeze)

SECTION 2

Project Methodology

This section details how the project methodology and the project were carried out from start to finish.

Project Management and Tracking

Project management and tracking occurred throughout the project, ensuring that the project was conducted within budget. USDOT was kept apprised of the status of the project through regularly-written reports and periodic progress meetings. A Project Plan was developed as part of this task, including summary-level and detailed tasks, the duration of tasks, and the resources to be allotted to these tasks. As deadlines were extended, the Project Plan was updated to reflect the current status of the project. Status reports updated the project team and USDOT on the progress of the project.

Project Initiation

The Project Initiation Phase set the stage for the entire project, beginning with a kick-off meeting conducted with project stakeholders. This included preparation of a meeting agenda and presentations and defined the Core project team and the initial project plan. The Core Team comprised representatives from the customer community, transportation service providers, consultants, and vendors. The Initial Project Plan was presented for the project team to review, and the scope and methodology of the project, timeline, and deliverables were finalized at the kick-off meeting.

Project Specifications

After the project kickoff at which the scope of the project, the project timeline, resources, and deliverables were finalized, the first task to be completed was to create the Project Specifications. From the Requirements Document in Phase I of the MORE TMCC and from the Detailed Design from Phase I, the Project Specification documents were created. Only the specifications for the Multimedia Trip Management and Customer Identification Cards were created at this time. Once the specifications were created, the specifications packages were approved by the Core team and supplied to the vendors for Multimedia Trip Management and Customer Identification Cards.

Procurement and Detailed Design

Since the original design was approved by USDOT and the LYNX Board in Phase I, the vendors were pre-selected due to the functionality and costs they provided in Phase I. As part of Phase II, the specifications were provided to the vendors,

who had one month to respond. The vendors then provided their updated quotes based on the specifications to the Core team, and the final solutions were approved and the vendors given notice to proceed.

After the vendors received their notice to proceed, they responded to the specifications by developing a detailed system design, including plans for implementation, integration with current systems and external systems, and screen mock-ups and text. The scheduling software vendor created a document called the Operational Review, which consisted of the requirements for the web-based trip management software, the gap analysis between vendor's software and the MORE TMCC requirements, the hardware specifications, and the web design layout. This document also covered the roles and responsibilities, project tasks, training strategy, and test scripts.

This document was initially put together at an on-site meeting with LYNX, the project consultant, and the scheduling software vendor while reviewing the vendor's out-of-the-box software.

After this information was detailed by the Project Team, this became the final design document on which the team had to sign off and became the blueprint for the web-based Trip Management System. LYNX officially signed the document to accept the detailed design. Any changes after the final sign-off were considered change requests to be added to the development queue after the detailed design was completed.

Implementation and Integration

Once the final detailed design was completed, system implementation and integration were put into the development queue by the software vendor. The LYNX and project consultant teams worked closely with the vendor to facilitate communications and to assist in resolving issues and schedule conflicts. Since the system was to be housed at a contractor's location where the current trip booking software is housed, integration issues with the current infrastructure at the contractor's location had to be resolved. In addition, the integration with the LYNX website had to be addressed. Since e-mail would also be used as part of the implementation, the e-mail system had to be integrated with the final product to accept and process incoming messages from the system for distribution to customers.

All integration issues had to be addressed by the software vendor, LYNX, and the service operator working together toward resolution.

System Testing and Acceptance

Once the scheduling software vendor completed the development of the system to include the requirement of the MORE TMCC and completed the integration

with the LYNX website, the e-mail system and the call-ahead system (currently Ontira), the system was ready to be tested. Before the system was tested, test plans and test cases were created to test all functionality in the Detailed Design, and then were reviewed and approved by the MORE TMCC Project Management Team.

The system acceptance testing process was cyclical, in which unit, system, and integration testing were performed. All tests were documented and presented to the vendor at weekly team conference calls in the form of a memo, and all issues were revisited and explained. The vendor resolved the issues, and the testing would be done again. It was important to test all functions each time to ensure that a resolution to one issue did not create a new issue. This process was repeated until all requirements in the Detailed Design were completed and all issues resolved. The consultant team monitored and accepted the testing processes for the TMCC based on a pre-approved set of test acceptance criteria.

The initial "go-live" was performed by a set of actual test clients who tested the software in beta form after the system testing was completed by the Project Team. Approximately 2,000 active customers use the system every month, and 10 percent of them were selected for the initial test. A total of 200 customers were selected, with 50 choosing to participate.

Once the system was completely tested and signed off, the Spanish version of the software was developed, and the screen-reader version of the software was finalized. This was done to allow completion of all issue resolution in one version and then translate to additional versions rather than manage updates in multiple deployed versions.

Outreach and Marketing

Outreach and marketing were critical for user awareness, knowledge, and feedback of the system, and so all external agencies that are interfacing with the system are aware of the services provided by the MORE TMCC. There were several channels for outreach, including the website, meetings, brochures, and other written information. Outreach efforts were on going throughout the life of the project.

Training and Documentation

Staff training occurred after the system was tested and before it went live. The system and operating procedures were documented.

"Go-Live" and Monitoring

The "go-live" was done in two phases. First, a test group of customers tested the system to ensure all functionality was met and that any issues that came up were resolved. Then, the system was released to the general public.

A system self-evaluation was conducted as part of this phase. System evaluation criteria that were defined in Phase I were revisited, and a subset of these criteria for the partial implementation was selected. Before and after data were collected and analyzed, and a self-evaluation report was created.

Table 2-1

Project Deliverables

No.	Tasks	Deliverables
1	Project Management and Tracking	• Project plan and milestones* • Status reports*
2	Project Initiation	• Kick off meeting minutes
3	Project Specifications	• Specifications package
4	Procurement and Detailed Design	• Detailed system design*
5	Implementation and Integration	• Test plan
6	System Testing and Acceptance	• Acceptance testing sign off • Technical acceptance report*
7	Outreach and Marketing	• E-mails, postcards, on-line survey
8	Training and Documentation	• Training manuals • System documentation
9	"Go-Live"	• Self-evaluation report* • Final report*

*USDOT deliverables

SECTION
3

Phase II Deployment

Multimedia Trip Booking

As one of the foundations of MORE TMCC, enhanced trip management allows customers "around the clock" access to book, view, or cancel trips online or via Interactive Voice Response (IVR) telephone. Additionally, representatives such as human service agencies, dialysis clinics, or nursing homes are able to access their customers' trips as well. This system reduces telephone call hold times and customer no-shows because they are able to manage their trips online. Additionally, a Short Message Service (SMS) system was implemented to notify customers of their vehicles imminent arrival.

Project Scope

As part of the Phase II project scope, the following modules were implemented:

- Customer Profile Module – allows customers to change their password and update their address and personal information online.
- Trip Booking Module – allows customers to book their trips from a list of frequently-used addresses and provides them with trip pickup times and fare information and a confirmation of the trip booked.
- Fare Collection Module – displays the fare to be paid on-board the vehicle and calculates companion fares as well.
- Trip Information Module – shows customers a list of their historical trips and their future trips. Trips can be viewed, changed, and cancelled from this module.

Appendix A includes a table of the requirements criteria that were to be met to confirm that the project was completed. For each criterion listed, comments related to the requirements and whether or not they have been achieved to the satisfaction of the customer are also listed.

SECTION 4

Self-Evaluation

In Phase I of the MORE TMCC, a Self-Evaluation Plan was developed that detailed the expected outcomes of the system. This plan included the goals and objectives of the system, what would be measured, and how it would be measured. The Self-Evaluation Report (see Appendix D) is an implementation of the Self-Evaluation Plan. In addition to providing valuable data and information on the system, the Self-Evaluation Report also provides lessons learned that can be used by stakeholders across the industry looking to deploy coordinated transportation systems and improve human service transportation systems.

Goals and Objectives

The goals and objectives of the original MORE TMCC design included Institutional Integration, Operational Integration and Technology Integration. For Phase II partial integration, the goals and objectives shown in Table 4-1 were realized.

Table 4-1

Goals and Objectives

ID	Goals	Objectives
1	Operational efficiencies within the agency and integration across human and social service agencies	• An improved delivery of service to end users • More efficient use of agency resources through web-based trip booking; this would not necessarily decrease the number of staff answering the phones, but would shorten in-queue time • Provide the ability for customer representatives from human and social service agencies to book trips for their customers
2	Technology integration and efficiencies across the agency	• Giving the customer the added flexibility to access the trip booking system through the Internet

Evaluation Hypotheses

Using the project goals and objectives, the following hypotheses were proposed:

1. The MORE TMCC will allow more efficient booking of paratransit trips.
2. The end users (riders) and secondary stakeholders (human and social service agencies) using the MORE TMCC will be satisfied with its performance.
3. Riders and new users will have a noticeable awareness of the new MORE TMCC and the changes it facilitates.
4. Use of the system results in more efficient call-center resources for demand response trips.

Impact Areas

To complete the MORE-TMCC Evaluation Plan, the hypotheses were used to identify the impact areas and related measures of effectiveness, data sources, and data availability. The four impact areas that were identified include:

- Efficiency
- Cost
- Coordination
- Customer satisfaction

Using the goals and objectives, the hypotheses and the impact areas, measures of effectiveness were developed, the data sources to collect these measures were identified, and the data availability was documented.

For Phase II, a subset of the measures for Phase I was selected to measure the partial deployment of the Phase II Payment Cards and Multimedia Trip Booking. The evaluation criteria and process are discussed in the following sections of the report.

Evaluation Criteria

In Phase I of the MORE TMCC, a Self-Evaluation Plan was created, and as part of this plan, the goals and objectives of the MORE TMCC were defined and a list of hypotheses was developed; from these hypotheses, a set of system performance criteria was developed.

In Phase II, due to the partial deployment of the MORE TMCC, a subset of the system performance criteria was selected to be measured. From the four original impact areas of coordination, efficiency, cost and customer satisfaction, only two impact areas were selected—efficiency and customer satisfaction.

Efficiency

By sharing resources and using technology, the MORE TMCC increased the efficiency within the agency.

Table 4-2

Efficiency Evaluation

Hypothesis	Performance Criteria
Use of the system reduces the overall time spent on booking demand response trips	Number of calls taken: • Number of trip inquiry calls taken • Number of cancellation calls taken • Number of trip booking calls taken
Use of the system results in more efficient call-center resources for demand response trips.	Average on-hold time
	Percentage of abandoned calls
	Number of no shows
	Number of late cancels

Customer Satisfaction

With a streamlined trip booking and information process and enhanced customer service tools, the MORE TMCC has improved the customer experience.

Table 4-3
Customer Satisfaction Evaluation

Hypothesis	Performance Criteria
The riders using the TMCC will be satisfied with its performance.	Percentage of users who feel that transportation services are more accessible (e.g., easier to book and pay)
	Passenger satisfaction with trip reminder feature
	Number of customer complaints

Data Collection

To collect the data defined in the systems performance criteria, data collection was accomplished by collecting data from operational and performance data reports from the existing and newly-implemented systems and customer surveys. System data included operational performance reports and statistics from the systems impacted by the MORE TMCC Phase II implementation changes. These systems included the scheduling system and the phone system, in which data were generated and collected through reports and spreadsheets. Interviews and surveys were conducted with transit passengers through an online survey service and in person.

Operational Performance Data

The operational performance data were collected on a monthly basis. These data were collected from operational data reports generated monthly from the trip booking system and the telephone system. There were two sets of data collected: pre-implementation and post-implementation data. The pre-implementation data were collected for 12 months before the MORE TMCC Phase II applications went "live," and the post-implementation data were collected for 11 months after the MORE TMCC Phase II application went "live."

Conducting Surveys and Interviews

Interviews were conducted with the traveling public using the MORE TMCC Phase II systems. The interviews and surveys were performed by LYNX staff working directly with passengers using the new systems. The team conducted interviews to assess opinions, gain insights, and determine lessons learned related to the efficiency, institutional challenges/benefits, and customer satisfaction.

Initially, customer surveys were performed through an online survey service and face-to-face interviews were conducted to collect valuable input from the customers. In structuring the customer survey, the question format and length were arranged in a way that allowed the survey to be completed in five minutes or less.

Data Validation

Data validation occurred throughout the processes and procedures of collection of the data. LYNX first sets goals that acted as guidelines for the data being collected. Examples of these goals are:

- Call hold times should be less than 2 minutes
- Missed trips should be less that 3/10 of 1 percent
- On-time performance should be greater than or equal to 92 percent
- Productivity should be greater than 1.3 customer trips per revenue hour

If these goals were not accomplished or there was more than a 10 percent variance in the data, the data were reviewed and validated. In the process of collecting National Transit Database (NTD) data, any variance of more than 10 percent in the data has to be explained. The data are analyzed and reviewed for anomalies using this threshold. Once data were collected through operational and performance reports, they were validated with the LYNX standard validation process that occurs before these data are published.

Data Analysis

Data analysis was done on the operational and performance data and on the survey and interview data that was collected.

Analyzing Operational Performance Data Statistics

The analysis of the operational and performance data such as the number of calls taken and average hold time was done by the before/after comparison of changes before and after the implementation of the MORE TMCC Phase II systems. Data were compared on a monthly basis and an annual basis.

Analyzing Surveys and Interviews

The analysis of the survey results consisted of reviewing the similarities and differences in the responses to the surveys. The comments on the surveys were also reviewed to determine common/recurring themes and insights. The data were also analyzed to determine if any changes were due to the implementation of the MORE TMCC or some other changes that may have occurred.

Pre-Deployment Data and Post-Deployment Data

Pre-deployment (before) data and post-deployment (after) data are provided in Appendix B.

Data Analysis and Reporting

The highlights of the self-evaluation data analysis and results are provided below. For a more detailed view of the data analysis, please refer to the Phase II Self-Evaluation Report (Appendix D).

General

- Before data were collected from October 2010–September 2011.
- After data were collected from October 2011–August 2012.
- In the new fiscal year, LYNX moved from one provider for paratransit services to a multiple-provider model. This change as of October 2011 caused non-project-related inconsistencies in the data for the first three months of the fiscal year.
- Web users of the system account for five percent of total customers providing inconclusive data currently. As more users start using the web-based system, more consistent data will become available.
- The total number of customers went from 21 in October 2011 to 107 in August 2012 (400% increase).
- The total number of trips booked online increased from 219 in October 2011 to 1,305 in August 2012 (495% increase).
- There is, on average, a 5.7 percent trend upward between the total number of trips in the two years.
- The trend in the total calls taken is relatively stable and does not mirror the increase in trips.
- Even though total trips increased, average on-hold time decreased in the After data.
- Although the data do not definitively support this observation, it can be assumed that every online transaction translates to one less call in queue, which reduces hold time for other customers.
- There is a decreasing trend of the abandoned calls from the start of the year to the end of the year.
- Total trips have increased, on average, by 5.7 percent with the Before and After data. No-shows have increased by 12 percent between the Before and After data.
- Even though ridership is increasing, the number of customer complaints is decreasing.

Customer Comments

- I think WebAccess has great potential.
- It's nice to know I can schedule a trip on the weekends or evenings after hours, because with phone system, I needed to have travel needs figured out

before end of business on Friday. If I had a need on a Monday, I would not have been able to schedule.

- I like the 24-hour accessibility.
- If the bugs are worked out, this would be my favorite way to schedule all my trips.
- It's a combination of all of these great features that attract me to the WebACCESS module. However, I still appreciate the dispatchers being available to answer any questions I may have.
- I like the fact that since the WebACCESS became an option. I can get through quicker to the call-in center and continue to schedule my trips that way.

SECTION 5

Outreach

Outreach has always been a priority to LYNX, and outreach activities were performed to provide awareness and knowledge to the community and the transit industry and to receive feedback to improve the new services provided. LYNX effectively provided this outreach to the stakeholders of this project as follows.

Community Outreach

On the community front, outreach efforts were made during the duration of the project as well as during the testing and "go-live" phases of the project.

Overall Ongoing Efforts

- Presented WebACCESS at three Transportation Disadvantaged Local Coordinating Board (TDLCB) meetings.
- Presented WebACCESS at three Transit Advisory Committee (TAC) meetings.
- Sent multiple e-mail blasts about WebACCESS to the entire paratransit database.
- Included WebACCESS information in a monthly memo sent to all dialysis facilities.
- Sent letters about WebACCESS to all nursing homes.
- Continuously posted updates on WebACCESS on GoLYNX.com website.
- Sent e-mail blast about WebACCESS by Orange County ADA Coordinator.
- Posted on Facebook and Twitter.
- Provided presentations and updates at meetings of the TDLCB and the TAC throughout Phase II deployment of the MORE TMCC.

Multimedia Trip Management Roll-Out Efforts

- Sent memo to all internal staff informing them of the changes to the new WebACCESS module (see Appendix C).
- Sent initial e-mail blast to 200 users with e-mail addresses asking them to be test users; response received was 10 percent of those requested.
- Sent postcards about WebACCESS to entire paratransit database and facilities served (see Appendix C).
- Throughout the testing process, provided live demonstrations to the TDLCB and the TAC.

- During the customer testing phase, received customer feedback through e-mail and promptly shared responses with the entire test group with updates.
- Access to modules was given to various customers who inquired about use even though still in testing phase.
- Made "Go-Live" announcement by sending out 2,000 customer e-mails.
- Sent "Go-Live" information via postcards to 300 local human service agencies and 7,300 customers.

National Outreach

On the national front, LYNX updated the transit industry on the ongoing efforts of MORE TMCC Phase II deployment:

- Presented MORE TMCC at the ITS America Annual meeting in National Harbor, Maryland, on June 2, 2009.
- Presented the MORE TMCC project's Systems Engineering phase during the NTI Regional Transit ITS Workshop in Tampa, Florida, on April 22, 2010.
- Presented at the 2010 National Rural ITS Conference in Huntington, West Virginia.
- Presented at the 2011 National Rural ITS Conference in Coeur d'Alene, Idaho. Attendance included the transit track and the Human Services Workshop with a presentation titled "Building ITS Technologies One Step at a Time."
- Presented to the LYNX Transit Advisory Committee on September 21, 2011 in Orlando, Florida.
- Presented both the overall MSAA-TMCC project and the MORE TMCC project at the ITS World Congress in Orlando during October 2011.
- Presented at the 2012 National Rural ITS Conference in Biloxi, Mississippi, at the Human Services Workshop, part of the conference transit track.

SECTION 6

Results and Findings

Goals and Outcomes

Detailed below are the goals and outcomes of the MORE TMCC Phase II initiative.

Goal: Increase accessibility for the transportation disadvantaged and general public.

Outcome: MORE TMCC Phase II included the deployment of web-based trip management software. This module provided the customer with the added flexibility and access to an additional option to manage their information and their trips. The WebACCESS module is 508-compliant, which ensures that electronic media and information technology developed are accessible to people with disabilities. A screen reader version of the WebACCESS module was also deployed to assist persons with disabilities. Also taking into consideration the local user demographic, a Spanish version of the software was also deployed.

Goal: Be driven by the local community.

Outcome: The original requirement of a web-based system for trip management came from the local community. The team ensured the local community involvement from the start of Phase I when designing the blueprint of the system and continued this involvement through the complete deployment of the system. The project was driven locally by the stakeholders: local human service agencies, local transportation providers, and customers and their advocates. For Phase II, the local community and current paratransit customers were involved in the beta testing of the system, providing feedback during the beta testing, and continuing to provide this feedback through deployment. The team was very responsive to the customer feedback and used this feedback to improve the system.

Goal: Provide a simplified point of access for traveler support.

Outcome: The WebACCESS system provides the customer with 24/7 access to manage their information and manage their trips online. This means that customers do not have to pick up the phone and wait in queue for a live Customer Service Representative, but can log in to their account anytime to book, cancel, or modify a trip or update their personal information. Based on results from the survey, this was one of the facets of the system that customers appreciated—the ability to

manage their trips online and the option to access a Customer Service Representative if required. This complements the MSAA and United We Ride concept of "one call for a ride." The use of human representatives, IVR, and web access gives customer the freedom to choose how they prefer to access their transit options.

Goal: Support coordinated and comprehensive service operations and management.

Outcome: The original goal of the MORE TMCC was to consolidate and coordinate transportation resources from several different agencies, providing customers with additional and better service operations. With the reduced funding for Phase II, only one module from the original design could be deployed. This module has been deployed to ensure that if, in the future, additional agencies join the MORE TMCC, the technology has the ability to support these comprehensive service requirements.

Goal: Streamline program management requirements and procedures.

Outcome: The partial deployment of the MORE TMCC Phase II has created a set of best practices and lessons learned that can be followed by other projects as needed. During this process, a project management methodology was followed with templates and tools, a development and testing methodology was followed, with a testing plan, testing results, a technical acceptance document, and a community outreach plan were created that can be used by similar projects.

SECTION 7

Best Practices and Lessons Learned

Following are lessons learned in the areas of strategy, people, processes, and technology.

Strategy

- **Stakeholder Involvement:** from project kick-off through acceptance, the entire project team was involved in the project. The project team included the project manager, representatives from the business (user) community, representatives from information technology, the Project Advisory team, the Vendor team, and representatives from the traveling public that would be using this system. This ensured that the goals for the project were accomplished and met the needs of the user community.
- **Project Budget and Timeline:** Since this project budget was only partially funded by the federal government, other project funding from the State of Florida was required. Funding sources can drive timeline and project deadlines, and since there were multiple funding sources, there were different timelines on this project. These sometimes introduced delays in either the federal or state timelines, as the federal and state fiscal years are different.
- **Customer Response:** When reaching out to a customer base to volunteer to beta test software, an agency must understand that 100 percent of the users will not respond. When e-mails were sent out to customers to sign up to beta test the applications and book their trips online, the team received only a 10 percent response rate.
- **Outreach:** It is a best practice to have the community and the transit industry updated and aware of the status of a project throughout project implementation. Regular presentations were made at national and local levels to ensure that all participants were engaged and informed throughout the project.
- **Customer Incentives:** LYNX provided its customers with incentives for responding to surveys. When the survey information was sent out, the customers were informed that "THREE survey participants will be drawn at random to win TEN FREE RIDES!"

People

- **Customer Team for Beta Testing:** To ensure that the customers accepted the application, it was critical to choose the right customer team to

test it. The customer team that was selected for the beta test was computer-literate and could articulate the issues that would come up with the software. This helped address any issues before roll-out to all customers. The project manager had direct contact with the customers to ensure that all questions were answered and issues were addressed. The Vendor Team was also engaged throughout the process.

- **Team Communications**: During the development and deployment phases of the project, there were standing weekly meetings every Friday afternoon to review progress, work out any issues or risks, and chart the course of progress for the next week. This way, all project team members were "on the same page" and issues were resolved in a timely manner.
- **Internal Staff:** It is critical to keep internal staff aware of what is going on throughout the deployment of the project.

Process

- **Customer E-mail Addresses:** When the project started, LYNX did not have customer e-mail addresses completely populated as part of their profile. Since WebACCESS is a web-based system, it required the e-mail addresses of customers to create a web profile. This took a focused effort on the part of the CSRs to get this information from the customer to complete their profile each time the customer called in.
- **Automation of Tasks:** As part of the WebACCESS deployment, the request to access the system would be responded to with an automatically-generated e-mail with the user name and password and the web address of the system. This did not require any human interaction to create the initial customer profile on the web.
- **Spanish Version of the Site:** The Spanish version of the software was developed after all the issues and "bugs" were worked out in the English version. This was done so that there would not be multiple changes to the Spanish version as were being done with the English version. Once the English version was completed and accepted by the user, the Spanish version was developed.
- **Spanish Translation:** Translation to Spanish must be done in context by looking at the screen and not just at the text in a document. Because LYNX used volunteer employees to validate the Spanish translation, they provided multiple versions of the translation. Since no one on the team was familiar with Spanish, a decision could not be made as to which was the preferred version. It is recommended to use a professional translator to overcome these issues. When dealing with a foreign language, the agency must be sensitive to any dialects used by the local community.
- **Information Translated:** The agency also needs to be aware at the beginning what will and will not be translated. For example, LYNX made a

decision to translate only the static text on the screen and not the data from the database.

- **Iterative Testing:** A software test plan was created to test all the functionality of the software. After the updates to the software were made, the software test plan was used to test all the aspects of the software. Even if changes were made on one screen, the entire application was tested. This ensured that changes that were made in one module did not affect the rest of the application.
- **Application Testing:** During application testing, it was also imperative to test all elements on the screen. This included buttons, links, and all data entry fields.
- **Customer Communications:** Once the test group of customers was established and the customers started testing the application, there were questions that came in from the test group. The agency responded to these questions promptly. To keep the customer engaged and informed, the team sent e-mails once to twice a week with updates, information, and friendly advisories. All responses were non-technical and easy to understand from the customer point of view.

Technology

- **Software Standardization and Software Versions:** Before any new software can be procured, it is necessary to ensure that current versions of the agency legacy software are up to date and have the ability to add new functionality and infrastructure. The current trip booking software at LYNX was not the version that was required to procure the web-booking software. LYNX had to first upgrade the current version of its scheduling software before it could install Internet access software. In addition, the SMS e-mail functionality of the software required another upgrade to the software in early 2012.
- **Test Environment:** The cost for the test environment was not built in to the Phase II implementation, and there were not enough funds to do this. Since the project could not afford a test environment, testing was performed on the live database, and test customers had to be created to test the new functionality. This sometimes caused scheduling of trips that were test trips, and the team had to be very aware of this and make sure that these trips were cancelled after the test was completed.
- **Screen Reader Version of the Software:** The software that was procured had a screen-reader version that was cumbersome for customers to use. The users preferred to use the regular version, as it was easier to use. Agencies must ensure that the software is 508-compliant and that there is not a separate screen-reader version.

- **Privacy Issues:** The registration screen asked for a Social Security Number (SSN) on the on-line application. Since the application was not hosted in a secure domain, this information had to be shortened to use the customer ID or the last four digits of the SSN. In this application, the whole SSN was not needed to register existing customer for on-line access.
- **Software Integration with Local Environment:** The current version of the trip booking software was hosted internal to LYNX. Since the web application was open to the public, issues with security and firewalls had to be thought through to ensure that the firewall would not block users from using the software.
- **Software Integration with E-mail:** E-mail integration also had to be completed with the new e-mail functionality and the existing e-mail server. Integration had to be done for both outgoing e-mails and incoming e-mail. The server has to understand that it is legitimate to accept the e-mails from the software and that e-mails that are being sent out from the server should not be flagged as bulk or spam e-mail.

SECTION 8

Conclusions, Recommendations, and Next Steps

Conclusions

The MORE TMCC Phase II project was a partial implementation of the design that was completed in Phase I. During Phase II implementation, multimedia trip booking and customer payment cards were implemented.

Due to multiple funding sources, this project was implemented with multiple timelines, regulations, and deliverables. The project team consisted of representatives from LYNX project management, and Information Technology, business users, users from the traveling public, and vendors that were developing the system. The system was developed with clear-cut requirements, and rigorous testing was performed to ensure that system functionality mirrored user requirements. The project manager remained engaged with the user community, selected a team to perform the beta test, and responded to users and kept them informed every step of the way. This led to the successful implementation of the multimedia trip management software in Phase II.

This final report for the MORE TMCC Phase II partial system deployment establishes that this project met each of the MSAA goals presented during the project kick-off. The MORE TMCC Phase II multimedia trip management module demonstrates that public transportation needs can be met in a manner that is both more efficient and more beneficial to the general public:

- Increase mobility and accessibility for the transportation disadvantaged and general public.
- Achieve more efficient use of federal transportation funding resources.
- Be driven by the local community.
- Provide a simplified point of access for traveler support.
- Support coordinated and comprehensive service operations and management.
- Streamline program management requirements and procedures.

Recommendations

Strategy: Plan and pace the project in a realistic manner that evenly distributes work over the lifetime of the project, but prepare to be flexible in the deployment and implementation phases. Also be aware that due to shifting

agency priorities, deadlines could be extended, and the team has to prepare for these expanding deadlines.

People: Form a cohesive team that understands the benefits of a TMCC and shares the common goal of providing more efficient transportation services to the public. Understand the local audience and the local customers served.

Process: Create repeatable processes and practices that can be used by other projects around the U.S.

Technology: Be aware of the existing technology and plan from the beginning how the new technologies being implemented can integrate with existing technologies to provide a seamless service to the customer. Plan to have shorter deployment deadlines as technology changes, and if deployment is extended to over a two-year period, the original design and planned technology may no longer be up to date or may be obsolete.

Next Steps

After the successful implementation of Phase II, the partners from Phase I and Phase II will continue to pursue expansion of MORE TMCC through grant opportunities funding. One example of the projects being pursued under Phase III is the Veterans Transportation Community Living Initiative (VTCLI). In this project, LYNX will have one call center responding to the needs of veterans. The timeframe for development of this project is 2012–2013. In addition, when funding is available, the MORE TMCC partners will pursue the initial design that was completed in Phase I.

APPENDIX

A

Project Scope Requirements

Table A-1

Project Scope Requirements

Req. No.	Performance Criteria	Comments
	Customer Profile	
R4.14.1	To register for a customer profile, customer registration shall require a minimum of: • Customer ID • First Name • Last Name • Home Phone • E-mail Address	This requirement has been met. The customer can go on the website to register and can submit the registration information online.
R4.14.2	The TMCC shall display a confirmation to the customer.	This requirement has been met. Once the customer submits the registration form, a confirmation message is displayed to the customer.
R4.14.5	Once the customer's profile is created, the customer shall have access to the following modules: • Reserve a Trip • My Subscriptions • My Profile • General Information • Announcements • Feedback • Help	This requirement has been met. Once the customer logs in successfully, he can review or cancel trips, reserve a trip, view subscriptions, edit his profile, view general information, view announcements, give feedback, and view help.
R4.14.6	The customer shall have the ability to modify the customer profile information, i.e., their name, contact information and e-mail address information.	This requirement has been met. The customer can edit his information on the My Profile Page.
	Trip Booking	
R4.2.1	The customer shall be able to book trips through an online web interface.	This requirement has been met. The system is accessed through a web interface.
R4.2.3	The customer shall be able to book trips by calling a reservationist.	This requirement has been met. The customer can call in to a reservationist to book a trip.
R3.4.1	Trips can be booked up to 7 days in advance.	This requirement has been met. Same-day booking is not allowed online.
R3.4.3	Trips shall be booked no later than 5:00 PM the evening prior to the trip.	This requirement has been met.
R3.4.4	Non-subscription trip changes shall be made no later than 5:00 PM the evening prior to the trip.	This requirement has been met.
R3.4.5	Same day changes shall not be accepted with exception to change of return time. At this time, only a later return time or "will call" shall be accepted.	This requirement has been met.
R4.2.6	Customers will be allowed to set up a Personal Address List (PAL) that will list all the frequently used addresses of the customer through a reservationist ONLY.	This requirement has been met. Customers will be shown only previous addresses for which they have booked a trip. They have to call in to a reservationist to add a new address.

Table A-1 (cont.)

Project Scope Requirements

Req. No.	Performance Criteria	Comments
R4.2.8	The system shall require the following fields to book a trip: • Trip date • Pick-up or drop-off time • Pick-up location (can only be selected from a list of frequently used addresses) • Pick-up instructions • Drop-off location (can only be selected from a list of frequently used addresses) • Drop-off instructions • Mobility aid (auto populated, does not allow the customer to change) • Booking purpose (select from a drop down list) • Additional passengers: - passenger type - space requirements	This requirement has been met. Once the customer fills out the required fields, the trip can be booked.
R4.2.13	Trip options shall include pick-up and drop-off location, pick-up time, estimated time of travel, type of trip and trip fare.	This requirement has been met. The customer is presented with all this information before he is asked to confirm the trip.
R4.2.17	The customer shall be allowed to select an alert or reminder before the customer is picked-up. The alert options shall be via phone, e-mail or text message.	This requirement has been met. This has been implemented by Ontira with the implementation of the IVR.
R4.2.18	Using the Automated Vehicle Location (AVL) system on each paratransit vehicle, the customer shall be alerted 5 minutes prior to the vehicle arriving at their pickup location by the alert method that the customer selects for the trip (Customer Call Ahead). This time period shall be configurable.	This requirement has been met. This has been implemented by Ontira with the implementation of the IVR.
R4.2.19	The system shall allow customers to choose their preferred trip reminder settings.	This requirement has been met. This has been implemented by Ontira with the implementation of the IVR.
R4.2.21	The system shall be able to book return trips (round trips).	This requirement has been met. The customer is allowed to book a return trip.
R4.2.22	The system shall warn the user if the user has booked a previous trip that conflict with the current trip being booked.	This requirement has been met. A list of previously-booked trips is presented to the customer.
R4.2.23	If the customer's eligibility status is Expired or Denied, the customer shall not be able to book a trip.	This requirement has been met. The customer is not allowed to log into the system if his eligibility status is Expired or Denied.
R4.2.24	Customers shall have the ability to cancel a trip according to the trip cancellation policy.	This requirement has been met.
Fare Collection		
R4.4.4	The fares module shall allow customers to pay by cash on the vehicle.	This requirement has been met.
R4.4.5	The system shall accept $0.00 fares for trips without a fare requirement.	This requirement has been met.

Table A-1 (cont.)

Project Scope Requirements

Req. No.	Performance Criteria	Comments
	Trip Information	
R4.5.1	Trip Information shall include booked "future," "in progress," and "past" trips.	This requirement has been met. This information can be viewed on the Review or Cancel Trips page.
R4.5.2	Future trips shall allow the ability to "change" and "cancel" booked trips.	This requirement has been met. This information can be viewed on the Review or Cancel Trips page
R4.5.3	The cancelled trip option shall warn the customer if cancelling their trip will incur a penalty. (Cancelling a trip within three hours of the scheduled pick-up time shall be considered a no-show.)	This requirement has been met.
R4.5.4	The system shall ask customers if they are certain they want to change/cancel their trip before processing the change.	This requirement has been met.
R4.5.5	The "change" trip option shall only allow valid trip changes to be made. A valid change is any change to a trip up to 5:00 PM the previous day.	This requirement has been met.
R4.5.6	Trip information shall include the following detailed information: trip starting point, destination, date, pick-up time, drop-off time, trip status, trip number and fare.	This requirement has been met.
R4.5.7	Pick-up and drop-off times and locations in trip history shall be actual data from vehicle logs. Requested pick-up and drop-off times shall also be displayed.	This requirement has been met.
R4.5.8	The system shall track the status of the trips such as performed, cancelled, no-show, late pick-up, and late drop-off.	This requirement has been met.
	User Roles	
R4.3.1	The reservationist shall have access to the trip booking module, and shall have the ability to book trips for customers calling over the phone.	This requirement has been met.
R4.3.2	The reservationist shall be able to pull up the customer's profile and trip history information to provide this information to the customers calling over the phone.	This requirement has been met.
R5.3.1	The system shall have the following security roles: • Customer • Reservationist: Trip Booking • Administrator (IT and Operations)	This requirement has been met.
R 5.3.2	The system administrator shall have the ability to assign every user with a required user role.	This requirement has been met.

Table A-1 (cont.)

Project Scope Requirements

Req. No.	Performance Criteria	Comments
	External Interface Requirements	
R5.4.1	The system shall not limit the number of clients, service providers, human service agencies and funding agencies that can be added to the system.	This requirement has been met.
R5.4.2	The system shall allow the System Administrator to add or delete agencies, service providers and geographic areas as required.	This requirement has been met.
	System to ITS Mapping	
R5.2.5	The system shall be compatible with the ITS Regional Architecture.	The call center is reflected in the State of Florida District 5 locally-adopted ITS Regional Architecture.
R5.6.1	The system shall conform to the regional ITS network: No entity shall update systems without partner agencies doing the same.	The call center is reflected in the FDOT District 5 locally-adopted ITS Regional Architecture. No other agencies have updated systems to date.
	Software Module Requirements	
R5.2.8	The customer web interface shall be integrated with the customer database, the trip booking information, the scheduling database and the dispatch information.	This requirement has been met.
R5.4.6	The system shall use accepted standards to keep open interfaces and be technology independent in order to be deployed in other communities as needed (MDT, AVL, Communications).	This requirement has been met.

APPENDIX

B

Self-Evaluation Data

Before Data

This section has all of the data collected before the MORE TMCC Phase II was implemented. The data collected are displayed over the 12-month pre-implementation period from October 2010 to September 2011.

Table B-1

Efficiency – Before Data

Evaluation Criteria	Oct 10	Nov 10	Dec 10	Jan 11	Feb 11	Mar 11	Apr 11	May 11	Jun 11	Jul 11	Aug 11	Sep 11
Total trips	59,626	61,742	61,128	60,645	57,646	66,623	62,704	63,953	64,950	63,338	67,514	65,978
Total calls taken	49,303	52,269	50,242	50,325	48,649	59,131	58,963	56,303	56,927	58,237	60,998	60,965
Trip inquiry calls taken	15,103	15,246	13,764	15,098	15,459	19,085	20,605	17,961	17,886	19,669	19,337	19,535
Number of cancellation calls taken	10,592	11,656	13,342	10,928	9,994	12,632	12,179	12,353	12,438	12,237	13,532	13,011
Number of trip bookings	23,608	25,367	23,136	24,299	23,196	27,414	26,179	25,989	26,603	26,331	28,129	28,419
Average on-hold time	2.77	3.34	3.33	2.78	3.28	3.41	2.99	2.94	2.75	2.84	2.93	3.35
Percentage of abandoned calls	26.60%	28.60%	27.60%	28.90%	30.20%	30.80%	28.90%	25.70%	23.40%	25.90%	26.30%	28.60%
Number of no shows	2,465	2,600	2,517	2,347	2,399	2,906	2,695	2,542	2,140	2,025	1,998	2,010
Number of late cancels	564	677	765	649	501	573	551	508	465	457	296	322

Table B-2

Customer Complaints – Before Data

Evaluation Criteria	Oct 10	Nov 10	Dec 10	Jan 11	Feb 11	Mar 11	Apr 11	May 11	Jun 11	Jul 11	Aug 11	Sep 11
Number of customer complaints	48	29	35	59	57	43	70	67	78	77	124	65

After Data

This section contains data collected after the MORE TMCC Phase II was implemented. The data collected are displayed over the 12-month post-implementation period of October 2011 to September 2012. Currently, only data for October 2011–August 2012 are displayed.

Table B-3

Efficiency – After Data

Evaluation Criteria	Oct 11	Nov 11	Dec 11	Jan 12	Feb 12	Mar 12	Apr 12	May 12	Jun 12	Jul 12	Aug 12	Sep 12
Total trips	64,173	65,678	63,252	64,454	64,140	67,772	65,276	67,641	63,388	67,514	65,978	
Total calls taken	60,282	58,036	50,775	53,666	54,984	57,332	54,965	61,648	60,317	56,603	63,266	
Trip inquiry calls taken	21,140	17,211	14,040	15,310	16,039	16,588	15,721	17,940	17,542	15,429	18,151	
Number of cancellation calls taken	11,347	11,952	11,495	10,856	10,876	10,549	10,086	12,700	12,491	11,509	12,729	
Number of trip bookings	27,795	28,873	25,240	27,500	28,069	30,195	29,158	31,008	30,284	29,665	32,386	
Average on-hold time	6:14	4:53	2:33	2:38	2:54	2:42	2:41	2.59	2.81	2.79	3.92	
Percentage of abandoned calls	41.2%	36.1%	21.9%	23.4%	28.8%	27.5%	26.9%	26%	27.2%	28.6%	37.7%	
Number of no shows	2,769	3,367	3,118	2,947	2,874	3,160	2,948	1,775	2,206	2,127	2,984	
Number of late cancels	459	643	562	570	720	902	874	339	442	485	959	

Table B-4

Customer Complaints – After Data

Evaluation Criteria	Oct 11	Nov 11	Dec 11	Jan 12	Feb 12	Mar 12	Apr 12	May 12	Jun 12	Jul 12	Aug 12	Sep 12
Number of customer complaints	102	92	66	93	73	59	61	64	54	70	82	

Table B-5

Customer Survey

No.	Question	Response Percent	Response Count
1	How do you use the WebACCESS module?		88
	I am an ACCESS LYNX customer and schedule trips for myself.	83%	73
	I am a caregiver for an ACCESS LYNX customer and schedule trips for the customer.	13.6%	12
	I am an employee of a facility and schedule trips for multiple ACCESS LYNX customers.	3.4%	3
2	How did you hear of the new WebACCESS module?		88
	I received an e-mail with information on WebACCESS.	31.8%	28
	I received a postcard in the mail.	52.3%	46
	I heard about it from a community meeting.	2.3%	2
	I participated as a volunteer beta tester of the system.	9.1%	8
	I heard about it from another ACCESS LYNX customer.	3.4%	3
	I heard about it from my ACCESS LYNX reservationist or driver.	8.0%	7
	Other	5.7%	5
3	What version of WebACCESS do you use most?		87
	English version	100%	87
	Spanish version	0%	0
4	Do you feel that WebACCESS has given you more flexibility in reserving your trips?		87
	Yes	75.9%	66
	No	24.1%	21
5	On average, how many days per month do you or someone in your care travel on ACCESS LYNX?		88
	Less than 10 days per month	48.9%	43
	10 to 20 days per month	34.1%	30
	More than 20 days per month	17%	15
6	On average, what percentage of your trips do you reserve using WebACCESS?		86
	Less than 10%	37.2%	32
	10% – 50%	18.6%	16
	50% – 75%	14%	12
	More than 75%	30.2%	26
7	Do you find it easy to reserve your trips using WebACCESS?		87
	Yes	58.6%	51
	No	41.4%	36
8	Do you use WebACCESS to cancel your trips?		86
	Yes	64%	55
	No	36%	31
9	What do you like about the WebACCESS module?		87
	I can reserve my trips anytime.	58.6%	51
	It gives me more options to reserve trips.	24.1%	21
	I have access to my trips and my trip history.	44.8%	39
	The WebACCESS module is easy to use.	29.9%	26
	It is easier to cancel my trips.	35.6%	31
	It saves me time on trip booking.	40.2%	35
	Other	19.5%	17

APPENDIX

C

Outreach Efforts

Figure C-1

Customer postcard

Dear **ACCESS LYNX** Customers:

ACCESS LYNX is offering a new online reservation system called WebACCESS. Now you will be able to manage your trips 24/7 without using a phone.

WebACCESS will allow you to:

- Request a trip
- Confirm a trip
- Change a trip
- Cancel a trip

WebACCESS is just a click away. To register, go to www.golynx.com

ACCESS LYNX 455 North Garland Avenue Orlando, FL 32801-1518

Figure C-2
Internal staff letter

LYNX

MEMORANDUM

TO: MV Transportation Staff
Transportation America Staff
LYNX Customer Service & Paratransit Staff

FROM: William E. "Bill" Hearndon
Manager of Paratransit Operations

DATE: Wednesday, March 21, 2012

RE: WebACCESS

For the past six months, we have been testing an online reservations and customer service module called "WebACCESS." Using "WebACCESS," customer will be able to use the internet to make reservations, confirm trips, check on the arrival of a vehicle, or cancel a trip without the need to speak with a live customer service representative.

Beginning today, we are doing a hard launch of the project by sending out postcards, emails, and other promotional items to customers and facilities.

Please refer customers to www.GoLYNX.com for additional information. From the main page there is a quick link for ACCESS LYNX on the right that will take them to a page where there is a link for WebACCESS on the left. Customers will need to click on the "New User" link on the WebACCESS page to register to use the service. They will receive a response within one business day.

407-841-2279
www.golynx.com
455 North Garland Avenue
Orlando, FL 32801-1518

CENTRAL FLORIDA REGIONAL TRANSPORTATION AUTHORITY

APPENDIX

D

Self-Evaluation Report

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Executive Summary

Project Overview

The Travel Management Coordination Center (TMCC) is a unique concept that creates efficiencies in transportation service delivery through optimal multi-jurisdictional reservations and scheduling, provision of seamless transportation services, use of a universal cashless fare payment system, and automated billing. The MORE TMCC Phase II system deployment for the Central Florida area serves rural, suburban and urban travel of older adults, people with disabilities, economically disadvantaged citizens, and Medicaid recipients.

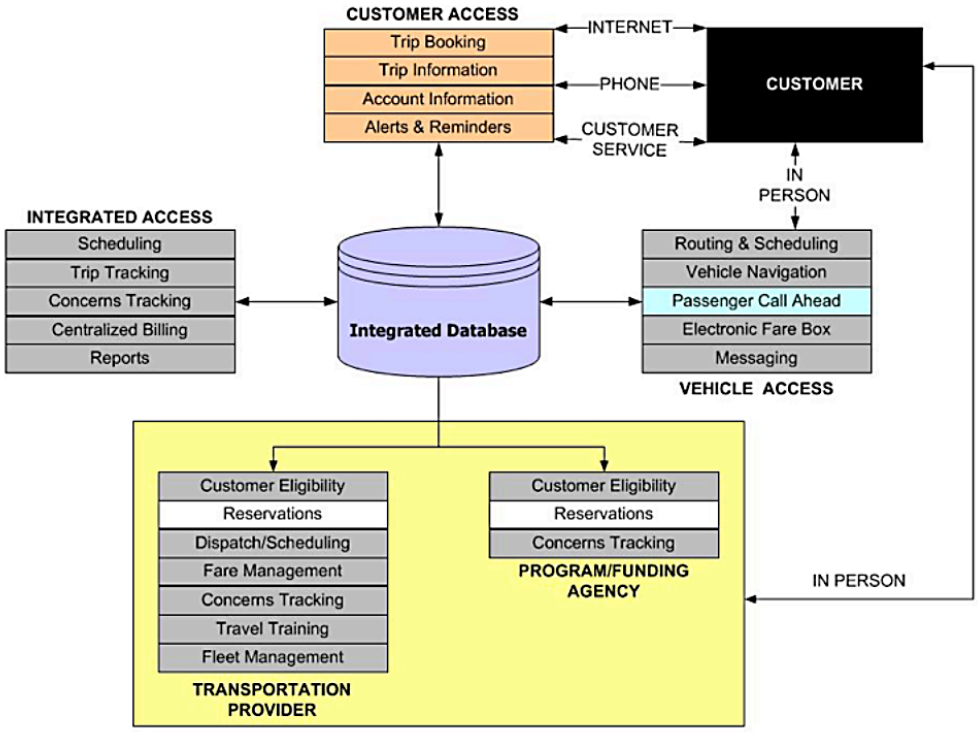
The MORE TMCC is a system that benefits both the customer and the agency. The customer gains additional service options and an easier way to move from one point to another. The participating agencies gain the ability to streamline their administrative processes with the end goal of providing a better service.

In Phase I, the MORE TMCC system was designed and included Customer Modules, Agency Modules and Vehicle Modules. The limited Phase II Design was implemented by LYNX, but potentially will be expanded to include Polk County and local human service agencies in the near future.

Figure D-1 shows the original Phase I design. The modules in grey were not implemented in Phase II.

As part of Phase II, only a partial deployment of the original scope of the Phase I design was deployed. The component that was deployed was the multimedia based trip management.

Figure D-1
MORE TMCC
Overall Vision



Multimedia Trip Management

As one of the foundations of MORE TMCC, enhanced trip management allows customers "around the clock" access to book, view, or cancel trips online or via Interactive Voice Response (IVR) telephone. Additionally, representatives such as human service agencies, dialysis clinics, or nursing homes are able to access their customers' trips as well. This system reduces telephone call hold times and customer no-shows because they are able to manage their trips online. Additionally, a Short Message Service (SMS) system has been implemented to notify customers of their vehicles imminent arrival.

Project Jurisdiction

The MORE TMCC project was deployed in the Orange, Osceola, and Seminole counties in Florida, with Orlando serving as the major central urban area. The public transportation agency that serves the area is the Central Florida Regional Transportation Authority (d/b/a LYNX). Some additional transportation needs are met by area human service transportation providers. Publicly-funded Human Service transportation services are coordinated regionally in Florida by Community Transportation Coordinators (CTCs), designated by the Florida Commission for the Transportation Disadvantage (FCTD). LYNX is the CTC for Orange, Osceola, and Seminole counties. At this time, LYNX serves Orange, Osceola and Seminole counties; the future may include Polk County.

- Orange County is Central Florida's most populous county and includes the city of Orlando and 12 other incorporated cities. The 2010 Census ranks Orange County 35th in the nation in terms of population. As per the 2010 Census, Orange County had a population of 1.145 million.
- Osceola County serves as the south/central boundary of the greater metropolitan area. The county's only incorporated cities are Kissimmee and St. Cloud. The county has a total population of 268,685 and grew by 55.8 percent from 2000 to 2010. Osceola's economic base is dominated by tourism and agriculture.
- Polk County is located in central Florida along the Interstate 4 corridor, 35 miles west of Orlando and 25 miles east of Tampa. Covering 1,875 square miles, Polk County has 602,095 residents and grew by 24.4 percent from 2000 to 2010.
- Seminole County is located north of Orange County and is made up of seven incorporated cities: Altamonte Springs, Casselberry, Lake Mary, Longwood, Oviedo, Sanford and Winter Springs. Seminole County is located between Volusia County and Orange County with a population of 422,718, which grew by 15.8 percent from 2000 to 2010.

Project Objectives

The MORE TMCC deployment plan's overarching goal is integration, specifically in three key areas:

- Institutional integration
- Operational integration
- Technology integration

The goal of the MORE TMCC is to address each of these integration's challenges individually, in the order presented above.

The MORE TMCC integration of institutional, operational and technical elements will lead to:

- More focused staff which will allow a concentration on core business activities
- An improved delivery of service to end users
- Coordination of joint participation of human service agencies
- Increased efficiency and cost effectiveness of long distance trips

Project Team

The Project Team consists of the Department of Transportation, the MORE TMCC Core and Project Management Team, the Technical Advisory

Committee, the Service Advisory Committee, Internal Evaluation, System Development, Outreach and Marketing, and the Vendor Team. Table D-1 presents the groups that are part of the Project Team, their responsibilities, and the representatives that were involved during the project.

Table D-1

Project Team

Group Name	Responsibilities	Representatives
U.S. Department of Transportation (USDOT)	• Overall program management • Project funding • Approval of project timeline and deliverables	• Aletha Goodine
MORE TMCC Core and Project Management Team	• Track and monitor project • Review and approve all deliverables • Resolve project issues • Status reports to USDOT	• Doug Jamison (LYNX) • Bill Hearndon (LYNX) • Tori Iffland (LYNX)
Technical Advisory Committee	• Provide project management and technical assistance to the Core team and System Development team as required • Assist in creating project documentation as required • Assist in reviewing specifications and MORE TMCC design • Liaison to the Development Team	• Gisela Ghani (Alesig Consulting)
Service Advisory Committee	• Provide project management and technical assistance to the Core team and System Development team as required • Assist in operational and policy issues as required	• Grisela Hernandez (APD) • Sarah Lightell (SRA) • Daisy Gonzales (Goodwill) • Dave Lawson (Seniors First) • Robert La Perla (Lakeside Behavioral) • Robert Brown (SCMHC) • Diane Poitras (FDOT)
Internal Evaluation	• Ensure quality products from Vendor team • Involved in project testing	• Bill Hearndon (LYNX) • Joe Temples (MV)
System Development	• Direct liaison with the Vendor team • Assist in any issues with the Vendor team • Ensure Vendor team is on track with implementation	• Tori Iffland (LYNX) • Joe Temples (MV) • Roger Helmy (Trapeze)
System Advocates	• Customer outreach and training • Customer education • TMCC volunteer initiatives	• Transit Advisory Committee • Local Coordinating Boards/CTD • Senior Resource Alliance • Agency for Persons with Disabilities • Goodwill Industries • Seniors First
Outreach & Marketing	• General Public awareness of MORE TMCC • General Public education and outreach	• Bill Hearndon (LYNX) • Ro Norman (LYNX) • Reginald Mells (LYNX)
Vendor Team	• Respond to specifications • Detailed Design document • MORE TMCC implementation	• Roger Helmy (Trapeze) • Fether Dugan (Productive Solutions)

Self-Evaluation Approach

In Phase I of the MORE TMCC, a Self-Evaluation Plan was developed. This plan detailed the expected outcomes of the system. This plan included the goals and objectives of the system, what would be measured, and how it would be measured. The Self-Evaluation Report is an implementation of the Self-Evaluation Plan. In addition to providing valuable data and information on the system, the Self-Evaluation Report also provides lessons learned that can be used by stakeholders across the industry looking to deploy coordinated transportation systems and improve human service transportation systems.

Goals and Objectives

The goals and objectives of the original MORE TMCC design included Institutional Integration, Operational Integration, and Technology Integration. For the Phase II partial integration, the following goals and objectives were realized:

Table D-2

Goals and Objectives

ID	Goals	Objectives
1	Operational efficiencies within the agency and integration across human and social service agencies	• An improved delivery of service to end users. • More efficient use of agency resources through web-based trip booking; this would not necessarily decrease the number of staff answering the phones, but would shorten in-queue time. • Provide the ability for customers' representatives from human and social service agencies to book trips for their customers.
2	Technology integration and efficiencies across the agency.	• Give the customer the added flexibility to access the trip booking system through the Internet.

Evaluation Hypotheses

Using the project goals and objectives the following hypotheses were proposed:

1. The MORE TMCC will allow more efficient booking of paratransit trips.
2. The end users (riders) and secondary stakeholders (human and social service agencies) using the MORE TMCC will be satisfied with its performance.
3. Riders and new users will have a noticeable awareness of the new MORE TMCC and the changes it facilitates.
4. Use of the system results in more efficient call center resources for demand response trips.

Impact Areas

To complete the MORE TMCC Evaluation Plan, the hypotheses were used to identify the impact areas and related measures of effectiveness, data sources,

and data availability. MORE TMCC Phase I identified four impact areas. The focus of the MORE TMCC Phase II was:

- Efficiency
- Customer satisfaction

Using the goals and objectives, the hypotheses and the impact areas, measures of effectiveness were developed, the data sources to collect these measures were identified, and the data availability were documented.

For Phase II, a subset of the measures for Phase I were selected to measure the partial deployment of the Phase II payment cards and multimedia trip booking. These evaluation criteria and process are discussed in the following sections of the report.

MORE TMCC Self-Evaluation Report

This Self-Evaluation Report details the following:

- The self-evaluation process that was used to collect the data pre-deployment and post-deployment
- The system evaluation criteria that were used to evaluate the system
- Before data, which consists of 12 months of pre-implementation data prior to deployment of MORE TMCC Phase II
- After data, which consists of 11 months of post-implementation data after the deployment of MORE TMCC Phase II; LYNX will continue to monitor the system after August 2012
- Data analysis and results comparing the before and after data
- Lessons learned during the self-evaluation process
- Summary

Self-Evaluation Process

This section details the process that went into the entire system evaluation, including the steps that the project team took to complete the evaluation of the Phase II project from the planning phase to the post-implementation phase. The evaluation of the MORE TMCC documented the lessons learned associated with the design and implementation of the TMCC.

During the self-evaluation process, the following steps were completed:

1. Identified the data to be collected using the system performance criteria
2. Designed the method by which the data were collected both pre- and post-implementation. Implemented the data collection in two phases – pre-implementation and post-implementation

3. Performed data validity checks to ensure the correct data were being collected and that the data collected were valid
4. Analyzed the pre-implementation data and the post-implementation data collected.
5. Created the Self-Evaluation Report.

Figure D-2

Self-evaluation process

System Performance Criteria

In Phase I of the MORE TMCC, a Self-Evaluation Plan was created and, as part of this plan, the goals and objectives of the MORE TMCC were defined, a list of hypotheses was developed. From these hypotheses, a set of system performance criteria was developed.

In Phase II, due to the partial deployment of the MORE TMCC, a subset of the system performance criteria was selected to be measured. From the four original impact areas—coordination, efficiency, cost, and customer satisfaction—only two impact areas were selected, efficiency and customer satisfaction.

Efficiency

By sharing resources and using technology, the MORE TMCC increased the efficiency within the agency.

Table D-3

Efficiency Evaluation

No.	Hypothesis	Performance Criteria
1	Use of the system reduces the overall time spent on booking demand response trips.	Number of trip inquiry calls taken
		Number of cancellation calls taken
		Number of trip booking calls taken
2	Use of the system results in more efficient call center resources for demand response trips.	Average on-hold time
		Percentage of abandoned calls
		Number of no-shows
		Number of late cancels

Customer Service

With a streamlined trip booking and information process and enhanced customer service tools, the MORE TMCC has improved the customer experience.

Table D-4
Customer Service Evaluation

No.	Hypothesis	Performance Criteria
3	The riders using the TMCC will be satisfied with its performance.	Percentage of users who feel that transportation services are more accessible (e.g., easier to book and pay)
		Passenger satisfaction with trip reminder feature
		Number of customer complaints

Data Collection

To analyze the data defined in the Systems Performance Criteria section, data were collected from operational and performance data reports from the existing and newly-implemented systems and through on-line customer surveys. System data included operational performance reports and statistics from the systems impacted by the MORE TMCC Phase II implementation changes. These systems included trip scheduling software and the phone system in which data were generated and collected through reports and spreadsheets. Survey data were conducted with transit passengers through an online survey service.

Operational Performance Data

The operational performance data were collected on a monthly basis from operational data reports generated monthly from the trip booking system and the telephone system. There were two sets of data collected: pre-implementation and post-implementation. The pre-implementation data were collected for 12 months before the MORE TMCC Phase II applications went "live," and the post-implementation data was collected for 11 months after the MORE TMCC Phase II application went "live."

Conducting Surveys

Surveys were conducted with the traveling public using an online survey service. The surveys were performed by passengers using the new online WebACCESS. In structuring the customer survey, the question format and length were arranged in a way that allowed the survey to be completed in five minutes or less. The team conducted surveys to assess opinions, gain insights, and learn lessons related to the efficiency, institutional challenges/benefits, and customer satisfaction.

Data Validation

Data validation occurred throughout the processes and procedures of data collection. LYNX first sets benchmarks that acted as guidelines for the data being collected. Examples of these are:

- Call hold times should be less than 2 minutes
- Missed trips should be less that 3/10 of 1 percent
- On-time performance should be greater than or equal to 92%
- Productivity greater than 1.3 customer trips per revenue hour

Once data were collected through operational and performance reports, they were validated with the LYNX standard validation process that occurs before these data are published. Data are regularly reviewed and validated and any variance over 10 percent triggers a mandatory in-depth analysis. In addition, in the process of collecting National Transit Database (NTD) data, any variance of more than 10 percent in the data has to be justified. Therefore, all data are analyzed and reviewed for anomalies.

Data Analysis

Data analysis was done on the operational and performance data as well as the survey and interview data that was collected.

Analyzing Operational Performance Data Statistics

The analysis of the operational and performance data such as the number of calls taken and average hold time was done by the Before/After comparison of changes before and after the implementation of the MORE TMCC Phase II systems. Data were compared on a monthly basis.

Analyzing Surveys

The analysis of the survey results consisted of reviewing the similarities and differences in the responses to the surveys. The comments on the surveys were also reviewed to determine both common/recurring themes and insights. The data were also analyzed to determine whether any changes were due to the implementation of the MORE TMCC or some other operational changes that may have occurred.

Self-Evaluation Report

Once all the information was collected and analyzed, the Self-Evaluation Report was created. This report clearly details the entire process and data that were collected during the self-evaluation.

System Evaluation Criteria

This section describes the system evaluation criteria selected, the methods of data collection, and the evaluation methodology. The system performance evaluation was based on criteria listed in Table 3-1 to determine the progress of the MORE TMCC. The main areas of impact were efficiency and customer satisfaction.

Efficiency

By sharing resources and using technology, the MORE TMCC increased the efficiencies within the agency.

Table D-5

Efficiency Evaluation

Hypothesis	Evaluation Criteria	Data Source	Evaluation Method
Use of the system reduces the overall time spent on booking demand response trips	Number of trip inquiry calls taken	Telephone system reporting – Number of customer service queue calls minus number of cancellations from scheduling software (unduplicated count of Booking.BookingID)	Analysis of pre-deployment data and post-deployment data
	Number of cancellation calls taken	Scheduling software	
	Number of trip booking calls taken	Scheduling software (Unduplicated count of Booking. BookingID)	
Use of the system results in more efficient call center resources for demand response trips	Average on-hold time	Telephone system reporting – Average of hold times for all inbound queues	Before/after comparison
	Percentage of abandoned calls	Telephone system reporting – Percentage of abandoned calls	
	Number of no-shows	Scheduling software – Unduplicated count of Booking. BookingID with a Booking.SchedStatus = 20 or 21	
	Number of late cancels	Scheduling software – Unduplicated count of Booking. BookingID with a Booking.SchedStatus = 41 or 42	

Customer Service

With a streamlined trip booking and information process and enhanced customer service tools, the MORE- TMCC improved the customer experience.

Table D-6

Customer Service Evaluation

Hypothesis	Evaluation Criteria	Data Source	Evaluation Method
The riders using the TMCC will be satisfied with its performance.	Percentage of users who feel that transportation services are more accessible (e.g., easier to book and pay)	Customer/passenger surveys from the web-based tool	Analysis of passenger surveys
	Passenger satisfaction with trip reminder feature	Customer/passenger surveys from the web-based tool	
	Number of customer complaints	ACR System	Before and after comparison

Before Data

This section has all of the data collected before the MORE TMCC Phase II was implemented. The data collected is shown over the 12-month pre-implementation period from October 2010 to September 2011.

Table D-7

Efficiency – Before Data

Evaluation Criteria	Oct 10	Nov 10	Dec 10	Jan 11	Feb 11	Mar 11	Apr 11	May 11	Jun 11	Jul 11	Aug 11	Sep 11
Total trips	59,626	61,742	61,128	60,645	57,646	66,623	62,704	63,953	64,950	63,338	67,514	65,978
Total calls taken	49,303	52,269	50,242	50,325	48,649	59,131	58,963	56,303	56,927	58,237	60,998	60,965
Trip inquiry calls taken	15,103	15,246	13,764	15,098	15,459	19,085	20,605	17,961	17,886	19,669	19,337	19,535
Number of cancellation calls taken	10,592	11,656	13,342	10,928	9,994	12,632	12,179	12,353	12,438	12,237	13,532	13,011
Number of trip bookings	23,608	25,367	23,136	24,299	23,196	27,414	26,179	25,989	26,603	26,331	28,129	28,419
Average on-hold time	2.77	3.34	3.33	2.78	3.28	3.41	2.99	2.94	2.75	2.84	2.93	3.35
Percentage of abandoned calls	26.60%	28.60%	27.60%	28.90%	30.20%	30.80%	28.90%	25.70%	23.40%	25.90%	26.30%	28.60%
Number of no-shows	2,465	2,600	2,517	2,347	2,39	2,906	2,695	2,542	2,140	2,025	1,998	2,010
Number of late cancels	564	677	765	649	501	573	551	508	465	457	296	322

Table D-8

Number of Customer Complaints – Before Data

Evaluation Criteria	Oct 10	Nov 10	Dec 10	Jan 11	Feb 11	Mar 11	Apr 11	May 11	Jun 11	Jul 11	Aug 11	Sep 11
Number of customer complaints	48	29	35	59	57	43	70	67	78	77	124	65

After Data

This section contains data collected after the MORE TMCC Phase II was implemented. The data collected are shown over the 11-month post-implementation period of October 2011 to August 2012.

Table D-9

Efficiency – After Data

Evaluation Criteria	Oct 11	Nov 11	Dec 11	Jan 12	Feb 12	Mar 12	Apr 12	May 12	Jun 12	Jul 12	Aug 12	Sep 12
Total trips	64,173	65,678	63,252	64,454	64,140	67,772	65,276	67,641	63,388	67,514	65,978	
Total calls taken	60,282	58,036	50,775	53,666	54,984	57,332	54,965	61,648	60,317	56,603	63,266	
Trip inquiry calls taken	21,140	17,211	14,040	15,310	16,039	16,588	15,721	17,940	17,542	15,429	18,151	
Number of cancellation calls taken	11,347	11,952	11,495	10,856	10,876	10,549	10,086	12,700	12,491	11,509	12,729	
Number of trip bookings	27,795	28,873	25,240	27,500	28,069	30,195	29,158	31,008	30,284	29,665	32,386	
Average on-hold time	6.14	4.53	2.33	2.38	2.54	2.42	2.41	2.59	2.81	2.79	3.92	
Percentage of abandoned calls	41.2%	36.1%	21.9%	23.4%	28.8%	27.5%	26.9%	24.4%	27.2%	28.6%	37.7%	
Number of no-shows	2,769	3,367	3,118	2,947	2,874	3,160	2,948	1,775	2,206	2,127	2,984	
Number of late cancels	459	643	562	570	720	902	874	339	442	485	959	

Table D-10

Number of Customer Complaints – After Data

Evaluation Criteria	Oct 11	Nov 11	Dec 11	Jan 12	Feb 12	Mar 12	Apr 12	May 12	Jun 12	Jul 12	Aug 12	Sep 12
Number of customer complaints	102	92	66	93	73	59	61	64	54	70	82	

Table D-11

Customer Survey

No.	Question	Response Percent	Response Count
1	How do you use the WebACCESS module?		88
	I am an ACCESS LYNX customer and schedule trips for myself.	83%	73
	I am a caregiver for an ACCESS LYNX customer and schedule trips for the customer.	13.6%	12
	I am an employee of a facility and schedule trips for multiple ACCESS LYNX customers.	3.4%	3
2	How did you hear of the new WebACCESS module?		88
	I received an e-mail with information on WebACCESS.	31.8%	28
	I received a postcard in the mail.	52.3%	46
	I heard about it from a community meeting.	2.3%	2
	I participated as a volunteer beta tester of the system.	9.1%	8
	I heard about it from another ACCESS LYNX customer.	3.4%	3
	I heard about it from my ACCESS LYNX reservationist or driver.	8.0%	7
	Other	5.7%	5
3	What version of WebACCESS do you use most?		87
	English version	100%	87
	Spanish version	0%	0
4	Do you feel that WebACCESS has given you more flexibility in reserving your trips?		87
	Yes	75.9%	66
	No	24.1%	21
5	On average, how many days per month do you or someone in your care travel on ACCESS LYNX?		88
	Less than 10 days per month	48.9%	43
	10 to 20 days per month	34.1%	30
	More than 20 days per month	17%	15
6	On average, what percentage of your trips do you reserve using WebACCESS?		86
	Less than 10%	37.2%	32
	10% – 50%	18.6%	16
	50% – 75%	14%	12
	More than 75%	30.2%	26
7	Do you find it easy to reserve your trips using WebACCESS?		87
	Yes	58.6%	51
	No	41.4%	36
8	Do you use WebACCESS to cancel your trips?		86
	Yes	64%	55
	No	36%	31
9	What do you like about the WebACCESS module?		87
	I can reserve my trips anytime.	58.6%	51
	It gives me more options to reserve trips.	24.1%	21
	I have access to my trips and my trip history.	44.8%	39
	The WebACCESS module is easy to use.	29.9%	26
	It is easier to cancel my trips.	35.6%	31
	It saves me time on trip booking.	40.2%	35
	Other	19.5%	17

What can we do to help WebACCESS serve you better?

- Allow subscriptions to be made through this system.
- Can you make purchasing tickets on line with a credit card available? That would be wonderful.
- Confirm reservations via phone or e-mail
- Overall, it is very convenient to use the web.
- WebACCESS works out very well for me. Before, when I called, the trips did not go well at all.
- It would be helpful if we could directly input addresses into the system even if they are not in our history. Thank you for making this system available to us. It is a great asset, and I am sure it will continue to be improved.
- Everything looks awesome!
- Not too much that I can see wrong with the module.
- Make it able to schedule to any address.
- Keep up the great work!
- Make it to where you have the option to do frequently used addresses or put in a new address. Maybe have some partnership with Google Maps.
- A feedback form is provided, but customers seeking immediate assistance will probably hesitate to use it.

Data Analysis and Results

The data analysis and results section presents the comparison of the pre and post data.

General

- Before data from October 2010–September 2011
- After data from October 2011–August 2012
- Considering collecting after data after September 2012
- As per the new fiscal year, LYNX moved from one provider for paratransit services to a multiple provider model. This change as of October 2011 caused non-project-related inconsistencies in the data for the first three months of the fiscal year.
- Web users of the system are 5 percent of total customers providing inconclusive data currently. When more users start using the web-based system we will have more consistent data; currently data are too preliminary.

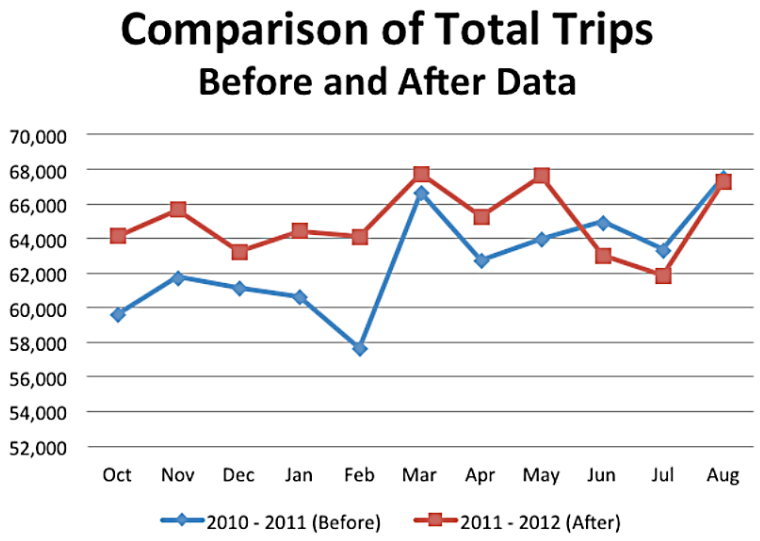
Table D-12

Total Trips – Before and After Data

Before Data	Oct 10	Nov 10	Dec 10	Jan 11	Feb 11	Mar 11	Apr 11	May 11	Jun 11	Jul 11	Aug 11	Sep 11
Total trips	59,626	61,742	61,128	60,645	57,646	66,623	62,704	63,953	64,950	63,338	67,514	65,978
After Data	**Oct 11**	**Nov 11**	**Dec 11**	**Jan 12**	**Feb 12**	**Mar 12**	**Apr 12**	**May 12**	**Jun 12**	**Jul 12**	**Aug 12**	**Sep 12**
Total trips	64,173	65,678	63,252	64,454	64,140	67,772	65,276	67,641	63,033	61,836	67,282	

Figure D-3

Comparison of total trips – before and after data



Observations:

- Data are consistent in both Before and After.
- Upward trend in both Before and After data.
- On average, a 5.7% trend upward between the two years.

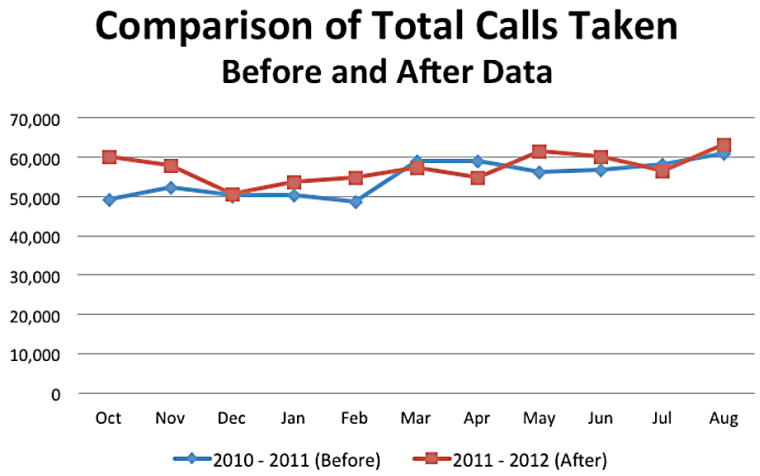
Table D-13

Total Calls Taken – Before and After Data

Before Data	Oct 10	Nov 10	Dec 10	Jan 11	Feb 11	Mar 11	Apr 11	May 11	Jun 11	Jul 11	Aug 11	Sep 11
Total calls taken	49,303	52,269	50,242	50,325	48,649	59,131	58,963	56,303	56,927	58,237	60,998	60,965
After Data	**Oct 11**	**Nov 11**	**Dec 11**	**Jan 12**	**Feb 12**	**Mar 12**	**Apr 12**	**May 12**	**Jun 12**	**Jul 12**	**Aug 12**	**Sep 12**
Total calls taken	60,282	58,036	50,775	53,666	54,984	57,332	54,965	61,648	60,317	56,603	63,266	

Figure D-4

Comparison of total calls taken – before and after data



Observations:

- Trend line in calls taken is relatively stable and does not mirror increase in trips.
- Spike in call volume is due to change in service providers.

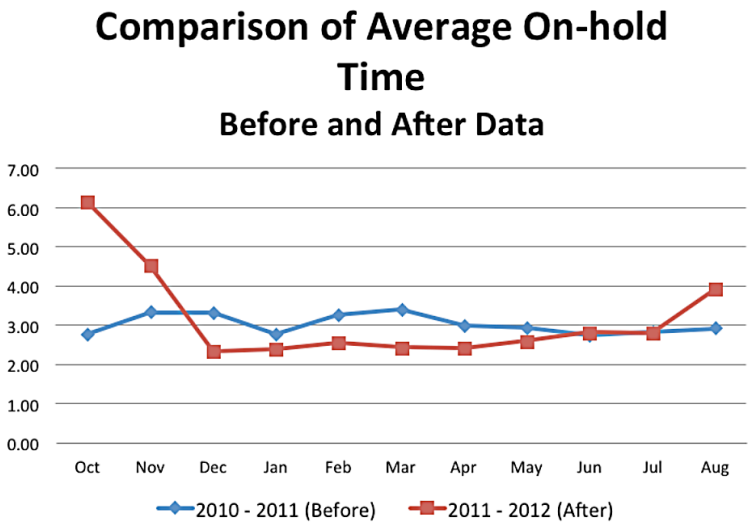
Table D-14

Average Hold Time – Before and After Data

Before Data	Oct 10	Nov 10	Dec 10	Jan 11	Feb 11	Mar 11	Apr 11	May 11	Jun 11	Jul 11	Aug 11	Sep 11
Avg on-hold time	2.77	3.34	3.33	2.78	3.28	3.41	2.99	2.94	2.75	2.84	2.93	3.35
After Data	**Oct 11**	**Nov 11**	**Dec 11**	**Jan 12**	**Feb 12**	**Mar 12**	**Apr 12**	**May 12**	**Jun 12**	**Jul 12**	**Aug 12**	**Sep 12**
Avg on-hold time	6.14	4.53	2.33	2.38	2.54	2.42	2.41	2.59	2.81	2.79	3.92	

Figure D-5

Comparison of average on-hold time – before and after data



Observations:

- First two months of After data show inconsistencies due to new service provider.
- Data are consistent after the first two months.
- Even though total trips increased, average on-hold time decreased in the After data.
- Although the data do not definitively support this observation, it can be assumed that every online transaction translates to one less call in queue, which reduces hold time.

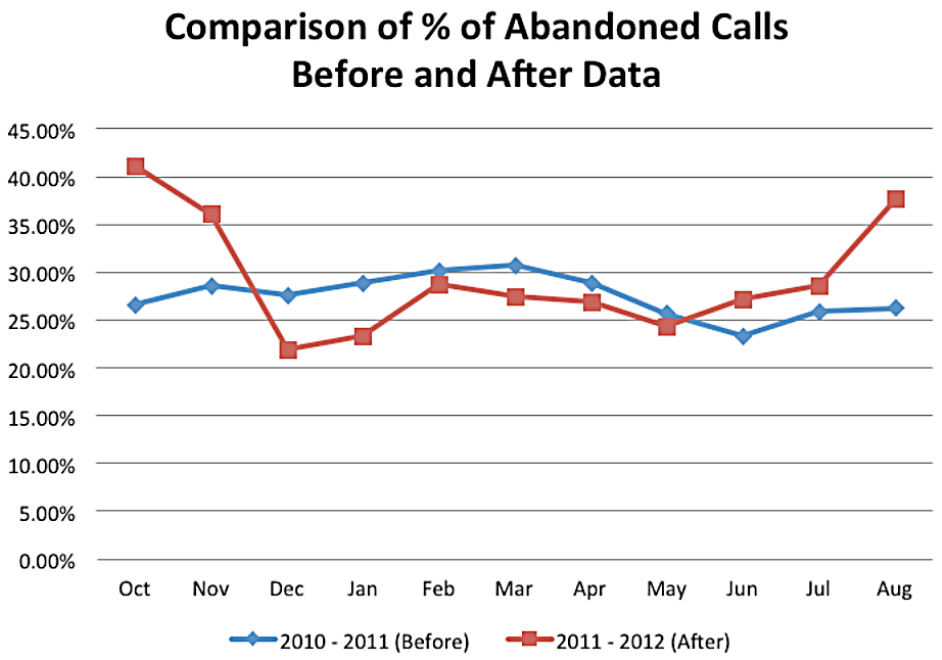
Table D-15

Percent of Abandoned Calls – Before and After Data

Before Data	Oct 10	Nov 10	Dec 10	Jan 11	Feb 11	Mar 11	Apr 11	May 11	Jun 11	Jul 11	Aug 11	Sep 11
Percent of abandoned calls	26.60%	28.60%	27.60%	28.90%	30.20%	30.80%	28.90%	25.70%	23.40%	25.90%	26.30%	28.60%
After Data	**Oct 11**	**Nov 11**	**Dec 11**	**Jan 12**	**Feb 12**	**Mar 12**	**Apr 12**	**May 12**	**Jun 12**	**Jul 12**	**Aug 12**	**Sep 12**
Percent of abandoned calls	41.2%	36.1%	21.9%	23.4%	28.8%	27.5%	26.9%	24.4%	27.2%	28.6%	37.7%	

Figure D-6

Comparison of percent of abandoned calls – before and after data



Observations:

- Percent of abandoned calls for After data are less than Before data but trending with Before Data, other than months of October and November 2011 (new service provider).
- Decreasing trend of abandoned calls from start of year to end of year.
- Percent of abandoned calls trends in line with average hold time.

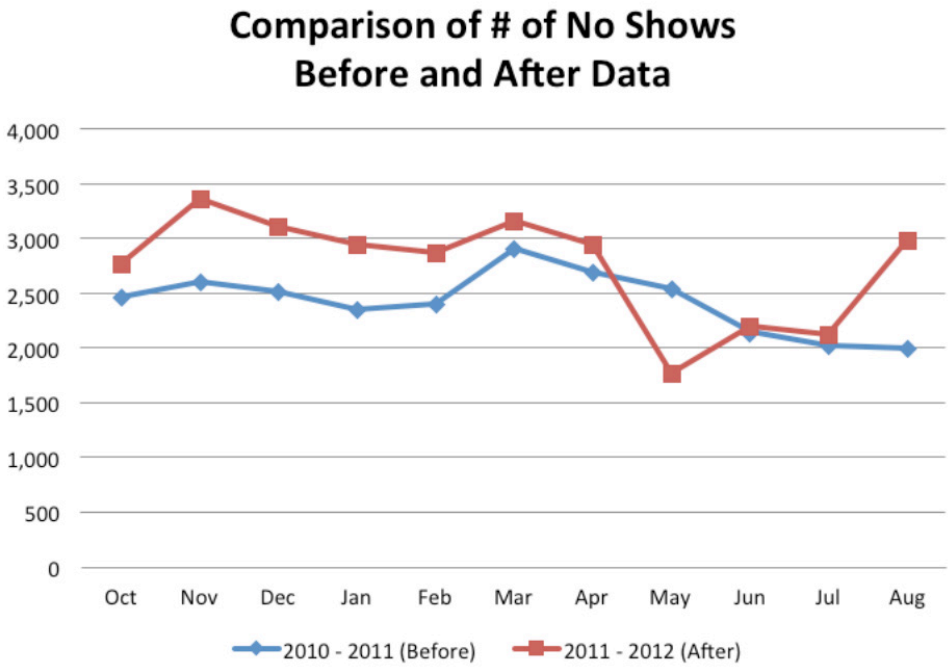
Table D-16

Number of No-shows – Before and After Data

Before Data	Oct 10	Nov 10	Dec 10	Jan 11	Feb 11	Mar 11	Apr 11	May 11	Jun 11	Jul 11	Aug 11	Sep 11
Number of no-shows	2,465	2,600	2,517	2,347	2,399	2,906	2,695	2,542	2,140	2,025	1,998	2,010
After Data	**Oct 11**	**Nov 11**	**Dec 11**	**Jan 12**	**Feb 12**	**Mar 12**	**Apr 12**	**May 12**	**Jun 12**	**Jul 12**	**Aug 12**	**Sep 12**
Number of no-shows	2,769	3,367	3,118	2,947	2,874	3,160	2,948	1,775	2,206	2,127	2,984	

Figure D-7

Comparison of number of of no-shows – before and after data



Observations:

- Total trips increased, on average, by 5.7% with Before and After data. No-shows increased 12% between Before and After data (May data are exception).
- Except for one outlier, data are trending consistently with total trips.
- Strong relationship between no-shows and total trips (average of 4.2%).

Figure D-8

Comparison of no-shows to ridership ratio

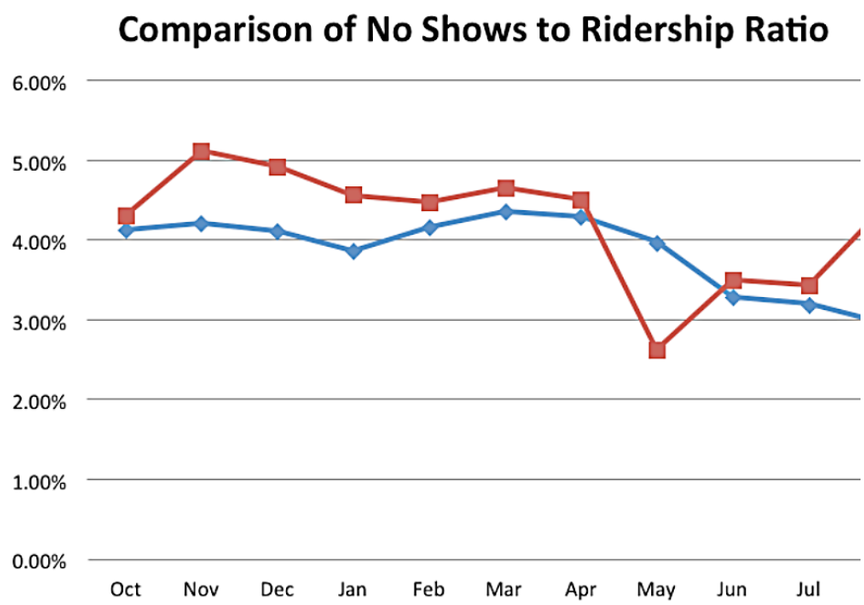


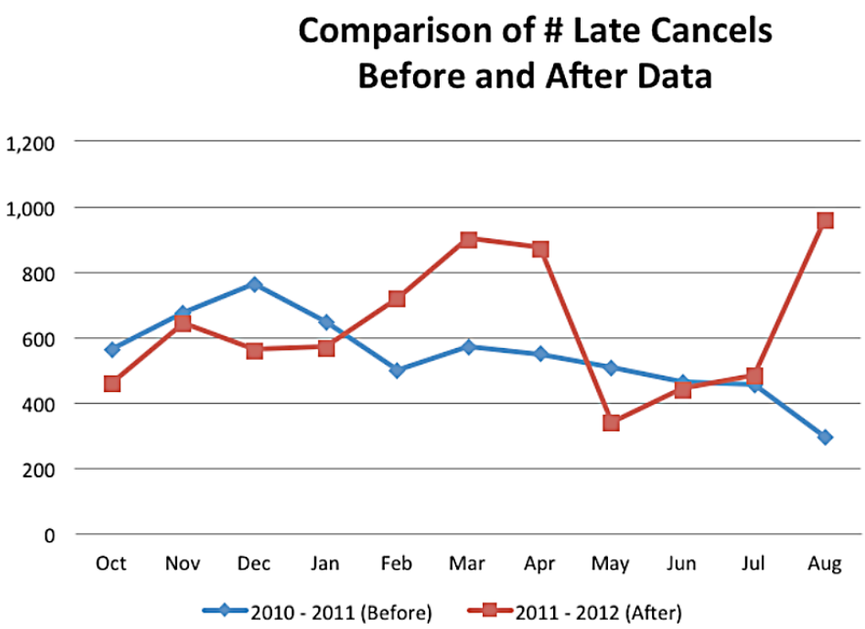
Table D-17

Number of Late Cancels – Before and After Data

Before Data	Oct 10	Nov 10	Dec 10	Jan 11	Feb 11	Mar 11	Apr 11	May 11	Jun 11	Jul 11	Aug 11	Sep 11
Number of late cancels	564	677	765	649	501	573	551	508	465	457	296	322
After Data	**Oct 11**	**Nov 11**	**Dec 11**	**Jan 12**	**Feb 12**	**Mar 12**	**Apr 12**	**May 12**	**Jun 12**	**Jul 12**	**Aug 12**	**Sep 12**
Number of late cancels	459	643	562	570	720	902	874	339	442	485	959	

Figure D-9

Comparison of number of late cancels – before and after data



Observations:

- In Before data, late cancels are trending downward. In After Data, late cancels trending downward (except May 2012).
- Late cancels in After data trending upward with total trips (relationship or ratio between late cancels and total trips is 1.2%).

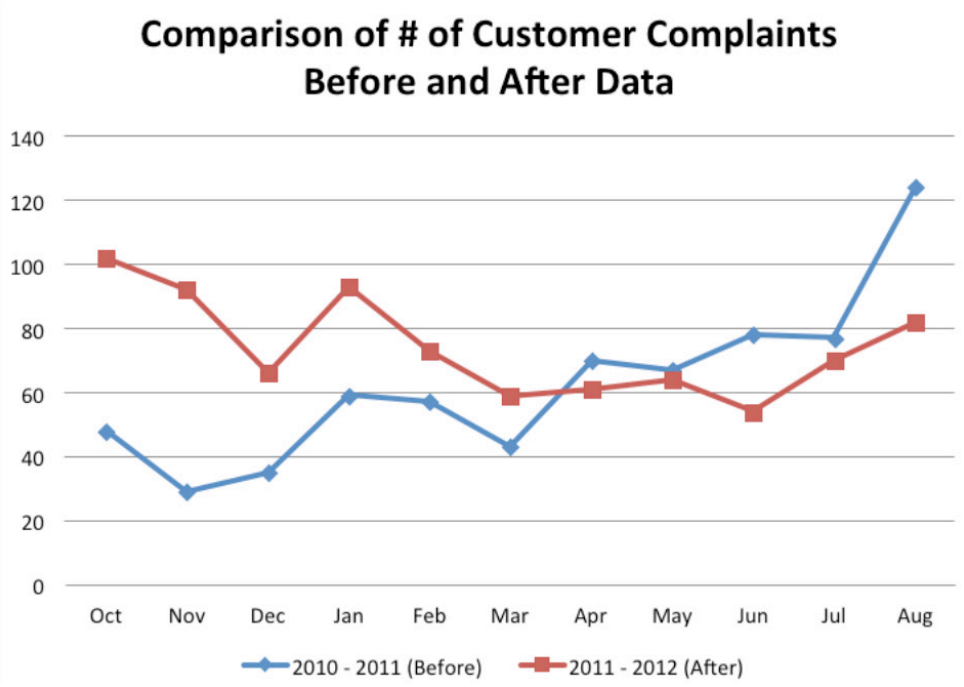
Table D-18

Customer Complaints – Before and After Data

Before Data	Oct 10	Nov 10	Dec 10	Jan 11	Feb 11	Mar 11	Apr 11	May 11	Jun 11	Jul 11	Aug 11	Sep 11
Customer complaints	48	29	35	59	57	43	70	67	78	77	124	65
After Data	**Oct 11**	**Nov 11**	**Dec 11**	**Jan 12**	**Feb 12**	**Mar 12**	**Apr 12**	**May 12**	**Jun 12**	**Jul 12**	**Aug 12**	**Sep 12**
Customer complaints	102	92	66	93	73	59	61	64	54	70	82	

Figure D-10

Comparison of number of customer complaints – before and after data

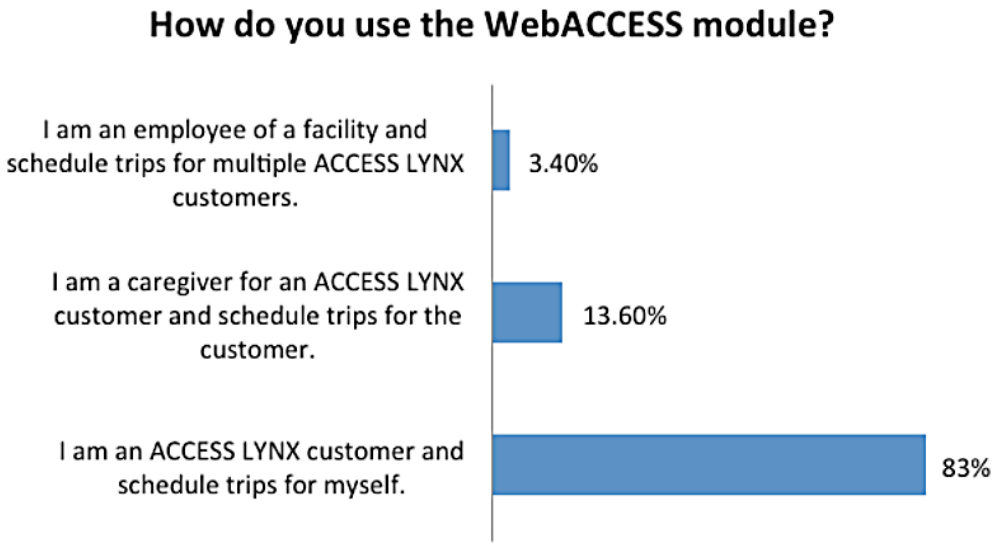


Observations:

- Before Data – worst months April and May. After Data – best months April and May.
- Need to get data to end of year to get a better trend.
- Even though ridership is increasing, customer complaints are decreasing.

Figure D-11

Figure D-11 How do you use the WebACCESS Module?

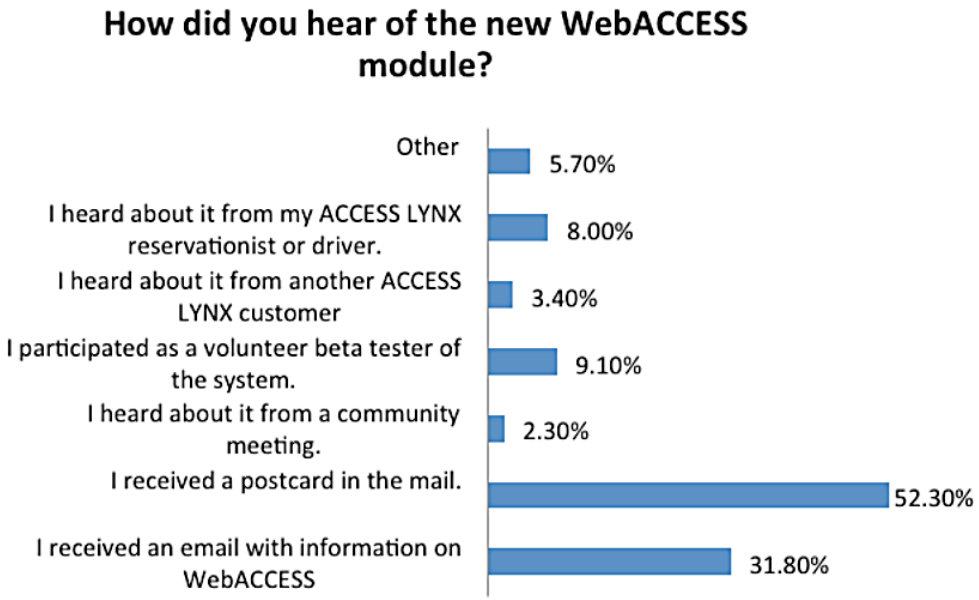


Observations:

- Initially marketed to individual users; 83% of individual users are accessing the system.
- Caregivers make up almost 14% of online users. These are individuals who care for others using the service, such as family members or guardians and, in many cases, do so on their own time.
- Currently, 3.5% are human service providers who deal with multiple clients on a daily basis. Continued marketing to this group will have the greatest effect as it will decrease the call volume more significantly than the other two groups.

Figure D-12

How did you hear of the new WebACCESS Module?

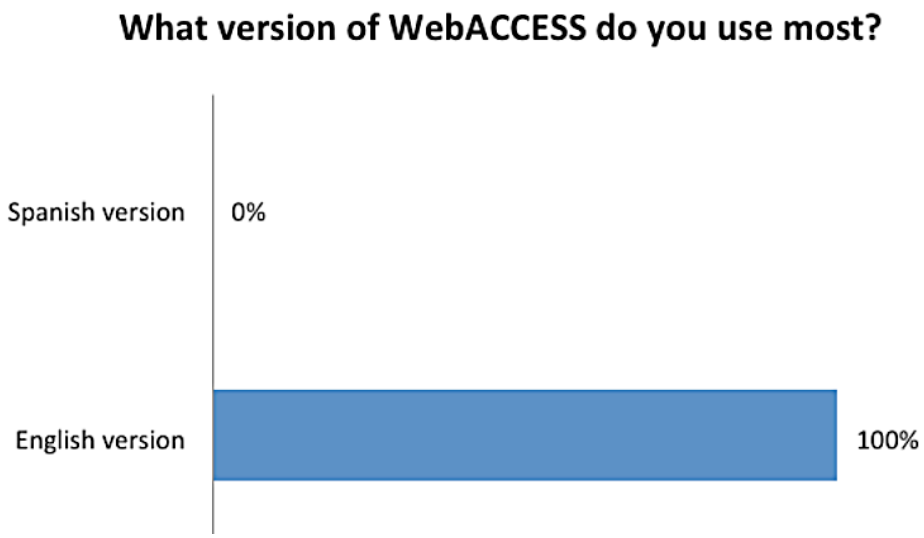


Observations:

- Printed information sent in the mail was the most effective way to communicate the new online option to the customer.
- E-mail was also highly effective, with almost 32% reporting. This directly targets customers already using online services.
- Responses for Other Question:
- I am an employee who uses the service and I understand now how the clients feel when we run late.
- The information was posted in the van.
- I saw it on the website.
- The local doctor's office.
- My insurance company.

Figure D-13

What version of WebACCESS do you use most?

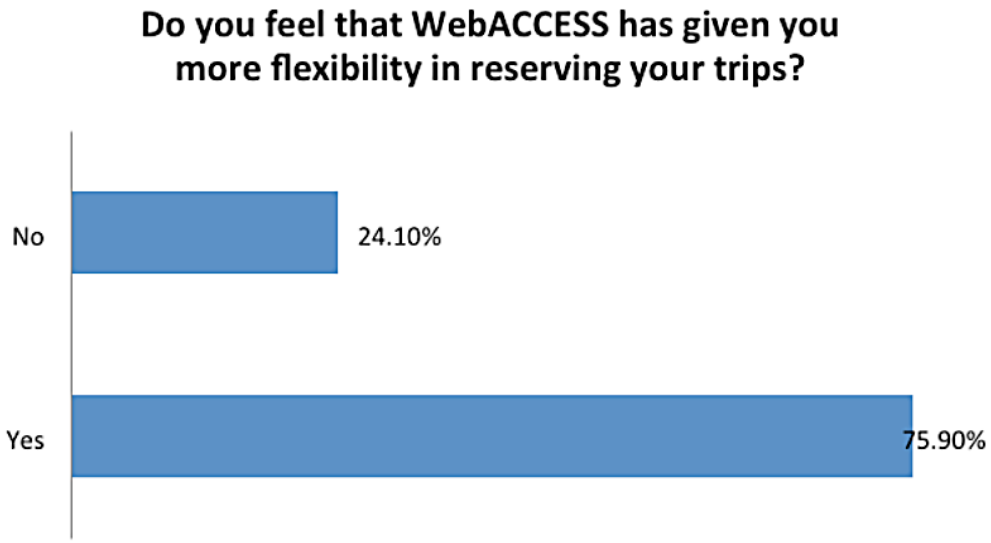


Observations:

- All current online customers are able to navigate the English version. Customers do have the option to choose either version from the log in screen.
- Marketing materials were focused primarily on the English version. Following the survey, the need was apparent to include a stronger outreach effort to the Hispanic community.

Figure D-14

Has WebACCESS given more flexibility in reserving your trips?

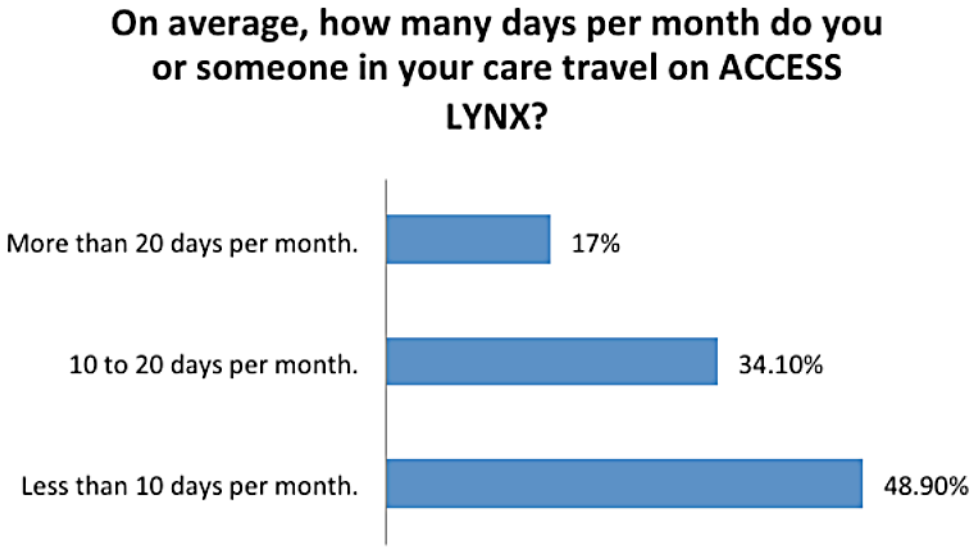


Observations:

- Almost 76% of customers had a positive observation in reserving their own trips.
- One of the goals is to give customers more options to access transportation services; from the customer feedback, that goal was achieved.

Figure D-15

How many days per month do you travel on ACCESS LYNX?

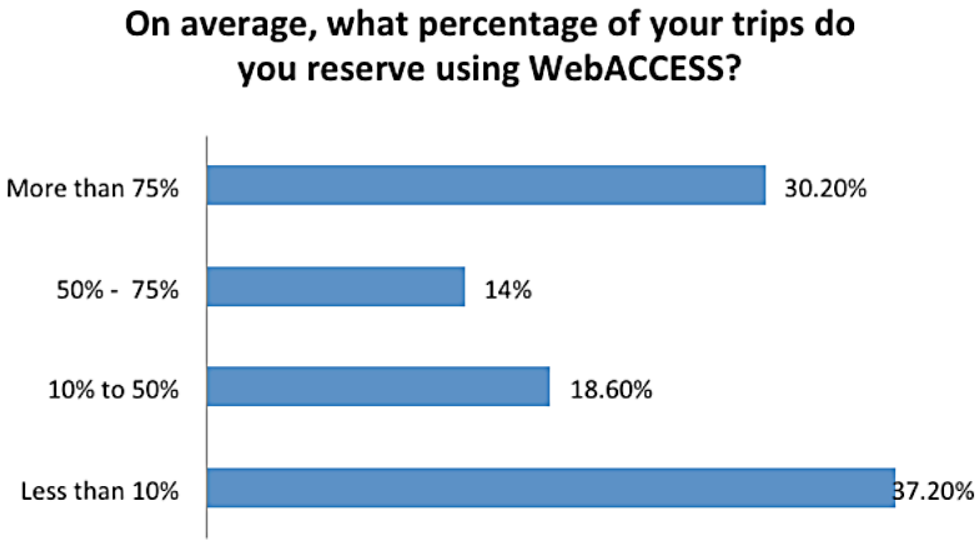


Observations:

- More than 50% of LYNX customers (34% + 17%) using the online module use it a minimum of 10 days a month.
- Data show that the heavy users are adopting these services and are repeat users of the online system.

Figure D-16

Percentage of your trips you reserve using WebACCESS?

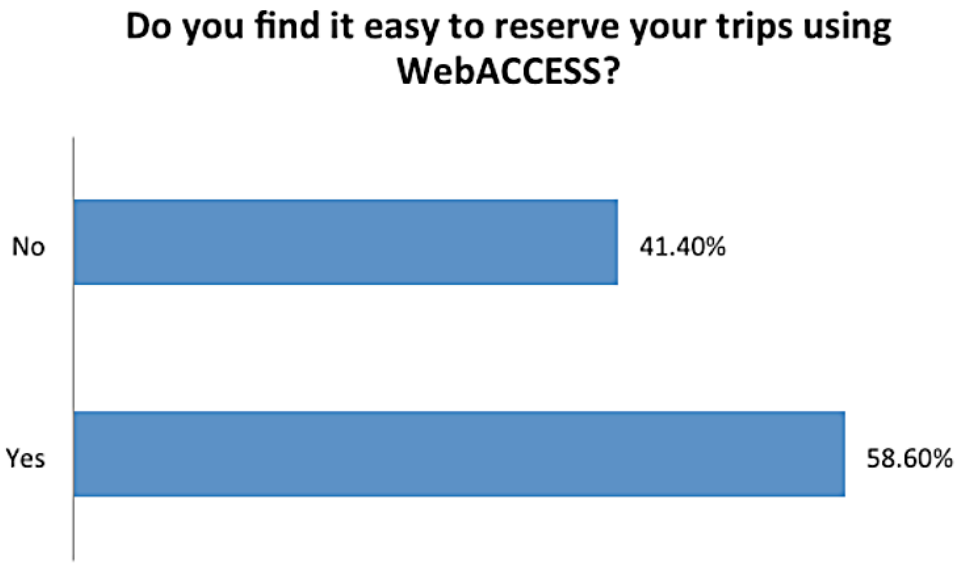


Observations:

- Almost 45% of users surveyed are using the online module for a majority of their trips.
- Data show that the heavy users are adopting these services and are repeat users of the online system.
- System restricts users from booking trips to addresses they have not traveled to in the last 60 days, preventing them from booking 100% of their trips online.

Figure D-17

Do you find it easy to reserve your trips using WebACCESS?

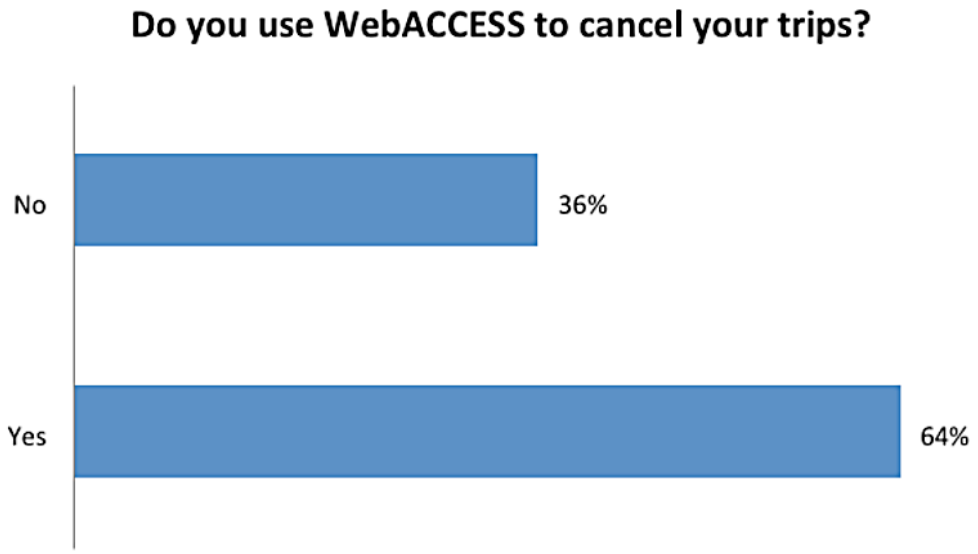


Observations:

- System restricts users from booking trips to addresses they have not traveled to in the last 60 days, preventing them from booking 100% of their trips online.
- Customer comments related to improving the system focused on the lack of the ability to book trips to new addresses.

Figure D-18

Do you use WebACCESS to cancel your trips?

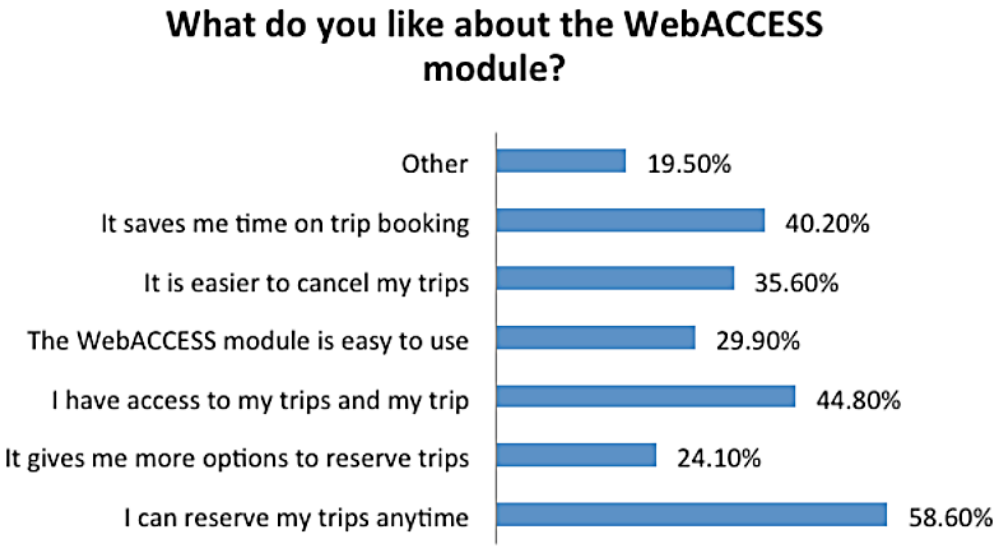


Observations:

- More than 60% of customers surveyed used the online module to cancel their trips. This provides the customer with the flexibility to cancel their trips at any time and improves call hold times for all other customers.

Figure D-19

What do you like about the WebACCESS Module?



Observations:

- Customers like the any-time access to the online module and value the ease and time savings.
- The chart above and the comments below are in line with the MORE TMCC goals and objectives.
- Customer Comments:
- I think it has great potential.
- It's nice to know I can schedule a trip on the weekends or evenings after hours, because with phone system, I needed to have travel needs figured out before end of business on Friday. If I had a need on a Monday, I would not have been able to schedule.
- The 24-hour accessibility
- If the bugs are worked out, this would be my favorite way to schedule all my trips.
- It's a combination of all of these great features that attract me to the WebACCESS module. However, I still appreciate the dispatchers being available to answer any questions I may have.
- I like the fact that since the WebACCESS became an option; I can get through quicker to the call-in center and continue to schedule my trips that way.

Lessons Learned

This section provides the lessons learned over the course of the evaluation process. This section can be used as examples for future projects. The lessons learned are divided into three categories:

- Evaluation Planning: planning for the collection of Before and After data
- Data Collection: actual data collection of Before and After data
- Best Practices: lessons learned during the evaluation process
- Evaluation Planning
- Since there was an extended timeline for deployment, it was a challenge to select a Before and After timeline for data collection.
- Be aware of operational changes that may affect the data comparison with Before and After data. For example, there was a change of vendor at the start of the collection of After data that skewed the numbers and did not give a direct comparison.
- No customer satisfaction survey data for Before data. The evaluation focused on the customer perception of the online module and not on the overall service itself.
- Data Collection
- LYNX provided its customers with incentives for responding to surveys. When the survey information was sent out, the customers were informed that "THREE survey participants will be drawn at random to win TEN FREE RIDES!"
- Since the After data were collected over a period of time, the number of users increased every month for the After Data collection period.
- The reporting timeframe for after collection of data was limited to 11 months for the purposed of this report, but it will be an ongoing process in the coming months.
- Best Practices
- When collecting After Data, make sure the program is in full implementation; for partial implementation, it is challenging to see trends and draw conclusive results due to the increase in the number of users.
- Trips increased but were handled with the same number of call takers without increasing the average hold time.
- The After data collection should be started only after all issues have been resolved.
- Marketing materials should be produced in multiple languages to reflect the local populations.

- The online survey tool worked well for this program as it gave the customer an easy way to provide LYNX with valuable feedback with minimal cost. Since WebACCESS is an online service, it was known that the online survey was appropriate for this customer base.

Summary

The MORE TMCC Phase II Project was a partial implementation of the design that was completed in Phase I. During the Phase II implementation, multimedia trip booking was implemented. This document detailed the process and scope of self-evaluation and went through the lessons learned and best practices on this project.

The Self-Evaluation Plan was derived from the initial goals and objectives, hypothesis, impact areas, and evaluation criteria that were created in Phase I of the project. Since Phase II was the partial deployment of the project, only a subset of the performance criteria defined in Phase I was measured.

Data will continue to be collected and analyzed as Phase II comes to an end and as the deployment of Phase II continues to grow to all LYNX paratransit customers.

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