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Central Florida Regional Transportation Authority d.b.a. LYNX & Polk County Transit Services (PCTS) Rural Intelligent Transportation System Demonstration Project

December 2010

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13 ABSTRACT

This report documents the results of the implementation and evaluation of an intelligent transportation system, specifically mobile data terminals (MDTs) in a coordinated service approach between two neighboring transit systems, the Central Florida Regional Transportation Authority (LYNX) and Polk County Transit Services (PCTS). This project focused on a rural area where the two transit systems provide overlapping service, centered on the community of Poinciana. This area stretches between Osceola and Polk counties in central Florida. The project was evaluated based on its success in achieving four goals: (1) Increase efficiency of paratransit operation with regard to paratransit services; (2) Coordinate billing processes and funding sources to maximize the availability of transportation services in rural areas; (3) Demonstrate and evaluate how innovative intelligent transportation systems (ITS) technologies could be utilized to enhance options in rural communities; and (4) Reduce overall costs of providing paratransit service in rural areas while increasing service opportunities.

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List of Acronyms

AVL	Automatic Vehicle Location
CTC	Community Transportation Coordinator
FDOT	Florida Department of Transportation
FTA	Federal Transit Administration
GIS	Geographic Information Systems
GPS	Global Positioning Satellite
ITS	Intelligent Transportation Systems
JARC	Job Access and Reverse Commute
LAN	Local Area Network
LYNX	Central Florida Transportation Authority
MDT	Mobile Data Terminals
PCTS	Polk County Transit System
RFP	Request for Proposal
TD	Transportation Disadvantaged
WHAT	Winter Haven Area Transit

Foreword

This report summarizes the efforts to implement and evaluate the impact of Rural Intelligent Transportation Systems (ITS) after the innovative software, Mobile Data Terminals (MDTs), were placed on transit vehicles in the rural community of Poinciana, Florida. The equipment was part of a Federal Transit Administration (FTA) Operational Test awarded to the Central Florida Regional Transportation Authority (LYNX) and Polk County Transit System (PCTS) and was intended to help achieve four main goals: increase efficiency of paratransit operations, maintain or improve customer satisfaction, reduce overall costs of providing paratransit service in rural areas while increasing service opportunities, and coordinate billing.

Rural ITS aided transit operators, dispatchers, and consumers in part by providing maps and manifests, as well as fare and passenger information to assist in difficulties faced in public rural transportation. Broader land area, fewer employment opportunities, and disabled/disadvantaged passengers were some of the obstacles LYNX and PCTS faced and hoped to alleviate with the MDTs.

Photograph of the driver's compartment of a Polk County Transit Services' paratransit vehicle with a mobile data terminal (MDT).

Notice

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Other members of the project team that deserve recognition for their commitment and contributions to the Rural ITS project include LaChant Barnett of Tindale-Oliver and Associates, Inc., Rob Gregg of the University of South Florida Center for Urban Transportation Research (CUTR), Darrell Smith of Runways Transportation Company, and PBS&J.

Last, but certainly not least, special thanks and recognition is extended to Ms. Charlene Wilder of the Federal Transit Administration (FTA), the sponsoring agency of this project. Her guidance and assistance throughout this project is greatly appreciated.

Summary

Background

The Central Florida Regional Transportation Authority d/b/a LYNX and Polk County Transit System (PCTS) Rural Intelligent Transportation Systems (ITS) Demonstration Project began in 2002, after LYNX and PCTS received funding for a Federal Transit Administration (FTA) Operational Test for the Implementation of Advanced Technologies in Rural Transit Service.

The cooperative agreement enabled the two entities to install Mobile Data Terminals (MDTs) and Automatic Vehicle Location (AVL) aboard their respective transit vehicles, which helped transit operators, dispatchers, and consumers in part by providing maps and manifests. The software also provided fare and passenger information to LYNX and PCTS, which both face challenges of providing services in large, rural areas to many who are disadvantaged.

LYNX operates 66 fixed-routes and 126 paratransit routes in Orange, Osceola, and Seminole counties. PCTS is a division under the Polk County Board of County Commissioners. PCTS operates nine fixed-routes, six days per week in eastern Polk County. Currently, both agencies provide service in Poinciana, Florida, which is located within both Osceola and Polk counties. As a result, neighbors living in two separate counties could head to a common destination with their respective provider, resulting in a duplication of service.

Rural Advanced Technologies

LYNX conducted a procurement process to obtain the advanced technologies needed for the Rural ITS Demonstration Project. Through the procurement process, the agencies obtained and installed the following technologies for implementation and evaluation. The technologies were combined with the goal of increasing mobility within the rural area.

- **Trapeze Pass Software** – The software package that automates reservations, scheduling, and dispatch functions. Both LYNX and PCTS have adopted the Trapeze Software™ family of products, thus offering interoperability across transit agencies.

- **Upgraded Voice Communications** – LYNX and PCTS upgraded to 800 Mhz trunking systems to directly support the Rural ITS Demonstration Project.

- **Mentor XGate Middleware** – Interfaces with in-vehicle applications to send messages to and from dispatch. Integrates mobile computing components.

- **Mobile Data Terminals (MDTs)** – Allow real-time electronic communications between dispatchers and operators. A visual display of information is sent over the MDTs removing the need for manual manifest of trips. Drivers can electronically receive passenger manifests, insert/delete trips, and collect real-time status updates and automated mileage information for each trip. Drivers can use on-screen maps and turn-by-turn voice prompts for navigation.

- **Global Positioning Satellite (GPS)** – A system that provides the ability to track vehicles by latitude and longitude with 11 meter accuracy, depending on coverage, obstructions, and other impediments. The GPS system is the key component for the accuracy of the computer-aided dispatch/automatic vehicle location CAD/AVL system. These technologies work in concert to send information to both the MDT and dispatchers. In addition, GPS is also utilized to provide a visual display of map information over the MDT and on equipped computer systems. This improves customer service because dispatchers can notify clients of the vehicle arrival time for scheduled trips. The GPS system also provides the MDT with passenger locations facilitated by turn-by-turn on-screen and audio directions.

- **Automatic Vehicle Location (AVL)** – Computes and transmits vehicle location and status, integrates vehicle locations with arrival signs, and displays current vehicle locations.

- **CITRIX** – The software platform that allows real-time access through a server connection between LYNX and PCTS, providing shared access to each party's database manifests for the purpose of grouping trips.

- **Computer Aided Dispatch (CAD)** – The software program that coordinates and automates scheduling functions using GPS information.

- **Geographic Information System (GIS)** – The system utilized to provide a visual display of information over the MDT and on equipped computer systems.

Rural ITS Evaluation Goals

Through conversations with the agencies' staff members, a series of project goals, objectives, and strategies were developed to guide the Rural ITS implementation process. In addition, performance measures were developed to evaluate how the advanced technologies impacted the delivery of both LYNX and PCTS service within the rural area. The four main project goals are listed below. Following each goal is a summary of the strategies that were implemented to achieve the project goals and the key findings.

Goal 1: Increase efficiency of paratransit operations with regard to paratransit services.

To increase the efficiency of paratransit services within the rural area, the agencies coordinated customer trips by utilizing CITRIX technology to review manifests each evening as well as 24 hours in advance and multi-load out-of-area trips and trips with similar origin and destinations on to one agency's vehicle regardless of the designated provider. In addition, if PCTS had a paratransit customer that could access service along a LYNX fixed-route, PCTS paratransit service would drop off the customer at an accessible LYNX fixed-route bus stop and provide the passenger with a complimentary bus pass.

Performance indicators used to monitor the efficiency of the paratransit operations, specifically whether the agencies are carrying more people without incurring additional costs include the number of passengers per trip, passengers per hour, and the number of out-of-area passengers versus the number of out-of-area trips.

Passengers per trip and passengers per hour measure the improved service efficiency for each individual transit agency; however, improving the efficiency of these measures may reduce overall costs and allow the agencies to expand existing services within the rural areas. In addition, passengers per trip and passenger per hour may indicate that the agencies have multi-loaded vehicles as a result of the rural technologies, specifically the MDTs. Increases in ridership may indicate that coordination has occurred and mobility options have expanded for individuals in the rural area.

Key Findings

- None of the measures reflected a clear improvement related to reducing the duplication of service
- Neither agency provided a single fixed-route transit pass for the other agency's transit services during the entire project period; therefore, neither agency reduced costs by transitioning paratransit customers to the fixed-route system
- Transit ridership in the rural project area increased during the project period across all modes
- The Poinciana Pick Up Line, a new flex-route service, was launched and experienced a 310 percent increase in ridership during the project and post-project periods
- Customer service staff, dispatchers, and drivers who were interviewed agreed that the project resulted in an improved paratransit operation and the service was carrying more passengers more efficiently

Goal 2: Coordinate billing processes and funding sources to maximize the availability of transportation services within rural areas.

As part of the Rural ITS Demonstration Project, LYNX and PCTS utilized their respective Trapeze PASS software to track paratransit trips provided by each agency on a monthly basis. As a result, the agencies began to operate trips for each other. The agency that provided the coordinated trip billed the other agency for the trip utilizing the agency's established Transportation Disadvantaged (TD) Commission rate. As part of the Rural ITS Demonstration Project, LYNX and PCTS explored methods for billing all paratransit funding sources through electronic mechanisms as well as receiving payments electronically. In addition, both agencies will jointly seek opportunities to further service to the rural area by partnering to secure funding through the Florida Department of Transportation (FDOT) service development grants and Job Access and Reverse Commute (JARC) and New Freedom Program (NFP) grants.

Since no coordinated trips were operated between LYNX and PCTS prior to the operational test, there is no pre-project data.

Key Findings

- Coordinating billing for paratransit trips between two different agencies is challenging at best, and with Florida's coordinated transportation system's multiple funding partners the task becomes exceptionally difficult. While LYNX and PCTS developed a procedure to operate coordinated trips, they only provided 11 trips during the project period. Several items impacted the coordinated trips resulting in the low number of trips provided during the project period. Several of these factors are described below.

    - Differences in fares are based on each agency's approved rate of reimbursement from the TD Commission or the approved trip rate schedule from the Agency for Persons with Disabilities (APD). Fares were problematic since the agency collecting the fare did not have the same approved rate schedule with the provider of the trips. LYNX's rate reschedule was based on per hours while PCTS's rate was based on per mile. Utilizing the rate schedules and each agency's respective passenger fare could result in an overage per trip or shortfall. The agencies decided that the fare paid by the passenger should be the fare that the passenger would normally pay if the trip was not coordinated; therefore, each agency was responsible for reconciling any overages or shortfalls.
    - Differences in "no-show" policies and procedures for handling missed trips were problematic during the project period; however, since the project began PCTS has adopted the same no-show policy as LYNX to improve consistency during coordinated trips.
    - Differences in the times that each agency scheduled and dispatched trips made coordination difficult. Due to LYNX's size and the number of paratransit trips provided, LYNX updated its manifest throughout the day, while PCTS had designated times for preparing the manifest. Due to the inconsistent procedures for scheduling, it was difficult to identify the trips that would be well suited for coordination.
    - Differences in out-of-area trip policies created difficulties in coordinating trips. The agencies determined that the best trips to coordinate would be LYNX users needing transportation to Polk and Hillsborough counties and PCTS users needing transportation to Seminole and Volusia counties. Trips for both agencies to Alachua County also provided an opportunity for coordination. However, LYNX transported customers outside of the service area two days per week, while PCTS provided out-of-area trips any time. Throughout this demonstration project, PCTS adopted the same out-of-area trip policy, which furthered efforts for coordination.

    It is anticipated that additional coordination efforts can be undertaken in the future, since these barriers were identified during the demonstration project and have been addressed since the project.

- One objective of this goal was to adjust the established billing procedure from each agency by implementing an electronic process for billing; however, a completely electronic coordinated billing was never established through the duration of the

demonstration project. Since the project, the Polk County Board of County Commissioners has approved Electronic Payment Transfers. LYNX and PCTS coordinate electronic payments at this time, but billing still involves some manual processing.

Goal 3: Demonstrate and evaluate how innovative ITS technologies could be utilized to enhance options in rural communities.

With the implementation of new technologies, customers expect the process of obtaining or giving information to improve. As part of this Operational Test, vehicles were equipped with AVL. This allows dispatchers to be proactive and aware of delayed trips in order to begin handling them before the customer calls on the phone.

To measure the achievement of the goals established to guide the project, pre-project data was collected from both agencies. During the data collection process, LYNX was unable to provide any call time data collected prior to the Operational Test; however, PCTS was able to provide almost all of the data. PCTS was unable to track the amount of time it took for a call to abandon or how long the caller would wait on hold before hanging up. PCTS was also unable to provide the total number of requested trips as not all requested trips result in reservations. If PCTS and the customer are unable to reach an agreement of an appointment or pick-up time, the call is counted as a trip request but never generates a reservation.

Key Findings

- The perceived availability and quality of transit service was met based on the results of the onboard and telephone surveys conducted of fixed-route, flex-route, and paratransit passengers of both agencies.

Goal 4: Reduce overall costs of providing paratransit service in rural areas while increasing service opportunities.

The agencies are reducing overall costs by coordinating to provide trips for each others' customers and utilizing only one vehicle when coordinating out-of-area trips. In addition to coordinating trips, an additional portion of the grant called for both agencies to distribute fixed-route passes for the other agency to assist them with completing their out-of-area trips on fixed-route. Prior to the start of the project, neither agency had issued any passes for the other agency.

Indicators used to measure the progress towards achieving this goal include cost per passenger, cost per trip, and last cost performance. Last cost performance can be measured in one of two acceptable methods for the TD Commission: cost per hour or the average cost for operating the service for every hour and cost per mile or the cost incurred for every mile of revenue service operated. In addition to examining improvements in performance and cost savings measures, surveys and interviews were conducted to gain direct feedback from customers and operators. Customers who participated in the survey and interview processes included the following three groups:

1. Passengers on-board Link 26 (LYNX's Pleasant Hill Road/Poinciana route) and on-board the Poinciana Pick Up Line (a call-a-ride flex-route service circulating within the Poinciana community).
2. A random sample of current ACCESS LYNX and PCTS paratransit passengers who reside within the Poinciana service area.
3. Passengers on-board ACCESS LYNX and PCTS paratransit vehicles while conducting an observation of the deployed technology.

Key Findings

- Service opportunities increased as a result of the implementation of the Poinciana Pick Up Line
- LYNX's cost per passenger decreased from $28.24 in the pre-project period to $27.65 in the pre-project period
- LYNX's paratransit cost per hour decreased from $39.42 in the pre-project period to $35.52 in the post-project period
- LYNX's cost per vehicle trip increased from $30.94 in the pre-project period to $32.44 in the post-project period
- PCTS' cost per passenger increased from $25.34 in the pre-project period to $31.15 in the post-project period
- PCTS' paratransit cost per trips increased from $25.43 in the pre-project period to $30.81 in the post-project period
- PCTS' cost per hour increased from $1.64 in the pre-project period to $2.40 in the post-project period; however, this measure is somewhat questionable due to the unlikely low rate per hour

Lessons Learned

After assessing the technology installation and implementation process within the rural area, the following lessons learned and recommendations are include for future consideration when deploying ITS technologies.

- Differences in billing procedures and rates may result in one agency paying more for services than the other and difficulties receiving payment for coordinated trips; therefore, billing differences should be addressed to achieve successful coordination.
- Additional improvements to the MDTs seemed to be needed, such as updating the street maps.
- Text messages are an efficient way of communicating and take less time than traditional radio use.
- Automatic updates from the MDTs to Trapeze PASS reduced manual data entry work performed by dispatchers.
- Providing complimentary fixed-route bus passes did not prove to be an effective measure for the efficiency of paratransit operations with regard to paratransit service.

Conclusion

Although both agencies were satisfied with the technological additions, only 11 trips occurred during the evaluation and none since; therefore, there may be a need for further study of the utilization of the technology before it becomes readily available. However, staff interviews showed improved job satisfaction among paratransit dispatchers and drivers. In addition, the project evaluation concluded that drivers and dispatch were having increased efficiency since the MDTs allowed dispatch to locate each bus and determine the best route to accommodate travelers, decreasing the duplication of service by each agency. Efficiency was also increased as the MDTs created manifests with optimum speed and accuracy daily. The equipment showed the amount each traveler was required to pay, which they could do either with cash or pre-paid cards. However, even if a rider was unable to pay the fare, they were still permitted to travel.

While the technology was supposed to help LYNX and PCTS coordinate their trips, the two agencies had not previously coordinated their services and had different billing procedures. Neither agency had experience with billing other transportation providers. Differences in billing between the two agencies were noticeable as LYNX billed per hour and PCTS charged per mile; therefore, making comparisons difficult. Other differences in billing included LYNX using an established rate and the PCTS rate varied depending on the passenger, often resulting in LYNX paying more for services than they were receiving from their funding sources. Billing differences between agencies need to be addressed before trips occur to achieve successful coordination. Based on the results of the evaluation, the following billing procedure recommendations should be considered when coordinating trips:

1. Timely monthly billing
2. Billing detail to “booking agency’s cost”
3. Electronic Funds Transfer

In addition to billing procedures, additional improvements to the MDTs seemed to be needed, such as updating the street maps. However, both agencies were satisfied with the technology and staff interviews indicated improved jobs satisfaction among paratransit dispatchers and drivers.

Chapter 1: Introduction

In 2002, the Central Florida Regional Transportation Authority, d/b/a LYNX and Polk County Transit Services (PCTS) partnered to develop a Rural Intelligent Transportation System (ITS) Demonstration Project. The agencies were awarded funding by the Federal Transit Administration (FTA) for an Operational Test for the Implementation of Advanced Technologies in Rural Transit Service. The purpose of the joint LYNX and PCTS Rural ITS Demonstration Project was to improve mobility service in rural areas within the respective service areas and add a connection to fixed-route service for residents outside of the ¼-mile access boundary. Additionally, this test is the first experience with Mobile Data Terminals (MDTs) by each agency in an effort to increase the efficiency and effectiveness of the existing services provided by the agencies.

The advanced technologies that were implemented with the goal of improving the efficiency of transportation services provided by LYNX and PCTS included Computer Aided Dispatch, Automated Vehicle Location (CAD/AVL) and MDTs. These technologies and the associated equipment required by each agency to successfully operate both systems independently were installed on 10 vehicles for each agency (20 vehicles total) by November 2006.

Project Partners

Central Florida Regional Transportation Authority (LYNX)

LYNX operates 66 fixed-routes in a three-county service area of 2,500 square miles. Nine of the fixed-routes serve Osceola County, with two routes extending into Polk County: Link 26 Pleasant Hill Road and Link 426 Poinciana. The later route was established in December 2008. LYNX serves a population of more than one million, of which 193,355 live in rural Osceola County. The population is expected to increase by more than 80 percent by year 2025. LYNX also serves the role of Community Transportation Coordinator (CTC) for Orange, Osceola, and Seminole counties. The paratransit service, known as ACCESS LYNX, provided more than one-half million passenger trips last year, with 84,160 of those trips in rural Osceola County. The Bus Pass Program provides many trips each year by allowing Medicaid and Transportation Disadvantaged (TD) customers who are able to ride regular fixed-route buses an opportunity to have greater independence and mobility options, while greatly reducing the cost to the subsidized programs.

ACCESS LYNX and LYNX Pick Up Line are both operated under contract by MV Transportation. MV Transportation is responsible for taking reservations, scheduling, dispatching, reporting, and overseeing driver training and operation of vehicles for ACCESS LYNX and the Pick Up Line. The LYNX Pick Up Line service operates within a designated area in Poinciana, Florida. Residents utilizing the Pick Up Line must make a reservation at least 2 hours in advance. The Pick Up Line service will pick up passengers at their doors and drop them off anywhere within the designated boundary. The vehicle also connects with the fixed-route Link 26 bus service; therefore, providing easier access for those wanting to use local transportation and the fixed-route system.

Polk County Transit Services (PCTS)

PCTS, a division under the Polk County Board of County Commissioners, serves as the Administrative Agent for Winter Haven Area Transit (WHAT), which is located in eastern Polk County. PCTS operates nine fixed-routes, six days per week and is also the designated CTC for Polk County, providing more than 120,000 ambulatory, wheelchair, and non-emergency stretcher trips annually for Medicaid, Florida Commission for the Transportation Disadvantaged, and other agencies for medical purposes. Polk County is located in Central Florida, 35 miles west of Orlando and 25 miles east of Tampa. Polk County is the fourth largest county in land area in the state covering 2,010 square miles. With approximately 518,000 residents, the county is the eighth largest county in terms of population. Thirty-eight percent of the population live in incorporated areas of Polk County, leaving 62 percent in unincorporated areas. Providing coordinated transportation is challenging due to the large land area with widely separated and limited medical services, social services, and employment opportunities.

Polk County operates PCTS and Winter Heaven Area Transit (WHAT) separately, but uses some of the same employees for oversight.

Federal Transit Administration (FTA)

The FTA has provided funding for the Rural ITS project to be conducted by LYNX and PCTS. In addition, FTA has provided guidance and oversight for the project including the development of the Operations Plan to implement services and throughout the final evaluation process.

Regional Mobility Issues

LYNX and PCTS provide a variety of transit services within large service areas. Coordinated transportation services between the two agencies are somewhat limited and are usually only clients with special medical needs using paratransit service rather than employment trips. The agencies recognized an opportunity to coordinate transportation services and provide expanded regional mobility for the residents of the rural area.

Other major issues that impact regional mobility and contribute to transportation barriers are listed in the following bullets:

- Lack of funding for public transportation services;
- Development barriers that are not conducive to efficient transit operations;
- Multiple agencies providing services with varying technologies which makes coordination of transportation difficult; and
- Political boundaries impacting regional decision making.

Project goals and objectives were developed to guide the Rural ITS Demonstration Project and address the regional mobility issues and transportation barriers.

Regional Coordination

The regional coordination effort by LYNX and PCTS allows both agencies to leverage existing vehicles, existing advanced technologies, and existing institutional practices. The Rural ITS project adds a direct link between LYNX and PCTS and further enhances their respective roles as designated CTCs.

Poinciana Pick Up Line

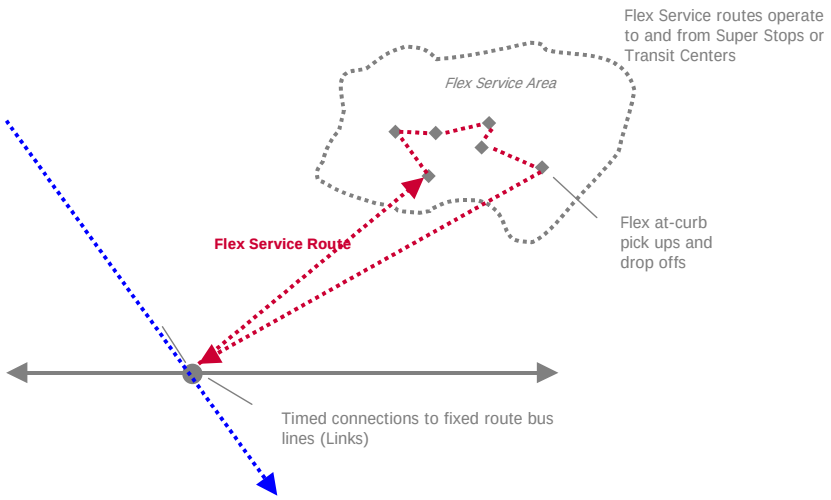
Both agencies currently operate fixed-route services that do not connect with each other. LYNX operates the Link 26 route within Poinciana, which straddles the counties of Polk and Osceola. PCTS operates Route 15 along the U.S. 27 corridor north to Haines City within Polk County and about seven miles west of Poinciana. Since funding a fixed-route service that connects the entire corridor is not financially feasible, the agencies explored the potential for implementing lower-cost service alternatives that would bridge the transportation gap in fixed-route services for the rural area. As a result, LYNX implemented the Pick Up Line flexible circulator service within the Poinciana area. The Poinciana Pick Up Line was the first phase of a new coordinated transit service that linked rural Poinciana residents with the regional LYNX fixed-route bus network utilizing the Link 26.

Figure 1: Poinciana Pick Up Line Vehicle

Flex-route service combines the advantages of a fixed-route's defined service area with paratransit's flexibility in serving customers at their curb. The service is designed to operate on a fixed schedule at one fixed point where the flex vehicle can connect to the fixed-route bus and then provide curb service to any address within a five to seven square mile area. When passengers are connecting to the Pick Up Line from the fixed route, they board the Pick Up Line vehicle and tell the driver where they wish to be dropped off within the defined service area. When passengers wish to be picked up within the service area and taken to the fixed point, they call and make a reservation approximately two hours before their desired scheduled arrival time

at the fixed point stop. The Pick Up Line is unique because it utilizes ITS technologies to facilitate the flex services process.

Figure 2: Flex-Route Service



Paratransit Operations

To improve regional coordination through the Rural ITS Demonstration Project, LYNX and PCTS knew that that an end-to-end communication solution was needed. The pre-existing in-vehicle communication system consisted of radios, paper driver manifests, and map books. The paratransit radios became overloaded making the driver and dispatch communication difficult; therefore, as part of the demonstration project MDTs were installed on the ten LYNX and ten PCTS paratransit vehicles.

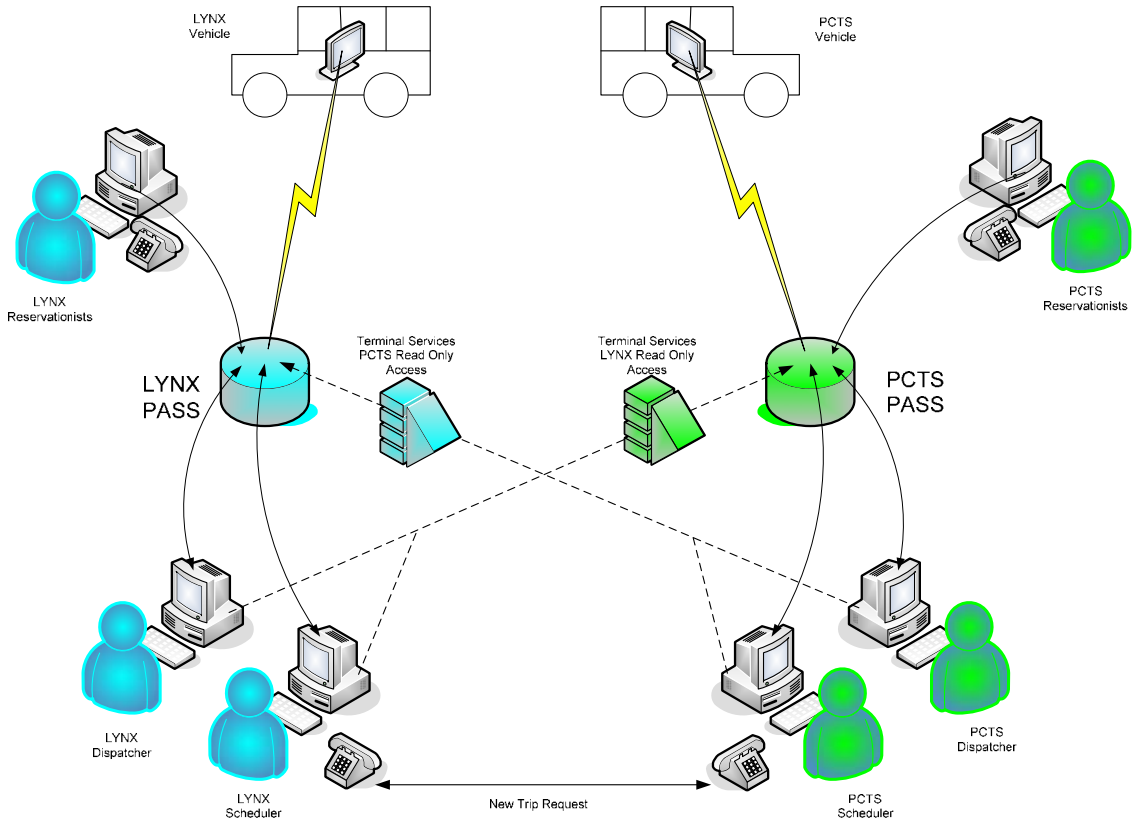
Components of the Rural ITS Demonstration Project

As part of the Rural ITS Demonstration Project, both LYNX and PCTS utilized MDTs and AVL equipment from Mentor Engineering. The units were manufactured with internal, embedded Sprint/Nextel iDEN modems to communicate with the ten pilot vehicles from each agency operating in the rural area. The agencies' existing Trapeze PASS software module was integrated with Mentor's XGate middleware allowing for real-time communication with the vehicles while providing electronic manifests and displaying vehicle location information to the dispatchers at each agency. The system architecture was designed to allow for more same day demand response calls to be filled based on vehicle availability and proximity to the passenger location. The technology was installed on LYNX's entire fleet and is easily scalable for rollout to the remainder of the PCTS fleet when funding becomes available. In a subsequent phase of this project, Trapeze updates and CITRIX technology were utilized to create computer connectivity between LYNX and PCTS technological environments. The technology gave the entities the ability to view one another's vehicle locations while in the other's service area.

Then, it was possible to communicate via phone to direct the others vehicle to customers needing transportation.

Ranger's real-time messaging and AVL capabilities assist with the synchronization of critical transfers between feeder services. This technology allows door-to-fixed-route service and fixed-route-to-door service for rural non-ADA residents. On-time performance is an issue for every transit agency. This technology allows customer service representatives to give clients an accurate estimated time of arrival, which should decrease the number of "No-shows." On-time performance measures are a key component of the service evaluation to determine if increased agency coordination adversely effects service delivery. Figure 2 illustrates the LYNX and PCTS integration of rural ITS components.

Figure 3: System Architecture for Rural ITS Transit Service



Rural ITS Implementation Goals

Through conversations with the agencies' staff members, a series of project goals, objectives, and strategies were developed to guide the Rural ITS implementation process. In addition, performance measures were developed to evaluate how the advanced technologies impacted the

delivery of both LYNX and PCTS service within the rural area. The four main project goals are listed below.

Goal 1: Increase efficiency of paratransit operations with regard to paratransit services.

Goal 2: Coordinate billing processes and funding sources to maximize the availability of transportation services within rural areas.

Goal 3: Demonstrate and evaluate how innovative ITS technologies could be utilized to enhance options in rural communities.

Goal 4: Reduce overall costs of providing paratransit service in rural areas while increasing service opportunities.

The remaining sections of this report include an analysis of the procurement and installation process, an evaluation of the rural ITS technologies and lessons learned throughout the project period. During the final project evaluation, the four goals previously listed as well as the associated objectives and strategies were measured using a series of performance indicators, interview, and customer service data.

Chapter 2: Methodology

This chapter describes the methodology used to evaluate the implementation of the ITS technologies and the progress made towards achieving the project goals that were established to guide the Rural ITS Demonstration Project.

Procurement and Implementation Process

After the technologies were deployed, an assessment of the implementation process was conducted through one-on-one interviews were with key LYNX, MV Transportation, and Mentor Engineering staff. The interviews were structured to focus on the events that surrounded the project's critical points. These critical points include:

- Request for Proposal Preparation
- Proposal Evaluation
- System Design
- Communications Infrastructure
- Installation
- Integration and Testing
- Training
- Operations

Findings from the interviews with key staff during the implementation process are described in greater detail in Chapter 3.

Final Evaluation

In addition to the initial assessment of the procurement and implementation process, a final evaluation of the project was conducted to evaluate the efficiencies and lessons learned during the rural transit coordination process.

To measure the project's success, project data was collected over the following 3 time periods:

1. Pre-Project - April 2006 through January 2007
2. During-Project - April 2007 through January 2008
3. Post-Project - April 2008 through January 2009

Pre-project data included interviews conducted by both agencies to obtain passenger input relating to the four project goals. During-project data included available operational, billing, and customer service data. A consultant conducted the final evaluation process and gathered the post-project data using the following techniques:

- Customer Telephone Surveys
- Mail Surveys
- On-board Surveys
- Interviewing and Observing Drivers (both on and off of the vehicles)
- Collecting LYNX and PCTS Billing Information

Goals, Objectives, and Strategies

Each of the project goals is listed below along with a table illustrating the respective objectives and strategies. The tables also include the measures used to gauge the project's progress towards achieving each goal. In addition, each table is followed by an explanation of the measures.

Goal 1: Increase efficiency of paratransit operations with regard to paratransit services.

For the goal, increase efficiency of paratransit operations with regard to paratransit services, the objectives, strategies, and respective measures are:

Table 1: Efficiency Goals, Objectives, and Strategies

Goal	Objective	Strategy	Measure(s)
1. Increase efficiency of paratransit operations with regard to paratransit services.			
	1. Reduce duplication of service by transit agencies.		
		1. Coordinate customer trips by utilizing CITRIX technology to review manifest each evening and multi-load trips within a three-mile radius with a	Passengers/Trip
			Passengers/Hour
			# Multi-load Trips
		2. Coordinate customer trips by utilizing CITRIX technology to review manifest 24 hours in advance for out-of-area trips and multi-load trips to one agency's vehicle.	# Out-of-area passengers vs. # out-of-area vehicle trips
		3. If PCTS has a paratransit customer that can access service along a LYNX fixed-route, PCTS paratransit service will drop the customer to an accessible LYNX fixed-route bus stop and provide complementary bus passes.	# of LYNX passes issued by PCTS
			# of PCTS paratransit passengers and clients to LYNX buses
	2. Increase overall area transit ridership.		
		1. Introduce new flex-route service to provide open-door same day reservation service (PickUpLine)	PickUpLine passengers
		2. Improve area fixed-route ridership (Link 26) due to connections with paratransit and flex-route services.	Link 26 passengers
			PickUpLine passengers
			Direct connection Access LYNX/PCTS paratransit passengers
		3. Increase overall ridership across all area transit modes.	Fixed-route+PickUpLine+Access LYNX+PCTS paratransit ridership, Total ridership per capita for target area

The above measures quantify the changes in productivity of the services offered, being:

> Passengers per Trip: The average number of passengers on board a single vehicle trip. A higher number is desirable.

Passengers Per Hour: The average number of passengers on board a vehicle for each hour a vehicle is in operation. A higher number is desirable.

Number of Multi-Load Trips: Vehicle trips with more than one passenger on board. A higher number is desirable.

Number of Out-of-Area Passengers Versus Out-of-Area Vehicle Trips: Passengers traveling on vehicle trips going beyond the LYNX Orange, Osceola, and Seminole county service area and beyond the PCTS Polk county service area. A higher ratio is desirable.

Number of LYNX Passes Issued by PCTS: Number of multi-ride passes for LYNX fixed-route transit services provided directly to customers by PCTS. A higher number is desirable.

Number of PCTS Paratransit Passengers and Clients to LYNX Bus: Number of paratransit passengers traveling to transfer to a LYNX fixed-route bus to complete their journey. A higher number is desirable.

Goal 2: Coordinate billing processes and funding sources to maximize the availability of transportation services within the rural areas.

The second goal, coordinate billing processes and funding sources to maximize the availability of transportation sources within the rural areas, focuses on finding additional funding resources or using savings to extend transportation resources as well as streamlining the billing process of paratransit trips. Both LYNX and PCTS serve as the Florida Commission for the Transportation Disadvantaged's CTCs for their respective counties. This designation means that both systems not only provide ADA complementary paratransit service, but also service for eligible Medicaid clients and the Transportation Disadvantaged. Trips for Medicaid clients and the Transportation Disadvantaged are funded through the state; therefore, billing trips to the appropriate agency is already complex, and providing for billing between the two separate transit agencies adds new challenges. The objectives, strategies, and respective measures for this goal are listed in Table 2.

Table 2: Billing Goals, Objectives, and Strategies

Goal	Objective	Strategy	Measure(s)
2. Coordinate billing processes and funding sources to maximize the availability of transportation services within rural areas.			
	1. Test how technology can increase coordination of finances for transportation services shared between multiple agencies.		
		1. Utilizing Trapeze, track trips provided by each agency on a montly basis. Each agency will provide a monthly list of eligible customers for trip purposes. By the 10th of the following month each agency will provide a list of all passengers carried via the other agency.	# of LYNX trips billed by PCTS
			# of PCTS trips billed by LYNX
	2. Coordinate billing for various services tested through this pilot utilizing technology		
		1. LYNX and PCTS will seek methods to bill all paratransit funding sources through electronic mechanisms, as well as receive payments electronically.	% of trips billed electronically
	3. Seek opportunities to find additional funding sources or use savings to extend transportation services.		
		1. Jointly seek opportunities to further service to the rural area by partnering to secure funding through FDOT service development grants and Federal JARC and NFP (5307, 5310, 5311, 5316, 5317, FDOT Service Development, Rural ITS Demonstration Grant)	Change in grant dollars awarded for targeted joint rural service areas

Number of LYNX Trips Billed by PCTS: The number of passenger trips that LYNX transports for PCTS clients, in which PCTS then bills the appropriate funding agency.

Number of PCTS Trips Billed by LYNX: The number of passenger trips that PCTS transports for LYNX clients, in which LYNX then bills the appropriate funding agency.

Percent of Trips Billed Electronically: The share of the trips included in the prior two measures that are billed using electronic, automated methods.

Change in Grant Dollars Awarded for Targeted Joint Rural Service Area: The increase or decrease in grant funds awarded LYNX and PCTS for providing transit services in the targeted joint rural service area centered on Poinciana, Florida covering both Osceola and Polk counties.

Goal 3: Demonstrate and evaluate how innovative ITS technologies could be utilized to enhance options in rural communities.

For the goal, demonstrate and evaluate how innovative ITS technologies could be utilized to enhance service in rural communities, the two transit agencies strongly desire to be able to use new technology that results in better service to their customers, and not be perceived as degrading service in the name of efficiency. The project team identified three areas where there are opportunities to measure customer satisfaction: the reservation and information call centers, the paratransit vehicle services, and the overall service of the transit systems being fixed-route, flex-route, and paratransit.

Table 3: Customer Satisfaction Goals, Objectives, and Strategies

Goal	Objective	Strategy	Measure(s)
3. Demonstrate and evaluate how innovative ITS technologies could be utilized to enhance options in rural communities.			
	1. Utilize technologies to maintain or improve customer satisfaction.		
		1. Both systems monitor call center statistics and adjust procedures, as necessary.	Call hold times
			Length of calls
			Dropped calls
			Trips requested/trips reserved
		2. Improve customer satisfaction with available transit service.	Customer survey responses from Link 26, PickUpLine, Access LYNX, and PCTS paratransit
	2. Utilize technologies to maintain or improve transportation services.		
		1. Ensure at least same level of service for paratransit customers.	Completed trips/reserved trips
			On-time performance
			# of no-shows
			# of missed trips
			Average trip length

Call Hold Times: The length of time the average caller into the paratransit reservation and information customer service center must spend waiting on hold before speaking with a transit representative. A shorter call hold time is desirable.

Length of Call: The average amount of time spent with each caller into the paratransit reservation and information customer service centers. A shorter call length is desirable.

Dropped Calls: The number of telephone calls into the paratransit reservation and information customer service center that are not answered by a transit representative before the caller hangs up while waiting on hold. A smaller number of dropped calls are desirable.

Trips Requested / Trips Reserved for Each Call Center: The number of passenger trips that clients requested versus the number of actual reservations made. A higher ratio is desirable.

Completed Trips / Reserved Trips: The number of paratransit passenger trips actually transported versus the number of passenger reservations for service. A higher ratio of Completed Trips / Reserved Trips is desirable.

On Time Performance: The percentage of paratransit trips that are on-time versus the total trips. A trip is defined as being on time if it arrives 15 minutes or less before the scheduled pick up time or 30 minutes or less after the scheduled pick up time. A higher percentage is desirable.

Number of No-Shows: The number of passengers who are not present for boarding a reserved paratransit trip. A lower number is desirable.

Number of Missed Trips: The number of reserved trips that are not met by paratransit vehicles, so that the passenger is not transported. A lower number is desirable.

Average Trip Length: The average distance passengers travel on board a paratransit vehicle to reach their destinations. A lower average trip length is desirable.

Improve Customer Satisfaction: How well transit passengers are satisfied with the service will be measured through surveys. The overall surveying effort is discussed in detail later in this chapter.

Goal 4: Reduce overall costs of providing paratransit service in rural areas while increasing service opportunities.

For the goal, reduce overall costs of providing paratransit service in rural areas while increasing service opportunities, the two transit systems want to be able to provide as much service as possible for the limited resources they have available. The measures for this goal focus on efficiency or moving as many people at as low a cost as possible.

Table 4: Service Goals, Objectives, and Strategies

Goal	Objective	Strategy	Measure(s)
4. Reduce overall costs of providing paratransit service in rural areas while increasing service opportunities.			
	1. Utilize coordination to improve transportation service across service areas and increase opportunities for customer utilization.		
		1. Agencies will supply each other bus passes for the purposes of transitioning paratransit customers to fixed-route or PickUpLine services. Pass prices will be determined and documented by PCTS and LYNX as this pilot project moves forward.	# of LYNX passes issued by PCTS
			# of PCTS fixed-route passes issued by LYNX
		2. Through trip coordination, reduce paratransit service agency expenses for PCTS and LYNX. Evaluating this through comparisons to cost for the same customers, trips, or overall service in the previous year.	LYNX cost/passenger
			LYNX cost/trip
			LYNX cost/hour
			PCTS cost/passenger
			PCTS cost/trip
			PCTS cost/hour

Number of LYNX Passes by Type Issued by PCTS: The number of multi-ride passes provided by PCTS for use on LYNX buses and Pick Up Line (flex route) services. A higher number is desirable.

Number of PCTS Fixed-Route Passes Issued by LYNX: The number of multi-ride passes provided by LYNX for use on PCTS buses. A higher number is desirable.

LYNX Cost per Passenger: The total operating costs for LYNX paratransit (ACCESS LYNX) service divided by the total number of LYNX paratransit passengers. A lower number is desirable.

LYNX Cost per Trip: The total operating costs for LYNX paratransit (ACCESS LYNX) service divided by the total number of LYNX paratransit vehicle trips. A lower number is desirable.

LYNX Cost per Hour: The total operating costs for LYNX paratransit (ACCESS LYNX) service divided by the total number of LYNX paratransit vehicle hours (the amount of time the vehicles are in service). A lower number is desirable.

PCTS Cost per Passenger: The total operating costs for PCTS paratransit service divided by the total number of PCTS paratransit passengers. A lower number is desirable.

PCTS Cost per Trip: The total operating costs for PCTS paratransit service divided by the total number of PCTS paratransit vehicle trips. A lower number is desirable.

PCTS Cost per Hour: The total operating costs for PCTS paratransit service divided by the total number of PCTS paratransit vehicle hours (the amount of time the vehicles are in service). A lower number is desirable.

Passenger Surveys

In order to gain direct feedback from customers and observe how the technology was utilized, the evaluator conducted a series of surveys and interviews with three groups of people. The surveys given to customers are identical regardless of the mode of travel or method of conducting the survey. The three groups of people surveyed or interviewed include:

1. Passengers on-board Link 26 (Pleasant Hill Road/Poinciana) and the Poinciana Pick Up Line.
2. A random sample of current ACCESS LYNX and PCTS paratransit passengers who reside within the Poinciana service area.
3. Passengers on-board ACCESS LYNX and PCTS paratransit and ACCESS LYNX vehicles while conducting an observation of the technology in use.

Link 26 and Poinciana Pick Up Line Survey

Passengers on LYNX's Link 26 and the Poinciana Pick Up Line were surveyed for two consecutive weekdays, Monday, September 29, 2008 and Tuesday, September 30, 2008 covering all times of the day. The survey was distributed on-board the vehicle to all customers who were willing to complete the questionnaire. The survey was available in both English and Spanish due to the high Hispanic population in the area. Survey participants could either hand the completed survey to the evaluator or return the survey by mail.

ACCESS LYNX and PCTS Paratransit

LYNX and PCTS provided a listing of all customers who have used the service within the past 12 months and whose mailing address lies within the 34759 and 34758 zip codes. These customers were assigned a random number using Microsoft Excel's Random Number Generation Tool, sorted by those numbers and the top 15 people were contacted to complete the survey by telephone interview.

ACCESS LYNX and PCTS Paratransit On-Board Survey

On Wednesday, October 1, 2008, an observer rode along with two separate PCTS paratransit operators as they used the MDTs installed in the vehicle. In addition, the passengers on-board the vehicles were surveyed for their input using the same survey as those contacted by telephone. On Thursday, October 2, 2008 the same process was completed at ACCESS LYNX. The completed surveys were compiled and tabulated together.

Copies of all surveys are attached in Appendix 2: Customer Survey Instruments.

Staff Interviews

Several staff members from both agencies were interviewed concerning how their jobs and the perception of service they provide have changed from one year ago and the start of the project. The results of these interviews provide their perceptions as to what has improved or not improved as a result of the Rural ITS project. Their perceptions can be compared against actual data to determine if the coordinated service is working or just perceived to be working. Appendix 3 includes samples of the interview guides used by the evaluator when meeting with staff members.

LYNX & MV Transportation Office Surveys

On Thursday, October 2, 2008, the evaluation team visited the office of MV Transportation, the contract transportation provider for LYNX, to conduct surveys and observe staff from the billing, customer service, dispatch, and operations departments as they completed tasks related to the Rural ITS project.

Customer Service and Dispatch

The evaluator conducted six surveys with MV staff that work for ACCESS LYNX in positions in or related to dispatch, scheduling, or customer service. When the evaluator arrived on the scheduled interview day, MV was experiencing a staff shortage and all regular reservationists were busy and unable to participate in the interview process. Due to the staffing situation, rather than interview the reservationists the evaluator interviewed staff who might have some insight and useful comments regarding the Rural ITS project. Most of the staff available had experience in other positions, including reservations. The average employment term of those interviewed was over eight years. Some of the employees had been employed directly by LYNX prior to the contract with MV Transportation for this operation.

While most (five out of six interviewed) individuals indicated they were a little familiar with the project, most knew of the project in terms of the implementation of the MDTs and the Trapeze PASS interface, rather than the overall goal of using technology to coordinate trips between agencies.

On-board Driver Interviews

The evaluator interviewed paratransit drivers (or staff members recently promoted from driving positions) from LYNX's paratransit contract provider, MV Transportation, and from PCTS. Each of the drivers was asked the following questions:

1. Has your job changed as a result of this project?
2. Do you believe you have more or less efficient schedules?
3. Do you believe you carry more or less customers in a day?
4. Do you believe customers are on your vehicle for more or less time per trip?
5. Do you have more or fewer customers transferring between modes?

6. What percentage of time have you had customers on-board the vehicle?
7. Do customers express the need for more transportation? If so, where and when?
8. Have you received any training on the MDTs? Do you need any additional training on their use?
9. Do you use the MDTs? If so, how and what information do you get from them? Is there additional information you would like them to display?

The results of these interviews are presented in Chapter 5.

LYNX/MV Transportation Drivers

During the course of the day, the evaluator interviewed two staff members who recently were promoted from operator to road supervisor and trainer. In addition, one active driver was interviewed and observed as to how the technology was being used.

The first person interviewed was a female trainer (MV 1) who had started working for MV Transportation almost 20 months ago as a driver and was promoted to trainer after 1 year. When she first started, the MDTs were being installed in vehicles, but she was unaware of the overall project at that time. She became more aware of the grant after she was promoted and more involved in operations.

The second person interviewed was a male road supervisor (MV 2) who started working for MV Transportation approximately two years ago as a driver. He was promoted to his current position after being with the company for just under 1 year. At the time of his hiring, no information was given about the grant or how the MDTs were obtained. As he became more involved in operations, he learned of the grant and related service.

The third person interviewed was a male driver (MV 3) who started with MV Transportation 9 months ago. He had not held any additional positions at MV Transportation or LYNX. When he started working for MV, the MDTs were already installed in the vehicles. He was not familiar with the project or the grant used to obtain the MDTs and updated dispatching software.

PCTS Drivers

During the course of the day, the evaluator team traveled with two different drivers to conduct interviews and observe how the technology was being used.

The first person interviewed was a female driver (PCTS 1) who had worked there eight years. Her first three years were driving for the WHAT, which is a fixed route service operated separately by PCTS. She was not familiar with the project or the grant used to obtain the MDTs and updated dispatching software.

The second person interviewed was a male driver (PCTS 2) who had worked there 13 months and had no additional positions within PCTS. He was not familiar with the project or the grant used to obtain the MDTs and updated dispatching software, but commented not all vehicles were equipped with the MDTs. Since he was a new employee, he did not always have a vehicle

equipped with an MDT. He also said he preferred vehicles with MDTs, since it allowed him to complete his job more easily and helped eliminate mistakes.

Chapter 3: Procurement Process

Request for Proposal Preparation

As part of the Rural ITS Study, a Request for Proposal (RFP) was created to contract systems integration services, hardware, software, and installation to provide an integrated communications subsystem and CAD/AVL carrier services program. Both LYNX and PCTS seek to improve and better manage Paratransit operational efficiencies through CAD/AVL technologies and have seriously committed to improving transportation and mobility for residents. The RFP was a major step in soliciting a qualified proposal that would ultimately excel the transit programs to a new level of technology and efficiency.

In the preparation of the RFP, LYNX related that their most difficult decision was the specification of a strong and robust cellular wireless communications system. The cellular system connects the AVL field units with the data network that is used by the dispatcher to provide trip and client related information to the driver. This cellular network also allows the driver to send "canned" messages (i.e., preset messages) to the dispatcher.

LYNX program managers related that the vendor's use of cellular wireless technology provided an excellent solution. The key parameters of vehicle cost per month, coverage available, and bandwidth enabled LYNX to readily expand the paratransit fleet's data network to include the fixed route fleet's data network. The fixed route fleet includes 230 vehicles.

Proposal Evaluation

Two firms provided proposals and costs in response to the Paratransit RFP: Mentor Engineering and Trapeze. The proposals were evaluated by the LYNX source evaluation committee (SEC). Although the Mentor proposal was not the lowest in cost, the evaluation team strongly felt that Mentor had the better equipment, most current successful experience, and had proposed a well qualified project implementation team and process.

System Design

LYNX's choice of Mentor Engineering's standard set of CAD/AVL and MDT operational functionalities fully met LYNX's business, operational, and technical requirements identified in the RFP. Both LYNX and Mentor staff related how well both the requirements and system detailed design reviews were conducted. The results of these reviews were that only minor action items were identified by LYNX.

Typically these reviews uncover the differences in the perception and interpretation of the various requirements by the organization and the vendor. LYNX's requirements were clearly written in the RFP and Mentor's interpretation of the requirements for the proposal provided the basis for the successful system detailed design reviews.

In July 2006 LYNX made the decision to include optional bid items in the project. The following were optional items included in the Mentor Engineering proposal that provided additional benefit to

the paratransit services. These include:

- *Magnetic Swipe Card Readers* – this feature enables client identification verification and additional fare media systems for paratransit customers.
- *In-Vehicle Navigation Software* – this feature enables the MDT unit to display turn-by-turn mapping information for the vehicle operator.
- XMobile Manager Software – this feature enables remote system-wide software, programming, and mapping updates via cellular communications in order to reduce staff time and ensure data accuracy and integrity.

Communications Infrastructure

The computer server hosting the software utilized by the dispatchers required only local area network connections for the dispatchers' workstations and a constant internet connection for the wireless communication to the Paratransit fleet. MV installed the server and associated software in the existing MV network closet. LCD monitors were also installed in the dispatch room to monitor system performance and pickup times/delays of scheduled appointments.

Chapter 4: Technology Implementation

Installation of Vehicle Hardware

The installation process of the vehicle hardware for the paratransit fleet consisted of two phases: Installation Training and Installation. The following summarizes these two major tasks:

Installation Training – Rather than performing all the installations, Mentor utilized a "train the trainer" approach allowing MV to become self-sufficient and proficient at installing, repairing, rewiring, and replacing equipment whenever necessary. This approach eliminated the need for Mentor's involvement after the initial training for the duration of the installation. Mentor conducted installation training for key MV installation staff. After the training, MV then installed the components on several vehicles. These vehicles were subsequently inspected and reviewed for adherence to Mentor's Quality Assurance standards. Upon receiving approval for the initial installations, MV continued with the remainder of the installations without complications.

Installation – The paratransit vehicles consisted of multiple vehicle configurations. Each of these configurations was analyzed and the equipment placement for each of the configurations was reviewed by LYNX and approved. After project acceptance, the LYNX and Mentor staff related that once the equipment locations were determined and the MV staff were trained, the installation teams that MV provided were excellent and that the installation process was "smooth" and was performed "seamlessly."

Figure 1 provides a client view of the paratransit vehicle installation and the system's key components. These components include Mentor's BBX and Ranger products. The BBX, located on the left side of Figure 1, provides a built-in GPS receiver and enables the transmission of driver requests over the wireless cellular data network. The Ranger, located on the right side of Figure 1, is Mentor's MDT. This device is a full-color, high-resolution touch screen. The screen is backlit, allowing drivers to easily view everything from fine text to detailed diagrams.

Figure 4: ACCESS LYNX Equipment Layout and Key Components

Integration and Testing

Mentor Engineering and MV supported the planned server installations on the Local Area Network (LAN), high speed Internet access, and the cellular-based wireless data network. Equipment and paratransit software were installed, integrated, and tested. Initial network testing began with the testing of the high speed Internet connection with Mentor's XGate server. A Functional Acceptance Test was executed to verify that the functionality delivered met the project's requirements. These requirements were initially defined in the RFP, and later

interpreted by Mentor in their proposal response. Functional testing was completed successfully and included the verification of software and hardware interfaces and system functionality.

Pilot Testing, that is, the "live" end-to-end testing of a portion of the MV fleet was also successfully completed. During this testing, a portion of the fleet was operated under real-life conditions.

Subsequent to the completion of Pilot testing, the project entered the Pilot Field test phase. The Pilot Field test involved the end-to-end operational testing of the system as vehicles were brought online one at a time. As each vehicle was added to the system, proper operation was verified using test trips and any issues were addressed before additional vehicles were brought online. This phase of the project was successfully completed by Mentor, working in close coordination with LYNX, MV, and PCTS.

Training

Mentor Engineering was responsible for providing dispatcher, driver, maintenance, supervisor, and system administration training to LYNX, MV, and PCTS personnel. LYNX had requested that Mentor present courses using the "train-the-trainer" concept. This concept provided training to key MV staff. These staff would then be responsible to present the training that they had received to the remainder of the MV staff. Courses were presented by Mentor staff and monitored by LYNX and consultant staff.

Mentor provided a training device to be used for driver training. This device was essentially a duplicate of the equipment that was mounted in the vehicle. The device was also configured to be a working device, such that its location and various inbound and outbound messages could be entered and viewed by the driver. Thus, the drivers had access to and were trained using the exact equipment that was to be installed in the vehicles.

As a separate note, Mentor also utilized this device in its presentation to the LYNX board. Mentor's demonstration of the technology via the use of this training device provided real-time information to the board.

The consultant interviewed MV staff both upon completion of the initial courses and again after the equipment had been installed, tested, and accepted. Although different members of the MV staff were interviewed, after the training courses, all personnel interviewed related that the training provided by Mentor was conducted professionally, efficiently, and was easy to follow. Mentor's excellent training contributed significantly to the overall success of the project.

Operations

The use of the CAD/AVL system has resulted in significant improvements in MV Transportation. The ability to monitor vehicle location and schedule status from the centralized dispatch office has improved on-time performance by an average of 4.8 percent helping MV consistently reach their monthly goal of 92 percent on-time arrivals, reduced street supervision, improved response time to emergencies, and reduced the number of schedule-related public

complaints.

MV dispatchers relate that they have better (i.e., real-time) knowledge of what's happening on the street. MV dispatchers currently utilize two monitors plus the radio console with which they can:

- See exactly where the vehicles are located.
- Observe and correct vehicle deviations in schedule adherence.
- Obtain information regarding each driver's vehicle and clients.
- Communicate with drivers via radio and mobile data terminals.
- Receive emergency request messages from the driver, which greatly enhance the dispatcher's ability to respond to service abnormalities and emergency situations.

MV dispatchers relate that AVL has substantially improved the ability to respond to both normal and emergency events by knowing the exact vehicle location. The ability to precisely locate a vehicle that is involved in a serious situation and send assistance quickly to the scene is one of the major benefits of automatic vehicle location from the MV perspective.

Dispatchers have stated that the MDT usage has often proven more effective and reliable than voice communications. MV has mandated that paratransit drivers send text data messages rather than talk to their dispatchers. This has been highly effective in reducing congested voice radio traffic, up to 70 percent in some cases, and has significantly improved the dispatcher's response time to important calls.

Messages to dispatchers are no longer considered as "being lost," as was sometimes the case with the LYNX radio system.

MV customer relations have improved with AVL. The knowledge of current and historical vehicle locations has provided customer service representatives the ability to give potential riders current vehicle information as well as being able to investigate customer complaints for validity or resolution. In summary, the availability of real-time AVL data assists LYNX, PCTS, and MV in providing their customers quality transit information more quickly.

At the outset, MV required that drivers maintain both a paper manifest and utilize the AVL equipment in the daily performance of their tasks. Many of the drivers related that at the end of the first week of using the new equipment, they were more than ready to eliminate the use of the paper manifest. Other driver comments included:

- The new system is easy to use in the dark. Routes are easy to follow and client homes are relatively easy to locate.
- The new system enables the drivers to eliminate the number of mistakes they made previously using paper maps to guide them to client homes.
- The system provides excellent "Late" and "No Show" documentation.
- Radio traffic is reduced approximately 70 to 75 percent using the new system.
- There is a small concern with the mapping portion of the new system. Due to the ever increasing construction of new buildings and new/modified roadway geometry, the maps

become outdated relatively quickly providing additional undesirable challenges to the drivers. For this reason, maps must be updated on a regular basis. LNYX and PCTS will need to discuss this issue in further detail to determine the best course of action. The end solution to this problem will depend on how often new maps become available, the cost for updating the maps on all devices, and devising a simple system for the map updates.

Chapter 5: Evaluation of Rural ITS Technologies

This chapter presents the results of the data collected for the LYNX and PCTS Rural ITS Operational Test in relation to the project goals and objectives. Data was collected prior to the start of the FTA Operational Test, which ran from April 2006 to January 2007. However, LYNX was unable to provide data for the months of April, May and June 2006; therefore, data from these months is excluded from the evaluation results.

The results of the evaluation are presented following the associated project goal. Each goal is accompanied by a table providing the results of the data collected to measure the project's progress towards achieving the goal. Following the evaluation of the established goals, this chapter also includes a review of the LYNX and PCTS service policies.

Goal 1: Increase efficiency of paratransit operations with regard to paratransit services.

Objective: Reduce duplication of service by transit agencies.

Strategies:

1. **Coordinate customer trips by utilizing CITRIX technology to review manifest each evening and multi-load trips within a three-mile radius with a similar origin and destination to one agency's vehicle.**

   In terms of passengers per trip and passengers per hour, the two transit agencies reflected mixed results in efficiency between the pre-project period and the post-project period. Passengers per hour for LYNX reflected a decrease in efficiency, declining from 1.391 in the pre-project and during project periods to 1.284 in the post-project period. However, for PCTS, passengers per hour increased in efficiency, from 0.149 and 0.149 in the pre-project and during-project periods respectively to 0.151 in the post-project period. Only LYNX provided data for the passengers per trip measure (PCTS was unable to provide the number of vehicle trips for the periods), with a similar result to passengers per hour, with efficiency falling from 1.092 in the pre-project and during project periods to 1.087 in the post project period.

   Neither agency was able to provide comparative information concerning the number of multi-load trips.

2. **Coordinate customer trips by utilizing CITRIX technology to review manifest 24 hours in advance for out-of-area trips and multi-load trips to one agency's vehicle.**

   For this measure, again there were mixed results for the two transit agencies. For LYNX, the number of out-of-area passengers versus the number of out-of-area trips improved from 1.61 in the pre-project period to 1.65 in the during project period to 1.68 in the post-project period. However, for PCTS, the figures for this measure

steadily worsened, from 14.67 in the pre-project period to 12.87 in the during project period to 6.71 in the post project period.

3. **If PCTS has a paratransit customer that can access service along a LYNX fixed-route, PCTS paratransit service will drop the customer to an accessible LYNX fixed-route bus stop and provide complimentary bus pass.**

   For this strategy, the approach to measure it was to provide the number of multi-pass fixed-route bus passes each agency provided to the other. Throughout the pre-, during, and post-project periods, neither LYNX nor PCTS provided a single multi-ride pass on the other's fixed-route transit service.

Objective: Increase overall area transit ridership.

Strategies:

1. **Introduce new flex-route service to provide open-door same-day reservation service (Pick Up Line).**

   As part of this project, LYNX established the Poinciana Pick Up Line flex-route service. Pick Up Line ridership increased from 158 passengers in the during project period to 648 in the post-project period, an increase of 310 percent.

2. **Improve area fixed-route ridership (Link 26) due to connections with paratransit and flex-route services.**

   While it may not be completely attributed to connecting paratransit and flex-route passengers, LYNX fixed-route bus line in the test area, Link 26, increased ridership from 16,206 passengers in the pre-project period to 18,855 passengers in the during project period and further to 20,151 passengers in the post-project period. Between the pre-project and post project periods, ridership increased 24 percent on Link 26.

3. **Increase overall ridership across all area transit modes.**

   This strategy was measured by total transit ridership per capita for the project area. For the pre-project period, this rate was 6.73 percent. It increased to 7.61 percent in the during project period, and further increased to 8.53 percent in the post project period.

Table 5: Goal 1 Data Collection Results

				Pre-Project (Apr. 2006-Jan. 2007)		During-Project (Apr. 2007-Jan. 2008)		Post-Project (Apr. 2008-Jan 2009)	
Goal	Objective	Strategy	Measure(s)	LYNX	PCTS	LYNX	PCTS	LYNX	PCTS
Increase efficiency of paratransit operations with regard to paratransit services.									
	Reduce duplication of service by transit agencies.								
		1. Coordinate customer trips by utilizing CITRIX technology to review manifests each evening and multi-load trips within a three-mile radius with a similar origin and destination to one agency's vehicle.	Passenger/Trip	1.092	Information Not Provided	1.092	Information Not Provided	1.087	Information Not Provided
			Passenger/Hour	1.391	0.149	1.391	0.145	1.284	0.151
			# of multi-load trips	Information Not Provided	Information Not Provided	Information Not Provided	Information Not Provided	Information Not Provided	Information Not Provided
		2. Coordinate customer trips by utilizing CITRIX technology to review manifests 24 hours in advance for out-of-area trips and multi-load trips to one agency's vehicle.	# out-of-area passenger vs. # out-of area vehicle trips	1.61	14.67	1.65	12.87	1.68	6.71
				58 Passengers on 36 Trips	Passengers on 256 Trips	43 Passengers on 26 Trips	Passengers on 380 Trips	79 Passengers on 47 Trips	Passengers on 624 Trips
		3. If PCTS has a paratransit customer that can access service along a LYNX fixed-route, PCTS paratransit servcie will drop the customer to an accessible LYNX fixed-route bus stop and provide complementary bus passes.	# of LYNX passes issued by PCTS	N/A	0	N/A	0	N/A	0
			# of PCTS paratransit passengers and clients to LYNX bus	0	N/A	0	N/A	0	N/A
	Increase overall area transit ridership.								
		1. Introduce new flex-route service to provide open-door same day reservation service (PickUpLine).	PickUpLine passengers	N/A	N/A	158	N/A	648	N/A
		2. Improve area fixed-route ridership (Link 26) due to connections with paratransit and flex-route services.	Link 26 passengers	16,206	N/A	18,855	N/A	20,151	N/A
			PickUpLine passengers	N/A	N/A	158	N/A	648	N/A
			Direct connection Access LYNX/PCTS paratransit	N/A	N/A	0	0	0	0
		3. Increase overall ridership across all areas transit modes.	Fixed-route + PickUpLine + Access LYNX + PCTS paratransit ridership, Total ridership per capita for target area	6.73%		7.61%		8.53%	

In addition to the quantitative measures, the evaluator also conducted staff interviews to assess the perceived improvements in efficiency at both LYNX and PCTS. The results of these interviews are summarized below for each agency. The interviewees' names are withheld from this report as one of the techniques used to generate full and forthright responses was to promise the interviewees anonymity.

Polk County Transit Service (PCTS)

On Wednesday, October 1, 2008, the evaluator team visited the office of PCTS to conduct surveys with billing, customer service, and dispatch personnel. Additionally, the evaluator interviewed drivers and observed them using the grant-purchased technology.

Customer Service and Dispatch

PCTS dispatchers generally work very closely with the customer service department. During some of the time, there is a customer service representative assisting the dispatcher with customer inquiries and driver communications. Other customer service staff work outside of the dispatch office, but can be in close communication, if necessary.

Most dispatch and customer service staff knew of the project only in terms of the installation of the MDTs. One person, the scheduler, knew of the project in terms of trip coordination with LYNX. It is that position's responsibility to check for potential trips to coordinate. The added process to check for trips is how the scheduler's duties have changed.

From the perspective of dispatch and customer service, the MDTs have been the most significant change by increasing efficiency in the operation of the vehicles Although only 10 vehicles are equipped with the MDTs, dispatch and customer service staff understand that the operation is more efficient, due to use of text messages, ease of manifest adjustment, and Trapeze PASS automatic updates from the MDTs. Implementation of the MDTs has helped to reduce both the voice traffic on the radio and the manual data-entry work performed by dispatch staff. Text messages are an efficient way of communicating and can take less time than traditional radio use. Additionally, manifest changes are sent directly from a reservationist through Trapeze PASS to the MDT. Prior to the installation and for those vehicles without MDTs, the reservationist must notify dispatch of a manifest change. The dispatcher, in turn, will page the driver with the information.

The other change is the awareness of the Pick Up Line and Link 26 service in the Poinciana area. Reservationists state that they refer potential customers to the Pick Up Line and Link 26 several times a day. The referral is based primarily on a person's requested pick-up and drop-off locations. Customer service personnel have received some negative feedback from customers preferring the familiar door-to-door service of paratransit.

According to staff, however, the basic way they perform reservations duties has not changed as a result of this project. Additionally, customers seem satisfied with both the method and outcome of the reservations process. The evaluator team noted some negative feedback from reservations, but this was not due to the project.

In conclusion, it is apparent that in the efforts to use technology, a by-product is increased efficiencies in the areas of reservations and dispatch.

Drivers

During the course of the day, the evaluator team traveled with two different drivers to interview them and observe how the technology was being used.

The first person interviewed was a female driver (PCTS 1) who had worked at PCTS for eight years. Her first three years were driving for the Winter Haven Area Transit (WHAT), which is a fixed-route service operated separately by PCTS. She was not familiar with the project or the grant used to obtain the MDTs and updated dispatching software.

The second person interviewed was a male driver (PCTS 2) who had worked at PCTS for 13 months and had no additional positions within PCTS. He was not familiar with the project or the grant used to obtain the MDTs and updated dispatching software, but commented that not all vehicles were equipped with the MDTs. Since he was a new employee, he did not always have a vehicle equipped with an MDT. He also said he preferred vehicles with MDTs, since it allowed him to complete his job more easily and helped eliminate mistakes.

Has your job changed as a result of this project?

PCTS 1 didn't believe her basic job had changed over the past year, but aspects of it had. For example, manifest updates, pick-up and drop-off reports, and breaks were reported using the MDT instead of being called in over the radio, allowing her to be more efficient with the service she provided.

PCTS 2 started as the MDTs were being installed on the vehicles and preferred vehicles with the MDTs because there was less chance of a data error when manifests changed throughout the day.

Do you believe you have more or less efficient schedules?

PCTS 1 believed the ability to automatically send updates to the vehicles allowed dispatch to better monitor service delivery and transfer runs as needed. She also thought due to the large service area it was sometimes hard to generate an efficient schedule.

PCTS 2 indicated that he had not seen a change in the way his manifests were organized over the past year. He said the schedule could be tight and sometimes did not provide enough time.

Do you believe you carry more or fewer customers in a day?

PCTS 1 indicated she carried more people, but could not say whether the increase in passengers was due to the schedules or the number of eligible riders had increased. She noted that ridership on two morning trips to group homes had not changed.

PCTS 2 indicated he carried more people now than when he started, but could not identify a reason. He noticed two to three more people daily.

Do you believe customers are on your vehicle for more or less time per trip?

PCTS 1 said customers were not on the vehicles for any different amount of time. The majority of trips she operated carried people within the same geographical area and in cross-county trips there was no mid-point drop-off or pick-up.

PCTS 2 said passengers were on the vehicle a shorter time either due to a scheduled stop order or his knowledge of the service area. He added the MDTs did not provide maps and when he was uncertain of a location, he consulted a map book or radioed dispatch.

Do you have more or fewer customer transferring between modes?

Both drivers indicated that none of their customers transferred between modes or PCTS vehicles. One customer said he used both PCTS and WHAT to complete his trips independently of each other.

What percentage of time have you had customers on-board the vehicle?

	PCTS 1	PCTS 2
No Customers	15%	10%
One Customer	55%	60%
Two Customers	25%	15%
Three Customers	10%	10%
Four or More Customers	5%	5%

Do customers express the need for more transportation, if so, where and when?

PCTS 1 said customers had expressed interest in later service, but could not provide specific details. She did not know of any areas not serviced by PCTS where people wanted to go. She knew some customers were transported out of the area for medical appointments, but had not run any of those trips as of the interview.

PCTS 2 had not heard any comments from customers regarding the need for additional service and was not sure if PCTS had enough drivers or vehicles to offer any service beyond what was provided.

Have you received any training on the Mobile Data Terminals? Do you need any additional training on their use?

PCTS 1 attended a two-hour training class when the MDTs were being installed and usually drove a vehicle equipped with an MDT. PCTS 1 felt the training she attended was sufficient. She only wished maps were added to the system to locate new developments.

PCTS 2 indicated he was put through a two-hour training course during his new hire training that covered the MDTs use and functionality. He did not feel he needed any additional training, but additional information, such as maps, could be provided through the MDTs.

Do you use the Mobile Data Terminals? If so, how and what information do you get from them? Is there additional information you would like them to display?

PCTS 1 indicated that the MDT could be used to check for updates to manifests and send messages to dispatch, such as signing on at the beginning of the day, when she took breaks, and signing off at the end of the day. Typically, she relied on the MDT for updates, but continued to use the radio to inform dispatch of breaks. At the time of this report, the system displayed the co-pay the customer was to pay, but it was not always accurate. On one particular trip, the customer was a child and, according to policy, not required to pay the co-pay, even though the system showed one. However, in such cases, the co-pay could be overridden by the driver.

PCTS 2 indicated that he used the MDT for a variety of tasks, including manifest updates, confirmations, and messaging dispatch. He also said the fare displayed was not always correct and the MDT did not offer a way to indicate if a customer had a monthly pass.

Central Florida Regional Transportation Authority (LYNX) & MV Transportation

On Thursday, October 2, 2008, the evaluator team visited the office of MV Transportation, the contract transportation provider for LYNX, surveying and observing staff from the billing, customer service, and dispatch departments as well as drivers who operate vehicles within the geographic areas of the Rural ITS project.

Customer Service and Dispatch

The evaluator conducted six surveys with MV staff that work for ACCESS LYNX in positions in or related to dispatch, scheduling, or customer service. The day the evaluator team visited to conduct interviews, MV was experiencing a staff shortage and all regular reservationists were busy and not available to participate. Due to the unavailability of the reservationists, the evaluator conducted interviews with the available MV staff from other departments in an attempt to obtain some insight and useful comments regarding the Rural ITS project. Most of the staff available had experience in other positions, including reservations. The average employment term of those interviewed was over eight years. Some of the employees had been employed directly by LYNX prior to the contract with MV Transportation for this operation.

While most (five out of six interviewed) individuals indicated they were a little familiar with the project, most knew of it in terms of the implementation of the MDTs and Trapeze PASS interface, rather than the overall goal of using technology to coordinate trips between agencies. Overall, most agreed that the technology of the MDTs had decreased work and increased efficiency of various parts of service. This is shown in several points:

1. MDT interface with Trapeze PASS allows for regular manifest updates. Data from MDTs is transferred to Trapeze PASS. Manifests within Trapeze PASS are updated with "performed" data and estimates are projected into the future trips. Previously, dispatchers would manually enter the data from performed trips into Trapeze PASS every hour.

2. Because of the regular and accurate updates to the Trapeze PASS data, staff can have a more accurate idea of the status of a manifest. For example, a reservationist may receive a call asking how soon the customer's pickup will happen. The reservationist can look in Trapeze PASS and find information that is more accurate and readily available than before this technology was installed, greatly reducing the time for this type of call. Previously, a reservationist would call a dispatcher, who would then need to call a driver and wait for a reply. Since MV's policy required drivers to stop before radioing, the inquiry could take a considerable amount of time. Manifest updates for customer changes are now easier to perform and take less time. For changes in a trip (cancellation, time change, etc.), the reservationist can make the change in Trapeze PASS, and the change will be sent to the driver's electronic manifest on the MDT. If the time of change is near the actual time of the trip, the reservationist will call dispatch to confirm.

3. Dispatchers can send text messages to drivers. Again, this can save time over using the radio's voice channel to converse with a driver. The dispatcher sends the text message and receives a confirmation when the driver has acknowledged the message. The dispatcher does not need to wait for a response and can continue on to other activities.

4. Due to drivers' use of MDT for manifest and driving directions, the dispatchers spend noticeably less time conversing on the radio.

5. If a dispatcher needs to add a trip to a manifest, he or she can more easily find a close vehicle, based upon updated location of vehicles at that time.

6. Manifest reconciliations are more feasible due to the accuracy and availability of data from the MDTs. This may be related more to billing, but could be used for customer service purposes, as well.

One negative comment regarding this project was based upon the procedure of trip sharing, rather than the technology efficiencies. The agreement states that each agency will check for potentially shared trips in the late afternoon. According to the scheduler interview, this is the busiest time for him and not a good time to have to work on coordination of these trips. He suggested having the time earlier in the day.

Another statement regarding the MDTs is that they are limited with the maps. If there is no map for an area, possibly outside of the regular service area, then Trapeze PASS cannot determine a routing solution. Additionally, as population areas grow and new streets form, map data needs to be updated to keep routing and other associated data solutions accurate. Once MV identified this issue, they were able to work out resolutions with manual routing.

The only reservationist information came from a staff member who could comment on reservationist activities based upon a previous position. This information indicated that the process for taking reservations had not changed as a result of this project. The outcome to the customer had not changed either.

As for actual improvement in service to the customer, there were a few perceptions mentioned by MV staff:

1. Increased on-time performance.
2. Increased comfort of the customer with their knowing the driver has good clear driving directions as given by the MDT.
3. Decreased accidents.

Overall, staff impressions of this project were very positive. General improvements to the way they perform their jobs have created improved perceptions of job efficiency and service performance.

Drivers

During the course of the day, the evaluator team interviewed two staff members who recently were promoted from drivers to a road supervisor and a trainer. In addition, one active driver was interviewed and observed as to how the technology was being used.

The first person interviewed was a female trainer (MV 1) who had started working for MV Transportation almost 20 months ago as a driver and was promoted to a trainer after one year. When she first started, the MDTs were being installed in the vehicles, but she was unaware of the overall project at that time. She became more aware of the cooperative agreement after she was promoted and more involved in operations.

The second person interviewed was a male road supervisor (MV 2) who started working for MV Transportation approximately two years ago as a driver. He was promoted to his current position after being with the company for less than one year. At the time of his hiring, no information was given about the cooperative agreement or how the MDTs were obtained. As he became more involved in operations, he learned of the cooperative agreement and related service.

The third person interviewed was a male driver (MV 3) who started with MV Transportation nine months ago. He had not held any additional positions at MV Transportation or LYNX. When he started working for MV, the MDTs were already installed in the vehicles. He was not familiar with the project or the grant used to obtain the MDTs and updated dispatching software.

Has your job changed as a result of this project?

MV 1 indicated that her job had changed due to increased knowledge of how the MDTs work and what information could be provided through this technology. In her current position, she helped create a better training program for new drivers on how to use the MDTs more efficiently.

MV 2 could not identify if his job changed significantly, as he was promoted to a road supervisor after the equipment was installed. He said with the new technology he could easily locate vehicles to determine if drivers were on time and performing their job according to manifest and company policies.

Do you believe you have more or less efficient schedules?

MV 1 said the ability to automatically send updates to the vehicles allowed dispatch to better monitor service delivery and transfer trips as needed. She also said that due to the large service area and number of trips operated, some manifests were not efficient.

MV 2 said he ran the manifest as the computer gave it to him and rarely had a problem being able to make pick-up and drop-offs according to schedule. He indicated that the computer-guided directions were not always accurate or efficient, and he sometimes deviated from them.

MV 3 indicated that he had not seen a change in the way his manifests were organized over the past year, adding that the schedule can be tight and in some cases did not provide enough time.

Do you believe you carry more or fewer customers in a day?

MV 1 said the service carried more people, but could not say whether it was due to the schedules, greater number of eligible riders or another reason. She also said MV Transportation added extra drivers during the past year to handle increased business.

MV 2 did not know if he carried more or fewer customers each day.

MV 3 said the service carried more people now than when he started, but did not know why. He knew of three or four additional vehicles on the street each day handling paratransit.

Do you believe customers are on your vehicle for more or less time per trip?

MV 1 did not indicate that customers were on the vehicles for any different amount of time compared to when she was a driver. She continued to ride with drivers during their on-the-road training.

MV 2 felt there was no change in the average time customers were on the vehicle. He said that about half of the customers traveled short distances and were on the vehicle less than 45 minutes.

MV 3 felt customers were not on the vehicle any longer than they were when he was driving. He commented that he was unsure of any increase in complaints regarding customers remaining on the vehicle for longer time periods.

Do you have more or fewer customers transferring between modes?

All three interviewees indicated that the only customers transferring between vehicles were the Pick Up Line customers, who transferred to and/or from the LYNX fixed-route buses.

What percentage of time have you had customers on-board the vehicle?

	MV 1	MV 3	MV 2
No Customers	5%	5%	5%
One Customer	10%	70%	15%
Two Customers	75%	15%	65%
Three Customers	5%	5%	10%
Four or More Customers	5%	5%	5%

Do customers express the need for more transportation? If so, where and when?

MV 1 and MV 3 indicated that customers had expressed an interest in service to Polk County as Orlando continued to expand beyond the current tri-county area.

MV 2 did not recall any comments from customers asking for expanded service of the paratransit service.

Have you received any training on the Mobile Data Terminals? Do you need any additional training on their use?

MV 1 attended a two-hour training class when she was hired. MV 1 participated in the expansion of the training program after being promoted to her current position. She had a few people return for additional training during the past year. She said the biggest problem with the MDTs was the maps were not current and did not include surrounding areas.

MV 2 indicated that he went through MDT training as a portion of his new-hire training, but did not recall how much time was devoted to that training. He did not feel as if he needed additional training.

MV 3 indicated that he went through a two-hour training course during his new-hire training that covered the MDTs use and functionality. MV 3 commented that he learned more about the MDT through the process of using the equipment. He also mentioned that the training program has since been updated and now includes areas not originally covered.

Do you use the Mobile Data Terminals? If so, how and what information do you get from them? Is there additional information you would like them to display?

MV 1 said that MDTs were used to locate each vehicle, then indicate its next action (pick-up or drop-off), and to send messages between the vehicle and dispatch. She explained that when the driver begins his or her run, the MDT will give turn-by-turn directions to each location and can update the directions en route if the driver misses a turn. The system only contains data for the tri-county area and if the vehicle leaves the area, the MDT will repeat, “off route, turn around.” She also mentioned that the maps were last updated two years ago and now do not include several new roads.

MV 2 said that the MDTs provide turn-by-turn directions, along with his manifest. (The evaluator's note regarding the turn-by-turn directions: While onboard conducting the observations, the GPS directed the vehicle to stop directly in front of a customer's apartment.) MV 2 also said that the maps were not always accurate.

MV 3 also commented that the MDTs were used to locate each vehicle, indicate its next action (pick-up or drop-off), and to send messages between the vehicle and dispatch. As a road supervisor, he found the ability to track a vehicle's current location was the best feature of the MDTs. Tracking the vehicle's current location has allowed MV 3 to monitor drivers and dispatchers and to be proactive when problems occurred.

Goal 2: Coordinate billing processes and funding sources to maximize the availability of transportation services within the rural areas.

Objective 1: Test how technology can increase coordination of finances for transportation services shared between multiple agencies.

Strategies:

1. **Utilizing Trapeze to track trips provided by each agency on a monthly basis. Each agency will provide a monthly list of eligible customers for trip purposes. By the 10th of the following month each agency will provide a list of all passengers carried via e-mail that are customers in the other agency's service area. LYNX will provide customer name, trip purpose, trip type, and distance traveled to PCTS. PCTS will provide to LYNX the customer name, trip purpose, trip type, and time taken to complete travel.**

   The evaluator interviewed staff from the billing department at each agency in order to understand the details and efficiencies of the billing procedures. At the time of the interviews, LYNX and PCTS had not shared a trip; therefore, the agencies had not used the billing procedures. Since that time, however, PCTS has performed and billed LYNX for 11 coordinated trips under the State of Florida's Transportation Disadvantaged program in the post project period.

   <u>PCTS</u>

   When the evaluator team visited PCTS, the billing department employee interviewed had little knowledge of the project, but did have an understanding of a general procedure in place to bill an outside agency for trips performed. (Because PCTS is part of Polk County, the county accounting department is also part of this process.) The PCTS staff person believed that the procedure for this project should be an acceptable modification of the current process.

   Since the time of the interview, PCTS operated 11 trips for LYNX in October 2008, although none have occurred since. The details of the procedure were:

1. Trip Request and Performance: LYNX identified trips as candidates for PCTS to operate. LYNX and PCTS exchanged trip information. PCTS manually added trip details to Trapeze PASS, including an appropriate code identifying the trip as the responsibility of PCTS. The trip was then performed.
2. Monthly Report: PCTS staff ran a report that showed all trips coded as LYNX trips. The report pulls the information directly from Trapeze PASS. A copy of the PCTS Report for Shard Trip Identification is presented as Appendix 6.
3. From the report, PCTS staff created an invoice to charge LYNX for the cost of the trips.
4. Invoice Submittal: The invoice was sent to LYNX via email. This allowed for immediate receipt and processing by LYNX.
5. Payment: After LYNX completed the internal process for payment, the payment was sent to PCTS. In the future, PCTS and LYNX will coordinate electronic payments; however, the process will still require some manual processing. Appendix 5 presents the Rural ITS Demonstration Project Standard Operating Procedures.

LYNX

The LYNX staff person interviewed for this project was the Supervisor of Revenue Collection. She oversaw the billing of trips by LYNX to PCTS and has been in the current position for about three years and with LYNX for ten years. Because of this project, the new billing procedure has been implemented. Like PCTS, LYNX has coordinated trips with other agencies. The procedure for billing PCTS was:

1. Number of passengers billable to PCTS identified and sent to billing department.
2. Operations generated invoice using Crystal Reports on a monthly basis by funding source.
3. Invoice/bill scanned and transmitted to PCTS.
4. PCTS wired funds to LYNX, once PCTS set up electronic funds transfer capabilities. Payment was manual until such time.

Additionally, LYNX used procedures to bill and pay for trips provided by PCTS. For the trips provided after the interview, LYNX received an invoice for 11 trips provided in October 2008. All of these trips were provided under the Transportation Disadvantaged (TD) funding source and consequently billed to the Commission for the Transportation Disadvantaged, as were all trips funded in this manner. As part of the regular billing that LYNX completes for TD trips, LYNX invoiced the CTD for the trips operated by PCTS as they were identified within the LYNX Trapeze PASS software system. The TD trip billing is presented as Appendix 8 of this report.

Objective 2: Coordinate billing for various services tested through this pilot utilizing technology.

1. **LYNX and PCTS will seek methods to bill all paratransit funding sources through electronic mechanisms as well as receive payments electronically.**

   LYNX electronically bills Florida Medicaid for all of its paratransit trips. All other agencies, including the Florida CTD, continue to receive hard copy invoices.

Objective 3: Seek opportunities to find additional funding sources or use savings to extend transportation services.

1. **Jointly seek opportunities to further service to the rural area by partnering to secure funding through FDOT service development grants and Federal JARC and NFP.**

   Neither transit agency could identify any new grant funds that were received during the project or post project periods to support transit service in the project area.

   While the effort has occurred subsequent to the post-project period, PCTS has requested LYNX to operate an additional Pick Up Line flex-route service in the Polk County portion of Poinciana, contingent upon PCTS receiving a New Freedom Program grant award from the Florida Department of Transportation.

Table 6: Goal 2 Data Collection Results

				Pre-Project (Apr. 2006-Jan. 2007)		During-Project (Apr. 2007-Jan. 2008)		Post-Project (Apr. 2008-Jan 2009)	
Goal	Objective	Strategy	Measure(s)	LYNX	PCTS	LYNX	PCTS	LYNX	PCTS
Coordinate billing for various services tested through this pilot utilizing technology and seek opportunities to find additional funding sources or use savings to extend transportation services.									
	Test how technology can increase coordination of finances for transportation services shared between multiple agencies.								
	1. Utilizing Trapeze track trips provided by each agency on a monthly basis. Each agency will provide a monthly list of eligible customers for trip purposes. By the 10th of the following month each agency will provide a list of all passengers carried via the other agency.		# of LYNX trips billed by PCTS	N/A	0	N/A	0	N/A	0
			# of PCTS trips billed by LYNX	0	N/A	0	N/A	11	N/A
	Coordinate billing for various services tested through this pilot utilizing technology								
	1. LYNX and PCTS will seek methods to bill all paratransit funding sources through electronic mechanisms, as well as receive payments electronically.		% of trips billed electronically	0.00%	0.00%	100.00%	0.00%	100.00%	0.00%
	Seek opportunities to find additional funding sources or use savings to extend transportation services.								
	1. Jointly seek opportunities to further service to the rural area by partnering to secure funding through FDOT service development grants and Federal JARC and NFP.		Large Urban Area (5307)	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
			Transportation for Elderly Persons and Persons with Disabilities (5310)	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
			Rural and Small Urban Areas (5311)	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
			Job Access and Reverse Commute (5316)	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
			New Freedom (5317)	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
			FDOT Service Development	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
			Rural ITS Demonstration Grant	$347,000	$0.00	$0.00	$0.00	$0.00	$0.00

Goal 3: Demonstrate and evaluate how innovative ITS technologies could be utilized to enhance options in rural communities.

Objective 1: Utilize technologies to maintain or improve customer satisfaction.

Strategy:

1. **Both systems monitor call center statistics and adjust procedures, as necessary.**

   PCTS was able to provide data for the call hold times and length of call measures. LYNX was able to provide data for the call hold times measure. Neither agency was able to provide data for the dropped calls nor the trips requested versus trips reserved measures.

   At PCTS, call hold times increased from one minute, 30 seconds during the pre-project period to one minute, 54 seconds during the post-project period. However, PCTS was able to reduce its length of time per call from two minutes, 29 seconds in the pre-project period to two minutes, 25 seconds in the post project period. At LYNX, call hold times increases from two minutes, 39 seconds during the pre-project period to three minutes, five seconds in the during project period, to three minutes, 11 seconds in the post-project period.

Objective 2: Utilize technologies to maintain or improve transportation services.

Strategy:

1. **Ensure at least same level of service for paratransit customers**.

   In terms of the measure, completed trips versus reserved trips, both agencies declined in their performance, with a sharper decline experienced by PCTS. For LYNX, during the pre-project period the number of completed trips versus reserved trips was 96.03 percent, similar to PCTS at 96.38 percent. During the during project period, this measure declined to 95.84 percent for LYNX and 93.91 percent for PCTS. The decline for both agencies continued in the post-project period, falling to 94.21 percent for LYNX and 92.28 percent for PCTS.

2. Paratransit on-time performance for both agencies remained relatively constant during the project. For LYNX, 90.33 percent of its paratransit trips were on time during the pre-project period, and 89.34 percent of its paratransit trips were on time during the post-project period, a difference of less than one full percentage point. For PCTS, 91.37 percent of its paratransit trips were on time during the pre-project period, and 90.66 percent of its trips were on time during the post-project period, again representing a difference of less than one full percentage point.

   In terms of the number of no shows, both LYNX and PCTS saw significant increases. For LYNX, the number of no shows climbed 98.93 percent from 1,406 in the pre-project

period to 2,797 in the post-project period; largely due to policy changes in the post-project period that considered "will call" trips to be "no show" trips. For PCTS, the rate of increase for no shows was 169.97 percent, from 353 during the pre-project period to 953 during the post-project period.

Only LYNX reported the number of missed trips it experienced during the project period. Between the pre-project and during project periods, the number of missed trips declined sharply from 184 to 95. However, between the during project and post project periods, the number of missed trips increased to 117, although still lower than that of the pre-project period.

It is worth noting that for both agencies during the project period demand for paratransit service increased significantly. For LYNX, the number of reserved trips increased 25.74 percent from 40,038 during the pre-project period to 50,345 during the post-project period. For PCTS, the number of reserved trips increased 26.54 percent from 9,758 during the pre-project period to 12,348 during the post-project period.

Table 7: Goal 3 Data Collection Results

				Pre-Project (Apr. 2006-Jan. 2007)		During-Project (Apr. 2007-Jan. 2008)		Post-Project (Apr. 2008-Jan 2009)	
Goal	Objective	Strategy	Measure(s)	LYNX	PCTS	LYNX	PCTS	LYNX	PCTS
Demonstrate and evaluate how innovative ITS technologies could be utilized to enhance options in rural communities.									
	Utilize technologies to maintain or improve customer satisfaction.								
		1. Both systems monitor call center statistics and adjust procedures, as necessary.	Call hold times	2:39	1:30	3:05	0:42	3:11	1:54
			Length of call	No Call Time Data Provided	2:29	No Call Time Data Provided	2:23	No Call Time Data Provided	2:25
			Dropped calls	No Call Time Data Provided		No Call Time Data Provided		No Call Time Data Provided	
			Trips requested/trips reserved for each call center	No Call Time Data Provided		No Call Time Data Provided		No Call Time Data Provided	
		2. Improve customer satisfaction with available transit service.	Customer survey responses from Link 26, PickUpLine, ACCESS LYNX, and PCTS paratransit	N/A	N/A	Conducted On-Board & Telephone Surveys	Conducted On-Board & Telephone Surveys	Conducted On-Board & Telephone Surveys	N/A
	Utilize technologies to maintain or improve transportation services.								
		1. Ensure at least same level of service for paratransit customers.	Completed trips/reserved trips	96.03% 34,448 /40,038	96.38% 9,405 /9,758	95.84% 41,429 /43,229	93.91% 10,016 /10,665	94.21% 47,431 /50,345	92.28% 11,395 /12,348
			On-time performance	90.33%	91.37%	90.19%	91.18%	89.34%	90.66%
			# of no-shows	1,406	353	1,705	649	2,797	953
			# of missed trips	184	N/A	95	N/A	117	N/A
			Average trip length	$12.42	$13.27	$11.92	$13.08	$10.76	Data Not Provided

Objective 1: Utilize technologies to maintain or improve transportation services.

Strategy:

1. **Improve customer satisfaction with available transit service.**

   Since a customer satisfaction survey was not taken during the pre-project period, it is difficult to measure whether satisfaction improved or worsened with the implementation of rural ITS. As part of the evaluation, the evaluator conducted comprehensive passenger on-board and telephone surveys to collect customer satisfaction data from the during and post-project periods. The survey results provide a significant level of insight as to customer satisfaction with the service utilizing Rural ITS. The first principle survey effort was an on-board survey of LYNX's Link 26 fixed-route bus passengers, Poinciana Pick Up Line passengers, and ACCESS LYNX and PCTS paratransit passengers. The second survey effort conducted consisted of a follow-up telephone survey of those passengers who are clients of ACCESS LYNX, but traveled on coordinated paratransit trips operated by PCTS. The survey results of both efforts are presented below.

Principle On-Board and Telephone Survey Results

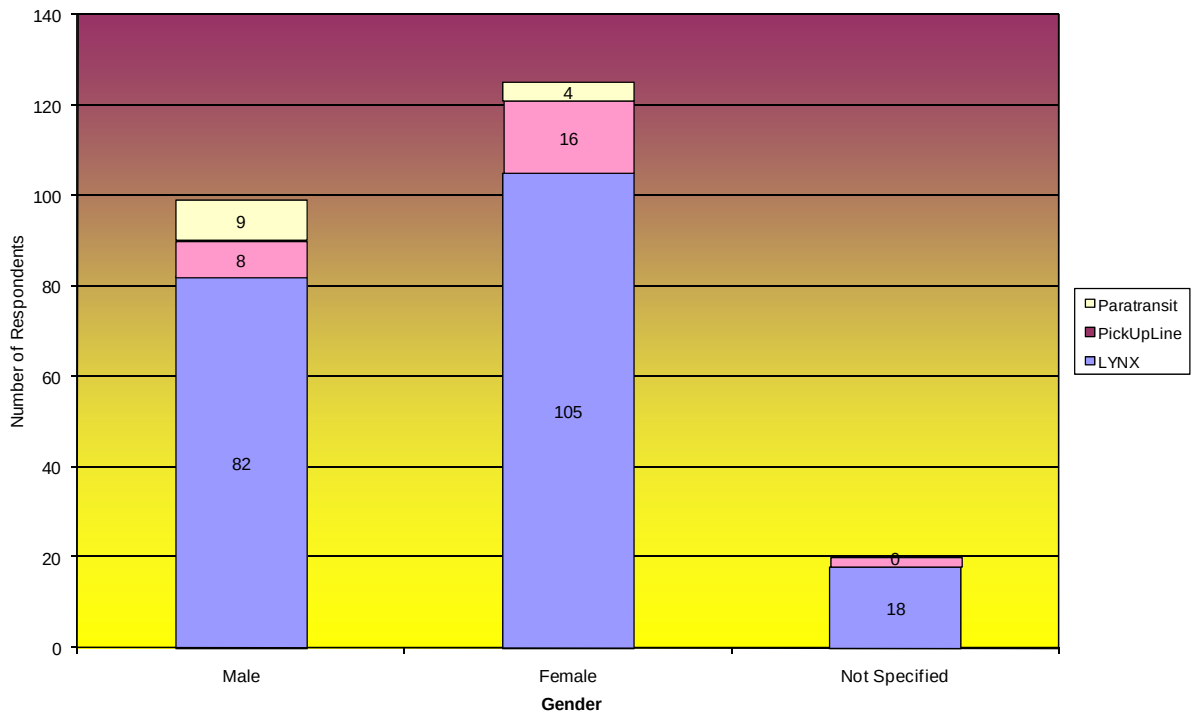
<u>On-Board Survey Results</u>

A total of 244 customers from the fixed-route Link 26, Poinciana Pick Up Line, and ACCESS LYNX and PCTS paratransit service participated in the on-board survey effort. A complete summary of the survey results are presented as Appendix 9.

The Link 26 carries an average of 800 people each weekday. During the two days on-board the fixed-route bus, surveys were conducted with a total of 205 customers: 107 customers or 13.34 percent on Monday, September 29 and 98 customers or 12.25 percent on Tuesday, September 30.

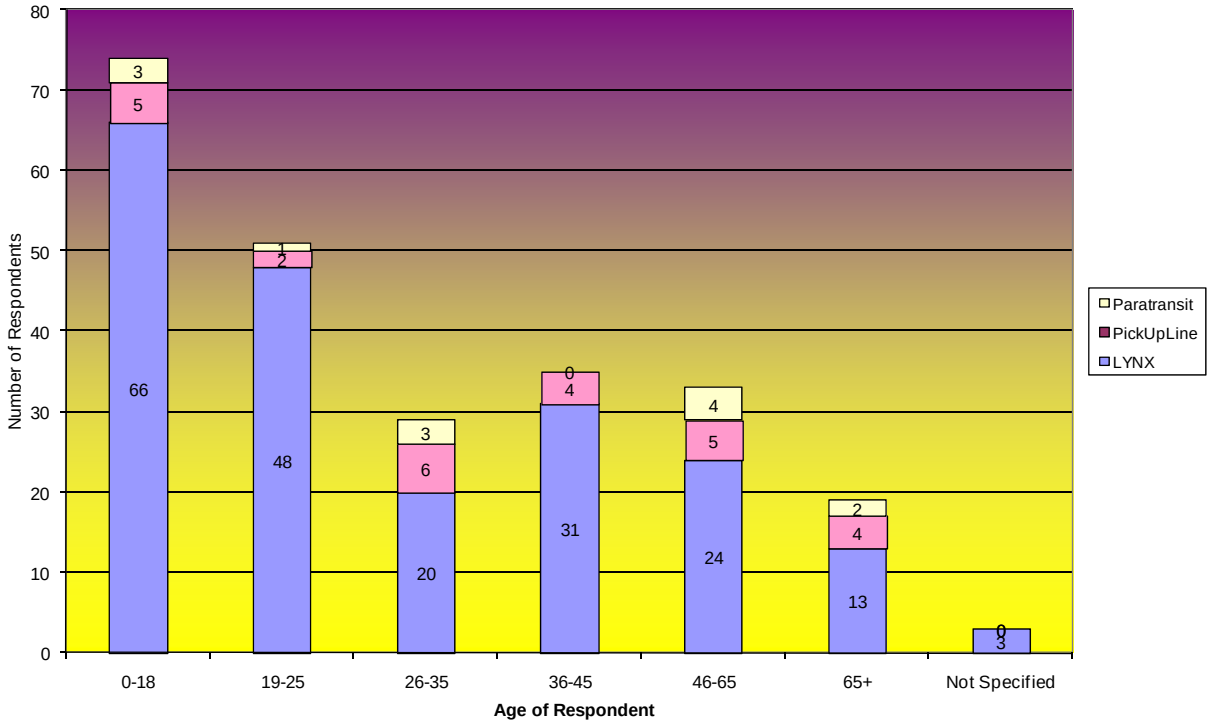
The Pick Up Line carried 25 people on Monday, September 29, 2008, of which 13 or 52 percent responded to the survey. On Tuesday, September 30, 2008, Pick Up Line carried 29 customers, of which 13 or 44.83 percent responded to the survey. LYNX and MV Transportation are able to provide accurate daily totals for the Pick Up Line. Due to the high volume of passengers each day on Link 26, it is not possible to obtain an accurate total for each individual day; therefore, average daily totals are used.

Figure 5: Survey Respondent Gender



Of those responding, 99, or 40.57 percent, of the total responses were male; 125, or 51.23 percent, were female; and 20, or 8.20 percent, declined to respond to this question. Paratransit showed a reverse of these numbers with 70 percent being male and 30 percent female.

Figure 6: Survey Respondent Age

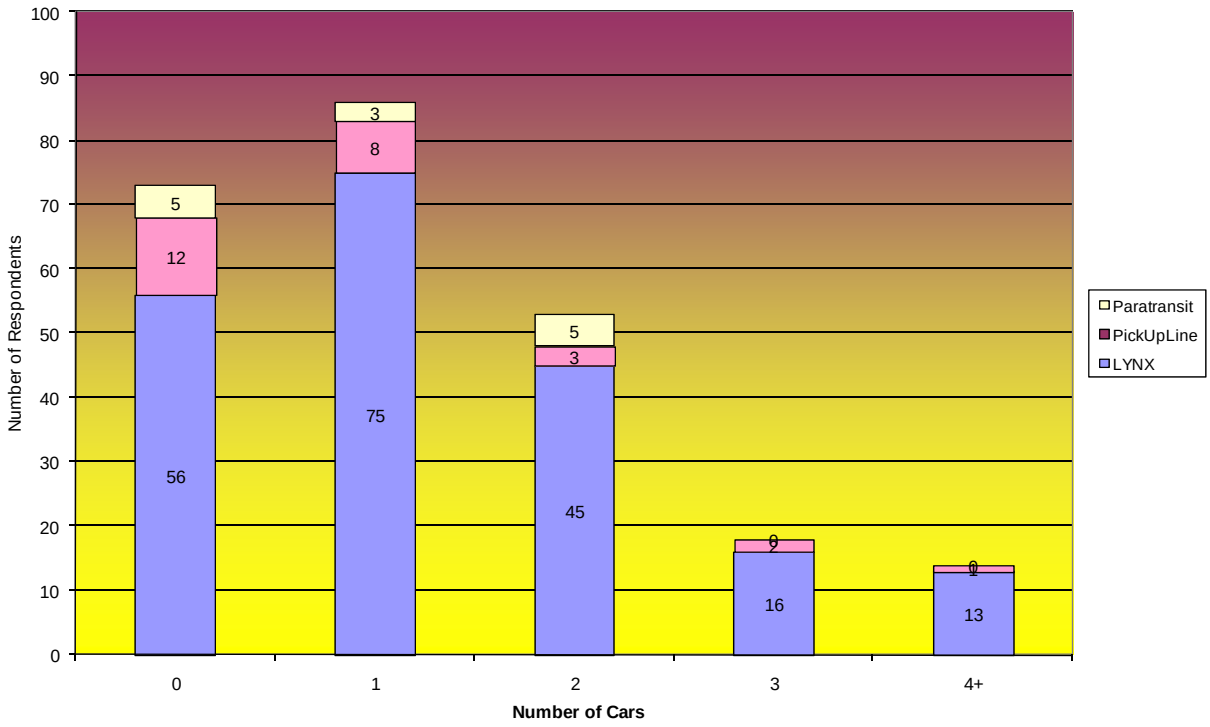


For classification purposes six different age brackets were created and are presented in Table 8. Of the respondents surveyed, 74 or 30.33 percent were age 18 or younger, 51 or 20.90 percent were 19 to 25, 29 or 11.89 percent were 26 to 35, 35 or 14.34 percent were 36 to 45, 33 or 13.52 percent were 46 to 65, 19 or 7.79 percent were over the age of 65, and 3 or 1.23 percent declined to answer the question. The majority of survey respondents were 18 years of age and under.

Table 8: Survey Respondent Age Brackets

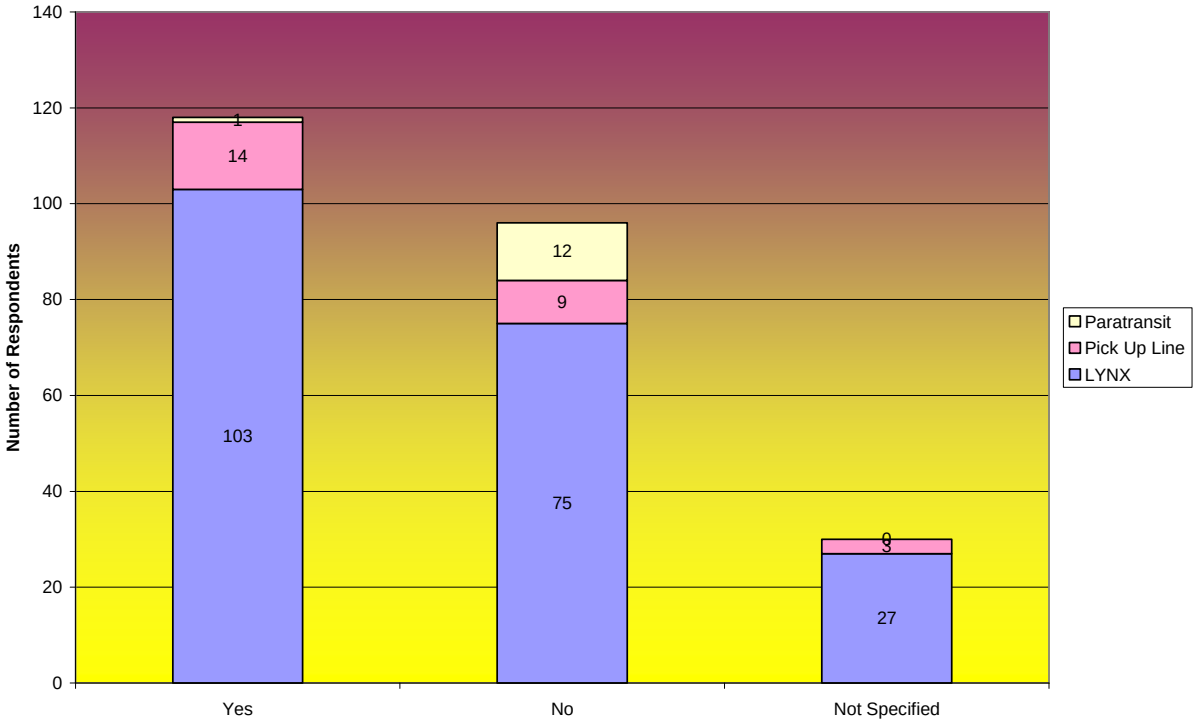
Age Brackets
0-18 years
19-25 years
26-35 years
36-45 years
46-65 years
66 and older

Figure 7: Number of Household Vehicles



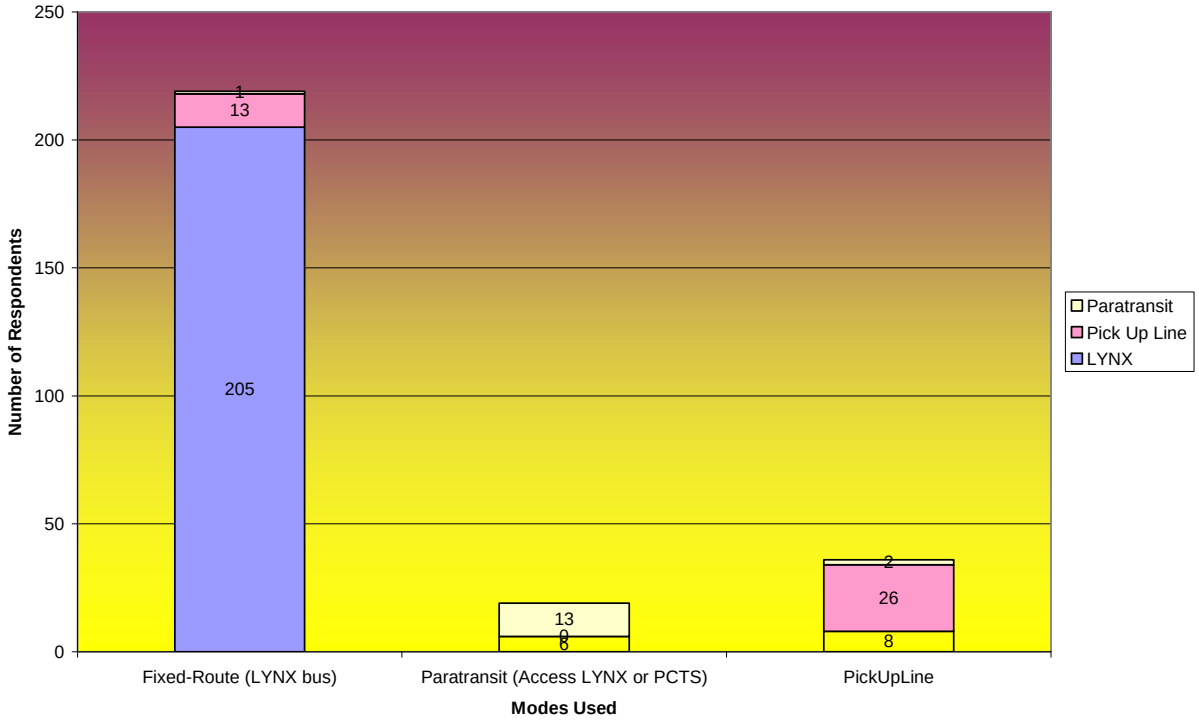
According to the survey results 73 or 29.92 percent said there are no cars in their household. 86 or 35.25 percent had at least one car available, 53 or 21.72 percent had two cars available, 18 or 7.38 percent had three cars available, and 14 or 5.74 percent had four or more cars available. For the people surveyed on paratransit approximately 50 percent reported having no car available in their household and an additional 25 percent reported having only one car available.

Figure 8: Do You Use More Than One Mode to Complete a Single Trip?



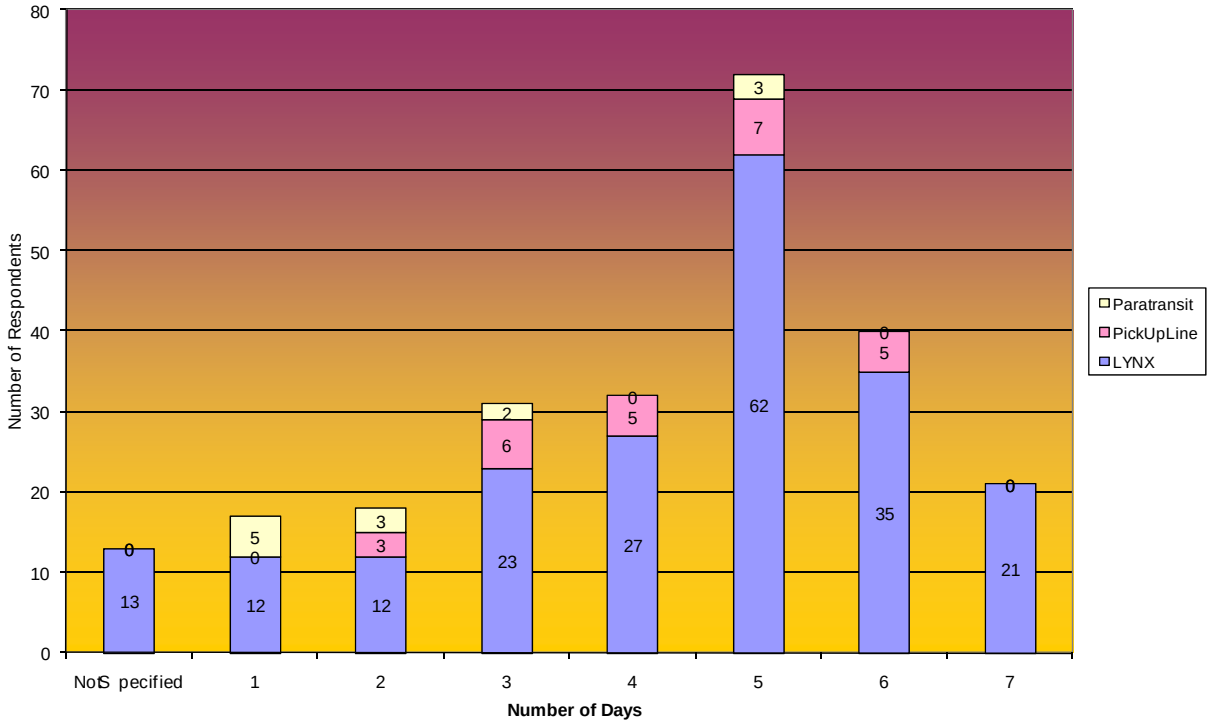
When asked if they use more than one mode of transit for completing a single trip, 118, or 48.36 percent said they did while 96 or 39.34 percent said they did not and 30 or 12.3 percent declined to answer. Only one person on paratransit said that they use more than one mode to complete a single trip.

Figure 9: What Modes of Transit Do You Use?



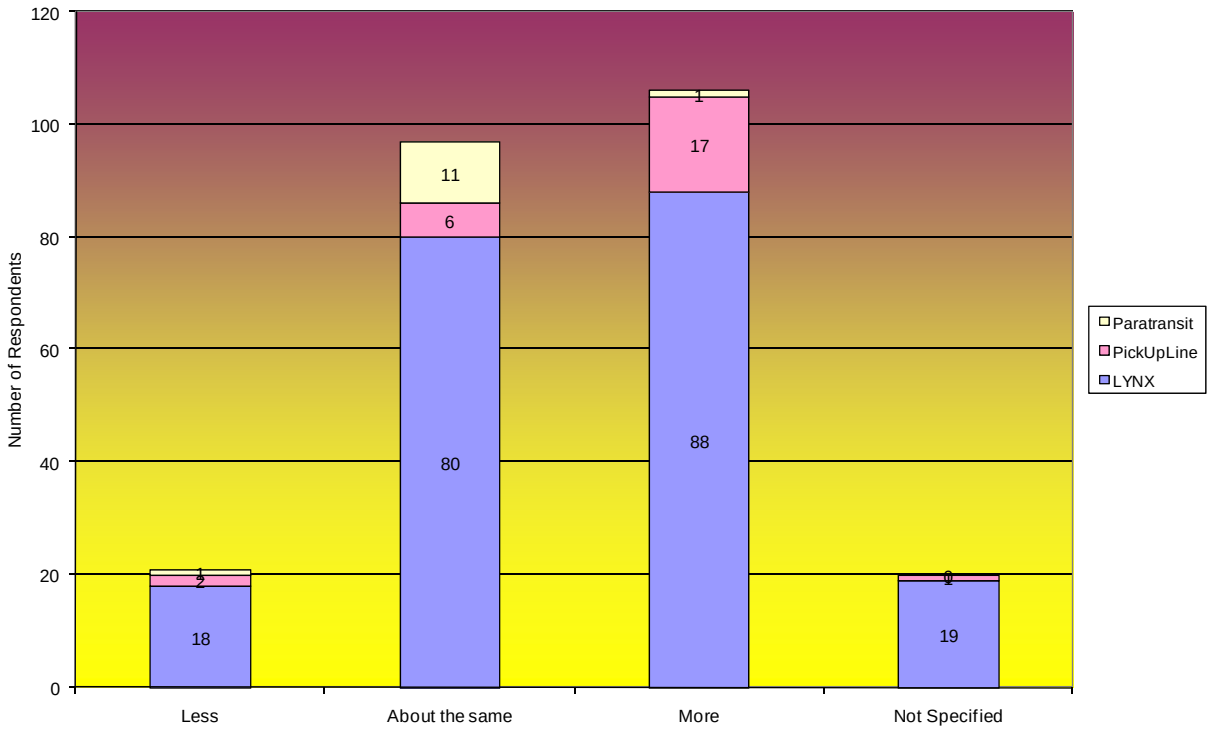
Related to the total modes utilized question, survey respondents were asked which modes they use, 219 people indicated they use fixed-route, 19 indicated they use paratransit, and 36 indicated they use Pick Up Line. Based on observations and comments received during the survey process it would appear that people will use fixed-route and Pick Up Line together, but not paratransit and fixed-route or Pick Up Line.

Figure 10: Number of Days Transit Used



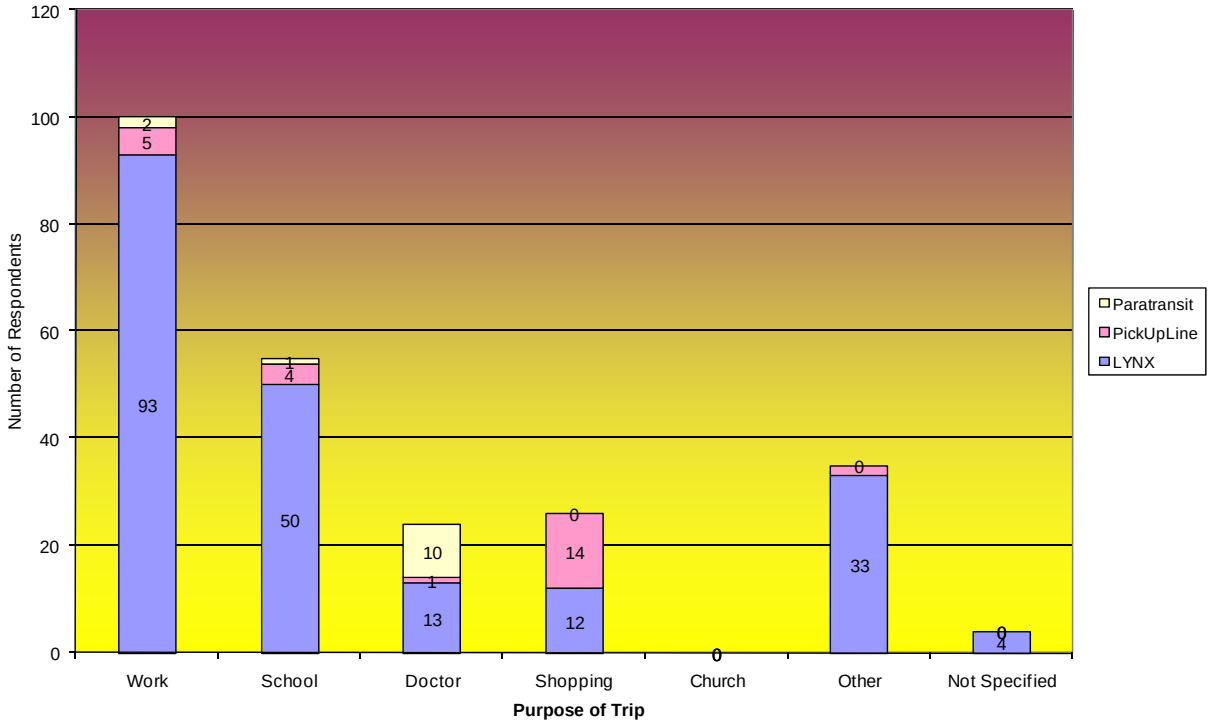
In helping to discover how often people are using transit, survey respondents were asked about how many days a week they use transit. The results were: 17 or 6.97 percent said they use transit once a week; 18 or 7.38 percent said they use it two days a week; 31 or 12.70 percent said they use it three days a week; 32 or 13.11 percent said they use it four days a week; 72 or 29.51 percent said they use it five days a week; 40 or 16.39 percent said they use it six days a week; 21 or 8.61 percent said they use it seven days a week; and 21 or 8.61 percent declined to answer the question. All 21 people who indicated they use transit seven days a week were from LYNX's Link 26. Both Link 26 and Pick Up Line do not operate on Sunday, so these individuals would be utilizing paratransit or private transportation providers on Sunday.

Figure 11: How Often Do You Use Transit Compared to One Year Ago?



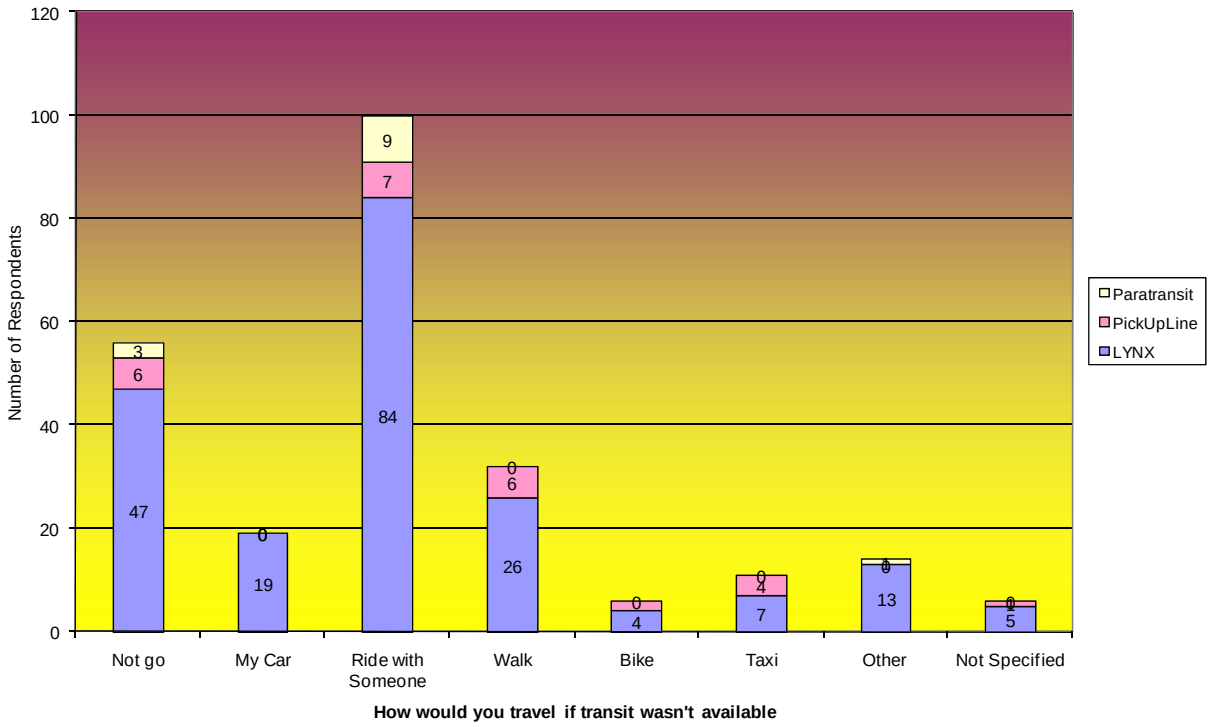
The entire public transportation industry has seen increases in ridership over the past year due to various factors. Respondents were asked if they use transit more, less, or about the same as a year ago; 21 or 8.61 percent indicated they use transit less, but no clear reasons as to why were provided. Ninety-seven, or 39.75 percent, indicated they use transit about the same as they did a year ago, and 95 percent of all paratransit users indicated they use it about the same. Of all survey respondents, a total of 106 people or 43.44 percent indicated they use transit more then they did a year ago and 20 people, or 8.20 percent, declined to answer the question. Of the reasons cited for using transit more, fuel prices, and repair bills were the most frequent reason.

Figure 12: Trip Purpose



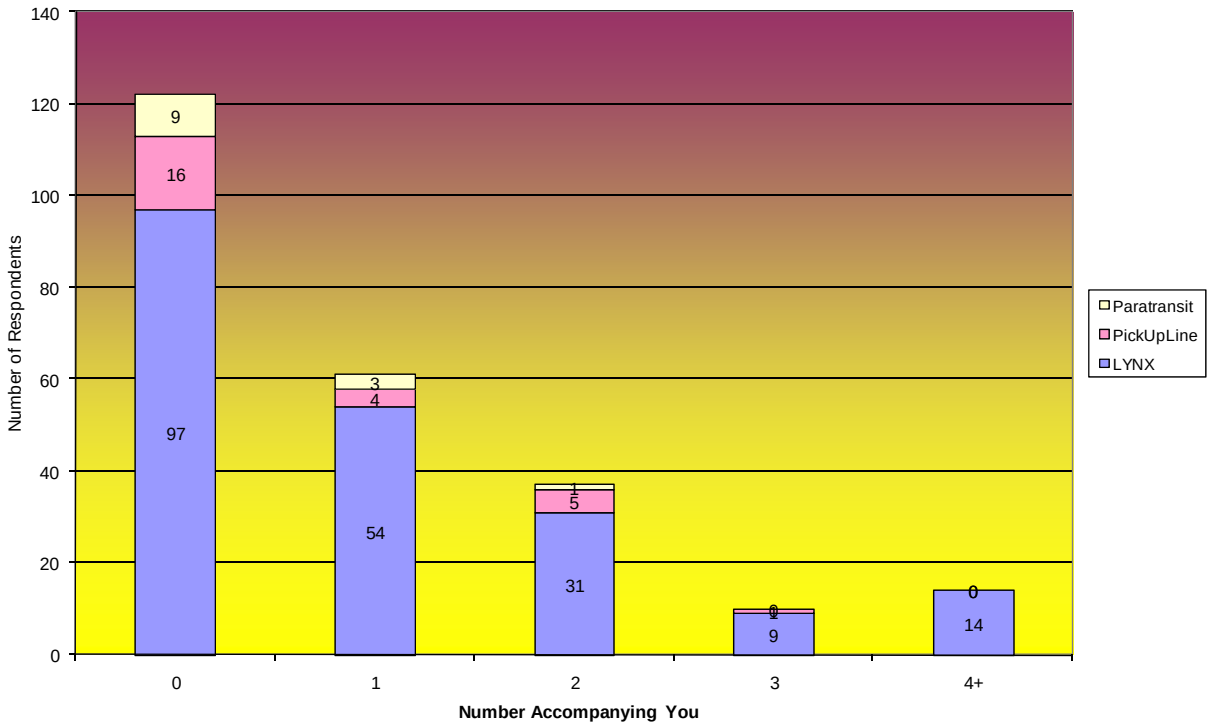
Survey respondents were asked about the purpose of their trip or their most recent trip for those contacted by telephone. Of the 244 respondents, 100 or 40.98 percent indicated they were traveling to/from work, 55 or 22.54 percent indicated they were going to/from school, 24 or 9.84 percent indicated they were going to/from a medical appointment, 25 or 10.66 percent said they were traveling to go shopping, 35 or 14.34 percent indicated another reason for their trip or indicated more then one purpose, and four or 1.64 percent declined to answer the question. Paratransit users indicated their primary trip purpose was for doctor and other medical appointments.

Figure 13: How Would You Complete This Trip If Transit Were Not Available?



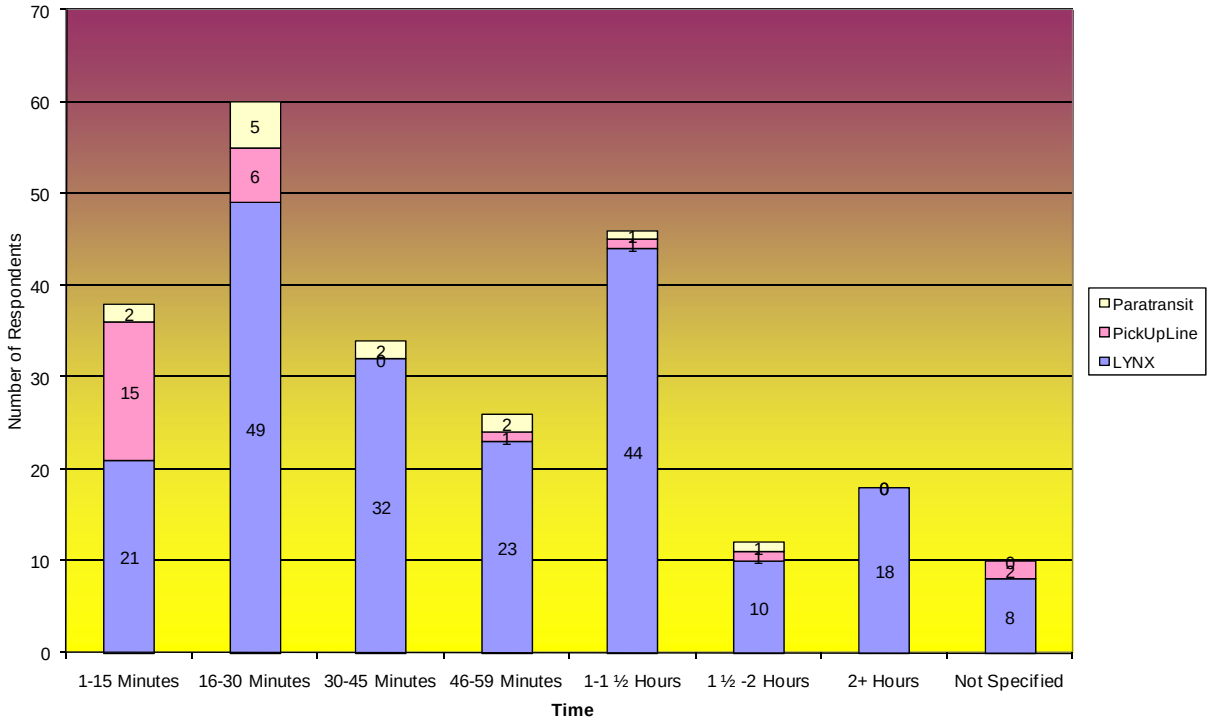
Respondents were asked how they would go about completing their trip, if transit were not available. Of the respondents surveyed, 56 or 22.95 percent indicated they simply would not go, 19 or 7.79 percent indicated they would drive themselves, 100 or 40.98 percent would ride with someone else (including family), 32 or 13.11 percent would walk, 6 or 2.48 percent would bike, 11 or 4.51 percent would use a taxi, 14 or 5.71 percent would use some other method, and 6 or 2.46 percent didn't answer this question. Of the respondents who indicated another mode not listed on the survey instruments, the answers included pray, fly, I have no other way, and hitchhike.

Figure 14: Number of People Traveling With You



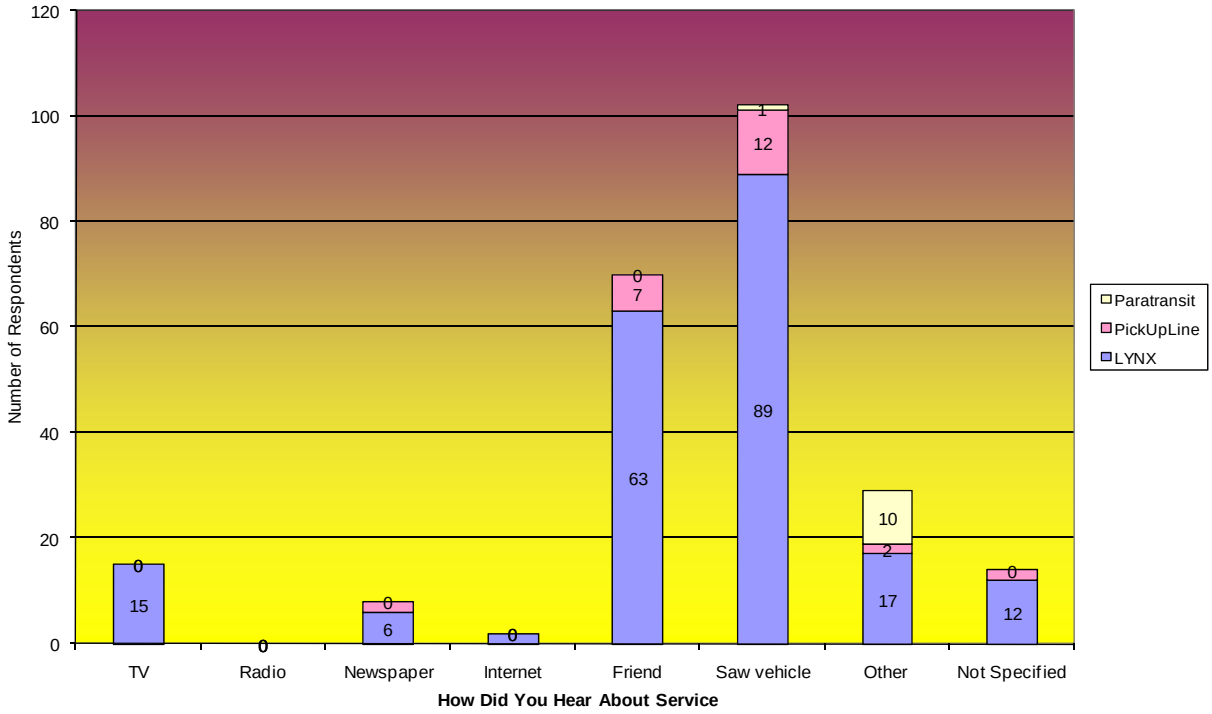
To determine how effectively transit is being used, the respondents were asked how many people were traveling with them on the day they were surveyed. One hundred twenty-two, or 50 percent indicated they were traveling alone, 61 or 25 percent indicated that they were traveling with one additional person, 37 or 15.16 percent indicated they were traveling with two people, 10 or 4.10 percent indicated they were traveling with three other people, and 14 or 5.71 percent indicated they were traveling with four or more people. During the survey analyses, it was noted that several people who indicated they were in the age under 18 years of age and using transit for school, indicated traveling in a group of more than just themselves.

Figure 15: Trip Length



To determine efficiency of the transit services, the respondents were asked to indicate the length of their trip. Of the respondents surveyed, 38 or 15.57 percent indicated their trip is less than 15 minutes, 60 or 24.59 percent indicated their trip is between 16 to 30 minutes, 34 or 13.93 percent indicated their trip is between 31 to 45 minutes, 25 or 10.66 percent indicated a trip time of 46 to 59 minutes, 46 or 8.85 percent indicated their trip takes one to one and a half hours, 12 or 4.92 percent indicated their trip takes one and half hours to two hours, 18 or 7.38 percent indicated their trip takes over two hours to complete, and ten or 4.10 percent declined to answer the question. No paratransit users indicated a trip length that exceeded two hours during the survey; however, two respondents indicated that they have experienced a trip in the past that was longer than two hours.

Figure 16: How Did You Learn About the Transit Services?

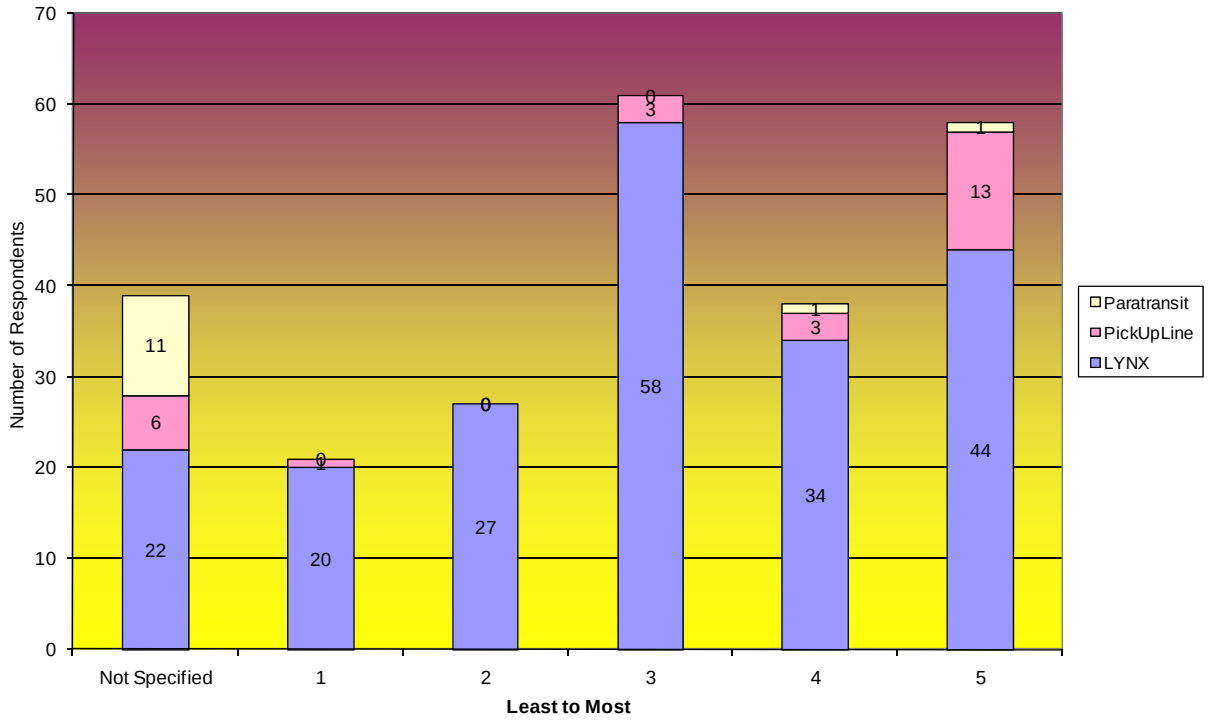


Fifteen people, or 6.15 percent of all respondents, indicated that they learned about the service from television, eight people or 3.28 percent indicated they read about the transit service in the newspaper; two people or 0.82 percent learned about the transit service from the internet; 70 people or 28.69 percent heard about the service from a friend, 102 people or 41.80 percent saw the vehicle on the street, 29 people or 11.89 percent indicated they learned about the service from another source; and 14 people or 5.74 percent did not answer the question. The majority of people who use paratransit service indicated that they learned about the service from another source which included a variety of social service agencies.

Satisfaction Questions

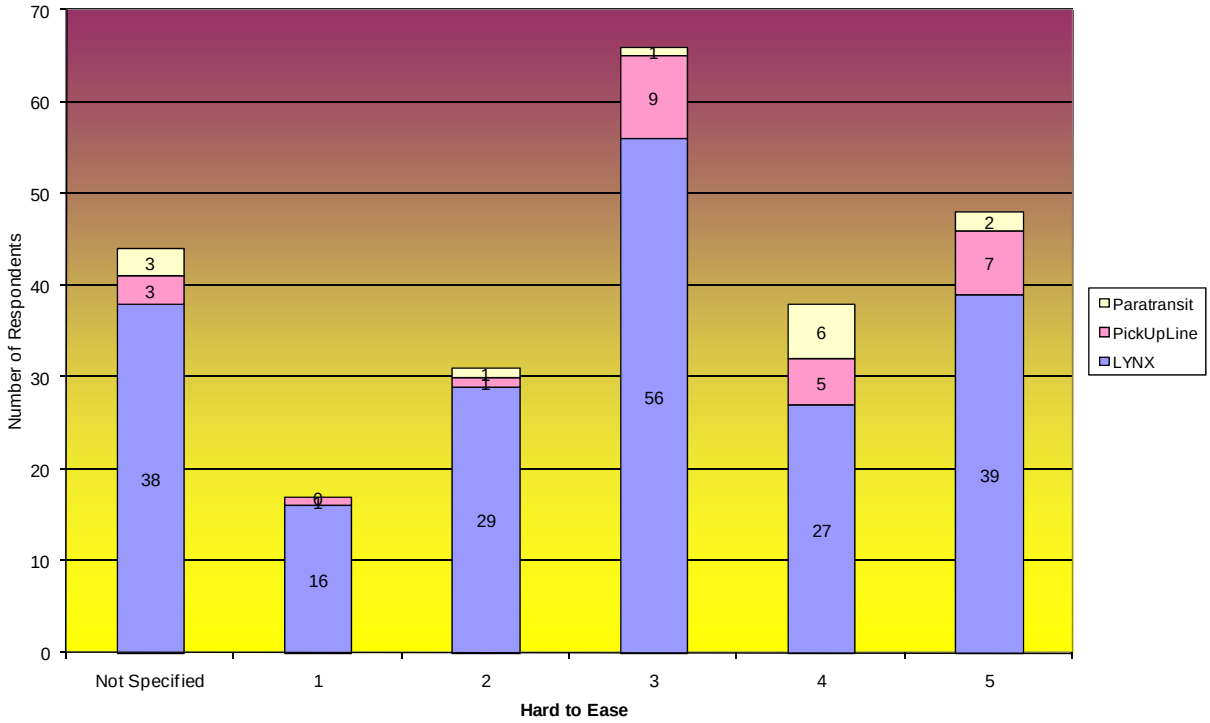
To help determine customer satisfaction with LYNX and PCTS service, survey respondents were asked eight questions pertaining to the transit services. Respondents were asked to rate their responses using a scale of 1 to 5, with 1 being least satisfied and 5 being most satisfied.

Figure 17: Vehicle Transfers



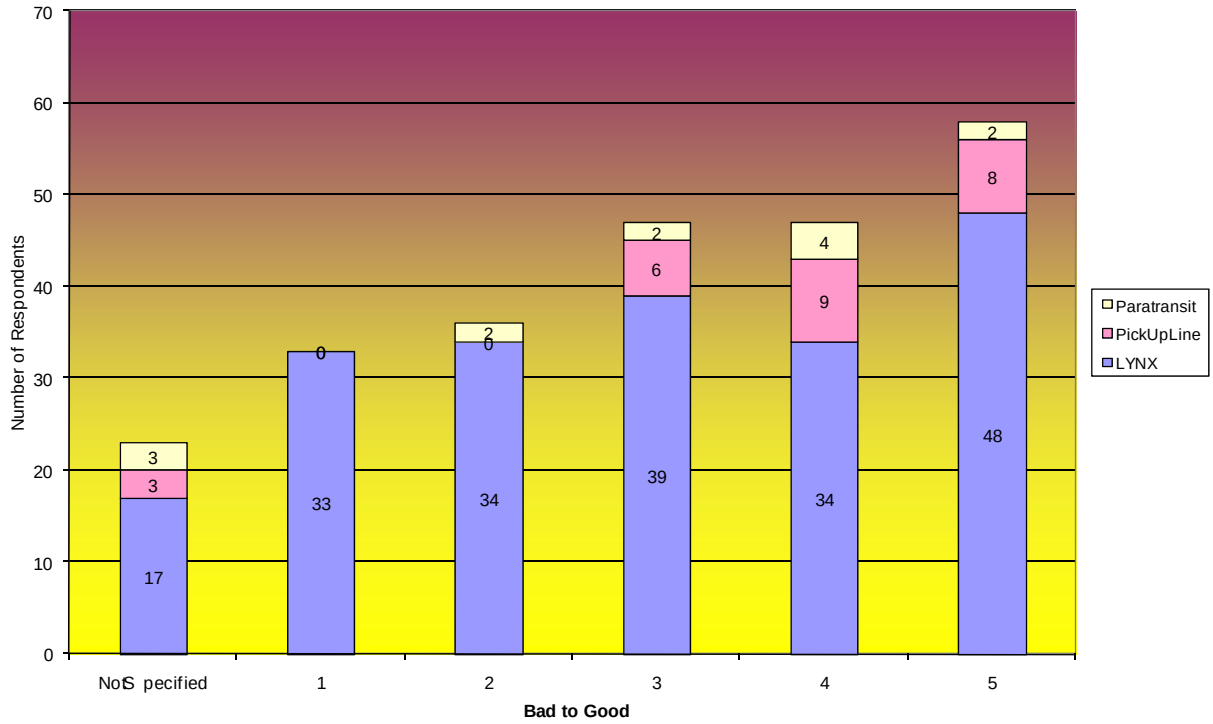
The evaluator team asked customers to rate their ability or ease to transfer between vehicles at designated transfer points. Twenty-One people or 8.61 percent indicated it was very difficult (responded one) to transfer; 27 or 11.07 percent indicated it was difficult (responded two); 61 people or 25 percent indicated it was medium (responded three), 38 or 15.57 percent indicated it was easy (responded four) to transfer, 58 or 23.77 percent indicated it was very easy (responded five) to transfer; and 39 or 15.98 percent did not respond to this question.

Figure 18: Ease of Reservation



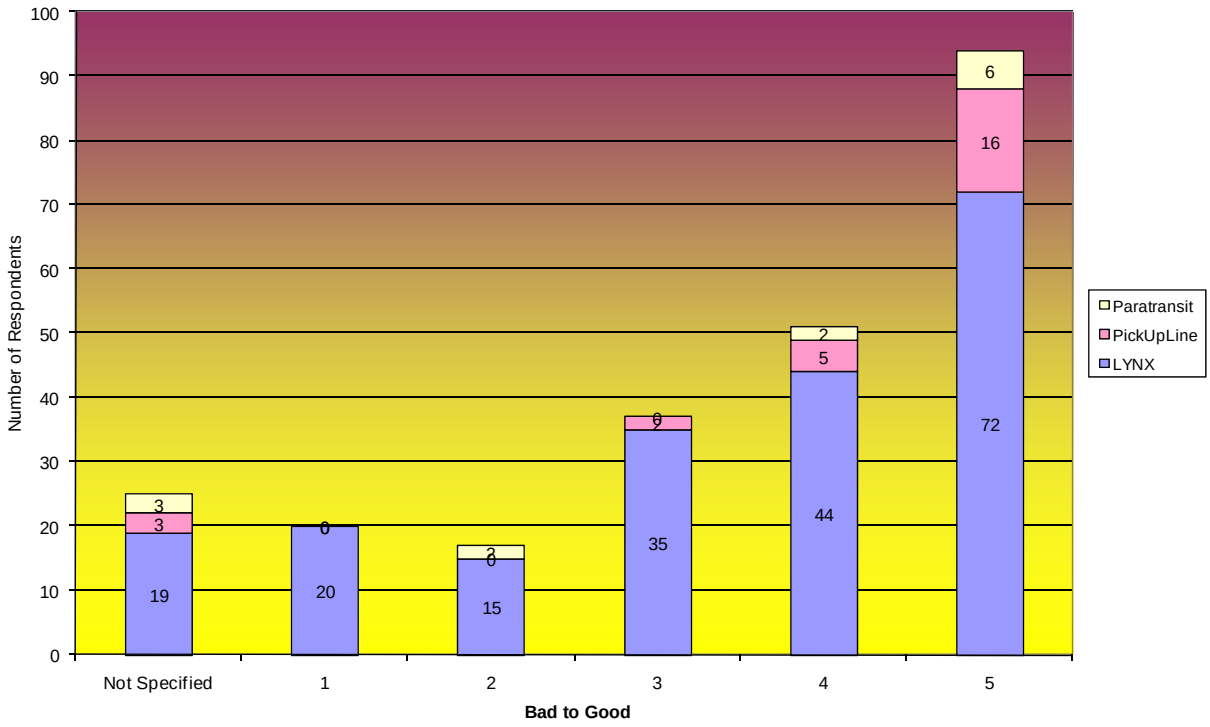
Survey respondents were asked to indicate the ease of making reservations on the Pick Up Line, making reservations for paratransit service, or obtaining schedule information for LYNX buses. Seventeen or 6.97 percent indicated it was very difficult to make a reservation or obtain information, 36 or 14.75 percent indicated it was difficult; 66 or 27.05 percent indicated medium difficulty with reservations or obtaining information, 38 or 15.57 percent indicated it was easy; 48 or 19.67 percent indicated it was very easy to make a reservation or obtain information, and 44 or 18.03 percent did not answer the question.

Figure 19: On-Time Performance



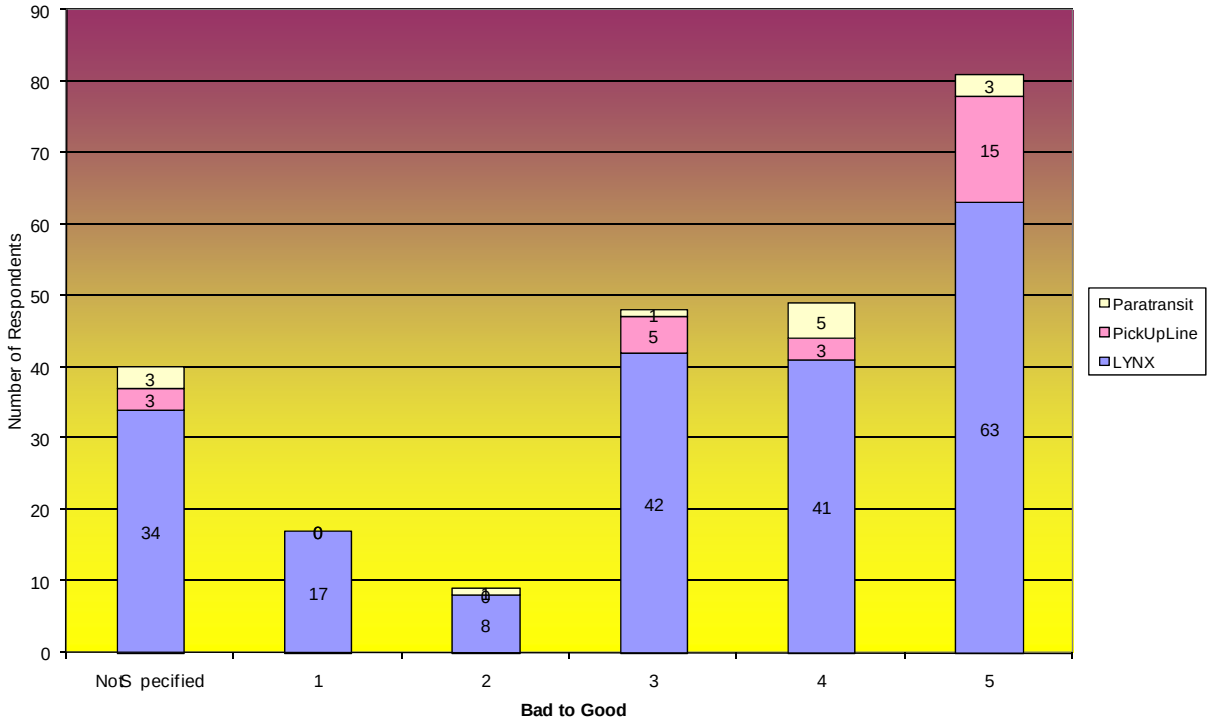
The evaluator asked customers to rate the on-time performance of their trips. Of the survey responses received, 33 people or 13.52 percent indicated that the on-time performance of their trip was bad; 36 or 14.75 percent indicated poor on-time performance; 47 or 19.26 percent indicated acceptable on-time performance; 47 or 19.26 percent indicated a good rating; 58 or 23.77 percent indicated a response of excellent on-time performance, and 23 people or 9.43 percent did not respond to this question. Overall, the majority of respondents indicated that the service on-time performance was excellent.

Figure 20: Safety and Security



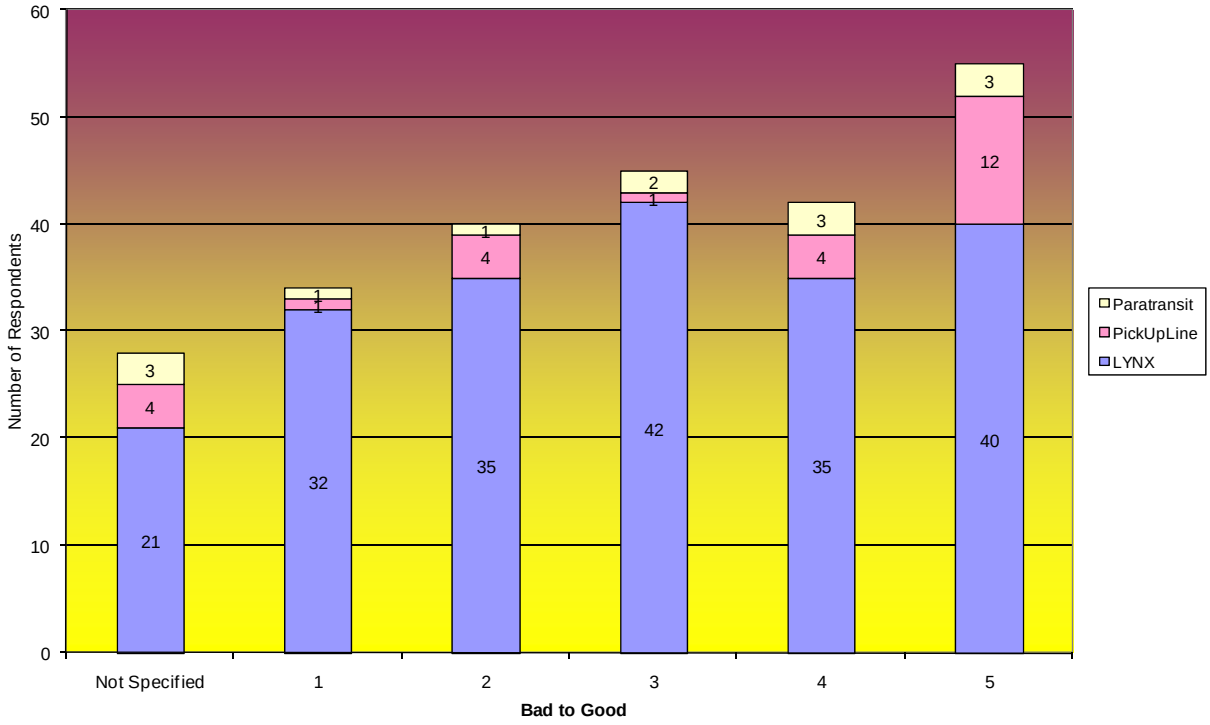
Survey respondents were asked to rate their feelings regarding safety and security on-board the transit vehicles. The majority of respondents indicated that the safety and security of the vehicles were excellent. Of the total responses, 20 people or 8.20 percent indicated a bad (level 1) rating for safety and security, 17 or 6.97 percent indicated a poor (level 2) rating; 37 or 15.16 percent indicated an acceptable (level 3) rating; 51 or 20.90 percent indicated a good (level 4) rating; 94 or 38.52 percent indicated a excellent (level 5) rating on safety and security, and 25 people or 10.25 percent did not respond to this question.

Figure 21: Driver Competence



Survey respondents were asked to rate the competence of the driver on-board their trip. The majority of respondents rated the driver's competence as excellent. Of the total survey responses, 17 or 6.97 percent indicated that the driver's competence was bad (level 1), nine or 3.69 percent indicated that the driver's competence was poor (level 2), 48 or 19.67 percent indicated that the driver's competence level was acceptable (level 3), 49 or 20.8 percent indicated that the driver's competence level was good (level 4), 81 or 33.20 percent indicated that the driver's competence was excellent (level 5), and 40 or 16.39 percent did not answer the question.

Figure 22: Fare

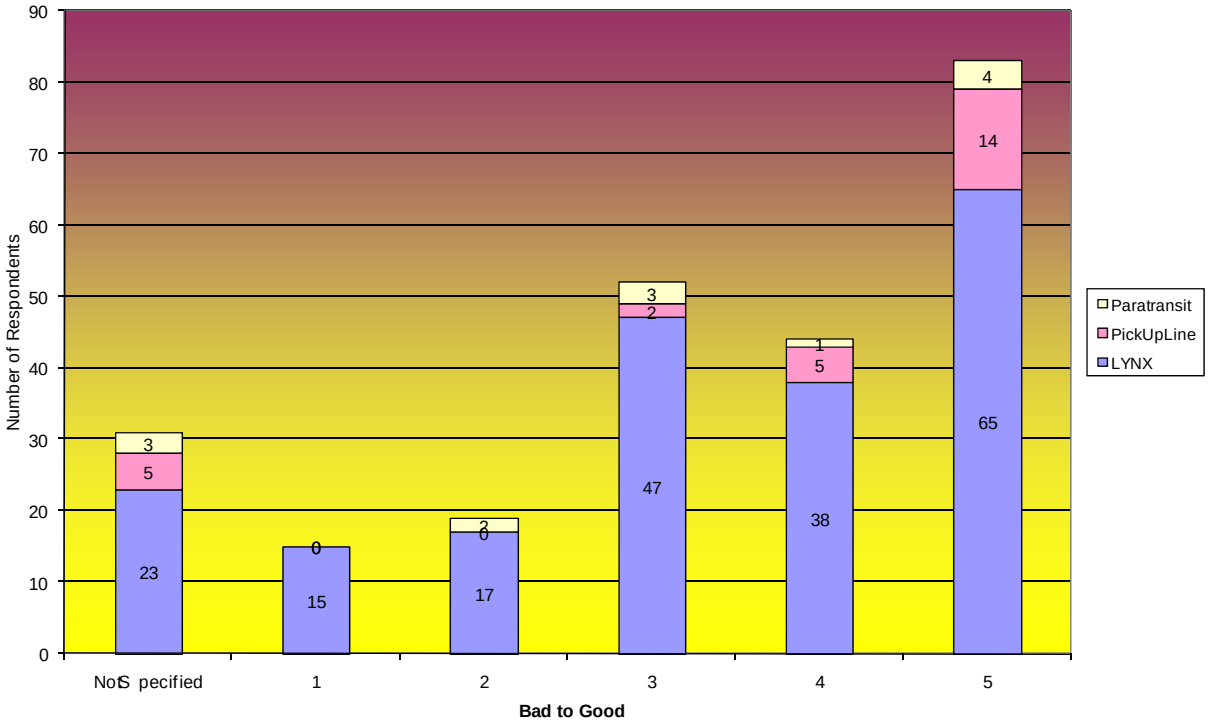


At the time of the on-board survey, the current fixed-route base fare for LYNX is $1.75 with a free transfer that is valid for 90 minutes after the transfer is issued. Transfers cannot be used on the same route. The Pick Up Line base fare was $2.50, and the paratransit fares vary by agency and funding source. Survey respondents were asked to rate their level of satisfaction with the fare. The majority of respondents rated the current fare at an excellent level. Of the total responses, 34 people or 13.93 percent indicated the fare was bad (level 1), 40 or 16.39 percent indicated the fare was poor (level 2), 45 people or 18.44 percent indicated the fare was acceptable (level 3), 42 or 17.21 percent indicated the fare was good (level 4), 55 or 22.54 percent indicated the current fare was at an excellent level (level 5), and 28 or 11.48 percent did not respond to the question.

Based on a previous fare survey completed by LYNX and PCTS, customers indicated that they preferred a Pick Up Line fare of $2.00. However, during the Rural ITS evaluation on-board survey, no respondents indicated that they were dissatisfied with the current Pick Up Line fare of $2.50. Based on the survey results, the fare of $2.50 appears to be in line with market expectations.

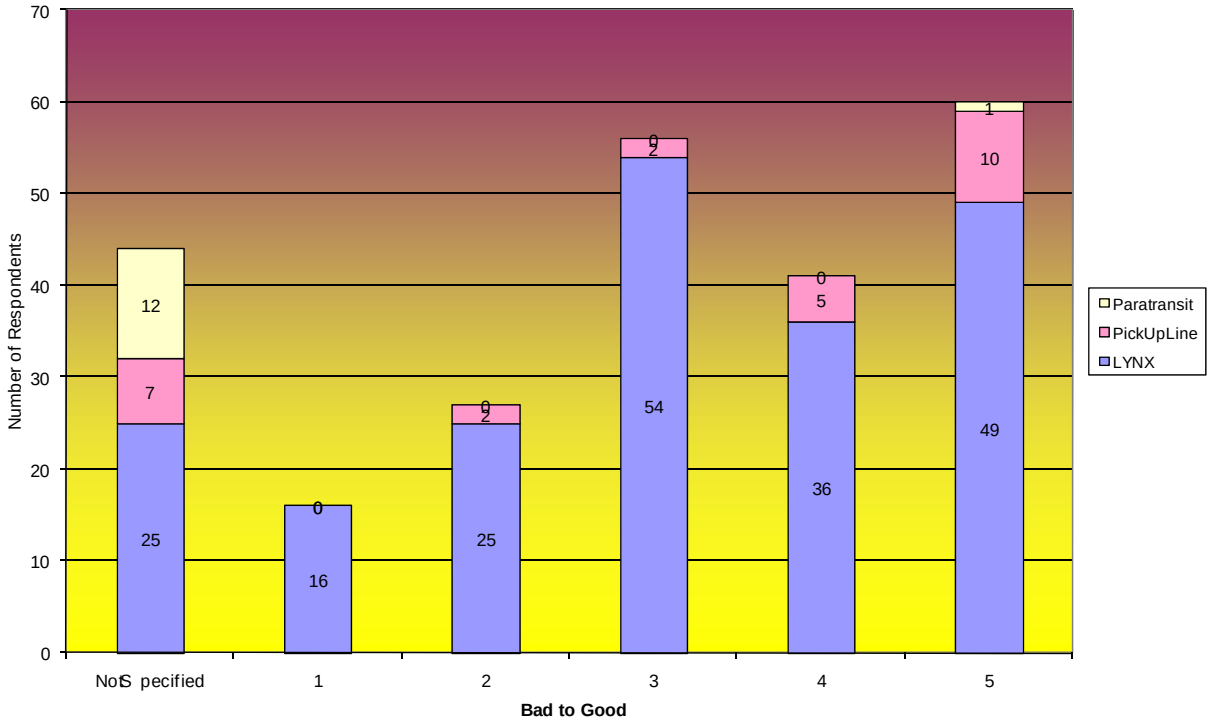
Effective January 2009, the LYNX fixed-route base fare was increased to $2.00 for the full fare and $1.00 for the discounted fare. In addition, the Pick Up Line fare was adjusted to be consistent with the fixed-route full and discounted fares, $2.00 and $1.00, respectively.

Figure 23: Vehicle Comfort



LYNX uses a variety of different vehicle manufactures with different seat configurations and assigns them as needed to the fixed route fleet. The majority of paratransit and Pick Up Line vehicles are constructed with similar seats, although in different configurations depending on the intended purpose of the vehicle. Survey respondents were asked to rate the comfort of the vehicle during their trip. The majority of respondents on the fixed-route, Pick Up Line, and paratransit vehicles indicated an excellent level of comfort. Of the total survey responses, 15 or 6.15 percent indicated a bad level of comfort (level 1); 19 or 7.79 percent indicated a poor level of comfort (level 2); 52 or 21.31 percent indicated an acceptable level of comfort (level 3); 44 or 18.03 percent indicated a good level of comfort (level 4); 83 people or 34.02 percent indicated an excellent level of vehicle comfort (level 5), and 31 or 12.70 percent did not respond to this question.

Figure 24: Stop/Transfer Point Comfort



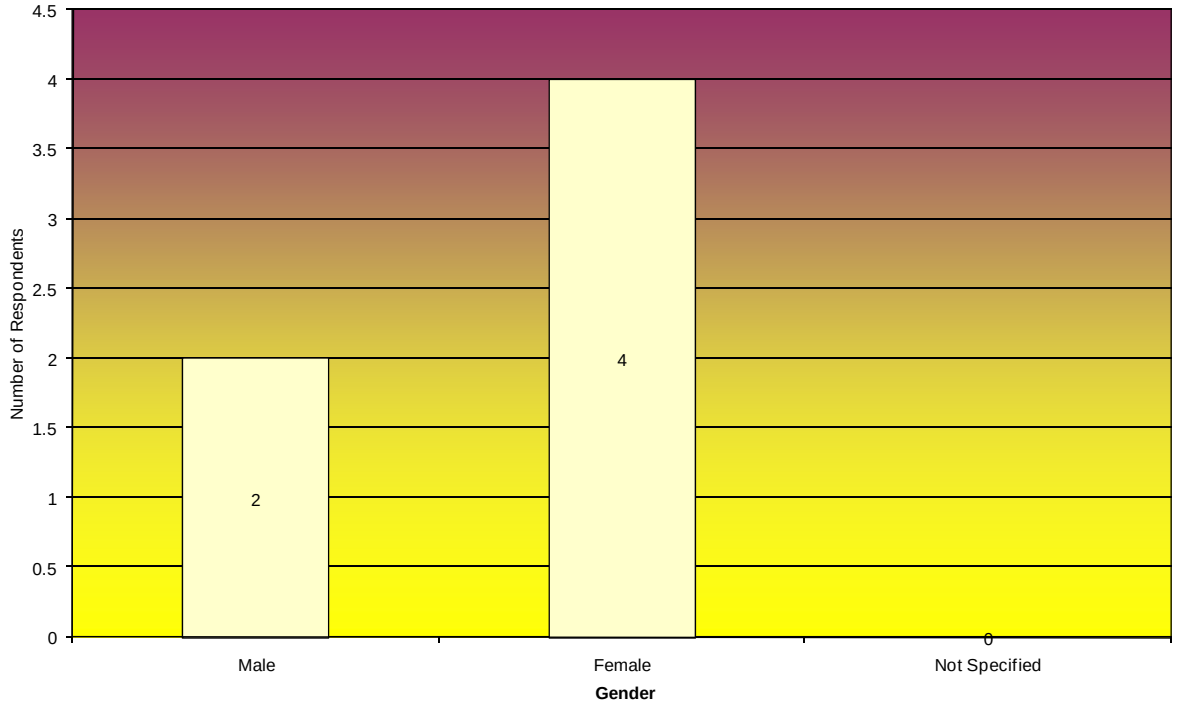
During the course of this project the Poinciana Pick Up Line service was established with a designated transfer point. The Pick Up Line transfer point was established in addition to the existing LYNX Transfer Stations, Super Stops, and transfer points. Survey respondents were asked to rate the comfort at the stops/transfer points. Out of the total responses, 16 people or 6.56 percent indicated a bad level of comfort (level 1); 27 or 11.07 percent indicated a poor level of comfort (level 2); 56 or 22.95 percent indicated an acceptable level of comfort (level 3); 41 or 16.80 percent indicated a good level of comfort (level 4); 60 people or 24.59 percent indicated an excellent level of stop/transfer point comfort (level 5), and 44 or 18.03 percent did not answer the question. The majority of fixed-route customers indicated an acceptable level of comfort; however, the majority of Pick Up Line customers indicated an excellent level of comfort. The majority of paratransit passenger did not provide responses to this question.

Telephone Survey Results: Follow-Up Survey for Coordinated Trip Passengers

On December 12, 2008, the evaluator contacted six ACCESS LYNX customers who completed coordination trips on PCTS in October 2008. The telephone survey consisted of the same questions asked during the on-board survey effort conducted in early October. At the time of the on-board survey, LYNX and PCTS had not coordinated trips; therefore, the follow-up telephone surveys were completed in an effort to obtain information from the passengers who completed a coordinated trip.

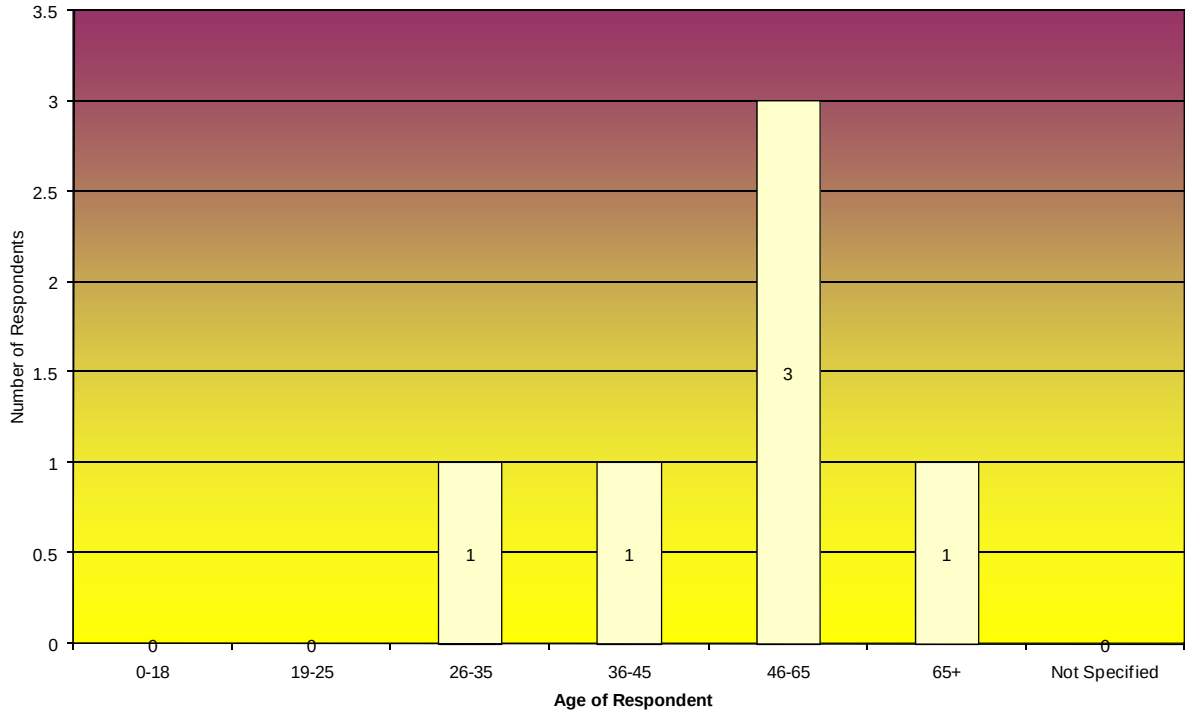
A total of six ACCESS LYNX customers were transported on PCTS vehicles. Of those six passengers, three were ambulatory, two used wheelchairs, and one required the use of a lift. All six passengers were surveyed in Spanish as that was their primary language.

Figure 25: Gender



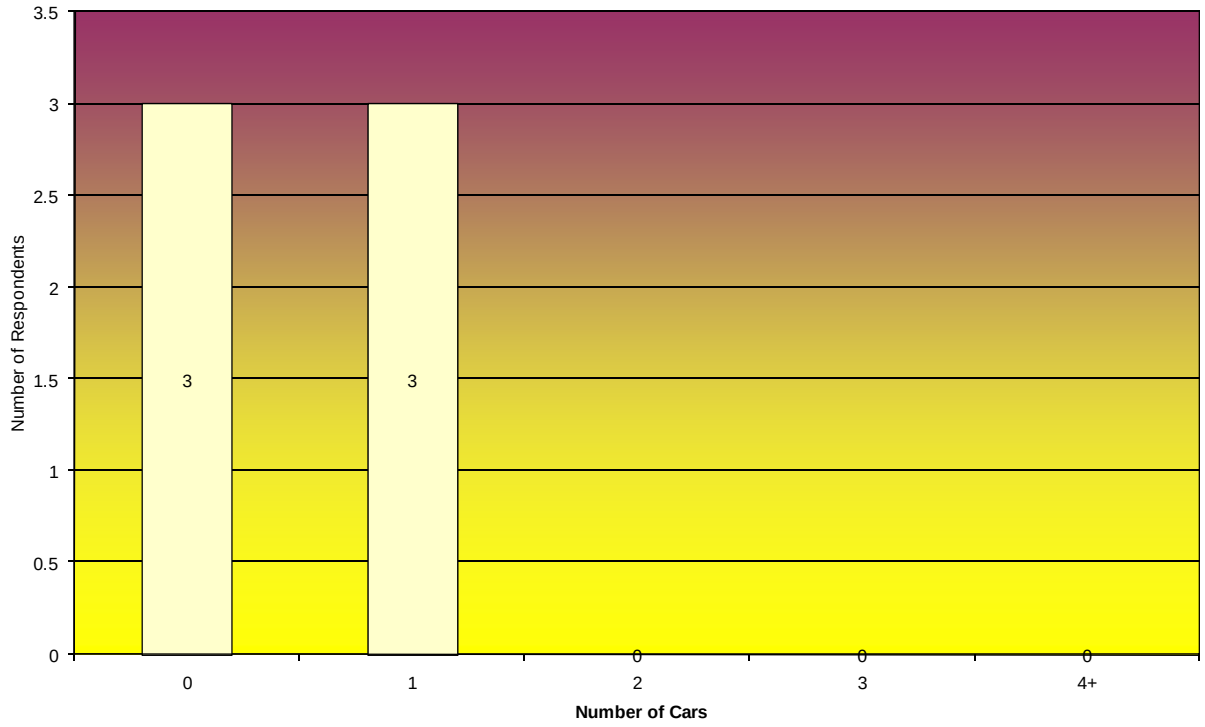
Four of the six passengers (66.66 percent) were females and two of the passengers (33.33 percent) were male. The gender distribution of the telephone survey participants was the opposite of the on-board survey paratransit participants, in which males doubled females.

Figure 26: Age



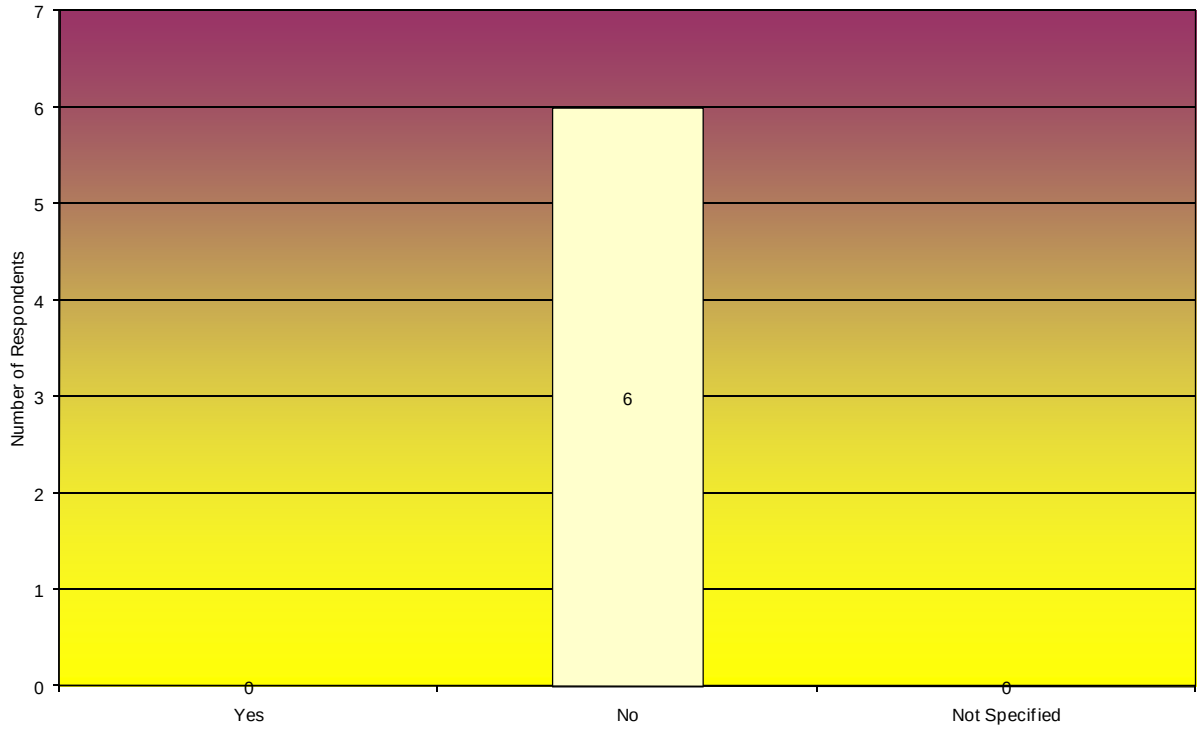
Similar to the age classifications used during the on-board survey, responses from the telephone were distributed among six age brackets. Of the six respondents, one or 16.67 percent was between the ages of 26 to 35, one or 16.67 percent was between the ages of 36 to 45, three or 50 percent were between the ages of 46 to 65, and one or 16.67 percent were over the age of 65. The majority of the telephone survey respondents were between the ages of 46 and 65.

Figure 27: Number of Household Vehicles



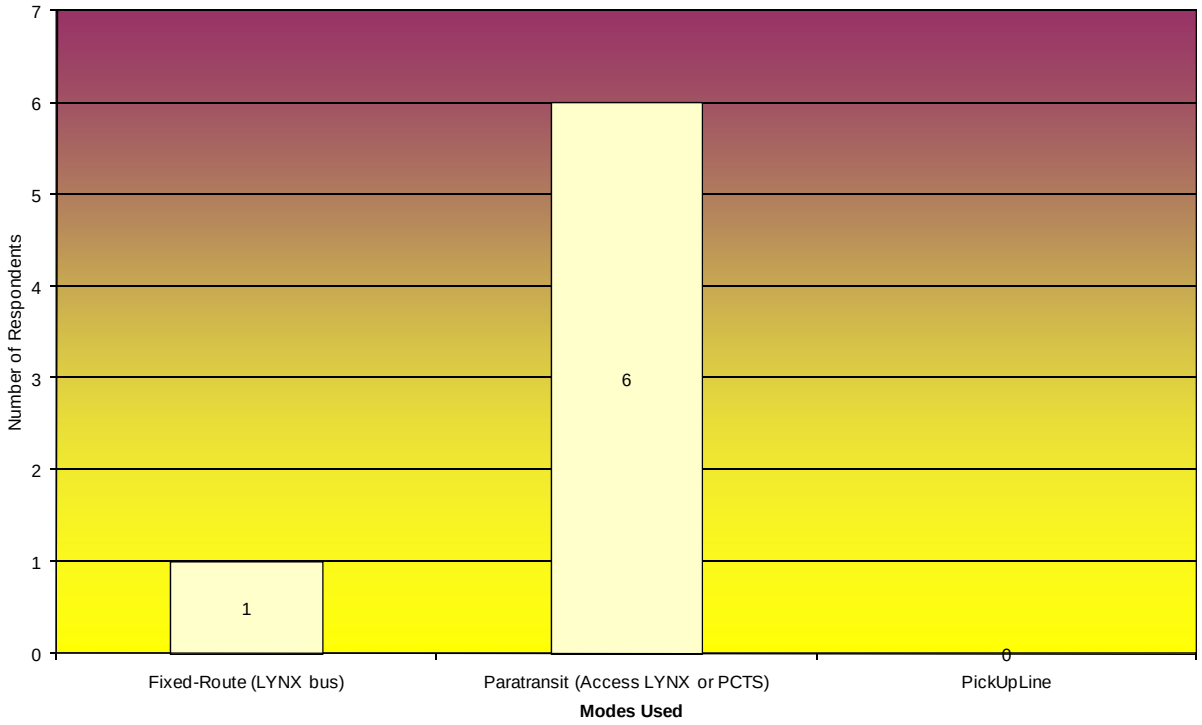
According to the survey, three or 50 percent of the respondents indicated that there were no cars available in their household and three or 50 percent had at least one car available. These results were similar to the first survey, in which most customers either did not have a car or only had one car available for the home.

Figure 28: Do You Use More Than One Transit Mode to Complete a Single Trip?



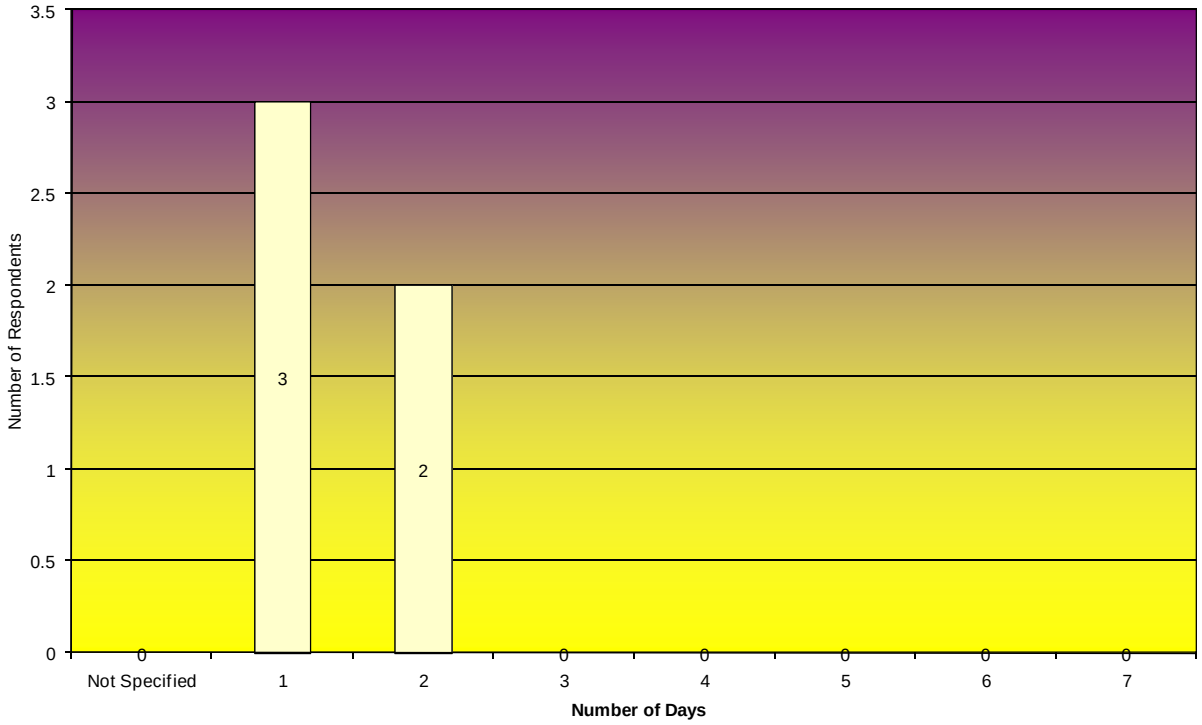
Of the six customers surveyed, none used more than one mode of transit for completing their trip. The same result was found during the on-board surveys completed with the paratransit customers that indicated only one PCTS paratransit customer used more than one mode to complete a single trip.

Figure 29: What Modes of Transit Do You Use?



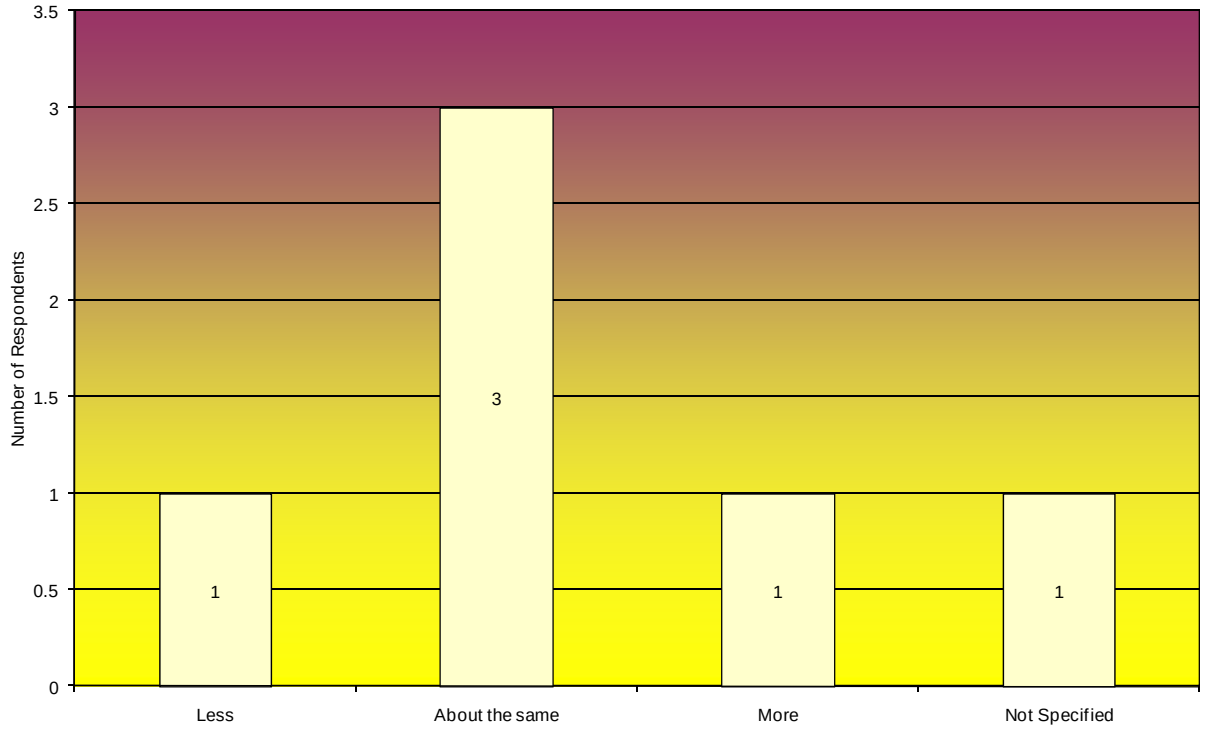
In terms of modes used overall, one of the six passengers surveyed indicated that they also used a LYNX fixed-route bus in addition to the paratransit service.

Figure 30: Number of Days Transit Used



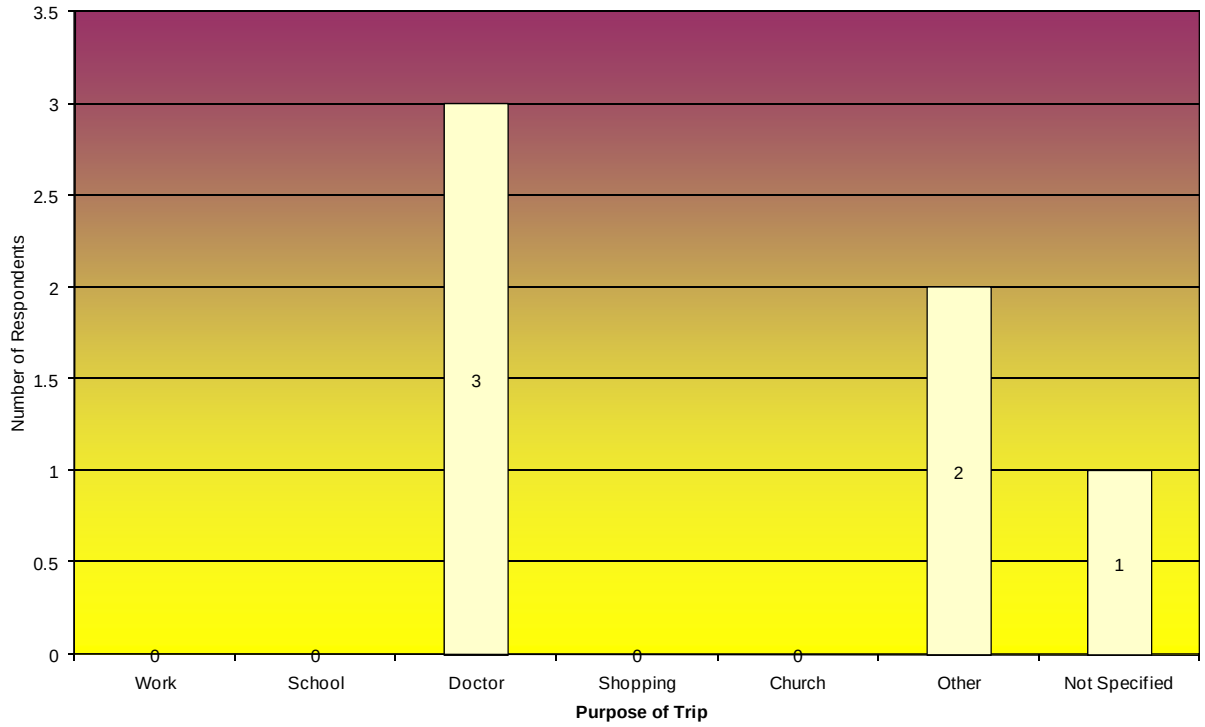
Telephone survey respondents were asked how frequently they use transit each week. Three or 50 percent used transit once per week, two or 33.33 percent used transit two days per week, and one or 16.67 percent declined to respond.

Figure 31: How Often Do You Use Transit Compared to One Year Ago?



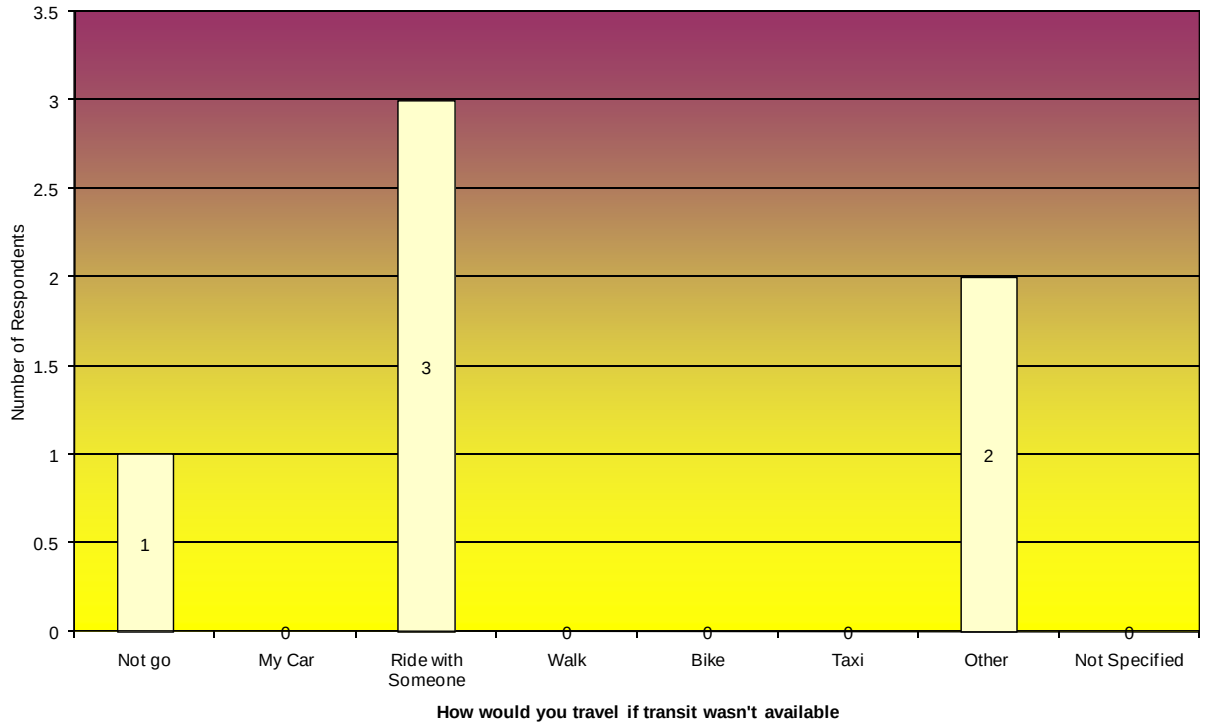
Survey respondents were asked if they used transit more, less, or about as equally as a year ago. One respondent or 16.67 percent indicated that they use transit less due to a health condition, three respondents or 50 percent indicated that they use transit about the same as a year ago, one respondent or 16.67 percent use transit more than a year ago due to doctor and hospital appointments, and one respondent or 16.67 percent declined to answer the question. The results to this question show that transit use has remained consistent over the past year.

Figure 32: Trip Purpose



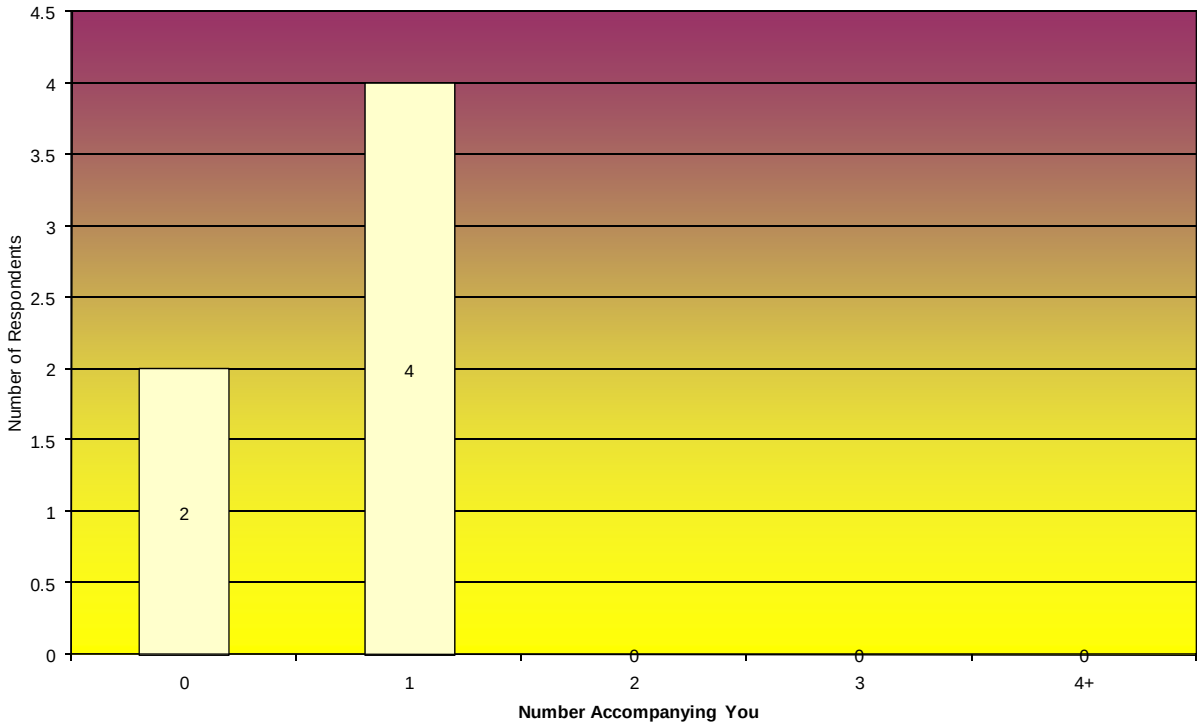
Customers were asked about the purpose of their trip on the date they were transported by PCTS. Of the six respondents, three or 50 percent were traveling for a medical appointment ("Doctor"), two or 33.33 percent were traveling for "other" purposes, and one or 16.66 percent declined to answer ("not specified"). This mirrored the on-board survey responses, in which most paratransit customers were traveling to a medical appointment.

Figure 33: How Would You Complete This Trip If Transit Were Not Available?



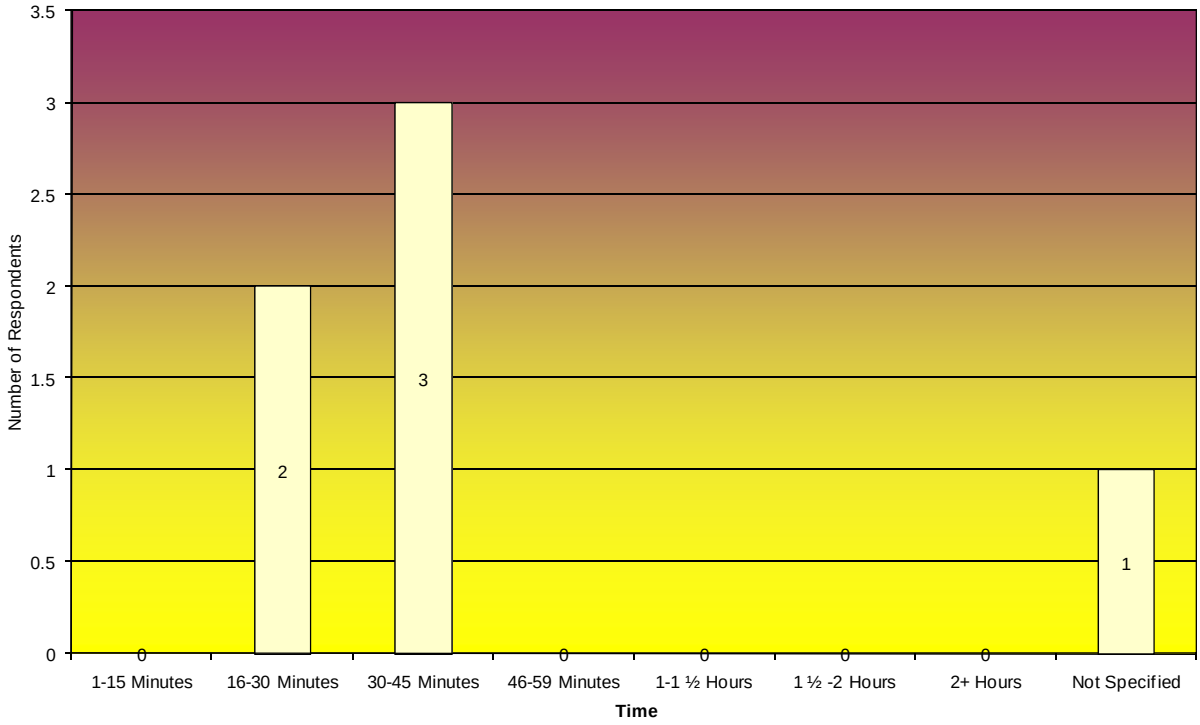
Respondents were asked how they would complete their trip if transit was unavailable. One person or 16.67 percent said that they would not travel if transit was unavailable, three or 50 percent indicated that they would ride with someone else, and two or 33.33 percent indicated that they would travel by another means.

Figure 34: Number of People Traveling With You



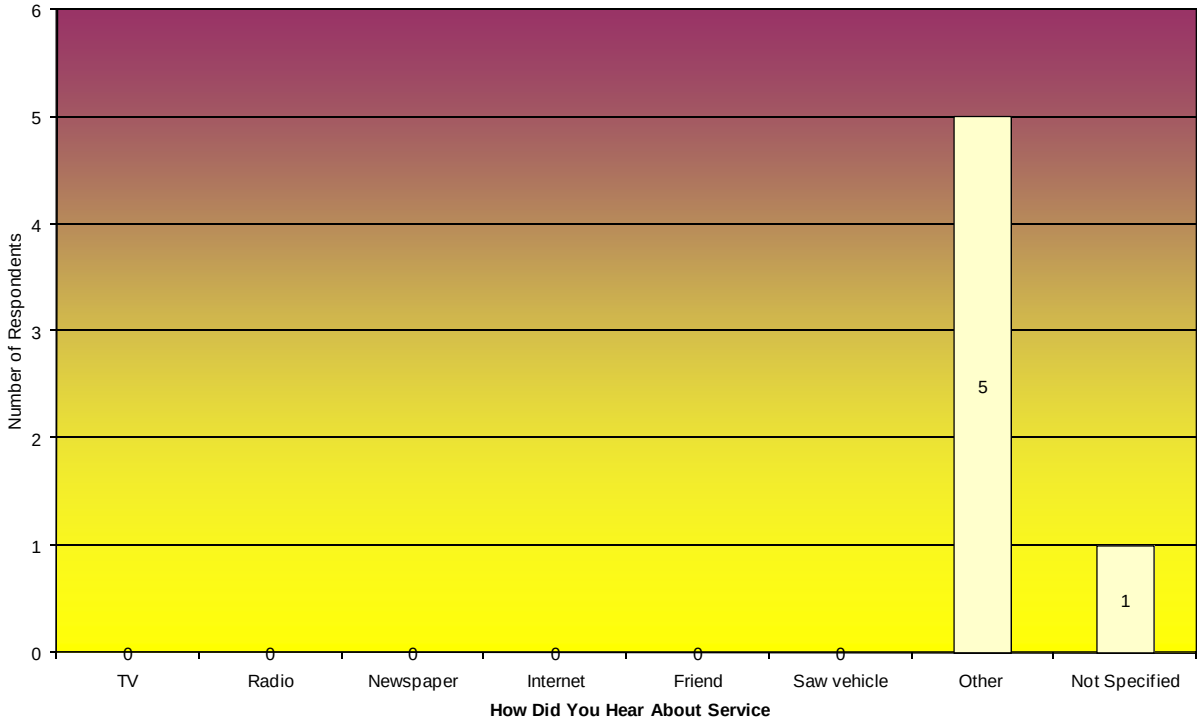
To help determine the effectiveness of the transit service, respondents were asked how many people accompanied them on their trip. Two or 33.33 percent indicated traveling alone and four or 66.66 percent were accompanied by a companion who was either their spouse or a personal care attendant.

Figure 35: Trip Length



To help determine the efficiency of the transit service, respondents were asked about the length of their trips. Of the total responses, two or 33.33 percent indicated the length of their trip was between 16 to 30 minutes long, three respondents or 50 percent indicated that their trip was between 31 to 45 minutes long, and one or 16.67 percent declined to answer the question. The responses received by the survey respondents coincided with the charges reported on the PCTS billing report.

Figure 36: How Did You Learn About the Service?



Of the six people interviewed, five or 83.33 percent had learned about the service from a source other than the sources listed on the survey questionnaire. The respondents commented that they were informed of the service through social service agencies, nursing or medical facilities, and other methods. One person or 16.67 percent declined to answer ("not specified").

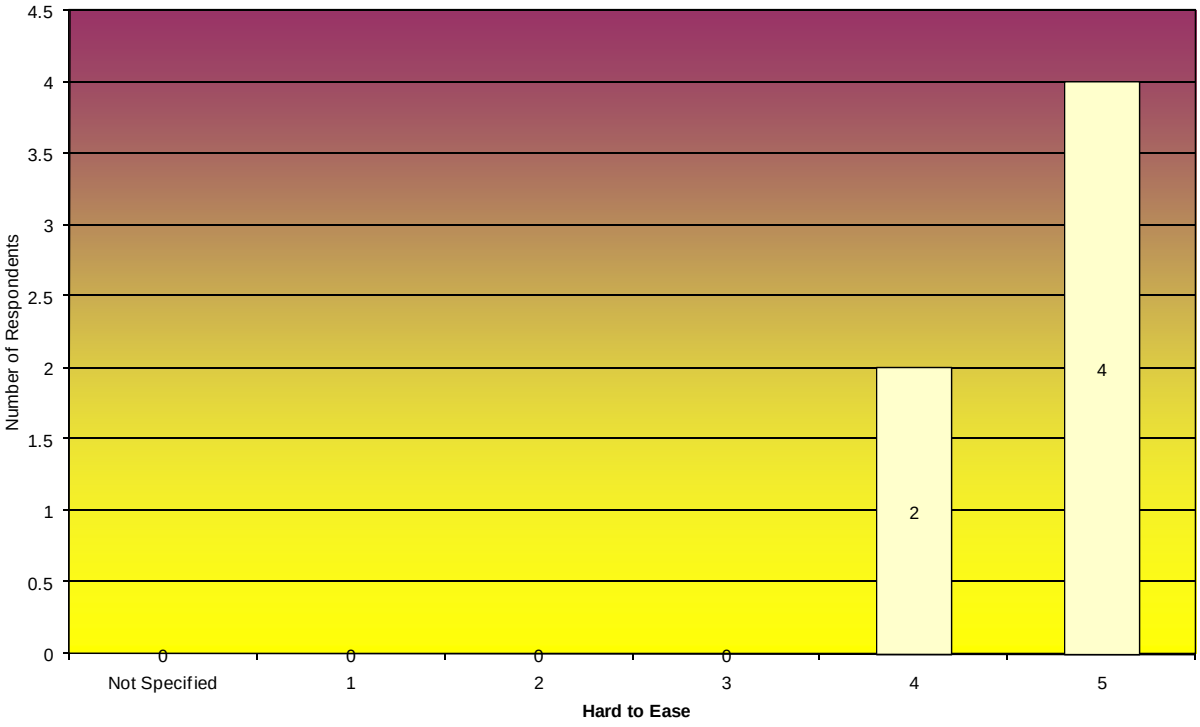
Satisfaction Questions

As in the principle on-board survey effort, to help determine customer satisfaction with LYNX and PCTS, the evaluator asked eight questions relating to customer satisfaction. All questions refer to a scale of 1 - 5, with 1 being the least satisfied and 5 being the most satisfied.

Transfers Between Vehicles

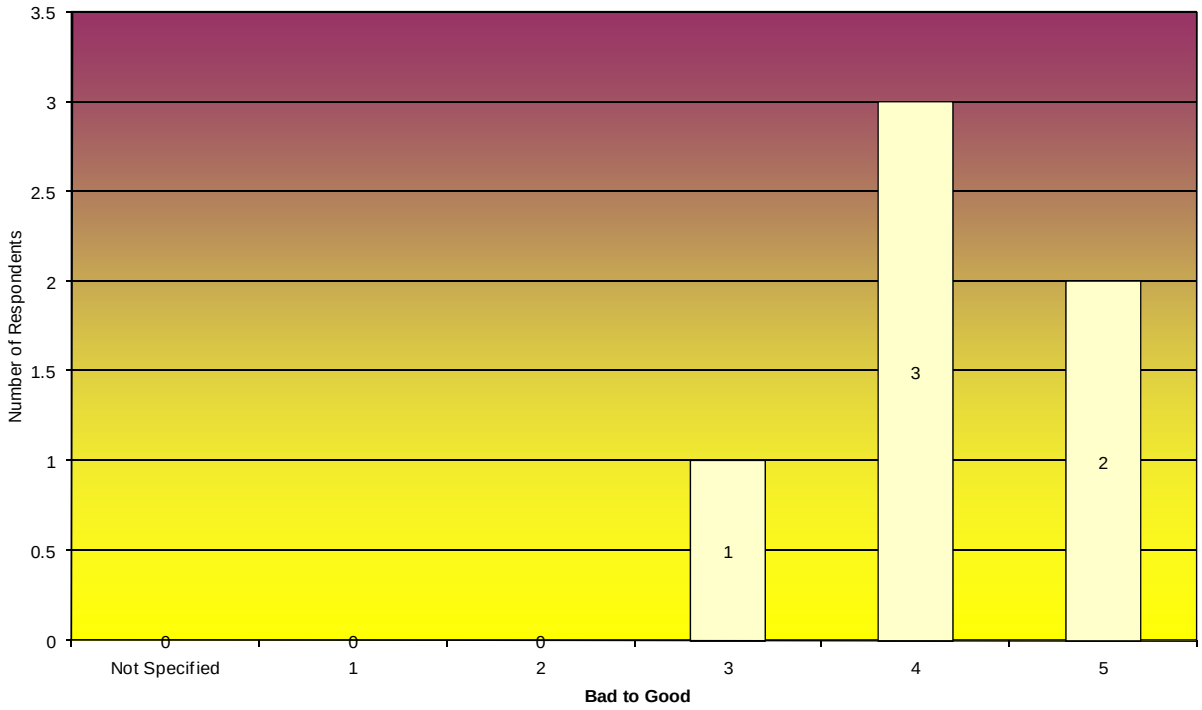
The evaluator asked the survey respondents to rate their ability or ease to transfer between vehicles; however, this question did not apply to the respondents. None of the customers surveyed had transferred between vehicles; therefore, this question was excluded from the survey results.

Figure 37: Ease of Reservation



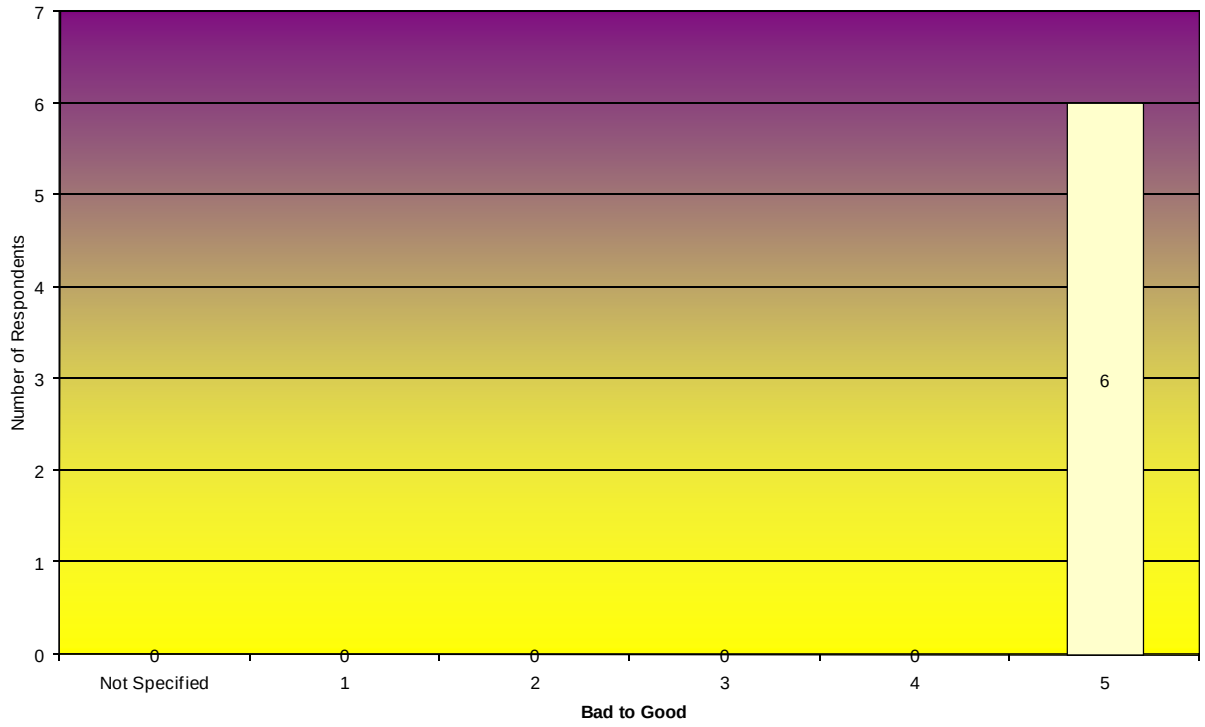
The evaluator asked customers about the ease of making reservations for ACCESS LYNX. Two or 33.33 percent of the customers indicated that reservations are easy to make, and four or 66.67 percent commented that reservations are very easy to make through ACCESS LYNX. The telephone survey results duplicated the results of the previous survey. In addition, most respondents indicated that someone else made the reservation for them and the evaluator was unable to speak with them during this survey.

Figure 38: On-Time Performance



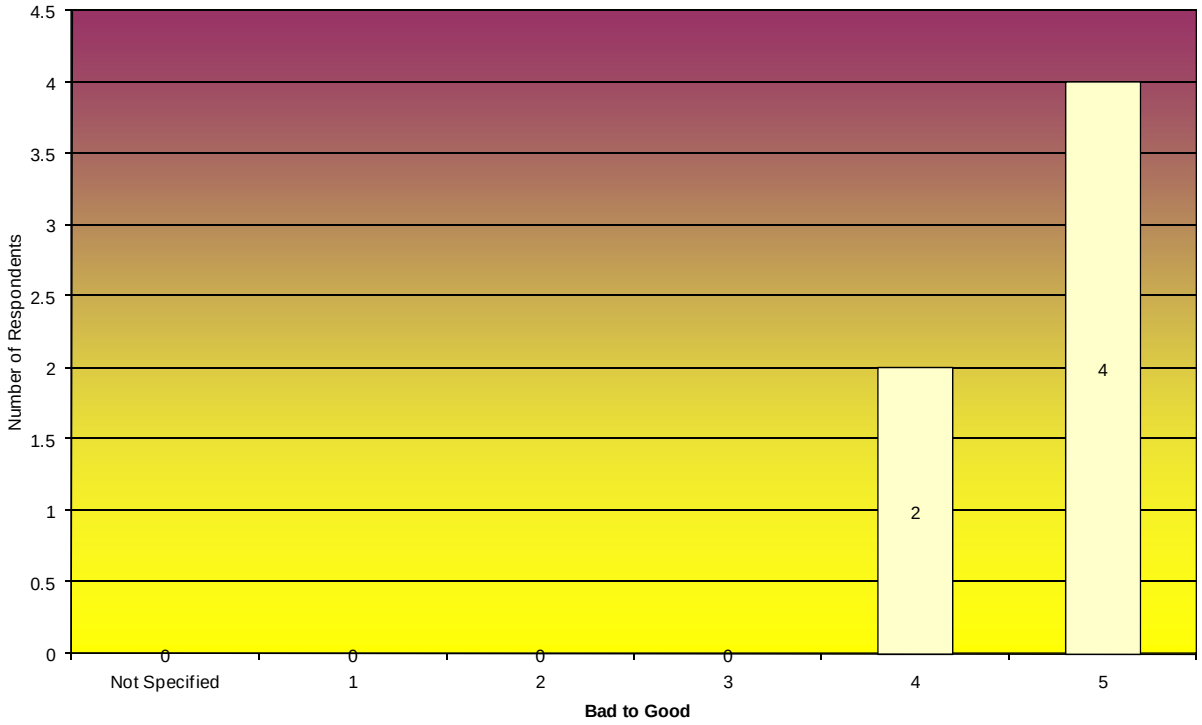
Since the survey respondents were transported during a coordinated trip, they were asked to rate the on-time performance, with 1 being the worst and 5 being the best. One person or 16.33 percent commented that the on-time performance was acceptable, three or 50 percent commented that the on-time performance was good, and two or 33.33 percent indicated that the on-time performance was excellent.

Figure 39: Safety and Security



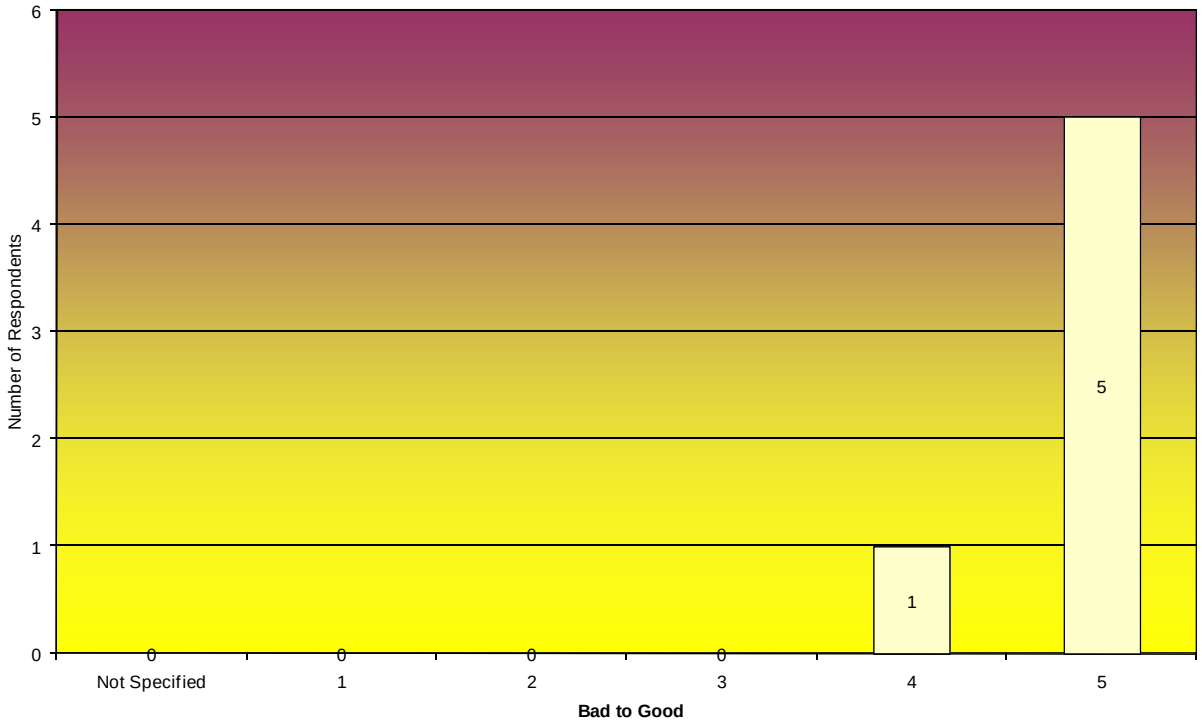
All six respondents gave an excellent (level 5) rating concerning the safety and security of the service.

Figure 40: Driver Competence



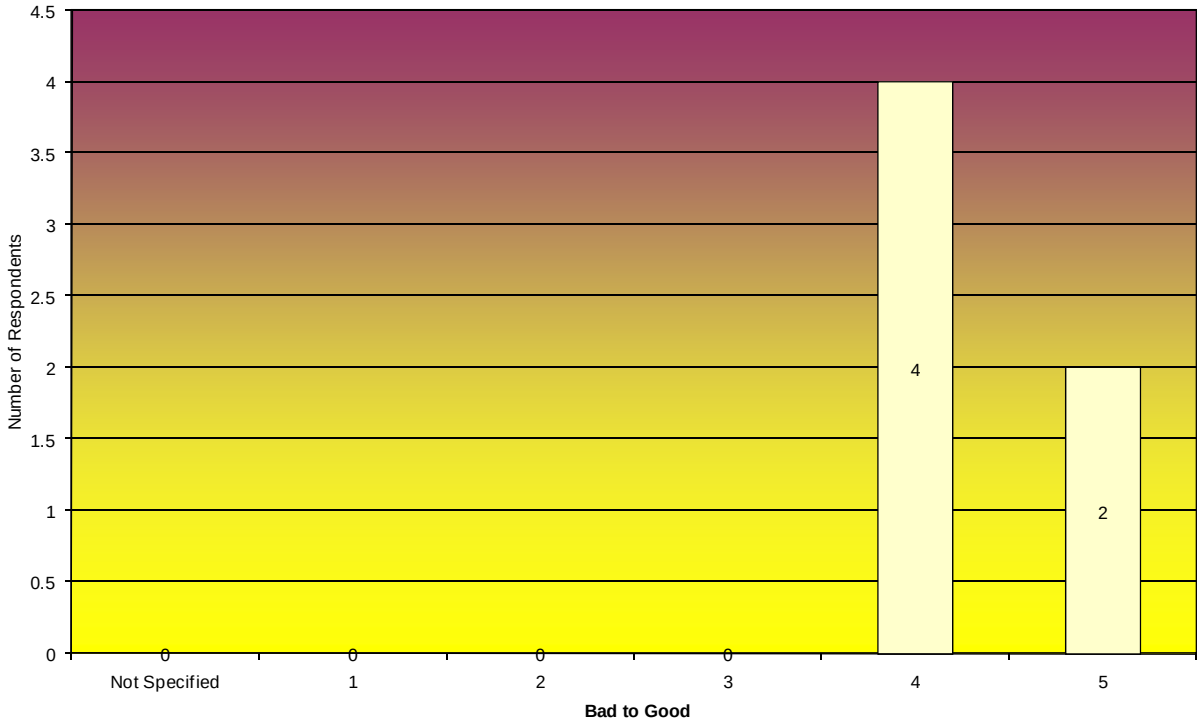
Telephone survey respondents were asked to rate the driver's competency on a scale of 1 to 5, with one being the worst and 5 being excellent. Two or 33.33 percent awarded a good (level 4) rating, and four or 66.67 percent gave an excellent (level 5) score.

Figure 41: Fare



ACCESS LYNX fares vary by funding source, making comparisons difficult. However, customers were asked to rate their feelings regarding the fares. One or 16.67 percent gave a good (level 4) response, and five or 83 percent rated the current fare as excellent (level 5).

Figure 42: Vehicle Comfort



Most paratransit vehicles have similar seats with different configurations, depending on the vehicles intended purpose. The evaluator asked customers to rate the vehicle's comfort during their trip. Four or 66.67 percent rated the vehicle's comfort as good (level 4), and two people or 33.33 percent rated the vehicle's comfort as excellent (level 5).

Did you notice any difference in the service received?

Because this was the first coordinated trip between LYNX and PCTS, it was important to discover if customers viewed the trip differently. None of the customers noted any difference between the coordinated trip and previous travels. One respondent commented that they had been informed that another agency was operating the vehicle, and the trip went smoothly. No other respondents recalled being told they were being transported by a different agency.

Goal 4: Reduce overall costs of providing paratransit service in rural areas while increasing service opportunities.

Objective 1: Utilize coordination to improve transportation service across service areas and increase opportunities for customer utilization.

Strategies:

1. **Agencies will supply each other bus passes for the purposes of transitioning paratransit customers to fixed-route or Pick Up Line (PUL) services. Pass prices will be determined and documented by PCTS and LYNX as this pilot project moves forward.**

   Neither LYNX nor PCTS issued any multi-ride fixed-route transit passes for the other's services during the pre-project, during project, and post-project periods.

2. **Through trip coordination, reduce paratransit service agency expenses for PCTS and LYNX. Evaluating this through comparisons to cost for the same customers, trips, or overall service in the previous year.**

   For LYNX, costs decreased across all three measures between the during-project and post-project periods. For LYNX cost per passenger, the cost increased from $28.24 per passenger in the pre-project period to $29.09 in the during project period, but declining to the lowest level in the post-project period to $27.65 per passenger. In terms of the cost per vehicle trip for LYNX, the cost increased from $30.94 in the pre-project period to $33.63 in the during project period, and then decreased somewhat to $32.44 in the post-project period. In terms of LYNX's paratransit cost per hour, the cost dropped from $39.42 during the pre-project period to $38.03 in the during project period and to $35.52 in the post-project period.

   For PCTS, the experience was the reverse, with all three measures increasing across the three project periods. In terms of cost per passenger, PCTS increased from $25.34 in the pre-project period to $25.86 in the during project period to $31.15 in the post-project period. For the PCTS paratransit cost per vehicle trip, the measure increased from $25.43 in the pre-project period, to $26.94 in the during project period, and more sharply to $30.81 in the post-project period. For the PCTS cost per hour, the measure increased from $1.64 in the pre-project period, to $1.89 in the during project period, and to $2.40 in the post-project period. This last measure is questionable because of the unlikely low rate per hour.

Table 9: Goal 4 Data Collection Results

				Pre-Project (Apr. 2006-Jan.		During Project (Apr. 2007-Jan.		Post Project (Apr. 2008-Jan	
Goal	Objective	Strategy	Measure(s)	LYNX	PCTS	LYNX	PCTS	LYNX	PCTS
Reduce overall costs of providing paratransit service in rural areas while increasing service opportunities.									
	Utilize coordination to improve transportation service across service areas and increase opportunities for customer utilization.								
		1. Agencies will supply each other bus passes for the purposes of transitioning paratransit customers to fixed-route or PickUpLine services. Pass prices will be determined and documented by PCTS and LYNX as this pilot project moves	# of LYNX passes by type issued by PCTS	N/A	None Issued	N/A	None Issued	N/A	None Issued
			# of PCTS fixed-route passes issued by LYNX	None Issued	N/A	None Issued	N/A	None Issued	N/A
		2. Through trip coordination, reduce paratransit service agency expenses for PCTS and LYNX. Evaluate this through comparisons to cost for the same customers, trips, or overall service in the previous year.	LYNX cost/passenger	$28.24	N/A	$29.09	N/A	$27.65	N/A
			LYNX cost/trip	$30.94	N/A	$33.63	N/A	$32.44	N/A
			LYNX cost/hour	$39.42	N/A	$38.03	N/A	$35.52	N/A
			PCTS cost/passenger	N/A	$25.34	N/A	$25.86	N/A	$31.15
			PCTS cost/trip	N/A	$25.43	N/A	$26.94	N/A	$30.81
			PCTS cost/hour	N/A	$1.64	N/A	$1.89	N/A	$2.40

Service Policy Review

The evaluator also reviewed the service policies for ACCESS LYNX and PCTS paratransit services and the Pick Up Line. A comparison of each aspect of these services follows.

Eligibility Process

Both ACCESS LYNX and PCTS require customers to complete an application for paratransit service. The application contains a general information section about the customer, a section regarding the limitations, and a physician's statement or certification regarding the disability. The application is then reviewed by employees, followed by an interview with the medical provider for the purpose of certifying the application, and, if necessary, an assessment of the

customer's ability is performed. The paratransit eligibility application is presented as Appendix 4 of this report.

The Pick Up Line service is available to everyone. In order to expedite the reservation process, LYNX recommends advance registration.

Reservation and Customer Service Hours

LYNX allows customers to make reservations seven days a week, from 8 a.m. to 4 p.m. For faster response time, LYNX recommends calling between 10 a.m. and 2 p.m., since these are typically times with a lower call volume. Customer service and dispatch are available 24 hours a day, allowing customers to check or cancel scheduled trips.

PCTS operates its reservation center from 8 a.m. to 5 p.m., Monday through Friday, with dispatch on duty from 7 a.m. to 6:30 p.m.

Pick Up Line operates out of the same facility as ACCESS LYNX, using the same reservation and dispatch staff. Customers can make reservations between 6:30 a.m. and 6:30 p.m., and can call dispatch during all service hours.

Operational Hours

LYNX and PCTS operate service in compliance with the ADA rules, providing service during normal hours of the fixed-route transit system. PCTS operates service from 7 a.m. to 6:30 p.m., Monday through Friday. ACCESS LYNX does not publish regular hours, but provides service anytime the LYNX fixed-route system is operating.

Pick Up Line operates Monday through Saturday from 6:30 a.m. to 6:30 p.m. On December 1, 2008, LYNX expanded Pick Up Line service within North Poinciana and extended its hours from 5:30 a.m. to 8 p.m.

Making a Reservation/On-Line Trip Request

Both ACCESS LYNX and PCTS require that reservations are made by 4 p.m. the day before the trip to ensure proper trip scheduling for paratransit. Reservations are accepted by telephone or online. The online reservation system requests the same information as an agent. After the online reservation is received in the system, LYNX will send an e-mail to the customer confirming their travel time. LYNX does not recommend online requests for next-day trips as it may take up to one business day to complete a reservation. More information regarding the reservation process is presented in Appendix 4.

Pick Up Line customers may use both the LYNX fixed-route bus and Pick Up Line service without making a reservation to reach their final destination. Customers scheduling a pick-up on the Pick Up Line should make phone reservations at least two hours in advance and may register in advance or at that time.

Fares

Customer fares are based on the funding source of their trip. There are three primary funding sources: Medicaid, Transportation Disadvantaged, and ADA.

ADA trips are paid for by the transportation systems' general operating fund and require service for qualified disabled customers who are unable to use the fixed-route system. PCTS charges $1.50 per trip and LYNX charges passengers $4.00 one way.

Medicaid charges $1 per customer per Florida statutes, but prohibits drivers from refusing transportation to those unable to pay.

Transportation Disadvantaged trips are paid for through the Transportation Disadvantaged Trust Fund, which is held by the State of Florida and divided among its counties. Both agencies charge $1.50 minimum fare per customer per trip, which increases based on the trip length.

Additional funding sources are available and vary significantly by agency and disability.

Pick Up Line fares are set by the LYNX Board of Directors in compliance with internal fare policies and survey information. The Pick Up Line fare is $2 per person per trip, $1 for discount fares, and includes a free transfer from the service to the fixed-route system.

Standing Orders

Both ACCESS LYNX and PCTS offer standing orders to customers if the trip meets certain criteria (i.e., occurring on a regular interval at the same time). For example, if someone traveled every Tuesday from his or her house to the Central Florida Regional Hospital for treatment at 8 a.m. and was finished at 10:30 a.m. or if someone went to work every day at 7:15 a.m. and returned at 2:30 p.m. those trips would qualify as standing orders.

Standing orders are not available on the following holidays: New Years Day, Easter, Memorial Day, Independence Day, Labor Day, Thanksgiving, and Christmas Day.

Presently, Pick Up Line also offers standing orders.

Holiday Service

ACCESS LYNX and LYNX fixed-route both offer Sunday and holiday service on a reduced number of routes. Presently, the Link 26 and Poinciana Pick Up Line do not offer service on Sundays or holidays.

PCTS presently does not offer any service on Sundays or national holidays. In rare circumstances, PCTS can provide pre-arranged medical transportation on Sundays or holidays.

Currently, both agencies recognize the following days as national holidays: New Years Day, Easter, Memorial Day, Independence Day, Labor Day, Thanksgiving Day and Christmas Day.

Cancellations

ACCESS LYNX requires reservation cancellations no less than three hours in advance or customers may be treated as a 'No-Show'.

PCTS requires reservation cancellations no less than two hours in advance or customers may be treated as a 'No-Show'. However, this information was not published in the Rider's Guide.

Lateness and No Shows

Both ACCESS LYNX and PCTS established pick-up windows from 15 minutes before to 30 minutes after the reservation time, in which customers are requested to be ready. If a vehicle arrives during the specified timeframe and the customer is not ready, the vehicle will continue without them.

Pick Up Line operates as a curb-to-curb service and requires customers to be ready to travel five minutes before and after their scheduled time.

No-Show Policy

ACCESS LYNX has clearly defined the steps taken if a person has repeatedly failed to show for their scheduled trip. When the vehicle arrives and is unable to locate the customer, a door hanger is left indicating the arrival time and the customer is recorded as a 'No Show' in the system. If someone has five 'No-Shows' within a 90-day period, they will be suspended from the service, excluding medically necessary trips, for 30 days. The penalty is 60 days for a second set of four occurrences during a 90-day period and 90 days for each additional set of four occurrences during a 90-day period. Trips cancelled less than three hours in advance count as 'No-Shows.'

PCTS did not publish its 'No-Show' policy in the Rider's Guide. However, the PCTS 'No-Show' procedure includes leaving a door hanger to notify customers if they are considered a 'No-Show' and after three such instances, the customer may be suspended from using the service.

LYNX did not publish the Pick Up Line 'No-Show' policy in the Rider's Guide.

Will Call Return

Both ACCESS LYNX and PCTS offer 'Will Call' pick-ups for customers who have missed their return trip. These trips will be combined on another driver's manifest and may require the customer to wait up to 90 minutes for a ride.

Pick Up Line does not offer 'Will Call' service. Instead, the customer must make a new reservation and may wait up to two hours for the next available pick up time.

Late Pick Up

Both ACCESS LYNX and PCTS request customers to wait 30 minutes after their scheduled pick up time before calling due to the scheduling window. ACCESS LYNX and PCTS dispatchers monitor the system and try to work with the available vehicles to assist when trips run behind the scheduled pick up times.

Chapter 6: Lessons Learned

The Rural ITS Demonstration Project was comprised of several components including the procurement and implementation of technologies and the coordination between two agencies with the common goal of coordinating services and improving mobility in the rural area of Poinciana, Florida. The demonstration project not only measured how advanced technologies improve efficiency and coordination, but also resulted in the implementation of a new flex-route transportation service. With the deployment of any new technologies and services, agencies often experience obstacles and learn lessons for improving the process in the future. Both LYNX and PCTS learned several valuable lessons while implementing ITS technology between a rural and urban transit system to improve coordinated service. This chapter includes an analysis of the lessons learned throughout the procurement, implementation, coordination, and operational stages of the demonstration project.

Procurement Lessons Learned

- It is best for one agency to handle the procurement process to ensure consistency in purchases and delivery of products or services. Any assets purchased through the single procurement process can be transferred to the appropriate agency within accordance with the FTA policies as appropriate.

- AVL procurement specifications - For AVL components, the procurement solicitation must specify that the AVL supplier use the transit operator's preferred base maps. The AVL supplier must also demonstrate that the AVL can accept frequent map updates easily.

Implementation Lessons Learned

Prior to implementing future technologies the following details should be reviewed to simplify the installation and implementation process.

- Antenna location – There is a recommended minimum distance between the GPS antenna and the radio antenna used on specific vehicles. Installation teams should provide at least the recommended minimum distance between the GPS antenna and radio antenna; however, additional spacing is encouraged.

- Vehicle odometer wiring harness – The MDT needs to have a connection between itself and the vehicle's digital odometer, in order to provide additional information to the AVL system. Although both MV and Mentor assumed that the odometer wiring harness on the Ford vehicles would have color-coded wires and be fully documented, that was not the case.

- Ranger MDT location – The placement of the MDT should be protected to avoid damage caused by passengers boarding the vehicles.

- Wiring process – The wiring process could be simplified by and shortened if the GPS receiver and the MDT had been installed in the same general location. During the installation process, there was not sufficient space on the vehicle to mount both devices in an area easily accessed by the driver and protected from the passengers.

Coordination Lessons Learned

Transit agencies that are considering a partnership for the purpose of coordinating services to provide shared trips should consider the following lessons learned from the demonstration project.

- Billing units of service – Partnering agencies should agree on a common methodology for billing units of service. One of the difficulties LYNX and PCTS experienced while coordinating services was that the two agencies used different cost units to bill for paratransit service provided to external funding agencies, such as Medicaid. LYNX uses a cost per trip basis, and PCTS uses a cost per mile basis. As such, when PCTS transported LYNX paratransit passengers on a coordinated trip, LYNX was unable to recoup the full cost PCTS charged from the TD grant, the trip funding source.

- Interagency scheduling and dispatching procedures – Partnering transit agencies should establish clear scheduling and dispatching procedures prior to when the first coordinated trip is reserved. The established procedures should specify who in each agency will review the next day's passenger reservations to identify opportunities for the other agency to operate the trip. The procedures must also specify who the designated person will work with in the other agency, and at what time each day they will discuss the next day's coordination opportunities. The procedure should also define what types of trips are best to be operated by each agency to provide guidance to the scheduling coordinators. For instance, in the case of LYNX and PCTS, an example would be:

  If a passenger is traveling from Osceola County into Polk County after 10 a.m., an attempt will be made to first assign this passenger to a PCTS vehicle returning from a morning drop off in Osceola County.

  In addition, there must also be a standard operating procedure in place at each of the coordinating transit agencies to define how disruptions affecting coordinated trips are handled. For instance, if a PCTS vehicle carrying a LYNX passenger breaks down before the scheduled LYNX passenger pick up, who at PCTS will notify LYNX of the disruption; how will LYNX disseminate this information to their reservations and information representatives; who will notify the passenger if there will be a delay, and who will dispatch a replacement vehicle? This procedure must clearly answer each of these questions.

- Operating procedures – Partnering agencies should adopt consistent operating procedures and service policies to ensure consistency for customers using both providers. Differences in the way the agencies handled missed trips and no-shows created barriers during the coordination process. In addition, LYNX provided out-of-area trips only two days a week, and PCTS provided out-of-area trips at anytime. In addition, it was decided that the best trips to coordinate would be LYNX users wanting to go to Polk and Hillsborough counties, and PCTS users needing trips to Seminole and Volusia counties. The inconsistent out-of-area trip policy is one of the factors that contributed to the low number of coordinated trips that occurred during the project period.

Operational Lessons Learned

- Base maps - Accurate and complete base maps are critical. Any GPS driven technology relies on a good base map, whether to convey vehicle locations to dispatch or on a MDT to provide turn-by-turn direction to the vehicle operator. Widely-available U.S. Census Bureau TIGER maps, and the commercial products based on those maps, may not be updated frequently enough, especially for rapidly growing rural and exurban areas. In these instances, the transit operator must partner with another entity, most likely the local emergency services agency, to obtain routinely updated base maps. The AVL components will need to be compatible with the maps chosen by the transit operators and should have the capability of receiving updates easily.

- Training – In surveying the employers at LYNX and PCTS, it is evident that vehicle operators, dispatchers, and supervisors were thoroughly trained in using the MDTs and CAD/AVL. Everyone was using the technology because they were comfortable doing so, a good indicator that they were well trained. LYNX and PCTS both gave all of their operating employees a two-hour training class on using the MDTs, and additional training was available as needed. The satisfaction with the technology in both agencies can be credited in part to the thoroughness of the training program.

- Operating costs – MDTs provide for better service management and efficiency, but do not necessarily reduce costs. Both LYNX and PCTS experienced paratransit ridership increases exceeding 25 percent during the project period, and both systems achieved these increases without adversely impacting customer satisfaction. However, both agencies saw their paratransit cost per passenger increase during the project period, indicating that any cost efficiencies the MDTs may generate are not significant enough to lower the overall cost of providing service.

Back Office Operations Lessons Learned

- When the project is anticipated to go beyond the operational phase to address coordination of back office operations, all parties involved should ensure that similar accounting policies and procedures, along with technological abilities are available.

- Establish an approval process prior to service implementation for financial functions. Separate project accounts should also be created.

- Ensure common banking practices are available for electronic payments and that bank fees have been established for these transactions.

Communication Lessons Learned

- Notify all agency personnel of the potential project and overall project goals to determine if any areas may be impacted by the project that were not considered.

- Establish a mechanism for internal and external communications regarding the project and the timeframe for each type of communication.

LYNX and PCTS anticipate that additional coordination efforts can be undertaken in the future since many of the barriers identified during the demonstration project have been addressed and documented as lessons learned. Since the completion of the project, PCTS has adopted LYNX's no-show and out-of-area trip policies to improve consistency between the two agencies. In addition, LYNX and PCTS have begun coordinating electronic payments in an effort to improve the billing process for shared trips.

Chapter 7: Conclusions

The LYNX and PCTS Rural ITS Demonstration Project of installing AVL and MDTs on paratransit vehicles and integrating the system with both systems' Trapeze PASS paratransit reservations and scheduling software resulted in a number of operational improvements. The question presented for the Operational Test was whether this project succeeded in meeting the four goals identified by the two agencies, which were:

1. Increase efficiency of paratransit operations with regard to paratransit services.
2. Coordinate billing processes and funding sources to maximize the availability of transportation services within the rural areas.
3. Demonstrate and evaluate how innovative ITS technologies could be utilized to enhance options in rural communities.
4. Reduce overall costs of providing paratransit service in rural areas while increasing service opportunities.

The project team established objectives, strategies, and measures for each of the four goals, and the evaluation results were presented in Chapter 5. Based on the data collected, the project evaluator has reached the following conclusions for each of the four goals:

Goal 1: Increase efficiency of paratransit operations with regard to paratransit services.

The agencies had two objectives in meeting this goal: reduce duplication of service by transit agencies and increase overall area transit ridership. For the first objective, the results were mixed in terms of increasing the efficiency of their paratransit services, with none of the related measures reflecting a clear improvement. Neither agency provided a single fixed-route transit pass for the other's transit services during the entire project period. Finally with regards to reducing duplication of service, LYNX improved its number of out-of-area passengers versus the number of out of area trips from 1.61 in the pre-project period to 1.68 in the post-project period. However, for PCTS, the figures for this measure steadily worsened, from 14.67 in the pre-project period to 6.71 in the post project period.

For the second objective, the results were clearer. Without question, transit ridership in the rural project area increased during the project period. Ridership increased across all modes operated in the project area, and the two agencies successfully launched a new flex-route service, Pick Up Line, which experienced a 310 percent increase in ridership between the during project and post-project periods. Increases in ridership for Pick Up Line indicate that coordination may have expanded mobility options for these individuals. Even more impressive, transit ridership per capita in the project area improved from 6.73 percent in the pre-project period to 8.53 percent in the post-project period.

The evaluator also conducted interviews with LYNX and PCTS staff to obtain a qualitative assessment of the use of the AVL and MDTs. The customer service staff, dispatchers, and drivers interviewed all agreed that the project had resulted in an improved paratransit operation, and the service was carrying more passengers more efficiently. While the quantitative data does

not show a clear result of a more efficient operation, there is no doubt that ridership for the various services increased, with paratransit ridership on both systems growing by over 25 percent over the project period.

Goal 2: Coordinate billing processes and funding sources to maximize the availability of transportation services within the rural areas.

Coordinating billing for paratransit trips between two different transit agencies is challenging at best, and with Florida's coordinated transportation system's multiple funding partners the task becomes exceptionally difficult. While LYNX and PCTS developed a procedure to operate coordinated trips, they only provided 11 such trips during the project. Several items impacted trip coordination resulting in the low number of coordinated trips. Several of these factors are described below.

- Differences in fares based on each agency's approved rate of reimbursement from the TD Commission or the approved trip rate schedule from the Agency for Persons with Disabilities (APD). Fares were problematic since the agency collecting the fare did not have the same approved rate schedule with the provider of the trips. LYNX's rate reschedule was based on per hours while PCTS's rate was based on per mile. Utilizing the rate schedules and each agency's respective passenger fare could result in an overage per trip or shortfall. The agencies decided that the fare paid by the passenger should be the fare that the passenger would normally pay if the trip was not coordinated; therefore, each agency was responsible for reconciling any overages or shortfalls.
- Differences in "no-show" policies and procedures for handling missed trips were problematic during the project period; however, since the project PCTS has adopted the same no-show policy as LYNX to improve consistency during coordinated trips.
- Differences in the times that each agency scheduled and dispatched trips made coordination difficult. Due to LYNX's size and the number of paratransit trips provided, LYNX updated its manifest throughout the day, while PCTS had designated times for preparing the manifest. Due to the inconsistent procedures for scheduling, it was difficult to identify the trips that would be well suited for coordination.
- Differences in out-of-area trip policies created difficulties in coordinating trips. The agencies determined that the best trips to coordinate would be LYNX users needing transportation to Polk and Hillsborough counties and PCTS users needing transportation to Seminole and Volusia counties. Trips for both agencies to Alachua County also provided an opportunity for coordination. However, LYNX transported customers outside of the service area two days per week, while PCTS provided out-of-area trips any time. Through this demonstration project, PCTS adopted the same out-of-area trip policy, which furthered efforts for coordination.

One objective of this goal was to implement an electronic process for billing, which was a result of adjusting the established procedure from each agency. As with any new or changed procedure, the first time through the PCTS billing to LYNX showed room for improvement.

Additionally, since LYNX had not had the opportunity to bill PCTS at the time, the billing process was evaluated only by way of PCTS billing LYNX.

Based upon the trips performed, the following areas are in need of improvement:

- Timely monthly billing
- Billing detail to "booking agency's cost"
- Electronic Funds Transfer

The Standard Operating Procedure stipulates that monthly invoices are submitted to the opposite agency. While it does not give a deadline for the submission, the billing should fit in with the billed agency's already established timeline for subsequent billing of the appropriate funding source, either TD or Medicaid, by the home agency.

Additionally, according to the Standard Operating Procedures for this project, agencies are to invoice at the rate "based on the booking agency's cost as approved in their TD Rate Calculation." PCTS invoiced LYNX at the PCTS rate (please refer to Appendix 7 for more details). LYNX invoiced the same trips under the routine billing for TD-funded trips with the LYNX rate. The billing rates under the TD program were different for LYNX and PCTS. For the 11 trips performed by PCTS and billed to LYNX, the difference was $63.62. Since the agreed-upon rate to invoice was based upon the "booking agency," then PCTS should ensure that future invoices sent to LYNX reflect the LYNX rate. Therefore, LYNX invoiced the Commission for the Transportation Disadvantaged $63.62 less than what PCTS invoiced LYNX for providing these trips, resulting in a net deficit to LYNX.

To date, the electronic procedure was in place up to the payment and receipt of payment by PCTS. PCTS was not able to send or receive electronic payments; however, since the project PCTS and LYNX have coordinated electronic payments.

Generally, the billing process seemed successful, although there was room for improvement. Because the agencies involved previously used external billing procedures, the billing procedure for this project was familiar. The three areas for improvement were for PCTS to ensure timely monthly billing, to create invoices as outlined by the Standard Operating Procedure, and implement electronic funds transfer availability.

The final strategy of the two transit agencies for this goal was to, "Jointly seek opportunities to further service to the rural area by partnering to secure funding through FDOT service development grants and Federal JARC and NFP." Neither transit agency could identify any new grant funds that were received during the project or after the project to support transit service in the project area. PCTS has since requested LYNX to operate an additional Pick Up Line flex-route service in the Polk County portion of Poinciana, contingent upon PCTS receiving a NFP grant award from FDOT through the recently-formed Polk Transit Authority.

Goal 3: Demonstrate and evaluate how innovative ITS technologies could be utilized to enhance options in rural communities.

The two transit agencies had two objectives in meeting this goal: utilize technologies to maintain or improve customer satisfaction and utilize technologies to maintain or improve transportation services.

For the objective, utilize technologies to maintain or improve customer satisfaction, the two transit agencies were unable to provide sufficient information to report on the four measures developed to quantify the results. PCTS did report that its length of call decreased from two minutes and 29 seconds to two minutes and 25 seconds, but its call hold times increased from one minute and 30 seconds to one minute and 54 seconds. In addition, PCTS was unable to track the amount of time it took for a call to abandon or how long the caller would wait on hold before hanging up.

As discussed with the first goal, paratransit ridership within the project area increased by over 25 percent for both LYNX and PCTS during the project period. The increase in demand would significantly impact the level of service received through the customer service call centers.

During the on-board and telephone surveys conducted of fixed-route, flex-route, and paratransit passengers of both agencies, the evaluator asked survey respondents a series of eight questions regarding different areas of satisfaction. The same questions were asked to customers utilizing all three modes. The responses offer some insight into how people perceive the service they receive from both LYNX and PCTS. Overall, customers believed that it was easy to transfer between LYNX fixed-route buses and Pick Up Line. Fifty percent of Pick Up Line respondents indicated that transferring vehicles was very easy, while 25 percent did not respond to the question. Paratransit users indicated that they do not transfer between vehicles, with the exception of two individuals who indicated that transferring vehicles was easy and very easy. In general, the survey results conclude that the paratransit user is not transferring vehicles during their trip, which is somewhat expected as most trips operate point-to-point and do not use an intermediate vehicle.

To assist in making the reservation process easy, LYNX and MV Transportation established a separate line for Pick Up Line customers to call and schedule a ride. Seventy-five percent of Pick Up Line respondents indicated that it was medium to very easy to make a reservation. Paratransit customers duplicated these results. LYNX fixed-route bus customers responded 62.3 percent indicating a medium level of satisfaction or above.

Increasing efficiency is one of the main goals of this project. In order for a service to operate efficiently, it has to operate as close to its schedule as possible. Neither paratransit nor Pick Up Line received any very poor responses to on-time performance. The majority of all modes rated on-time performance a medium level of satisfaction or higher.

In terms of safety and security, the customer responses for both agencies and all three modes indicated that customers feel secure while using transit. Of the 205 respondents on-board Link

26, 89.22 percent rated safety and security a medium level of satisfaction or higher. This level was also true for both Pick Up Line and paratransit passengers, with only two people indicating a low level of satisfaction. Along with safety and security, LYNX and PCTS both received high marks for competence. This response could add to the security feeling demonstrated in the earlier question.

During the course of the evaluation, LYNX had announced a proposed fare increase that would raise the current base fare from $1.75 to $2.00 or 14.50 percent. This increase would only affect LYNX and ACCESS LYNX customers as PCTS had not announced any fare increases as of the time of the survey. Of those on Link 26, approximately 57 percent of the respondents rated the current fare as satisfactory or higher. However, 10 percent did not respond to the question regarding the fare. The responses were similar for Pick Up Line and paratransit.

Based on the results from ACCESS LYNX and PCTS, paratransit users do not transfer vehicles and did not respond to the questions related to stop or transfer point comfort. Approximately 64 percent of Link 26 and Pick Up Line respondents gave stop and transfer point comfort a rating of 3 (medium level) or higher. LYNX has installed shelters at the current Link 26 and Pick Up Line transfer point along with the other stop nearby where the bus passes along Poinciana Town Square.

After LYNX and PCTS operated a series of coordinated trips in October 2008, participants were asked the same series of eight satisfaction questions that were asked during previous survey efforts. The results of the surveys completed with passengers on coordinated trips were compared to the answers received prior to the coordinated trips. ACCESS LYNX customers did not perceive a difference between the services they received while being transported on a PCTS vehicle. While this survey only consisted of six people, they rated the service well. Therefore, from this limited information, the evaluation results indicate that the agencies have succeeded in providing a coordinated paratransit service in a rural area that is seamless to their customers.

In terms of utilize technologies to maintain or improve transportation services, the two paratransit systems appear to meet this objective when the increased ridership is taken into account. On time performance remained relatively constant for both agencies, being about 90 to 91 percent, with a less than one percentage point decrease for both agencies in the post-project period. Completed trips versus reserved trips decreased for both paratransit systems from just over 96 percent in the pre-project period to 94 percent for LYNX and 92 percent for PCTS in the post-project period.

Goal 4: Reduce overall costs of providing paratransit service in rural areas while increasing service opportunities.

Service opportunities definitely increased as a result of this project with the establishment of the Poinciana Pick Up Line flex service. In terms of reducing the overall costs of providing paratransit service in rural areas, the results were mixed. For LYNX, costs did decrease across two of the three measures between the during project and post project periods. For LYNX's cost per passenger, the cost went down from $28.24 per passenger in the pre-project period to $27.65 per passenger in the post-project period. In terms of the cost per vehicle trip for LYNX, the cost

increased from $30.94 in the pre-project period to $33.63 in the during project period, and then decreased somewhat to $32.44 in the post project period. In terms of LYNX's paratransit cost per hour, the cost dropped from $39.42 during the pre-project period to $35.52 in the post project period.

For PCTS, the experience was the reverse, with all three measures increasing. In terms of cost per passenger, PCTS increased from $25.34 in the pre-project period to $31.15 in the post project period. For PCTS' paratransit cost per vehicle trip, the measure increased sharply from $25.43 to $30.81 in the post project period. For PCTS' cost per hour, the measure increased from $1.64 in the pre-project period to $1.89 in the during project period, to $2.40 in the post project period. This last measure is questionable because of the unlikely low rate per hour.

Overall Conclusions

Both agencies are well satisfied with the addition of AVL and MDTs to their transit systems. Since this project began, LYNX has since equipped all of its paratransit vehicles with the devices, and had begun the first phase of an AVL system for its fixed-route bus fleet.

Although not all of the quantified measures presented in this project were positive, the larger question both agencies have is could they have met the increased demand for their services without the installation of the technology and continued to provide the same level of service. From the passenger surveys conducted, customers were very satisfied with the services they receive, so while some measures may indicate a slight decline in service quality and efficiency, it does not appear to be significant enough to be apparent to the passenger. Passengers surveyed did not notice any difference by traveling on a coordinated trip. However, conclusions drawn from the surveys and interviews conducted as part of the evaluation are based on a low number of coordinated trips.

While not a measured objective of this project, the staff interviews suggested improved job satisfaction among paratransit dispatchers and drivers due to the installation of AVL and MDTs. Further research could be conducted in the following areas:

- Has employee retention increased with the implementation of advanced technologies?
- What external factors may have contributed to the increase in demand for paratransit services during the project period?

Both agencies experienced the need for continuing improvements to the MDT technology, most noticeably in the need for updating the street maps in the MDTs and the dispatch AVL base maps, and the need for these maps to extend into both transit agencies' respective service areas, so that when coordinated trips operate the MDTs can still be used reliably.

Clearly operating coordinated paratransit services between the two agencies is proving to be challenging. While LYNX and PCTS established a well thought out procedure to operate and bill coordinated trips, only 11 such trips have occurred, and these all occurred during the month of October 2008. No coordinated trips have occurred from October 2008 to January 2009.

Appendix 1: MDT/CAD/AVL RFP

Procurement of MDT/CAD/AVL for Paratransit

RFP-06-024-0-2006/RS

LYNX and PCTS seek to improve and better manage Paratransit operational efficiencies through the integrated use of Computer Aided Dispatch and Automated Vehicle Location (CAD/AVL) technologies. CAD/AVL technology will afford operations the ability to Dispatch trips in real time, as well as monitor in real time with a GIS service area map the location of its demand response and support vehicles, and their on-time performance. Replacement and supplemental vehicles can be dispatched with the proposed system, as needed, and passenger transfers between vehicles can be coordinated. Security of riders, personnel and property will also be enhanced through the monitoring of all vehicle operations.

The purpose of this Request for Proposals (RFP) is to contract for systems integration services, hardware, software and installation to provide an integrated communications subsystem and CAD/AVL system for the Paratransit carrier services program, ACCESS LYNX and PCTS.

The CAD/AVL system shall be for a system of 10 vehicles for each agency (20 vehicles total) and the associated equipment required by each agency to successfully operate both systems independently. The system proposed must be scaleable to 200 vehicles for each agency. The contract shall also include an option for LYNX and/or PCTS to purchase additional vehicle component units for a fixed cost during a fixed period. The fixed period shall be twenty-four months after the completed installation of the original twenty units.

The requested systems integration services shall include, but are not limited to, system design, additional software and operational integration of new and existing software, and hardware components. The installation phase shall include developing a test bed, field-testing, installing, training and other services, as defined in the RFP.

Proposers should enter into this process seriously with the same commitment as LYNX and PCTS has to improving transportation and mobility for residents through transit services that safely transport our customers to their destinations reliably with care and respect.

SECTION 1.0 - INTRODUCTION AND PURPOSE

1.01 Introduction

LYNX and Polk County Transit Services (PCTS) are participating in a Joint Rural ITS Project. This is a pilot program to provide a dynamic delivery of integrated Paratransit-related transportation services. These services will leverage existing vehicles and advanced technologies, and enhance Paratransit services provided by LYNX and PCTS. This pilot program will utilize a limited set of vehicles with advanced technologies. Upon successful completion of this project, a follow-on project may expand the number of vehicles using these technologies.

As the Central Florida Regional Transportation Authority, LYNX is responsible to provide Paratransit services for the tri-county region of Orange, Osceola, and Seminole counties in Central Florida. As a provider of fixed-route services, LYNX operates scheduled public transportation for the general population to the Orlando and Kissimmee urbanized areas, including disabled riders, in accordance with the American Disabilities Act (ADA). In its role as Community Transportation Coordinator, LYNX is responsible for coordinating all transportation-disadvantaged non-emergency Paratransit services throughout the three counties.

Polk County Transit Services is responsible to provide Paratransit services for the region of Polk County in Central Florida. In its role as Community Transportation Coordinator, PCTS is responsible for coordinating all transportation-disadvantaged non-emergency Paratransit services throughout the county.

LYNX is requesting statements of qualifications and proposals from firms interested and capable of providing systems integration for communications, Computer Aided Dispatch (CAD) and Automatic Vehicle Location (AVL) systems hardware, software and installation services to both LYNX and PCTS. The selected CAD/AVL system should include mobile wireless communications technology and provide a comprehensive system capable of integrating with existing LYNX and PCTS software. The system should also be capable of easily being expanded to include additional vehicles.

Proposals must be complete, well structured, carefully worded, and must convey all of the information requested in order to be considered responsive. Should the proposal fail to conform to the essential requirements of the RFP, LYNX and PCTS shall determine whether the variance is significant enough to cause the RFP to be considered nonresponsive and therefore not considered for award. LYNX shall not accept nor request additional information of a Proposer in order to determine responsiveness. This RFP, including supporting documents, provides Proposers with all information necessary to prepare and submit a written proposal.

1.02 General

LYNX and PCTS seek to improve and better manage Paratransit operational efficiencies through the integrated use of Computer Aided Dispatch and Automated Vehicle Location (CAD/AVL) technologies. CAD/AVL technology will afford operations the ability to Dispatch trips in real time as well as monitor in real time with a GIS service area map the location of its demand response and support vehicles, and their on-time performance. Replacement and supplemental vehicles can be dispatched with the proposed system, as needed, and passenger transfers between vehicles can be coordinated. Security of riders, personnel and property will also be enhanced through the monitoring

of all vehicle operations. The purpose of this Request for Proposals (RFP) is to contract for systems integration services, hardware, software and installation to provide an integrated communications subsystem and CAD/AVL system for the Paratransit carrier services program, ACCESS LYNX and PCTS.

The CAD/AVL system shall be for a system of 10 vehicles for each agency (20 vehicles total) and the associated equipment required by each agency to successfully operate both systems independently. The system proposed must be scaleable to 200 vehicles for each agency. The contract shall also include an option for LYNX and/or PCTS to purchase additional vehicle component units for a fixed cost during a fixed period. The fixed period shall be twenty-four months after the completed installation of the original twenty units.

The requested systems integration services shall include, but are not limited to, system design, additional software and operational integration of new and existing software, and hardware components. The installation phase shall include developing a test bed, field-testing, installing, training and other services, as defined in the RFP.

Proposers should enter into this process seriously with the same commitment as LYNX and PCTS has to improving transportation and mobility for residents through transit services that safely transport our customers to their destinations reliably with care and respect.

Inadvertent errors or omissions by LYNX in the information (or RFP) that follows shall not relieve the Contractor of the obligations of providing industry standard components and systems of proven warrantable commercial quality that meet or exceed the objectives of these technical specifications.

1.03 Definitions

- Contractor: The successful proposer who is awarded a contract for providing all services described in the contract documents.
- Contracts Administrator: The Authorities contracts person who is responsible for the administration of the contract and any changes that subsequently occur.
- D.B.E.: Disadvantaged Business Enterprise, a business owned wholly or in majority by a person or persons considered to be minorities.
- Project Manager: The person responsible for administering the Project / Technical advisor and responsible to the Contracting Officer of the Procuring Agency.
- The Authority or LYNX: The Central Florida Regional Transportation Authority, a body politic and corporate, created by the Transportation Agreement, as amended, and the provisions of Florida Statutes Part II, Section 343.

SECTION 2.0 - SCOPE OF SERVICES

2.01 General

This section provides an overview of the CAD/AVL project and describes the functionality required for each of the major sub-systems, components, and associated interfaces. Additionally, this section defines the scope of the required functionality to be provided by the contractor.

LYNX – the business name for the "Central Florida Regional Transportation Authority" – operates a Paratransit program, marketed as ACCESS LYNX, which averages 1,900 scheduled one-way passenger trips per day and service is provided with 139 vehicles throughout the system. The LYNX service area is composed of the tri-county area including Orange, Osceola, and Seminole Counties in Central Florida. This authorized service area encompasses about 2,530 square miles and has a total population of about 1.54 million persons.

PCTS – the business name for the "Polk County Transit Services" – operates a Paratransit program. PCTS averages 500 scheduled passenger trips per day and service is provided through 32 vehicles within the system. The PCTS service area is composed of the Polk County area. This authorized service area encompasses about 2,010 square miles and has a total population of about 518,000.

The scope of services described in this section is a general guide and is not intended to be a complete list of all the work necessary to complete the project. The scope of services contains work tasks believed necessary for an experienced systems supplier to provide LYNX and PCTS with an Integrated Communications subsystem and CAD/AVL System that meets the needs of both agencies.

The Contractor shall implement a comprehensive, fully integrated suite of applications that will comprise an Integrated Communications Subsystem and CAD/AVL System. The system shall meet both the current needs of this project and the future growth needs as previously specified. The system shall be fully compliant with general functional area and specific requirements detailed in the Scope of Services.

2.02 LYNX and PCTS Participation

LYNX and PCTS will:

1. Appoint a Project Manager
2. Provide all existing documentation in LYNX and PCTS's possession on equipment and systems required to interface to the integrated Communications and CAD/AVL System.
3. Review, comment and approve the work plan, design, test, training, product submittals, and other documentation deliverables.
4. Closely monitor the project's implementation progress and schedule.
5. Provide reasonable facility access, vehicle access and staff support.
6. Actively participate in acceptance testing, start-up and training.
7. Provide computer equipment and operating system software (See Section 2.05 for additional details)

2.03 Operations Overview

2.03.01 Vehicle Sites

LYNX – LYNX subcontracts the Paratransit Service to MV Transportation. The vehicles to be used in this exercise are owned, dispatched and maintained at the Bachman facility by MV Transportation. The MV Transportation Operations Base is located at the following address:

9313 Bachman Road, Orlando, Florida 32824

PCTS – Vehicles are dispatched from and maintained at PCTS Operations Base at the following address:

2450 Bob Phillips Road, Bartow, Florida 33830

2.03.01 Vehicle Statistics

Table 1 summarizes the composition of the LYNX / MV Transportation fleet. Quantity to be used for bidding purposes is ten (10) vehicles.

Table 1: LYNX / MV Transportation Paratransit Fleet Summary

MAKE	MODEL	QUANTITY
Ford	Sedan	12
Chevy	Sedan	9
Ford	Stretcher High Top	6
Ford	Wheelchair Cutaway	50
Ford	WheelChair HighTop	49
Ford	Passenger Van	8
Toyota	Camry	1
Total		**135**

Table 2 summarizes the composition of the PCTS Paratransit fleet. Quantity to be used for bidding purposes is ten (10) vehicles.

Table 2: PCTS Transit Paratransit Fleet Summary

MAKE	MODEL	QUANTITY
Ford	Wheelchair Cutaway	13
Ford	Wheelchair Hightop	8
Ford	Stretcher High Top	3
Ford	Passenger Van	1
Ford	Station Wagon	1
Chevrolet	Wheelchair Cutaway	2
Chevrolet	Wheelchair Hightop	1
Dodge	Passenger Van	1
Dodge	Stretcher High Top	2
Total		**32**

The Contractor shall be responsible for obtaining the required vehicle electrical drawings.

2.03.02 Operations Facilities

The LYNX / MV Transportation Dispatch Center is located at the Bachman Road facility. LYNX utilizes Citrix to gain access to operations for Management oversight and reporting purposes. LYNX remote access to the CAD System will be via Citrix.

2.04 Proposer's General Obligations The following are work tasks assumed necessary to design, integrate, test, install and implement Communications Subsystem and CAD/AVL Systems. The Contractor shall furnish the following items and services, as well as any additional items and services described in this Request for Proposal, and are required to provide the following:

1. Master project schedule with significant milestones capable of being displayed in both PERT and GANTT format.
2. System design and integration with complete system design documentation.
3. Must provide a typical wiring and component location schematic for each vehicle configuration to ensure against tampering and failure due to exposure to environmental elements.
4. Special test equipment needed during training and testing, and any other equipment needed to implement a complete and functioning system.
5. Identification of the minimum hardware requirements for system implementation.
6. All application and system software required implementing the functional capabilities of this RFP.
7. Integration of all software into an operational system.
8. Testing of all functional capabilities of the system.
9. Packing, shipment, insurance, and delivery of all spare parts, training and maintenance materials, submittals and documentation as directed.
10. Staged installation, start-up, and checkout of the system using the test bed.
11. Engineering and programming technical support during the contract period.
12. Complete documentation for all hardware and software training, including complete user and service documentation, and drawings.
13. All necessary software licenses.

14. Configuration management of all software, hardware and documentation.
15. The training of LYNX, MV Transportation and PCTS personnel.
16. Project management and control, including periodic progress meetings with and reporting to LYNX and PCTS staff.
17. Maintenance and support of the system for the Contract duration.
18. Must propose a solution that utilizes commercial off the shelf (COTS) components of proven reliability and are currently in use in the industry.
19. Must describe if proposed solution meets or exceeds requirements, but the operation is different from the requirements.
20. Must describe any additional features that are standard components within the proposed solution.
21. Standard warranty services for the Contract duration.
22. Cost the following options: Extended warranties for additional periods after contract completes, and additional vehicle components.

Inadvertent errors or omissions by LYNX and / or PCTS in the information (or RFP) that follows shall not relieve the Contractor of the obligations of providing industry standard components/systems of proven warrantable commercial quality that meet or exceed the objectives of these technical specifications.

2.05 LYNX and PCTS General Obligations LYNX and PCTS, or its designated representative, will provide the following items and services as appropriate:

1 LYNX will furnish computer hardware and software to include: CAD Dispatch Workstations, CAD Management Workstations, CAD servers, monitors, Uninterruptible Power Supplies (UPS), and Windows 2003 Server® Operating System.
2 LYNX / MV Transportation and PCTS will provide the necessary operator workspace and furniture.
3 LYNX / MV Transportation and PCTS will provide the network infrastructure, furnish and activate the appropriate inside building data/voice jacks connections to the various project-related room locations.
4 Technical data under LYNX / MV Transportation and PCTS's possession and control necessary for system design.
5 Review and approval of the Proposer's system design.
6 Review and approval of the Proposer's integration and test program.
7 Review and approval of the Proposer's test procedures.
8 Review and approval of the Proposer's installation schedule and procedures.
9 Review and approval of system documentation.
10 Participate in testing, training and start-up.

2.06 Project Tasks

This Request for Proposal covers all aspects of the Integrated Communications and CAD/AVL System. Under this RFP, LYNX will require the following tasks to be completed under the project's Scope of Work:

Task 1: Project Kickoff
Task 2: System Design
Task 3: Integration and Testing

Task 4: Installation and Training
Task 5: Acceptance Testing

Major project milestones and detailed descriptions of individual tasks, including required deliverables are provided in Sections 2.07 and 2.08.

2.07 Project Schedule

The following list presents a schedule of major project milestones for the duration of this 5 month project. The proposer shall utilize these dates in the preparation of the project's Work Plan and Staffing Plan to be submitted with this Proposal. The Proposer's project approach should demonstrate a plan that meets or exceeds the following concurrent dates**.**

1. Project Kickoff Meeting – Notice to Proceed (NTP) + one (1) week
2. System Design Review – NTP + four (4) weeks
3. Integration and Test Program Review – NTP + two (2) months
4. Installation and Testing - NTP + four (4) months
5. Training Complete – NTP + five (5) months
6. Project System Acceptance Completion – NTP + five (5) months

2.08 Tasks

The tasks to be performed under this contract are described below. The Proposer must be cognizant of multiple task dimensions in order to perform them completely, correctly, and meet LYNX and PCTS expectations.

2.08.01 Task 1 – Kickoff Meeting

The Proposer shall present an initial kickoff meeting at the LYNX Administrative offices at 455 West Garland St. in Orlando, Florida. The purpose of this meeting is to have the Proposer present its plan for developing specific project work tasks for implementation of assigned work. Key Proposer staff assigned to this effort shall attend the kickoff session. The kickoff meeting shall be held within one (1) week after the initiation of the Notice to Proceed.

The objective of the kickoff meeting is to review any exceptions or deviations proposed by the contractor, review the project plan, review budget, and technical risk factors. The contractor shall provide a mitigation plan for each risk identified. The Proposer shall be responsible for preparing and distributing Kickoff Meeting materials to the LYNX Program Manager, and preparing and submitting the minutes of the meeting. LYNX will provide a computer projection unit upon request.

2.08.02 Task 2 – System Design

Using the functional specifications included in this document as a baseline, perform any additional analysis required and develop the Draft System Design Document that describes the integrated communications and CAD/AVL System in technical detail. The Proposer shall provide LYNX and PCTS with a Draft System Design Outline document. This document shall include, but not limited to, the following topics:

1. System architecture
2. Overview and configuration of the subsystems
3. Subsystem block/flow diagrams

4. Functional descriptions of the system and associated subsystems
5. Specific functions and operations of the system's software and hardware
6. Software architecture, with hierarchical structure of components and data structures
7. System databases
8. Interfaces to existing LYNX and PCTS systems
9. Data requirements of existing LYNX and PCTS systems
10. Communications system and coverage
11. System networking and communications
12. System configuration

Upon LYNX and PCTS review and approval, the Proposer shall further analyze the tasks and details required and develop the Draft System Design Document. The technical details of the Draft System Design Document shall be presented at the System Design Review.

2.08.03 Task 3 – Integration and Testing

The Proposer shall analyze the tasks required and shall develop a DRAFT System Integration and Test Plan. This Plan shall establish LYNX and PCTS system integration and test requirements. The document shall provide a detailed, structured set of tasks to be performed by the Contractor. This Test Plan shall also include the following:

1 Detailed test procedures developed to support Integration
2 Detailed interface documentation to support data messaging to support Integration

As part of the integration and test process the contractor shall install a complete CAD, Communications subsystem and On-Board equipment in a room provided by LYNX. This configuration of equipment and software will constitute a LYNX and PCTS Test Bed that will be used throughout the project and beyond.

Completion of these tasks and utilization of the Test Bed shall demonstrate that the requirements for the system have been satisfied and the system is suitable for operation.

The technical details of the Contractor's System DRAFT Plan shall be presented at the System Integration and Test Review. The System Integration and Test Review and its associated materials are critical to project success. Any unresolved open issues, as determined by LYNX and PCTS, will need to be closed prior to issuance by LYNX and PCTS of acceptance of Proposer's System Integration and Test Review. The Contractor shall revise the DRAFT Plan and deliver the plan to LYNX and PCTS for formal approval. An approved Plan shall be required prior to the start of any formal testing. The Contractor shall provide a formal notification to LYNX and PCTS at least two weeks prior to the beginning of any formal testing.

2.08.04 Task 4 – Implementation and Training

The System Implementation Guidelines establish LYNX and PCTS system implementation requirements. This document provides a detailed, structured set of installation tasks to be performed by the Proposer. The Proposer shall analyze the tasks required and provide LYNX and PCTS with Draft System Implementation Plan. This Plan shall include a detailed schedule. An approved Plan

shall be required prior to the start of any implementation. The Contractor shall provide a formal notification to LYNX and PCTS at least two weeks prior to the beginning of any formal testing.

Section 2.11 identifies specific LYNX and PCTS training requirements. The Proposer shall analyze the tasks required and provide LYNX and PCTS with a Draft Training Plan, including detailed schedule. Submission of the approved Training Plan document shall be required prior to the start of training. A LYNX and PCTS approved Training Plan document is required two weeks prior to implementation.

2.08.05 Task 5 – System Acceptance Testing

System Acceptance Testing shall be performed by the Proposer and evaluated by LYNX and PCTS, with Proposer, LYNX and PCTS staff present at a time agreeable to all parties. System acceptance tests will exercise all system components. The Proposer shall analyze the tasks required and provide LYNX and PCTS with a required, Draft System Acceptance Testing Plan, including detailed schedule. Submission of the approved System Acceptance Plan document shall be required prior to the start of Acceptance Testing. The Contractor shall provide a formal notification to LYNX and PCTS at least two weeks prior to the beginning of any formal Acceptance Testing.

2.09 Project Management

Project management will be a key responsibility of the selected Proposer. The selected Proposer's Project Manager assigned to the LYNX and PCTS project shall have the authority to make commitments and decisions that are binding, within the limits of the Agreement. LYNX will designate a Project Manager to coordinate all LYNX and PCTS project activities. All communications between LYNX and the selected Proposer shall be coordinated through their respective Project Managers.

The selected Proposer's Project Manager shall be responsible for at least the following:

1. Provide periodic updates to the work plan and schedules. Changes to the work plan and schedules that exceed 10% of the baseline require approval by LYNX and PCTS.
2. Submit monthly project status reports detailing progress toward fulfilling objectives in the work plan and its project schedule, and highlighting items on the critical path. Monthly report shall also include the status of risk mitigation efforts.
3. Coordinate project resources and work so those milestones are met in an efficient manner. Tasks will be laid out to minimize implementation time and cost while taking into consideration resource and time constraints such as LYNX and PCTS staff availability. The Proposer and LYNX project manager will ensure that individuals performing tasks have appropriate skill levels and credentials.
4. Coordinate all required deliverables, installation and configuration of software and hardware, documentation and training as described herein.
5. Participate in monthly project meetings.

LYNX requires the following deliverables from the Proposer in order to monitor progress and ensure compliance:

a) Detailed Work Plan (due 14 days after NTP)

b) Staffing Plan (due 14 days after NTP)

c) Monthly Progress Report The selected Proposer shall prepare a progress report each month to be provided to LYNX within five (5) working days of the end of the preceding month. The progress report shall include the following items:

1. An updated project schedule with explanations of any deviations from the planned delivery schedule. The explanation shall include the anticipated impact of any delays and a plan for returning to the target schedule. All delays shall be factored into the project schedule as soon as the Proposer's project manager is aware of them. In addition, all changes to the schedule since the last progress report shall be identified.
2. An updated list of all correspondence transmitted and received.
3. An updated documentation schedule, highlighting the documents to be transmitted for review during the next two reporting periods.
4. An Action Item Data Base shall be established and maintained to support closure of action items in a timely manner. Open action items shall to be discussed weekly with LYNX and PCTS. An updated list of Proposer and LYNX and PCTS action items with status and required resolution dates shall be included as part of the Monthly Progress Report.
5. A summary of pending and upcoming Proposer and LYNX and PCTS activities during the next two reporting periods along with required completion dates.
6. The status of unresolved contract questions and change requests.
7. A description of current and anticipated project problem areas or risks and steps to be taken to resolve each problem.

2.10 Transmittal of Deliverables

Every document, letter, progress report, change order, and any other written or computer-readable material (in written or electronic form) exchanged between the selected Proposer and LYNX shall be assigned a unique transmittal number. The Proposer shall maintain a correspondence index and assign transmittal numbers consecutively for all Proposer documents and/or discussions.

LYNX and PCTS shall maintain a similar correspondence numbering scheme identifying documents and correspondence that it creates. The Proposer shall provide LYNX a copy of the Proposer's correspondence index upon request.

The Proposer shall provide each deliverable electronically, delivered on CD-ROM media and or E-Mail. Electronic versions shall be compatible with MS Office 2003®. The Proposer will maintain a single project schedule using the MS Project 2003® application.

2.11 Training

The selected Proposer shall provide all training of LYNX / MV Transportation and PCTS personnel required for successful implementation and operation of the system. The length of sessions proposed per training type shall be adequate to cover the required material in sufficient depth for the trainees to perform their responsibilities on the Proposer's system. LYNX's training philosophy is a "train-the-trainer" concept with a maximum utilization of Proposer-generated course materials.

The Proposer shall provide a list of the types of training required, recommended courses, content, length, and proposed schedule as part of the their proposal. Courses need to address the following LYNX / MV Transportation and PCTS staff positions. Proposers are also encouraged to use this

section to describe the training they intend to provide which is not addressed below.

These positions include but not limited to:

1 Dispatcher

1. Drivers
2. Supervisors / Managers
3. System Administration
4. Maintenance

The Proposer shall maximize its use of existing Computer-Based Training (CBT) courseware to accommodate driver training. For each type of training, Proposer shall provide a Student Training Manual for each trainee and an Instructor Training Manual for use in providing equivalent training sessions in the future.

LYNX, PCTS and MV Transportation will provide classroom space at their facilities. The Proposer shall provide the following:

Two (2) sessions of Dispatcher training; class size limited to 5 staff per session. Two (2) sessions of Maintenance training; class size limited to 5 staff per session. Three (3) sessions of Drivers training; class size limited to twenty (20) staff per session. One (1) session of training for Supervisors / Managers; class size limited to 10 staff. One (1) session of training for System Administrators; class size limited to three (3) staff.

2.11.01 Instructors

The principal instructors provided by the Proposer shall have had previous formal classroom instructor training and relevant experience with the system. The instructors shall demonstrate a thorough knowledge of the material covered in the courses, including interfaces to neighboring (connected) subsystems, as applicable, and familiarity with the training manuals, system documentation tools, and training aids used in the courses. When prerecorded lectures or other video presentations are part of a training course, the lecturer or a qualified substitute instructor shall be present to supplement and answer questions and discuss on the recorded material.

A qualified instructor shall be present in person for training on all specific system elements. LYNX and PCTS have the right to review and approve all instructors. Should an instructor prove unsatisfactory to LYNX and or PCTS, the Proposer shall provide a suitable replacement.

2.11.02 Manuals and Instructional Aids

The Proposer shall prepare training manuals and submit them to LYNX and PCTS for review prior to the start of classroom instruction. The training manuals shall be prepared specifically for use as training aids. Principal documents used for training shall be tailored to reflect all System hardware, software, and user requirements.

Upon completion of each course, instructor's manuals, training manuals, and training aids shall become the property of LYNX and PCTS, and Proposer will assign copyrights to LYNX and PCTS. As part of the delivered system documentation and the final documentation, the Proposer shall supply LYNX and PCTS with all changes and revisions to the training manuals and other training documentation. LYNX and PCTS shall have the right to copy all training manuals and aids

for use in LYNX and PCTS training courses. The Proposer shall furnish for use during training courses all special tools; equipment, training aids, and any other materials required to train course participants. The number of special tools and other training equipment shall be adequate for the number of participants attending the course.

2.11.03 Video-Based Training

The Proposer shall provide such videotapes and/or digital video files for retention and playback by LYNX and PCTS as reference documentation. LYNX and PCTS reserve the right to copy for its own use all tape and files and to videotape all training courses and seminars using its own recording equipment.

2.12 Documentation

Complete system documentation shall be submitted for LYNX PCTS approval. Documentation shall at least meet the Proposer's documentation standard evidenced in their technical proposal. A unique Proposer document number and system name shall identify each document. When a document is revised for any reason, a number, date, and subject in a revision block along with an indication of official approval by the Proposer's Project Manager shall indicate each such revision.

The Proposer shall provide a document index identifying all documents to be provided with the system. This includes all documents supplied with OEM hardware/software and the Proposer's own documents. The index shall describe each document and the document's purpose, to help the user locate the appropriate document in the set of all system documentation.

LYNX and PCTS shall receive all draft system documents prior to the start of testing unless directed otherwise. Final Proposer-supplied documentation shall be provided in an electronic file format compatible with commercially available Microsoft Windows 2000 software, acceptable to LYNX and PCTS, such that it can be maintained and updated by LYNX and PCTS.

Final documentation shall be easily reproducible by LYNX and PCTS and LYNX and PCTS shall have the right to reproduce any documents supplied under this contract for its own needs. With respect to records claimed by the Proposer to be proprietary or confidential, LYNX will use good faith efforts to maintain the confidentiality of the records in accordance with the provisions of the Florida Public Records Act.

2.12.01 Document Review and Approval Rights

To ensure that the proposed project conforms to the specific provisions and general intent of the Functional Specification the Proposer shall submit all documentation to LYNX for review and approval prior to finalizing the documents.

LYNX shall have the right to require the Proposer to make any necessary documentation changes at no additional cost to LYNX to achieve conformance with the specification. Any purchasing, manufacturing, or programming implementation initiated prior to written LYNX's approval of the relevant documents shall be performed at the Proposer's risk. Review and approval by LYNX shall not relieve the Proposer of its overall responsibilities to satisfy system functions and features in accordance with the specification.

2.12.02 Original Equipment Manufacturer Document Review

Documentation of standard, third party hardware and software (if applicable) shall be furnished for

LYNX review. LYNX reserves the right to determine whether the documentation accurately and completely describes all features and options of the hardware and software that pertain to the system.

2.12.03 Proposer and 3rd Party Document Review

The Proposer's and third party hardware and software may need, if applicable, to be customized to fully conform to the requirements contained within this document. LYNX shall have, in addition to the approval rights described above, full approval over the portions of the relevant document's content and format pertaining to the modified or custom hardware, software, and firmware.

2.13 System Documentation

System documents are those that describe the system hardware and software in technical detail. System administrators, site administrators and maintenance staff will use system documents to administer and modify the system, replace and upgrade hardware/software, and to identify and solve problems.

2.13.01 Configuration Control of Software, Hardware, Documents, and Training

The Proposer shall develop and maintain four (4) inventory lists. The following inventory lists provide examples of the type of information required.

1. An inventory of all software and firmware, including product, version, purpose, and installed location.
2. An inventory of all hardware, including product, model number, serial number (if applicable) and installed location.
3. An inventory of recommended spare parts for all replaceable hardware system components, part number, supplier, price, and alternate supplier if available.
4. An inventory of all-training material and classes presented. This shall also include dates, attendees, and class records.

These shall be maintained and kept current by the Proposer until final acceptance of the system and copies shall be provided.

2.13.02 Standard Software/Hardware

Installation, user and reference documentation for standard software/hardware shall be provided for LYNX and PCTS review and approval in accordance with the requirements defined herein. Standard software/hardware is defined as commercial off-the-shelf ("COTS") products that fully satisfy the requirements of this RFP without the need for modification.

2.13.03 Program Source Code

LYNX and PCTS must be assured that its investment will be protected in the event that the Proposer becomes unwilling or unable to support it. LYNX is willing to negotiate nondisclosure, escrow or other agreements between the Proposer, LYNX, and PCTS.

Details of hardware and software designs shall be fully disclosed to LYNX and PCTS. If Proposer is unwilling to fully disclose software designs, Proposer may negotiate placing such designs in escrow. Nothing contained herein shall require Proposer to place in escrow designs for commercially available off-the-shelf ("COTS") software that are not normally made available to Proposer by the supplier thereof.

The Proposer shall provide LYNX and PCTS with a machine-readable copy of all source code, and build and support files for all components of the system. This includes code and Help source files, "make", batch and project files, libraries, and other compile/link components. The Proposer shall also document the environmental (i.e., hardware and software) variables within which the code is run. Proposer shall provide updates of source files as program updates are released during the initial and subsequent warranty and technical support periods.

2.13.04 Software Ownership and Rights in Technical Data

LYNX / PCTS specific application software, defined as system-specific databases, geographic configuration databases, vehicle interface software and firmware, specifically and exclusively designed for the LYNX / PCTS system shall be the property of LYNX / PCTS, and shall be delivered together with source code, associated hardware and all applicable documentation. To protect the interest of LYNX and PCTS the source code will be held in escrow through the completion of the contract.

LYNX shall have the right to modify the LYNX-specific application software, modification of which voids any remaining warranty or liability associated with the software modified. Any liabilities for software not modified shall not be void. Proposer shall present a list of all LYNX-specific application software for review and approval by LYNX at the System Design Review.

In no event shall the Proposer patent, copyright, or assume any other such ownership rights with respect to LYNX-specific application software. Without limiting the generality of the foregoing, the Proposer shall retain all rights to proprietary information held by the Proposer prior to execution of the Agreement and subsequently used by the Proposer in the performance of the work under this RFP.

Proprietary information include "trade secrets" as defined in Section 812.081 of the Florida Statutes, as well as all intellectual property for which the Proposer holds a current patent or copyright recognized under United States law.

The Proposer shall grant to LYNX a non-transferable, non-exclusive, royalty-free right to use for the operation and maintenance of the system only.

1. The inventions claimed in any patents owned by the Proposer or licensed for the Proposer's use.
2. Any copyrighted works it owns or is licensed to use, for the lives of such patents, licenses or copyrights.
3. That the Proposer also grants to LYNX the right to use any trade secret or other such proprietary right royalty-free to the extent that such trade secret or right is incorporated in any work performed under this contract.

The above provisions will bind subcontractors of the Proposer to the same extent as they bind the Proposer; however, the above provisions shall not be applicable to the acquisition of commercially available, off-the-shelf software for the work performed under this Agreement.

2.13.05 Database Design

As part of the System Design document, Proposers shall provide database design documentation that completely describes both the logical and physical structure of the LYNX / PCTS system database. The documentation shall define and describe the individual elements (files, tables, records and

fields) and the relationships among them. Detail shall also include a detailed data dictionary. Any portions of the database developed or modified specifically for LYNX's system shall be identified.

Note that this requirement is for a complete and thorough description of the physical and logical database schema. This will permit LYNX to develop and maintain interfaces between the system database and other applications, and will facilitate the development of complex custom reports and interfaces to other systems.

2.14 Operations and Maintenance Manuals

Operation and Maintenance Manuals shall be subject to approval by LYNX and PCTS, and shall address each of the following items:

1 Requirements
2 Content
3 Format

2.14.01 Requirements

Proposer shall furnish five (5) copies of a complete Operation and Maintenance (O & M) manual for installation, operation, maintenance, and lubrication requirements for each major electrical, electronic or data processing equipment or subsystem, as well as a single CD-ROM that contains the same information.

Proposer shall inform all equipment manufacturers of the O & M manual requirements and ensure that all associated costs are included in the costs for furnishing the equipment or system.

2.14.02 Contents

1 Title Sheet/Table of Contents: Provide for each O & M manual a title sheet/table of contents indicating title of project; names, addresses and telephone numbers of responsible parties; schedule of products and systems, indexed to content of the volume.
2 Contact Representative for each product or system: List names, addresses and telephone numbers of subcontractors and Proposers, including local source of supplies and replacement parts.
3 Product Data: Mark each sheet to clearly identify specific products and components parts, and data applicable to installation. Delete inapplicable information.
4 Drawings: Supplement product data to illustrate relations of component parts of equipment and systems, to show control and flow diagrams.
5 Typed Text: As required to supplement product data.
6 Each O & M manual shall include, but not be limited to, the following:
    a) A table of contents
    b) Name, address and telephone numbers of corporate and local vendor contacts
    c) Overall description of the system and interrelationships of major subsystems and interfaces
    d) Detailed description of the function and theory of operation for each principal component of the system
    e) Performance data
    f) Installation instructions
    g) Procedure for start-up, shut-down, and break-in
    h) Proper adjustment

i) Test procedures and trouble shooting guide, to include trouble shooting flow charts, if available
j) Procedure for operating
k) Emergency operating instructions / troubleshooting guide
l) Safety precautions including manufacturer's code of safe practice
m) Complete nomenclature and part number of replaceable parts
n) Maintenance Requirements: Include routine preventive maintenance procedures and recommended intervals, and guides for disassembly, repair, list of special tools required, and reassembly instructions, balancing and checking instructions.

2.14.03 Format

1. Proposer will prepare O & M manual in the form of an instructional manual.
2. Binders: Commercial quality, 8 ½ x 11-inch three-ring binders with hardback, cleanable, plastic covers: two and one-half (2 ½) inch maximum ring size. When multiple binders are used, correlate data into related consistent groupings.
3. Cover: Identify each binder with typed or printed title OPERATION AND MAINTENANCE INSTRUCTIONS; list titles of project; identify subject matter of contents.
4. Arrange content by systems under section product and system, with typed description of product and major component parts of equipment.
5. Text: Manufacturer's printed data / typewritten data on white bond paper.
6. Drawings: Provide with reinforced punched binder tab. Sequence and bind in with text; fold larger drawings to size of text pages.

2.15 System Spares

Spare parts will support both preventive maintenance (PM) and corrective maintenance (CM) actions. As part of the RFP response, the Proposer shall provide cost for system-related spares. This cost shall be composed of the following requirements:

1. Ten (10)% equipment spares capability for critical vehicular-related Paratransit vehicles, and support vehicles.
2. A recommended list and quantities of required "hot spares" or lowest replaceable units (LRU's) to support CM on-site. The spares selected shall ensure that the system availability is met.
3. Parts or kits required for planned overhaul or replacement routines that occur at regular intervals regardless of the equipment's condition.

2.16 Notice of Completion

When the Final Acceptance Test has been satisfactorily completed; LYNX shall issue a Letter of Completion to the Contractor indicating the date of such completion. The Contractor shall record the Notice of Completion upon receipt of the LYNX completion letter. This date of record shall be the start of the one (1) year warranty period.

2.17 Warranty

The Contractor shall fully warrant all equipment and software furnished hereunder against defect in materials and/or workmanship for a minimum period of twelve- (12) months from date of Notice of

Completion by LYNX. If the standard manufacturer's warranty period is greater than a twelve- (12) month period, the Proposer shall provide the relevant warranty information in the proposal. If the Contractor is not the software manufacturer, this shall not preclude the Contractor's responsibility to provide the warranty.

Should any defect in materials or workmanship, except ordinary wear and tear, appear during the above stated warranty period, the Contractor will, without delay and with the least practicable inconvenience to LYNX and PCTS. Without further cost to LYNX and PCTS, repair or replace defective or otherwise unsatisfactory materials furnished by the Proposer, or workmanship performed by the Contractor in any parts of said work.

Should the Contractor fail to act promptly in accordance with these requirements, or should the demand of the case require repairs, or replacements to be made before the Contractor can be notified or can respond to notification. The Proposer hereby agrees that LYNX shall have the right to make the necessary repairs or replacements at the expense of the Proposer. The Proposer hereby further agrees that they are responsible for the full expense incidental to making good any and all of the above guarantees and agreements.

2.18 Extended Warranty Agreement

The Contractor shall provide LYNX and PCTS a cost estimate for an optional 5-year unconditional warranty, including parts and labor, beyond the initial, one-year warranty period. The extended warranty plan shall include the aggregate cost of an initial 3-year extended warranty period and then the annual costs to extend the warranty into years 4 and
5. LYNX and PCTS will retain the option to renew the extended warranty for the initial 3year period, then on an annual basis for years 4 and 5.

2.19 Payments

Milestone payments will be made to the Proposer based upon the achievement of specified LYNX project objectives with a 10% Project Contingency held for Final Acceptance. These objectives relate directly to tasks and ensure completion prior to an authorization to proceed. Payment amounts will be negotiated between the Proposer and LYNX, stated in the contract, and submitted on payment requests. Payment is authorized after achievement of the milestone is verified.

As part of the RFP response, the Proposer shall prepare and submit a draft milestone payment schedule based upon major milestone dates.

SECTION 3.0 – FUNCTIONAL SPECIFICATION

3.01 GIS and Mapping Software Functionality Specifications

All software mapping functions shall use a common GIS base map, which shall encompass the project's LYNX and PCTS service areas. Both LYNX and PCTS currently use a GIS map loaded in Trapeze. The Contractor is expected to be familiar with the layers and properties of this source map. The software shall incorporate GIS capabilities that allow pan and zoom viewing for maps of the service area, with multiple zoom levels approved by the County. Information shall be added or deleted to maintain clarity as the user moves between zoom levels. An overview of the entire service area shall be presented in a portion of the display to serve as a navigation aid for the user. The area currently being displayed by the user shall be highlighted on the overview navigation aid.

Because the geocoding is one of the core futures for this system the GIS map shall include the most current data for all street segments, ensuring that every segment is appropriately connected in the network and has a defined street name and address range. The system shall be able to suggest a location on the map if County enters an address. The street segments database shall be sufficiently complete to assure a geocoding success rate of 90 percent or better based on a sample of addresses developed by the County. The system shall be capable of handling various abbreviations of names (e.g. St. for Street) in the geocoding process.

The system shall allow the user to calculate the distance between points or along a specified portion of the street network. The street network definition shall include characteristics needed to allow the computation of navigable routes, including speed limits, one-way restrictions and turn prohibitions. The system shall permit the definition and display of physical features that act as barriers to transportation

GIS functionality shall include the ability to define service-based zones (e.g., ADA complementary paratransit service area, fare zones). The map layers format shall be compatible with ESRI data structures, and allow for easily updates and/or replacement by staff without vendor assistance. The GIS module shall allow authorized users to edit the base map layers (e.g., to add new streets, change municipal boundaries, define any incomplete address ranges). The software shall be capable of printing maps to peripheral devices (e.g., printers, plotters) directly attached to the workstation or available over a Local Area Network (LAN) or Virtual Private Network (VPN). The print quality of the maps should be sufficient for use in a printed schedule intended for the public.

3.01.01. AVL Tabular Display

The Contractor shall provide the capability of displaying AVL data in tabular format. At a minimum, the tabular display shall provide the capability to display windows that contain the following information:

- All vehicles equipped with AVL
- Early, on-time, and late paratransit vehicles with different colors
- Off-route vehicles;
- Characteristics of vehicle(s) that has/have activated a silent alarm condition

3.01.02 AVL Data Recording and Retrieval

All vehicle location and status data transmitted to dispatch shall be maintained online or on removable backup media for a period of six months for future retrieval, display and printing. This historical information shall include all data transmitted from vehicles to dispatch (logon/ log-off data, emergency alarms, vehicle system alarms, location data, and data transmitted from other equipment on-board the vehicles); and all user logins and logoffs. Online data will reside in a fault-tolerant storage system that ensures data integrity in the event of a drive failure. In addition, the system must include a means of backing up transaction data while the system is in operation. It should not be necessary to shut down the database to perform a successful backup. The stored data shall be time and date stamped, and shall contain sufficient information to enable selective sorting and retrieval based on user-specified selection criteria. At a minimum, the following sorting and selection criteria shall be supported for accessing the historical data from both the short-term and long-term archive storage:

- Operator ID
- Vehicle ID
- Route Number
- Run number
- Dispatcher ID
- Date and time
- Type of data (e.g., off-schedule)
- Incident type (where needed)

Historical data shall be read-only. That is, modification of this data shall not be permitted. Historical data shall be available in a format that is directly accessible by or importable into common database management and analysis tools. Proposer shall clearly describe proposed backup methodology.

3.01.03 CAD / AVL System Functions

The following tables list the types of data that both LYNX and PCTS intend to transmit to and receive from its Paratransit vehicles. Both agencies operate the Windows version of Trapeze Software Group's Paratransit Automated Scheduling System (hereinafter referred to as PASS). Proposers must affirm or deny their capability to comply with each data requirement, and their capability to seamlessly integrate with PASS. Proposer's middleware, in real time, must successfully transmit data from PASS to the vehicle MDT, and then back to PASS.

System shall be able to generate, maintain, and control CAD Control System audit logs; data traffic log: The data traffic log shall electronically store information about all data traffic on the CAD System, including traffic classification and date/time stamps.

The system shall allow CAD dispatch to track vehicles real time via map, and collect time point data at 10 min intervals, to allow daily vehicle monitoring and reporting.

System shall be capable of running a published application with Citrix. This will allow LYNX to remotely access the application for management oversight.

Proposer shall provide a complete list of canned reports that are built in their system. System

shall also be able to formulate custom reports using commercially available software. Reports desired are typical reports used in Paratransit industry.

3.01.04 Trip Message

LYNX and PCTS shall require the system to receive "Trip" messages from PASS, and to transmit those messages to vehicle MDTs in real time.

"Trip" messages shall include the following information field types generated from PASS.

1. Vehicle ID Number
2. Run Number
3. Rider Name
4. Rider Equipment Type(s)
5. Rider ID Number
6. Address
7. Apartment
8. City
9. Promised Time
10. ETA Time

Field Types

1. Stop Activity
2. Fare Type(s)
3. Fare Dollar Amount
4. Number of Coupons
5. Number of Passes
6. Number of Riders
7. Number of Personal Care Attendants
8. Number of Guests
9. Operator Comments

3.01.05 Operator Log On

LYNX and PCTS shall require the vehicle MDTs to transmit operator-generated "Log On" messages to the dispatch center

"Log On" messages shall include the following information field types. "Log On" activities include the start of a day, lunch, and/or break, for example.

MDT shall have the ability to lock out the vehicle ignition system if the MDT is not logged on.

Field Types

1. Vehicle ID Number
2. Operator ID Number
3. Log On Activity

4. Log On Time
5. Odometer Reading
6. GPS Latitude
7. GPS Longitude

3.01.06 Operator Log Off

LYNX and PCTS shall require the vehicle MDTs to transmit operator-rated "Log Off" messages to the dispatch center

"Log Off" messages shall include the following information field types. "Log Off" activities include the end of a day, lunch, and/or break, for example.

Field Types

1. Vehicle ID Number
2. Operator ID Number
3. Log Off Activity
4. Log Off Time
5. Odometer Reading
6. GPS Latitude
7. GPS Longitude

3.01.07 Pick-Up Site Arrival

LYNX and PCTS shall require the vehicle MDTs to transmit operator-generated "Pick-Up Site Arrival" messages to the dispatch center.

"Pick-Up Site Arrival" message is restricted if vehicle is outside a 300-yard radius of the PASS geocoded latitude/longitude.

"Pick-Up Site Arrival" messages shall include the following information field types.

Field Types

1. Vehicle ID Number
2. PASS-Generated Trip Number
3. Passenger Name
4. Pick-Up Site Arrival Activity
5. Arrival Time
6. Odometer Reading
7. GPS Latitude
8. GPS Longitude

3.01.08 Pick-Up Site Departure

LYNX and PCTS shall require the vehicle MDTs to transmit operator-generated "Pick-Up Site

Departure" messages to the dispatch center.

"Pick-Up Site Departure" message is restricted If vehicle is outside a 300-yard radius of the PASS geocoded latitude/longitude

"Pick-Up Site Departure" messages shall include the following information field types.

Field Types

1. Vehicle ID Number
2. PASS-Generated Trip Number
3. Passenger Name
4. Pick-Up Site Departure Activity
5. Departure Time
6. Odometer Reading
7. GPS Latitude
8. GPS Longitude

3.01.09 Drop-Off Site Arrival

LYNX and PCTS shall require the vehicle MDTs to transmit operator-generated "Drop-Off Site Arrival" messages to the dispatch center.

"Drop-Off Site Arrival" message is restricted If vehicle is outside a 300-yard radius of the PASS geocoded latitude/longitude.

"Drop-Off Site Arrival" messages shall include the following information field types.

Field Types

1. Vehicle ID Number
2. PASS-Generated Trip Number
3. Passenger Name
4. Drop-Off Site Arrival Activity
5. Arrival Time
6. Odometer Reading
7. GPS Latitude
8. GPS Longitude

3.01.10 Drop-Off Site Departure

LYNX and PCTS will require the vehicle MDTs to transmit operator-generated "Drop-Off Site Departure" messages to the dispatch center.

"Drop-Off Site Departure" message is restricted If vehicle is outside a 300-yard radius of the PASS geocoded latitude/longitude

"Drop-Off Site Departure" messages shall include the following information field types.

Field Types

1. Vehicle ID Number
2. PASS-Generated Trip Number
3. Passenger Name
4. Drop-Off Site Departure Activity
5. Departure Time
6. Odometer Reading
7. GPS Latitude
8. GPS Longitude

3.01.11 Rider Boarding

LYNX and PCTS shall require the vehicle MDTs to transmit operator-generated "Rider Boarding" messages to the dispatch center.

"Rider Boarding" message is restricted If vehicle is outside a 300-yard radius of the PASS geocoded latitude/longitude.

"Rider Boarding" messages shall include the following information field types.

Field Types

1. Vehicle Number
2. PASS-Generated Trip Number
3. Passenger Name
4. Rider Boarding Activity
5. Boarding Time
6. PASS-Generated Fare Type(s)
7. Number of Coupons Actually Collected
8. Number of Passes Actually Shown
9. Fare Dollar Amount to be Billed to rider
10. Number of ADA Riders
11. Number of Personal Care Attendants
12. Number of non ADA Guests
13. Odometer Reading
14. GPS Latitude
15. GPS Longitude

3.01.12 Rider Alighting

LYNX and PCTS shall require the vehicle MDTs to transmit operator-generated "Rider Alighting" messages to the dispatch center.

"Rider Alighting" message is restricted If vehicle is outside a 300-yard radius of the PASS

geocoded latitude/longitude.

"Rider Alighting" messages shall include the following information field types.

Field Types

1. Vehicle ID Number
2. PASS-Generated Trip Number
3. Passenger Name
4. Rider Alighting Activity
5. Alighting Time
6. Odometer Reading
7. GPS Latitude
8. GPS Longitude

3.01.13 Rider Call Out

LYNX and PCTS shall require the vehicle MDTs to transmit operator-generated "Rider Call Out" messages to the dispatch center.

"Rider Call Out" messages alert the dispatch center to call a passenger who can't be located and advise the operator of how to handle the situation.

"Rider Call Out" messages shall include the following information field types.

Field Types

1. Vehicle ID Number
2. PASS-Generated Trip Number
3. Passenger Name
4. Call Out Activity
5. Call Out Time
6. Odometer Reading
7. GPS Latitude
8. GPS Longitude

3.01.14 Rider No Show

LYNX and PCTS shall require the vehicle MDTs to transmit operator-generated "Rider No Show" messages to the dispatch center. The "Rider No Show" message alerts the dispatch center to investigate the No Show situation and advise the operator how to proceed.

"Rider No Show" message is restricted If vehicle is outside a 300-yard radius of the PASS geocoded latitude/longitude

"Rider No Show" messages shall include the following information field types.

Field Types

1. Vehicle ID Number
2. PASS-Generated Trip Number
3. Passenger Name
4. No Show Activity
5. No Show Time
6. No Show Fee to Bill Rider
7. Odometer Reading
8. GPS Latitude
9. GPS Longitude

3.01.15 Rider Door Cancellation

LYNX and PCTS shall require the vehicle MDTs to transmit operator-generated "Late Cancellation" messages to the dispatch center.

"Rider Door Cancellation" message is restricted If vehicle is outside a 300-yard radius of the PASS geocoded latitude/longitude.

"Late Cancellation" messages shall include the following information field types.

Field Types

1. Vehicle ID Number
2. PASS-Generated Trip Number
3. Passenger Name
4. Rider Door Cancellation Activity
5. Cancellation Time
6. Cancel at Door Fee to Bill Rider
7. Odometer Reading
8. GPS Latitude
9. GPS Longitude

3.01.16 Rider Not Ready—Will Call

LYNX and PCTS shall require the vehicle MDTs to transmit operator-generated "Rider Not Ready—Will Call" messages to the dispatch center.

"Rider Not Ready – Will Call" message is restricted If vehicle is outside a 300-yard radius of the PASS geocoded latitude/longitude.

"Rider Not Ready—Will Call" messages shall include the following information field types.

Field Types

1. Vehicle ID Number
2. PASS-Generated Trip Number

3. Passenger Name
4. Rider Door Cancellation Activity
5. Cancellation Time
6. Will Call Fee to Bill Rider
7. Odometer Reading
8. GPS Latitude
9. GPS Longitude

3.01.17 Canned Messages

The successful Proposer's vehicle MDTs shall be able to transmit operator-generated "Canned" messages to the dispatch center. LYNX and PCTS also require the successful Proposer's equipment to transmit dispatcher-generated "Canned" messages to the vehicle MDT, in real time.

"Canned" messages shall include the following information field types, the objective of the "Canned" messages is to reduce or eliminate most existing voice traffic. At a minimum, the system shall be capable of:

1 Up to 256 user selectable pre-determined text messages of at least one hundred twenty-eight (128) alphanumeric characters

2 Capability for random length free-form text messages of at least one hundred twenty-eight (128) alphanumeric characters Examples are:

Field Types

RECEIVING POORLY

DO NOT COLLECT FARE FOR THIS RIDE

RECEIVING WELL

WHAT IS YOUR LOCATION ?

DISREGARD

COMPLETED RUN OR ASSIGNMENT

MESSAGE RECEIVED

E.T.A. TO THE LOT

CODE "D" PERSON HAS PASSED AWAY

INVOLVED IN ACCIDENT -NO INJURIES

DISPATCHER IS BUSY-PLEASE STAND BY

INVOLVED IN ACCIDENT - WITH INJURIES

OUT OF SERVICE (YOU ARE OFF THE VAN)

9-11 CALL 911

IN SERVICE (YOU ARE BACK ON THE VAN)

ADD ON AT _____

REPEAT YOUR MESSAGE

IN SLACK- DO YOU NEED ASSISTANCE ?

OFFICIALS OR GUEST PRESENT

CORRECT TIME PLEASE

WEATHER INFORMATION

PASSENGER HAS NO MONEY OR TICKET FOR TRIP

These messages shall be easily programmed in the dispatch/administrative computer and on all MDTs as required.

3.02 Communications Subsystem

The Proposer shall provide a communications system designs for each of the two agencies. The Proposer shall include a cost analysis for a 5-year operation for each of the designs. Because of the small number of units that will be initially procured, Lynx will consider the use of cellular technology in the 20 initial units. The Propose shall provide costed option for the communications subsystem as LYNX exercises its option to move toward a larger communication subsystem in the future when the entire ACCESS LYNX and PCTS fleet is retrofitted with the Proposer's recommended communications system.

The CAD/AVL solution will provide at a minimum an in vehicle MDT that would be able to communicate with the operations base in real time and have the capability of downloading data and maps.

3.03 Mobile Data Terminal

The successful Proposer's equipment shall provide a minimum MDT functionality, Proposers must affirm or deny their MDT's capability to comply with each of the following functional requirements.

3.03.01 MDT Functionality

1. The successful Proposer will describe the expansion capabilities of their MDT's to integrate and control additional external devices such as card readers and mobile radios. This is desired

for future expansion of the system.

2. Proposers shall indicate the type and amount of memory it proposes for use in this system. If the MDT's memory can be expanded, Proposers are to describe the procedure for doing so.

3. Proposers are to describe the procedure for re-programming the proposed MDT.

4. The MDT power will be controlled by the vehicle's ignition switch and be activated when the vehicle's ignition switch is turned on or accessories positions and be switched off in the "off" position and when the ignition key is removed from the ignition lock.

5. The MDT shall be capable of being programmable by LYNX and PCTS staff to allow operators to turn off the vehicle's engine for a period of time without the MDT logging off or losing any data.

6. The MDT shall provide appropriate surge protection, filtering and power conditioning protection to prevent interference from florescent lights and the vehicle's alternator.

7. The operator will be alerted to incoming messages by a buzzer (or other audible tone). The buzzer will be located in the MDT and will be loud enough to be easily heard by the operator. Using the keypad, the operator will acknowledge incoming messages. After the buzzer has sounded, the operator will have a set amount of time to acknowledge incoming messages. If there's no acknowledgment, the following shall occur:

   a) The CAD/AVL computer will transmit the message again.
   b) After a second and third attempt without acknowledgment, the CAD/AVL computer will inform the dispatch supervisor of the operator's failure to acknowledge the message.
   c) The CAD AVL computer will log all messages that have not been acknowledged.

   This time to respond to a message shall be programmable by a LYNX or PCTS Supervisor.

8. Once the CAD/AVL computer has re-established communications with the MDT, it will prompt the communications supervisor to transmit stored messages.

9. While the CAD/AVL computer is waiting for a specific MDT's acknowledgment or response to an ITS-generated message, the CAD/AVL computer shall be able to send messages and receive messages from the rest of LYNX or PCTS fleet.

10. If the MDT fails to receive an acknowledgment from the CAD/AVL computer after attempting to send a message, the MDT will prompt the operator to attempt to send the message again. After a second and third operator prompt and transmission attempt without acknowledgment, the MDT will assume the vehicle is in a poor communication coverage area and will prompt the operator to move the vehicle to another location.

11. At any time after the operator has logged onto the system and received a trip manifest, the CAD/AVL system will update that manifest by inserting additional trips sent to it by PASS.

The operator will be alerted of a trip insertion message by the MDT buzzer. The operator will respond to the buzzer by pressing the appropriate keys on the MDT keypad.

12. Inserted trips will be placed into the manifest in chronological order, as they relate to the scheduled times of other pick ups or drop offs.

13. At any time after the operator has logged onto the system and received a trip manifest, the CAD/AVL system will update that manifest by canceling trips sent to it by the dispatch computer that are to be canceled. The operator will be alerted of a trip cancellation message by the MDT buzzer.

14. Should the system experience a communications failure after the manifest has been downloaded into the MDT, the MDT will be capable of functioning independently of the CAD/AVL system. This functionality will allow the operator to continue working from the manifest, thereby collecting and storing normal rider and trip data in the MDT. Once the data link between the operation base and communication is restored between the MDT and CAD/AVL system, the MDT will send the stored rider and trip data.

15. Provide communications to Dispatch in the event of MDT and related system components tampering/removal or vehicle theft.

16. MDT shall retain map data locally.

17. Mapping features shall include that ability to display vehicle location, next stop location, logical routing between the vehicle and the next stop location, the ability to zoom in and out, and the ability to pan.

18. MDT shall have the ability to retain 72-hours worth of data.

19. MDT shall have an external port to allow downloading of data in the event of communications failure.

20. MDT and related components must successfully operate within environments of extreme humidity and temperatures, as commonly found in closed vehicles during summer months in Central Florida.

21. MDT unit shall have swipe card and/or proximity card readers.

22. Using initial driver odometer entry, AVL, and system time, MDT unit shall be able to maintain distance and speed traveled.

3.03.02 MDT Display

1. MDT will be installed in both LYNX and PCTS owned vehicles as well as contractor vehicles and shall be capable of displaying maps.

2. The MDT will have a liquid crystal display screen.

3. The display will be backlit for night viewing.

4. The display screen will be capable of displaying a full ASCII character set with blinking, bold, and underlined characters.

5. The display screen will be capable of displaying both upper and lower case characters.

6. The display will show messages and trip assignments sent to the operator by the CAD/AVL computer.

7. The display will have a minimum of four (4) lines, each containing a minimum of forty (40) characters.

3.03.03 MDT Keypad

1. The MDT keypad will allow operators to communicate trip status updates and form messages to the dispatch center.

2. Each keypad button will be backlit for night viewing.

3. The MDT keypad will feature soft- and hard-coded function keys.

4. The hard-coded keys will be fixed function keys programmed and labeled by the Proposer and in conjunction with LYNX and PCTS.

5. The soft-coded function keys will be menu driven and will change function depending on the menu context.

6. Soft-coded function keys will be programmed by the contractor and in conjunction with LYNX and PCTS.

7. At a minimum, the MDT keypad will provide the following operator functions:

    a) Adjustment of the display contrast,
    b) Adjustment of the brightness of the display back light,
    c) Cancellation of an incorrect keypad sequence before sending information to the system computer,
    d) d) Advancement of information displayed on the MDT display (bi-directional scrolling),
    e) Renewing the operator's manifest,
    f) Displaying operator messages,
    g) Displaying the manifest screen,
    h) Displaying an expanded manifest screen,
    i) Displaying form screens,
    j) Reporting the vehicle's arrival at a scheduled stop,
    k) Reporting a scheduled rider has boarded the vehicle,
    l) Reporting a scheduled rider has alighted the vehicle,
    m) Reporting the vehicle's departure from a scheduled stop,
    n) Reporting that a rider is not at the pickup point (no show),
    o) Reporting that a rider has canceled a trip at the pickup point (late cancellation),
    p) Reporting that a rider has not come out to the vehicle and the operator wishes to give his/her supervisor the option of calling the rider (call out),
    q) Requesting permission to speak to the supervisor on a voice channel,
    r) Requesting permission to speak to the supervisor on a voice channel,

s) Signaling the supervisor of an emergency,
t) Acknowledgment of receipt of messages from the ITS computer,
u) Transmission of preprogrammed messages,
v) Transmission of forms consisting of alphanumeric information, and
w) Completion of an MDT entry sequence that will send messages to the ITS computer.

3.03.03 Operator Interface

The minimum operator interface functionality that will be required of the successful Proposer's system. Proposers must affirm or deny their MDT's capability to comply with each of the functional requirements contained in following sections:

1. When the MDT is activated, it will automatically conduct a self-test to determine if it is functioning properly.

2. Once the MDT has passed its self test, it will automatically display an operator "Log On" form screen requesting the operator's identification number and the vehicle's odometer reading.

3. A successful "Log On" will automatically indicate to the system that the operator is available to receive and transmit messages.

4. The operator will be alerted to incoming messages by a buzzer located in the MDT.

5. Using the keypad, the operator will acknowledge all incoming messages.

6. Once the operator has acknowledged an incoming message it will be shown on the MDT display.

7. Minimum of downloading and storing up to one hundred (100) rider/trip stops in the MDT.

8. The operator shall be able to scroll through the manifest. It is expected that the number of trips scheduled for an operator at any point in time is a variable which LYNX or PCTS can adjust.

9. All operator screens will display the current time.

10. A twenty-four-hour clock will depict the time.

11. The time will be set by the Trapeze PASS server.

12. MDT shall have the ability to lock out the vehicle ignition system if the MDT is not logged on.

13. MDT shall have the ability to prohibit a driver from marking a trip as performed or no-showed if the vehicle is less than 300-yards from the geocoded longitude/latitude coordinates.

14. Install optional Odometer / Speedometer readers if available.

3.03.05 Operator Screens

The MDT shall provide operators with a Manifest Screen, Expanded Manifest Screen and Form Screens.

3.03.05.01 Manifest Screen

1. The Manifest Screen will provide operators with an overview of their manifest.
2. It will display a minimum of four lines of 40 characters each.
3. Additional trip message lines will be available by bi-directional scrolling.
4. It will display a single line entry for each trip/stop.
5. All trips will be shown on the display in chronological order of scheduled stop times.
6. The current trip will be located at the top of the manifest.
7. When the operator completes the current trip, the system will automatically delete it from the manifest.
8. The manifest will allow for and indicate multiple rider pick-ups and drop offs from and to the same address.
9. At any time after the operator has logged onto the system and received a manifest, the MDT will update the manifest by inserting additional trips sent to it by the dispatch system. The MDT will insert trips in the order of their scheduled pick up or drop off times.
10. At any time after the operator has logged onto the system and received a manifest, the MDT will update the manifest by deleting trips that have been canceled or reassigned.
11. The operator will be able to access Form Screens from the Manifest Screen by using the MDT keypad.
12. The operator will be able to access the Expanded Manifest Screen from the Manifest Screen by using the MDT keypad.

3.03.05.02 Expanded Manifest Screen

1. The Expanded Manifest Screen will provide the operator with detailed information about each stop.

2. The Expanded Manifest Screen will display a minimum of four lines of 40 characters each.

3. Additional lines of trip information will be available by scrolling.

4. The operator shall be able to access the Manifest Screen from the Expanded Manifest Screen by using the MDT keypad.

5. The operator shall be able to access the Form Screens from the Expanded Manifest Screen by using the MDT keypad.

3.03.05.03 Form Screens

1. Form Screens will display a list of information requests to be filled in by the operator and transmitted to the system computer.

2. The operator will be able to access the Form Screens from either the Manifest Screen or Expanded Manifest Screen by using the MDT keypad.

3. After the operator has used the MDT to record a rider's boarding, the option of automatically displaying Form Screens to be filled in by the operator and transmitted to the system computer is required, before the operator can return to any other screen.

4. If a Form Screen requires the vehicle's odometer reading, the MDT will automatically read and fill in the odometer reading.

5. The MDT will automatically place into the appropriate Form Screen fields any rider or trip information sent to it in the trip message. The operator will be able to change information entered by the MDT.

Appendix 2: Customer Survey Instruments

LYNX/Polk County Transit Services

Poinciana / Rural Transit Evaluation

LYNX and PCTS are working jointly to coordinate trips in the Poinciana area to improve efficiencies for both systems. New ideas and technology have been implemented in an effort to improve service and increase ridership. This survey is concerned with several modes of transit including fixed-route bus, paratransit, and PickUpLine. Please take the time to complete this questionnaire to assist us in evaluating our coordinated services by **circling** each appropriate response.

What is your gender?

Male Female

What is your age?

0-18

18-25

25-35

35-45

45-65

65+

How many cars are in your household?

0 1 2 3 4+

What race/ethnicity are you?

White / Caucasian

Black / African American

American Indian / Alaskan Native

Asian

Native Hawaiian / Pacific Islander

Hispanic

Other: _____

Which modes do you use?

Fixed-Route (LYNX bus)

Paratransit (Access LYNX or PCTS)

PickUpLine

How many days per week do you use transit?

1 2 3 4 5 6 7

Compared to a year ago, are you riding transit?

Less

About the same

More

If More or Less, why?

_____

_____

_____

What is the purpose of your transit trip today?

Work

School

Doctor

Shopping

Church

Other _____

Do you ever use more than one mode of transit for a single trip?

Yes No

If transit was not available, how would you complete this trip?

Not go

My Car

Ride with Someone

Walk

Bike

Taxi

Other _____

PLEASE CONTINUE ON REVERSE SIDE

How many people are traveling with you?

0 1 2 3 4+

On average, how long is your trip on the bus?

1-15 Minutes

16-30 Minutes

31-45 Minutes

46-59 Minutes

1-1 ½ Hours

1 ½ -2 Hours

2+ Hours

How did you hear about this service?

TV

Radio

Newspaper

Internet

Friend

Saw vehicle

Other _____

Overall, how satisfied are you the following regarding your trip? Please circle the most appropriate response on a 1 through 5 scale, with ***1*** being the ***least satisfied***, and ***5*** being the *most satisfied*.

Transfer between vehicles?

1 2 3 4 5

Ease of Reservation?

1 2 3 4 5

Depart and Arrive On Time?

1 2 3 4 5

Safety/Security?

1 2 3 4 5

Driver Competence?

1 2 3 4 5

Fare/Price?

1 2 3 4 5

Vehicle Comfort?

1 2 3 4 5

Stop/Transfer Point Comfort?

1 2 3 4 5

Thank you for taking the time to complete this survey. Please return it to the survey administrator as you leave the vehicle, or mail it to:

LYNX/PCTS Evaluation
Runways Transportation Company
P.O. Box 18953
Jacksonville, FL 32229

LYNX/Polk County Transit Services

Poinciana / Rural Transit Evaluation

Lynx y PCTS estan trabajando juntamente para coordinar el transporte publico y mejorar el servicio de ambos sistemas. Nuevas ideas y tecnologia seran implementadas para mejorar el servicio y aumentar el numero de personas que lo usen. Esta encuesta esta considerando varias modas de transportacion incluyendo rutas fijas, autobuses para cargar sillas de ruedas y "PickUpLine". Por favor conteste estas preguntas para facilitar nuestras decisions en evaluar y coordinar estos servicios. Marque las respuestas apropiadas para cada pregunta.

Genro?

Hombre Mujer

Cual es su edad?

0-18
18-25
25-35
35-45
45-65
65+

Cuantos autos tienen en su casa?

1 2 3 4+

Cual es su grupo racial?

Raza Blanca
Raza Negra/Africano-Americano
Raza India Americana/Nativa de Alaska
Raza Asiatica
Nativo de Hawaii/Islas del Pacifico
Hispano
Otra_____

Que tipo de transporte local usted usa?

Rutas fijas (LYNX)
Autobuses para cargar sillas de ruedas *(Access Lynx o PCTS)*
PickUpLine

Cuantas dias a la semana usa el transporte publico?

1 2 3 4 5 6 7

En comparison con el ano pasado, esta usted usando el transporte publico:

Menos
Mas o menos le mismo
Mas

Si es mas o menos, por que?

_____

_____

_____

Por que razon usa usted el transporte publico hoy?

Trabajo
Escuela
Consulta medica
Ir de compras
La iglesia
Otra_____

Alguna vez, ha usado usted mas de un tipo de transporte en uno de sus viajes (Ida/Vuelta)?

Si No

VOLVER AL REVES POR FAVOR

Si no hubiera transporte publico, como usted completaria el viaje?

- No iria
- Mi auto
- Iria en el auto con otra persona
- Caminaria
- Iria en bicicleta
- Tomaria un taxi
- Otra forma de transporte_____

Cuantas personas van con usted?

0 1 2 3 4+

Un promedio, cuantos minutos toma su viaje en el autobus?

- 1-15 Minutos
- 16-30 Minutos
- 31-45 Minutos
- 46-59 Minutos
- 1-1/2 Horas
- 1 ½-2 Horas
- 2+ Horas

Como se entero usted de nuestro servicio?

- TV
- Radio
- Periodico
- Amigos
- Vi vehiculo de transporte
- Otra_____

Que satifecho esta usted con su viaje? Por favor marque la repuesta mas apropiada en la escala del 1 al 5. ***1 menor satisfacion*** con el servicio y ***5 las mas satisfacion*** con el servicio:

Transferencia entre vehiculas

1 2 3 4 5

Facil de reservar

1 2 3 4 5

Salida y llegada a tiempo

1 2 3 4 5

Seguridad

1 2 3 4 5

Precio del billete

1 2 3 4 5

Vehiculos comodos y limpios

1 2 3 4 5

Paradas/Transferencias

1 2 3 4 5

Muchos gracias.

LYNX/PCTS Evaluation
Runways Transportation Company
P.O. Box 18953
Jacksonville, FL 32229

Appendix 3: Staff Interview Guide

LYNX/Polk County Transit Services
Poinciana / Rural Transit Evaluation
Staff Interview Guide

LYNX and PCTS have been awarded an FTA Operational Test for the Implementation of Advanced Technologies in Rural Transit Service.

The purpose of the joint LYNX and Polk County Transit Services Rural ITS Operational Test is to improve mobility service in the rural Poinciana area and add a connection to fixed-route service for residents outside of the 1/4-mile access boundary. Additionally, this is the first experience with Mobile Data Terminals (MDT's) by each agency in an effort to increase the efficiency and effectiveness of the existing transit services.

This project's goal is to demonstrate and evaluate how innovative ITS/IT systems can be utilized to enhance service options in the rural community of Poinciana, Florida and how these technologies assist in the coordination of services between multiple operators.

Are you familiar with this project? YES ____ NO ____

If yes, how much do you feel you know?

Reservations/Dispatch

1. How long have you been in your current position? YEARS ____ MONTHS ____
2. What previous positions have you held within the company?
   - How long were you in each position?
3. Has your job changed as a result of this project? YES ____ NO ____
   - If yes, how?
4. (Reservations only) Has the process for making a reservation changed from the way it was a year ago? YES ____ NO ____
   - If yes, how?
5. (Reservations only) On average, how long does it take for you to complete a trip reservation for a customer? ____ MINUTES ____ SECONDS
6. (Reservations only) Do customers seem satisfied with the trip booking process? YES ____ NO ____
   - What indicators lead you to believe this?
7. Do customers seem satisfied with the outcome of the booking process? YES ____ NO ____
   - What indicators lead you to believe this?
8. (Reservations or dispatch for will-call) Do you ever refer a customer to use Link 26 or PUL for part or the entire requested trip? YES ____ NO ____
   - If yes, how often? ____%
   - What circumstances guide you in doing such?
9. Has the process of changing/updating a manifest changed from a year ago? YES ____ NO ____
   - If yes, how was it handled a year ago?

- How is it handled today?

10. Do you feel there has been a change in the service you deliver to your customers? YES ____ NO ____
    - Is yes, what has been the biggest change?
    -

Billing

1. How long have you been in your current position? YEARS ____ MONTHS ____
2. What previous positions have you held within the company?
    - How long were you in each position?
3. Has your job changed as a result of this project? YES ____ NO ____
    - If yes, how?
4. Has the billing process changed over the past year? YES ____ NO ____
    - If yes, how?
5. Do you believe billing process is efficient? YES ____ NO ____
    - What makes you feel this way?
6. Before this project started were there any coordinated trips? YES ____ NO ____
    - If yes, how were they billed?
7. Are there coordinated trips now? YES ____ NO ____
    - If yes, how are they billed today?
    - When and who determines if there are coordinated trips?

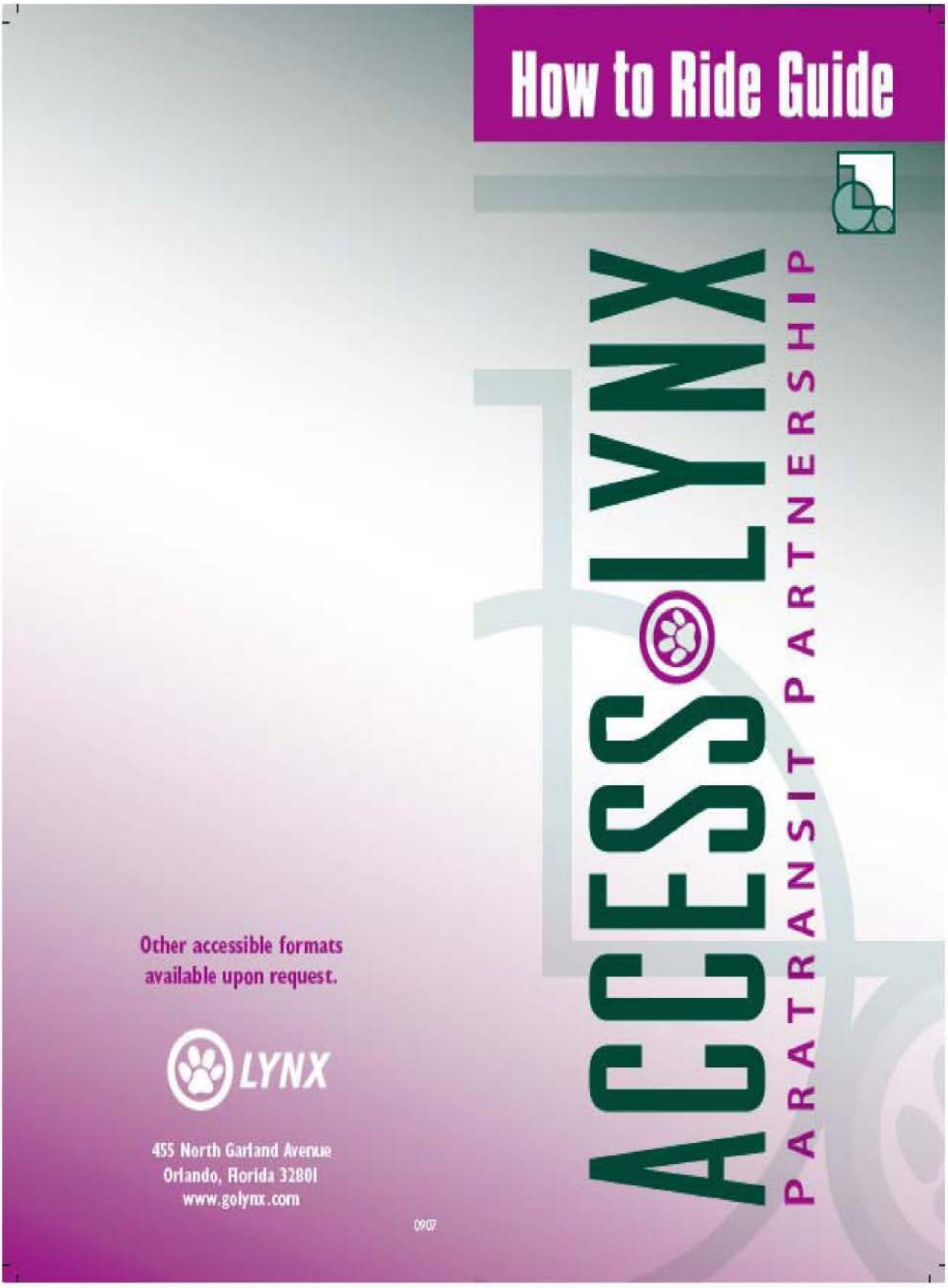
Drivers

1. How long have you been in your current position? YEARS ____ MONTHS ____
2. What previous positions have you held within the company?
    - How long were you in each position?
3. Has your job changed as a result of this project? YES ____ NO ____
    - If yes, how?
4. Do you believe you have a more or less efficient schedule? MORE ____ LESS ____
    - What indicators lead you to believe this?
5. Do you believe you carry more or fewer customers in a day? MORE ____ FEWER ____
    - What indicators lead you to believe this?
6. Do you believe customers are on board your vehicle for more or less time per trip? MORE ____ LESS ____
    - What indicators lead you to believe this?
7. Do you have more or fewer customers who are transferring to/from:
    - Link 26 MORE ____ FEWER ____
    - Pick Up Line MORE ____ FEWER ____
    - Paratransit? MORE ____ FEWER ____
8. What percentage of time do you have at least one person on board your vehicle? ____%
    - At least two? ____%
    - At least three? ____%
    - At least four or more? ____%
    - No customers? ____%
        - These should add up to 100%
9. Do passengers express the need for more transportation? YES ____ NO ____

- If yes, what times of day and to what locations do they need to travel?

10. Have you received training on the mobile data terminals? YES ____ NO ____
    - If yes, do you feel you need additional training? YES ____ NO ____
        - What additional information do you feel should be covered or reviewed?
    - If no, why not?
11. Do you use the mobile data terminals? YES ____ NO ____
    - If yes, how?
    - What information do you get from them?
12. Has the process for receiving manifest changes/updates changed 0over the past year? YES ____ NO ____
    - If yes, what has changed?

Appendix 4: LYNX & PCTS Riders Guides, Service Policies, and Applications for Paratransit Services


How to Ride Guide
ACCESS LYNX
PARATRANSIT PARTNERSHIP
Other accessible formats
available upon request.
LYNX
455 North Garland Avenue
Orlando, Florida 32801
www.golynx.com
0907


ACCESS LYNX
PARATRANSIT PARTNERSHIP

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This brochure is designed to "Help You Ride" ACCESS LYNX, our paratransit partnership with MV Transportation, Inc. In it you will find a wealth of information regarding policies and procedures that are pertinent to making your trip as convenient and hassle-free as possible.

For information on eligibility, contact us at 407-423-TRIP (8747), Option 6. If you have any concerns regarding the service, please contact ACCESS LYNX Customer Relations at 407-423-TRIP (8747), Option 5.

An Overview

ACCESS LYNX is a shared ride paratransit, door-to-door transportation service provided by MV Transportation under the supervision of the Central Florida Regional Transportation Authority, d/b/a LYNX. The program provides complementary service for eligible individuals who are not able to use the regular bus service (also called "fixed route") because of a disability or other limitations. However, many customers find the fixed route service is often the best, most economical way for disabled or disadvantaged customers to get to where they need to go.

Our fixed route system serves thousands of customers with disabilities and special needs each day. Bus passes for seniors and customers with disabilities are available at a discounted rate. Currently, the ACCESS LYNX paratransit program provides more than 2,000 scheduled passenger trips per day, using a variety of vehicles specially equipped for individuals with various disabilities. Because the demand for these special transit services is high, it is very important that each customer carefully follow the guidelines in this booklet.

Your cooperation and flexibility will allow ACCESS LYNX to serve you better and help make it possible for us to serve others.

Service Provider

MV Transportation staff handles the Customer Call Center, which takes all reservation requests, and customer service calls (where is my trip, cancellations, etc.). MV Transportation staff also handles scheduling, dispatch of all trips and provides the rides within our tri-county area of Orange, Osceola and Seminole counties.

Eligibility

Individuals who are interested in using ACCESS LYNX Paratransit Service must apply through a written application process. ACCESS LYNX is responsible for determining eligibility for paratransit service. ACCESS LYNX provides transportation under various programs. Program determination is based on verification of the application and may also include a Functional Assessment. One-on-one Travel Training is also provided to those who can access the fixed route system (public bus service) at no cost to the customer. All programs have a two-year (2) certification period.

Paratransit eligibility is not automatic, nor is eligibility recertification.

Paratransit service is provided to:

"Any individual with a disability who is unable, as the result of a physical or mental impairment (including a vision impairment), and without the assistance of another individual (except the operator of a wheelchair lift or other boarding assistance device), to board, ride, or disembark from any vehicle on the system which is readily accessible to and usable by individuals with disabilities."

Customer Service Hours

Reservations can be made between 8:00 a.m. and 5:00 p.m., seven (7) days a week. To check on your trip or to cancel a trip, Customer Service is available 24 hours a day, seven days a week. If possible, the best time to call and make trip requests or travel is between 10:00 a.m. and 2:00 p.m..

To reach the ACCESS LYNX Call Center:

Phone: **407-423-TRIP (8747)**
1-800-556-TRIP (8747)

TDD: **407-851-8594**
Telephone Device For The Deaf

FAX: **407-851-8203**

Listen carefully to all options.

You may reach Eligibility Monday to Friday from 8 a.m. to 5 p.m. at **407-423-TRIP (8747) Option 6** or by fax at **407-849-6759.**

For Fixed Route Information call **407-841-LYNX (5969)**

Web Site: **www.golynx.com**

Operational Hours

ACCESS LYNX services are available any time that the public bus system is in operation.

Making a Reservation

If you are in an emergency situation, call 911. ACCESS LYNX can not provide same-day service or assume liability if you are in a distress situation.

Customers may schedule up to three (3) round-trips with one (1) phone call.

When you call, please have the following information ready:

- Customer's name
- Home address
- Whether the customer is using a wheelchair or other personal mobility device
- Customer's telephone number
- Customer's birth date
- Whether there are any other special considerations for the customer to travel
- Date transportation is needed
- The time of your appointment or time you need to be at your destination
- The time you will need to be picked up to return back to your origin
- Destination address, zip code and telephone number
- General purpose of the appointment
- Detailed drop-off and pick-up location information
- If any additional people or service animals traveling with the customer.

Reservations staff will give you an estimated pick-up time. This is the time you can expect the driver to arrive. You will need to be ready to travel up to fifteen (15) minutes prior to your pick-up time, and the driver may arrive up to thirty (30) minutes after the pick-up time and still get you to your scheduled destination on time.

The pick-up time is based on the necessary ride time on the vehicle, which will be a direct result of:

- The distance that you are

traveling - longer distances will require more ride time.

- The time of day you are traveling - peak traffic times and the more people requesting to travel at the same time you request may result in a longer ride time.
- Inclement weather - Rain will decrease the speed of our vehicles as well as other vehicles traveling over public roadways and will result in a longer ride time.
- Picking up and dropping off other passengers - our system is a shared ride system. Other passengers will be picked up and dropped off along the way to your destination and may increase your ride time.

You should plan to be on the vehicle for a minimum of one (1) hour for any trip and a maximum of twice that of a fixed route trip.

When you schedule your "originating" trip, you must also schedule your "return" trip (if you need one). Be sure to schedule it late enough in case your appointment runs late. If you don't schedule a return trip in advance, you may not get a return trip

Online Trip Requests

ACCESS LYNX trips can now be scheduled at **www.golynx.com.** This will allow ADA and Medicaid customers to request trips at any time – even when our Reservations Department is closed! No more waiting on hold for a reservationist. To request a trip, go online to www.golynx.com which brings you to the homepage of the LYNX website. Click on ridership services (blue shaded box) and then click on ACCESS LYNX Trip Request from the drop down menu (sixth selection down).

That will bring up the trip request form, which must be filled out and submitted. You'll need to enter all of the pertinent trip information which is the same information that you're currently giving to your reservationist when you call.

There is one additional piece of information you'll need: A five- or six-digit Customer ID number. You may call Customer Service to get your Customer ID.

MV Transportation will review trip requests each day and transmit a confirmation notice back to you via

e-mail. If you do not receive a trip confirmation, please contact Customer Service at **407-423-TRIP (8747)** before 5 p.m. of the day prior to your trip to verify that the information was received and a reservation was created.

Online trip requests must be submitted by 4 p.m. the day prior to the trip.

Fares

The driver will collect the fare when you board the vehicle. The reservations staff will tell you the amount of your fare. You must have exact change; drivers do not carry money and will not be able to stop to make change. Drivers do not accept tips. Please notify ACCESS LYNX if any driver asks for or accepts a tip.

Prepaid fare tickets may be purchased online at **www.golynx.com/lynxstore** or by mail or telephone **(407-841-2279 ext. 6024).** Pre-paid fare tickets are sold at a 10 percent discount in increments of 50¢ and $1, and are available in books of $20 (sold or $18) and $50 (sold for $45).

Standing Requests

A "standing request" is for customers who travel to the same place at the same time on the same day(s) of the week. If you have a regular appointment that you need to go to, you may want to ask reservations staff to submit a "standing request" for service. Depending on the funding source of your trip, this request may be granted. Please remember, however, that you cannot change your standing request more than once per month, or this privilege will be revoked. If you have a standing request and will not be using it for one or multiple days, please contact us to cancel or suspend services to avoid having "No Shows" recorded in your file.

Holiday Service

Standing requests on ACCESS LYNX are cancelled on the following holidays: New Year's Day, Easter, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, and Christmas Day.

Cancellations

ACCESS LYNX is a "shared ride" system that needs everyone's cooperation to make it run smoothly. If you must cancel your reservation, it is imperative that you inform the ACCESS LYNX Customer Service Call Center at

407-423-TRIP (8747), Option 4.
You will need to notify us more than three (3) hours before your scheduled pick-up time, or risk being a "No Show."

Lateness and No Shows

Because you will be sharing your ride, it is important that you are ready to go when your vehicle arrives. ACCESS LYNX will wait only five (5) minutes, because there are other customers either on board or waiting for their scheduled ride. If a vehicle arrives to pick you up and you are not there or you do not get in the vehicle by the scheduled time, you will be considered a no show. If you decide not to ride with us, it is very important that you cancel your trip at least three (3) hours before your scheduled pick-up time. If a vehicle arrives to pick you up and you are not there, or you do not board the vehicle as scheduled, you will be considered a no show and your services may be suspended. If this is not your first occurrence, you may receive a letter of warning or notice of suspension. You may appeal this process if you have information that is contrary to that noted above.

TIP: When you are making a reservation, you must tell the reservationist exactly where you will be waiting. However, at larger facilities, we may tell you to wait in a common pick-up area that has been pre-arranged with the facility.

The driver will be given the same information that you supply to the reservations staff and will look for you there. Do not leave the area as you might miss your ride. If the driver is not able to find you within five (5) minutes of arriving, or if you did not cancel at least three (3) hours before your scheduled pick-up time, you will be considered a no show. The driver will leave a door hanger at the location where you were scheduled to be picked up.

No Show Policy

The following No Show Policy, as approved by the Local Coordinating Board of Orange, Osceola and Seminole Counties, is currently in place:

Customers may not have more than four no shows within any 90-day period. Customers who exceed this number can only use the service for medically

necessary trips for the next 30 days. There will be a 60-day suspension for the second occurrence of more than four no shows within any 90-day period; and 90 days for each occurrence of more than four no shows within any 90-day period thereafter.

Trips cancelled with less than three hours notice prior to the scheduled pick-up time will be considered a no show.

To avoid receiving a no show, we ask that you contact us at least (3) hours prior to your scheduled pick-up time to say that you will not be using your reservation. Doing so, allows others to use the service and allows ACCESS LYNX to provide quality service.

You may contact us to cancel your reservation or subscription (standing order) 24-hours a day, 7-days a week at **407-423-TRIP (8747).**

Reservations, Customer Service and Dispatch staff have all been trained in how to properly code no shows.

Changing Return Times

Because so many people rely on this service, changes in the scheduled return

time should be strictly limited. If you are ready to return more than two (2) hour earlier than originally scheduled, you may call and ask for an early pick-up. ACCESS LYNX will do all we can to assist in these instances, but we are unable to guarantee that we will be able to honor the request.

Will Call

ACCESS LYNX drivers are scheduled to pick up multiple customers so they can only wait five minutes for customers to be ready to travel. If the driver waits longer than five minutes or must look for customers at the pick-up point, they risk delaying other customers scheduled for pick up.

If you are at your residence and cannot travel when the driver arrives, you will be considered a No Show.

If you are not able to travel for your return trip at the time the driver arrives, you will be considered a "No Show" and must contact our Customer Service Department at **407-423-TRIP (8747), Option 4.** We will dispatch the first available vehicle to pick you up.

We will try to send someone as quickly

as possible, however, it may be up to 90 minutes before a driver is available.

Boarding Early

If your vehicle arrives before your scheduled pick-up window (e.g. ACCESS LYNX vehicle arrives at 9:40 for a pick-up window that runs from 9:45-10:15) and you are ready, you may board immediately.

If you are not ready and the vehicle arrives early, the driver must wait five (5) minutes into the pick-up window before leaving. Using the example above, that means he will stay until 9:50 before leaving.

Late Pick-Ups

It can be frustrating if a vehicle is late picking you up for a scheduled appointment, or to return you home. Please wait at least thirty (30) minutes past your scheduled pick-up time before calling ACCESS LYNX Customer Service. Your driver may arrive up to 30 minutes after the scheduled pick-up time and still be considered on time as long as you get to your destination on time. Please remember the pick-up time

is based on factors such as the time you need to be at your destination, traffic delays, inclement weather, and multi-loading of other customers.

Customer's Responsibilities & Safety Tips

- Wait in a safe, well-lit location.
- Choose a pick-up and drop-off location that allows the driver to not loose sight of his vehicle when assisting you to or from the door.
- Let the vehicle come to a complete stop before approaching.
- Allow the driver to assist you in boarding the vehicle; ask for special assistance if you need it.
- Always wear a seat belt.
- All personal belongings are your responsibility.
- You must load and unload your own belongings (three bag limit).
- Bring a car seat for any children under the age of five (5) years

old and make sure that it is used properly.

- Do not eat, drink or smoke in the vehicle, though we do encourage customers who will be away from home for an extended period of time to bring a snack, drink and medications with them.
- Do not use audio or video equipment that may distract the driver's attention.
- No disruptive behavior, you may risk suspension.
- No unscheduled stops.
- Proper dress is required, including shoes and shirts.
- No special requests for specific drivers or vehicles can be honored.

Wheelchair Service

Our service is "door-to-door." When you make your reservation, be sure to mention if you have difficulties walking, are using a mobility device or are using a wheelchair. Wheelchairs must be provided by the passenger, and you must be on the ground floor at the time you are to be picked up.

A wheelchair is a mobility aid designed for and used by individuals with mobility impairments, whether operated manually or powered. Our vehicles are equipped to transport "common wheelchairs" which do not exceed 30 inches in width and 48 inches in length measured two inches above the ground, and does not weigh more than 600 pounds when occupied.

Ambulatory Customers

Ambulatory customers may ride the wheelchair lift if they request it.

Service Animals

Any guide dog, signal dog, or other animal individually trained to work or perform tasks for an individual with a disability may travel with the customer including, but not limited to, guiding individuals with impaired vision, alerting individuals with impaired hearing to intruder or sounds, providing minimal protection or rescue work, pulling a wheelchair, or fetching dropped items.

Oxygen Requirement

Travel with oxygen equipment is permitted, but the equipment must be small enough so that the driver does not have to assist with the loading and unloading of it. The safety and use of this equipment is the responsibility of the passenger.

Drivers

ACCESS LYNX drivers are trained by MV Transportation according to LYNX specifications and guidelines. Drivers must have a safe driving record, pass a criminal background check, be able to pass a Department of Transportation physical and test negative for drugs and alcohol. Also, they are trained in defensive driving, and to safely assist and be sensitive to passengers' special needs. Drivers are selected based on their ability to provide the specialized service needed for the ACCESS LYNX program.

Drivers are not required to carry the passengers' belongings, assist wheelchairs down more than one step, push wheelchairs through grass or sand or do any lifting of the passenger into or out of their mobility device.

Drivers are expected to:

- Be courteous
- Drive safely
- Wear a seat belt
- Securely tie down wheelchairs
- Have an ACCESS LYNX photo I.D. attached to their uniform that can be easily seen by customers
- Be properly uniformed
- Make a good faith effort to find a customer (horn honking to notify a customer of arrival is not acceptable)

Traffic delays, tight schedules, weather conditions, passengers running late and other factors can cause stressful situations that could affect the quality of service for ACCESS LYNX customers. If a driver or passenger acts in an unreasonable manner (or contrary to the policies and procedures) the problem should be reported by calling **407-423-TRIP (8747), Option 5.**

Reporting Concerns/Suggestions

If you have a concern about any area of ACCESS LYNX services, please contact Customer Relations at **407-423-TRIP (8747), Option 5.** Most issues can be handled within a matter of days, while others may require extensive investigation and could take several weeks to resolve.

ACCESS LYNX also provides a public forum to address the concerns of our customers. Transit Advisory Committee (TAC) meetings are held every other month to address the needs of all LYNX's customers with disabilities. In addition, the Transportation Disadvantaged Local Coordinating Board (LCB) meets quarterly to assist in the development of policies and guidelines for the system. Public comments are also received to address the concerns of ACCESS LYNX customers. For meeting dates, times and locations, please contact MetroPlan Orlando at **407-481-5672.**

If, after notifying ACCESS LYNX, filing your concerns and receiving your response, your comments have not been adequately addressed, you may contact the Local Coordinating Board at MetroPlan Orlando, **407-481-5672.** As a final step you may contact the State's Transportation Disadvantaged Helpline at **800-983-2435.**

Lost Items

If you have lost a personal item and believe it may be in an ACCESS LYNX vehicle, please contact Customer Service at **407-423-TRIP (8747), Option 4** to report it. If the item is found, you may be asked to travel to a central pick-up point to retrieve it. If the item is not located on the vehicle, ACCESS LYNX, the service provider nor the driver will be held responsible for replacement.

Help someone get a ride...

Remember to check the box to donate $1, or more, to the Transportation Disadvantaged Trust Fund the next time you (or a friend or family member) purchase your auto/truck/boat tags. Donated funds will be used to provide transportation services in the local service area that they are collected.

Rights of the Rider

- Courteous, safe and timely transportation..
- Accurate information.
- Your protected health information will be kept private and confidential. A notice of privacy practices (effective April 14, 2003) may be requested by calling (863) 534-5500.
- A right to file a complaint. You may do so by calling Customer Service at (863) 534-5500 or (800) 983-2435. Your complaint will be investigated and resolved.

Let us assist you.

Responsibilities of the Rider

- Be on time.
- Do not disturb the driver from paying attention to the road.
- Do not board the vehicle with food or drink.
- Do not litter the vehicle or bus stops.
- Do not use profanity or disturb the comfort of other passengers.
- Schedule trips in advance (72 hours preferred).
- Bring correct change and pay your co-pay or fare at the time of boarding.
- Schedule reassessment appointments annually.
- Provide a signature for your trip when requested.

Winter Haven Area Transit

"We're Going Your Way!"

A joint project of the Board of County Commissioners and the City of Winter Haven, Winter Haven Area Transit (W.H.A.T.) is a highly successful fixed route bus service. Some of the routes are operated by the Citrus Connection under contract to the Board of County Commissioners. Other routes are operated by county drivers. All buses are handicapped accessible and have bike racks.

For further information, call (863) 534-5500 or (863) 688-7433, or visit our website at www.polk-county.net

FARES

Adults	$1.25
Seniors (60+)	$ 0.60
Adults with Disabilities	$ 0.60
Students (grades 1-12)	$ 1.00
Children under age 6 (with adult)	FREE
Transfers	FREE
Personal Care Attendants	FREE

The Mission of Polk County Transit Services is to coordinate and ensure safe, timely and cost-effective door-to-door and fixed route transit services, while extending dignity and respect to those we serve.

Polk County Transit Services

User's Guide

Polk County Board of County Commissioners

Polk County Transit Services is a service provided by the Polk County Board of County Commissioners and includes:

- Winter Haven Area Transit
- Door-to-Door Paratransit
- Non-emergency Stretcher Service

For Bus Routes and Schedule Information:
(863) 534-5500 or (863) 688-RIDE
For Door-to-Door Reservations and Customer Service call:
(863) 534-5500 or visit our website at:
www.transitservicecenter@polk-county.net
Upon request, all public information materials will be made available in accessible formats for persons with disabilities.

The Transit System with your needs in mind....

Frequently asked Questions.....

Door-to-Door Service

TRANSPORTATION DISADVANTAGED (TD)

Who is eligible for TD service?

Residents of Polk County who are unable to provide their own transportation due to age, disabling conditions, or poverty may be eligible for TD service to access medical, medical related and other life sustaining services.

How much does a trip cost?

Individuals who are eligible for TD service pay a share of the cost based on a sliding fee scale. The share may be as little as $1.50 as determined by income and assets, and must be paid to the driver before departure. For additional information about TD service, please contact Customer Service at (863) 534-5500 (534-3826 for hearing impaired-TDD)

How do I schedule a trip?

Call Customer Services at (863) 534-5500 to request a trip and be prepared to answer questions related to intake and scheduling. Trips are scheduled from one (1) to seven (7) calendar days in advance, and are provided on a first-come, first-served basis and are limited to space availability. You can also submit your online trip request at

ADA Paratransit

Who is eligible for ADA transportation?

Any resident of Polk County may request an Eligibility Application by calling our customer service representatives at (863) 534-5500 or by visiting our web site at www.polk-county.net. The application is a form that must be completed by a healthcare professional which certifies that you are unable to ride on a fixed route system if one is available to you.

What about disabled visitors from out of state, out of county or temporary residents?

Disabled visitors and temporary residents will be permitted to ride under ADA for a period of 21 calendar days. After the 21 day period expires, a completed ADA application must be submitted for eligibility determination. This will also apply to visitors or temporary residents who have an approved ADA status in another county or state.

How much does an ADA trip cost?

If you are determined to be eligible for transportation under ADA, a one-way trip costs $1.50. The fare must be in exact change and must be paid upon boarding the vehicle.

What if an assistant or companion is needed during travel?

Approved Personal Care Attendants (PCA) ride for free.

The request for a PCA must be indicated in the appropriate area of the application and is subject to approval. One companion may accompany an ADA paratransit eligible rider if requested at the time of scheduling and where there is an availability of space to accommodate the request. The companion's fare is the same fare as the ADA rider.

FLORIDA MEDICAID Medicaid Transportation

Who is eligible for Medicaid Transportation?

Certain individuals who have been approved for Medicaid by the State of Florida Agency for Health Care Administration and are in need of transportation for a medically necessary, Medicaid covered service may qualify for Medicaid covered transportation service. Eligibility is determined on a trip by trip basis and is based on the information being presented at the time of the request for transportation. *Door-to-door service is not available when fixed route is available and accessible.

How much does a Medicaid trip cost?

There is a $1.00 co-payment required for most Medicaid trips and must be paid to the driver when boarding the vehicle.

Transportation for the Elderly

Who is eligible?

Persons over the age of 60 who participate in various programs, such as Fellowship Dining or Adult Day Care may be eligible for transportation. Your case manager from Polk County elderly Services will arrange transportation if it is part of your care plan, or you may request transportation through the Elder Helpline by calling (863) 534-5320. You may also contact Transit Services Customer Service at (863) 534-5500 for assistance

How much does a trip for the elderly cost?

In most cases there is no charge for the trip when the trip falls under one of the Elderly Services programs and is arranged by your case manager.

Other Transportation Services

Agencies may purchase transportation services for their clients through Polk County Transportation Services as the Polk County Community Transportation Coordinator. Agencies should contact Customer Service at (863) 534-5500 for assistance.

Wheelchair accessible vehicles are available for all services (paratransit and fixed route).

Non-emergency stretcher service is available when required and no other mode of transport is suitable.

Service animals are permitted to accompany their owners as required under the guidelines of the Americans with Disabilities Act of 1990.

Fare Options Effective August 17, 2008.

Please have exact fare ready - no change can be returned. Only one-dollar and five-dollar bills are accepted.

Single Ride	$1.75
Discount* Fare	$0.85
Transfer	FREE

Ask the Operator for a transfer when boarding. Transfers are limited to 90 minutes. Transfers are not valid on the same link or for round trip purposes.

Xpress Link 200 Single Ride	$2.00
Xpress Link 200 Discount* Single Ride	$1.00
Xpress Link 204 Single Ride	$3.00
Xpress Link 204 Discount* Single Ride	$1.50
Direct Single Ride	$4.00
Direct Discount* Single Ride	$2.00
Direct Round Trip	$7.00
Direct Round Trip Discount*	$3.50
PickUpLine	$2.50
PickUpLine Discount* Fare	$1.00

All-Day Passes are valid from 4:00 a.m. on the date issued until 3:00 a.m. on the following day. This pass is only available by request from the Operator when boarding. IMPORTANT! TELL THE OPERATOR THAT YOU WANT AN ALL-DAY PASS BEFORE YOU PUT MONEY INTO THE FAREBOX.

All-Day Pass	$4.00
All-Day Discount* Pass	$2.00
Xpress Link 204 All-Day Pass	$5.50
Xpress Link 204 All-Day Discount* Pass	$2.75
LYNX Unlimited All-Day Pass	$7.00
LYNX Unlimited All-Day Discount* Pass	$3.50

7-Day Passes are activated upon first use and valid for 7 days (ends at midnight of the seventh day).

7-Day Pass	$14.00
7-Day Discount* Pass	$7.00
Xpress Link 204 7-Day Pass	$20.00
Xpress Link 204 7-Day Discount* Pass	$10.00
LYNX Unlimited 7-Day Pass	$25.00
LYNX Unlimited Discount* 7-Day Pass	$12.50

30-Day Passes are activated upon first use and valid for 30 days (ends at midnight of the thirtieth day).

30-Day Pass	$44.00
30-Day Discount* Pass	$22.00
Xpress Link 204 30-Day Pass	$60.00
Xpress Link 204 30-Day Discount* Pass	$30.00
LYNX Unlimited 30-Day Pass	$75.00
LYNX Unlimited Discount* 30-Day Pass	$37.50

NOTICE OF TITLE VI RIGHTS:
It is LYNX policy that we do not discriminate based on race, color, religion, gender, age, national origin, disability, or family status. Any inquiries or complaints related to Title VI may be sent in writing to LYNX Title VI Officer, 455 N. Garland Avenue, Orlando, Florida 32801 or by calling (407) 841-2279.

Use your Master Card and Visa to buy our 7-Day & 30-Day full fare bus passes online and at LYNX Central Station

VISA

Services

PUBLIC BUS SERVICE
Traveling throughout Central Florida

LYMMO
Free Downtown Orlando Circulator

ACCESS LYNX
Transportation for the Disabled

ROAD RANGERS
Interstate 4 Roadside Assistance

COMMUTER ASSISTANCE
Ridesharing

Contact Information

LYNX CENTRAL STATION
455 North Garland Avenue
Orlando, FL 32801
Customer Service and the LYNX Central Station ticket window will be closed on New Year's Day, Easter Sunday, Memorial Day, Independence Day, Labor Day, Thanksgiving Day and Christmas Day.

LYNX FIXED ROUTE CUSTOMER SERVICE
407-841-LYNX (5969) Listen carefully to the options.
TDD available for our customers with hearing impairments
407-423-0787

COMMUTER SERVICES
407-843-POOL (7665)

ACCESS LYNX
407-423-TRIP (8747)

LYNX PickUpLine
866-204-2976 Listen carefully to the options.
TDD available for our customers with hearing impairments
407-851-8594

JOBLINK
Employment Opportunities with LYNX
407-841-2279 (Option 8)

www.golynx.com

All links are wheelchair accessible.

511

Other accessible formats available upon request.

*Discount Pass prices are applicable only to those who qualify under the Youth & AdvantAge Discount policy. Youth Fare applies to riders age 7 thru 18. Children age 6 and under ride free (limit 3) when accompanied by a passenger, age 18 or older. If not accompanied by an a passenger age 18 or older, they must pay 85 cents. Please be prepared to show proof of age if requested by the Operator. The Youth Fare is available seven days a week and has no time restrictions. AdvantAge Fare applies to riders age 65 or older. People with medical disabilities also qualify, regardless of their age. To receive the discounted fare, you must present a valid ID (e.g. driver's license, Medicare ID, Florida ID, military ID, or LYNX AdvantAge ID) when buying a pass or paying a fare.

Youth & AdvantAge Passes are non-transferable. Only qualified customers may use a Youth or AdvantAge Pass.

ZZPULA010608

LYNX ROUTE PLANNER

PICKUPLINE

South Poinciana Area

Monday - Saturday service

Connects Hourly with
LINK 26 SERVING:
Osceola Square Mall
Kissimmee
Thacker Avenue
Osceola High School
Good Samaritan Village
Poinciana Community Center

Call up to two hours in advance and tell us where in Poinciana you are and where you want to go.

(866) 204-2976
golynx.com

Effective August 17, 2008

PICKUPLINE

A NEW service brought to you by LYNX and Polk County Transit Services.

South Poinciana Area

Monday–Saturday service

What Is LYNX PickUpLine?

LYNX PickUpLine is a call-first bus service.
Pick up your phone and call two hours in advance to make an appointment for a van to pick you up from anywhere in the designated service area. The van will take you to any destination in PickUpLine's service area. All service requests must be called in two hours before your intended departure.

Where Will It Take Me?

Customers may travel to and from any location within LYNX PickUpLine service area!
That includes the Wal-Mart/Winn-Dixie shopping center where you can connect to Link 26 and the rest of the LYNX fixed-route service.

What Is The Service Area?

LYNX PickUpLine operates in a clearly-defined section of South Poinciana.
The PickUpLine is based at the Wal-Mart/Winn-Dixie shopping center at the intersection of Cypress Parkway and Doverplum Avenue. The service area includes points south of Cypress Parkway, west of Pleasant Hill Road, east of Solivita and Marigold Avenue (including parts of Solivita) and north of the intersection of Marigold Avenue and Poinciana Parkway. Consult the shaded area of the adjoining map to see if your location falls in the coverage area for PickUpLine.

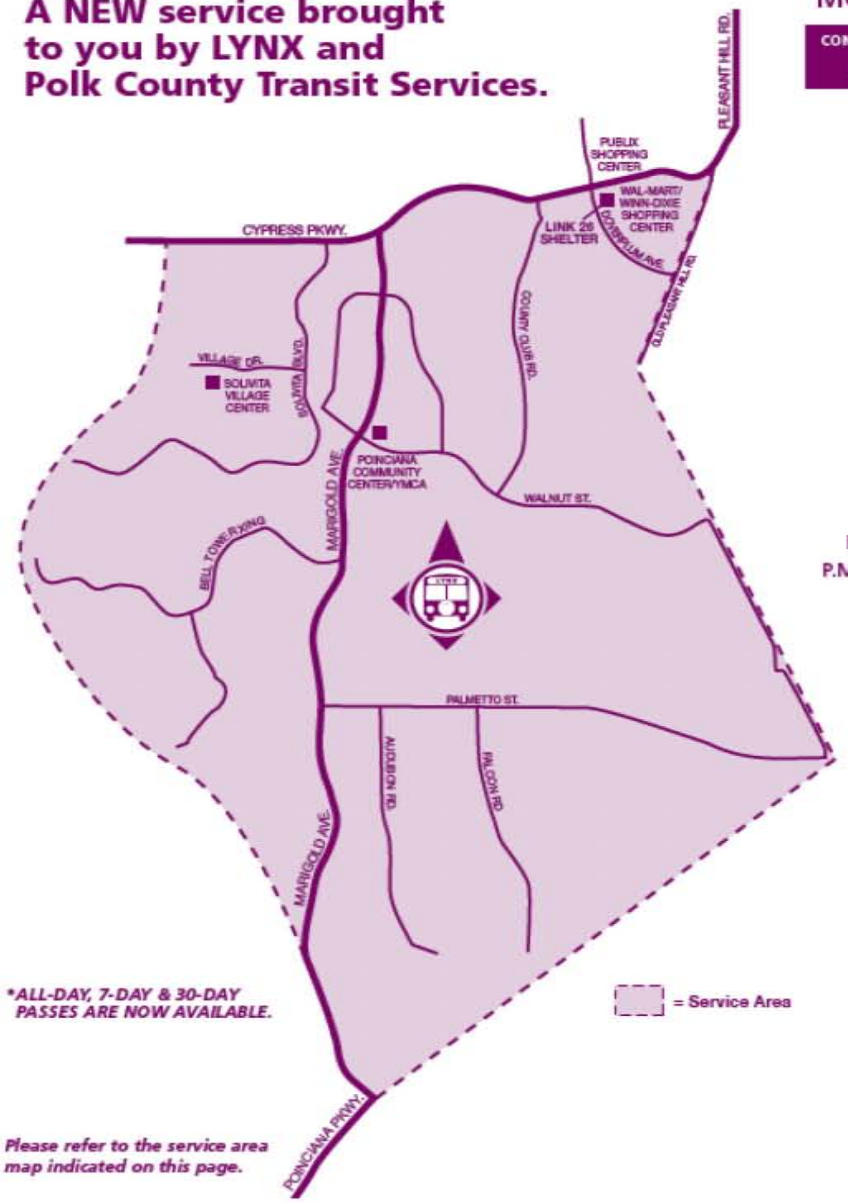
How Much Does It Cost?

The fare for the PickUpLine is $2.50 full fare, $1.00 for Youth and AdvantAge Discount fare.
Transfers will be issued by the PickUpLine driver to fixed route, but the passenger will have to pay for the return trip on fixed route and PickUpLine.

What Time Does It Operate?

LYNX PickUpLine operates Monday through Saturday from 6:30 AM to 6:30 PM.
The service is not available on Sundays or holidays. LYNX PickUpLine will connect with Link 26 once an hour.

A NEW service brought to you by LYNX and Polk County Transit Services.



**ALL-DAY, 7-DAY & 30-DAY PASSES ARE NOW AVAILABLE.*

Please refer to the service area map indicated on this page.

Monday - Saturday

CONNECTIONS AT CYPRESS PARKWAY & DOVERPLUM AVE. (EXISTING LINK 26 SHELTER)

SOUTH POINCIANA FEEDER ARRIVES	LINK 26 TO OSCEOLA SQUARE MALL	SOUTH POINCIANA FEEDER DEPARTS
-	6:18	6:30
7:15	7:21	7:30
8:15	8:21	8:30
9:15	9:21	9:30
10:15	10:24	10:30
11:15	11:24	11:30
12:15	**12:24**	**12:30**
1:15	**1:24**	**1:30**
2:15	**2:24**	**2:30**
3:15	**3:24**	**3:30**
4:20	**4:28**	**4:35**
5:20	**5:28**	**5:35**
6:20	**6:28**	**6:35**
-	**7:28**	-
-	**8:19**	-

No Sunday/Holiday service
P.M. Times are shown in bold

LYNX

ACCESS LYNX

PARATRANSIT PARTNERSHIP

ACCESS LYNX ELIGIBILITY APPLICATION FOR PARATRANSIT SERVICES

Instructions to Applicant or Proxy:

- Please read the enclosed Paratransit eligibility criteria carefully. If you feel that you meet these criteria, please fill out the Applicant sections of this form.
- Please be sure to print and complete all information requested and sign where appropriate.
- Have the Professional Verification sections completed and signed by an approved health care professional. All provided information will be verified and confirmed. You may attach supporting documentation.

LYNX provides paratransit services in specially equipped vans and sedans to persons who cannot use the regular bus system. To be eligible for this service, individuals must have disabilities that prevent the use or access of the regular bus system. Neither age, income, access, or distances to the nearest bus stop by themselves are eligible disabilities. Any false or misleading statements will be cause for revoking paratransit eligibility.

Determination of paratransit eligibility is not based solely on the information given to us in this application. The applicant may be required to participate in our Functional Assessment and Travel Training programs performed by an third party agency to determine the best mode of transportation. The applicant will be notified by mail to schedule an appointment.

Incomplete or illegible applications will be returned causing a delay of the Applicant's eligibility determination. Federal guidelines mandate that determinations for paratransit eligibility be made 7-21 days from receipt of a completed application. Applicants are to be granted presumptive eligibility if determination has not been made within 21 days of the submission of the completed application.

Alternative accessible formats available upon request.

WHEN COMPLETED, PLEASE RETURN THIS FORM TO:

ACCESS LYNX
455 North Garland Avenue
Orlando, FL 32801-1518
Attention: Eligibility
Phone: 407-423-8747 (TRIP), Option 6

New _____
Recert. _____

_____/_____/_____ Date Of Birth

_____-_____-_____ Social Security Number

_ _ _ _ _ _ _ _ _ _ Medicaid Number

Last Name | First Name | Middle Initial | M/F

Home Address | Apt. Number | City | State | Zip Code

If this is a "Gated Community," please provide gate code _____

Home Phone | Work Phone | Cell Phone | Email Address

Complex/Subdivision | Nearest Intersecting Street | Nearest Bus Route

Mailing Address | Apt. Number | City | State | Zip Code

Emergency Contact Name | Relationship | Daytime Phone

Address | Apt. Number | City | State | Zip Code

Applicants Release:

I understand that the purpose of this evaluation form is to determine my eligibility for paratransit service. I understand that the information about my disability contained in this application will be kept confidential and shared only with professionals involved in evaluating my eligibility. I hereby authorize my medical representative to release any and all information regarding my medical condition to LYNX. I understand that providing false or misleading information could result in my eligibility status being revoked. I agree to notify ACCESS LYNX within 10 days, if there is any change in circumstances or I no longer need to use paratransit services.

Applicant's Signature | Date

If applicant is unable to sign this form, he/she may have someone sign on his/her behalf.

Signing for the Applicant | Relationship | Date

REV 3/07

_____
Applicant's Name

Please check which condition(s), prevents you from accessing a regular LYNX, fixed route bus.

_____ None, I would like transportation assistance.
(Please complete section A only)

_____ The bus stop is too far or the bus does not run where I need to go.
(Please complete section B only)

_____ My disability prevents me from using the regular bus system.
(Please complete sections C and D only)

_____ I want transportation to and from medical appointments only.
(Please complete section A)

SECTION A

1. How do you currently travel to your destination?
   LYNX Bus ____ Taxi ____ Drive yourself ____ Other _____
2. Do you have friends or relatives who can take you? _____
3. What is your annual household income? _____
4. How many people (including yourself) are in your household? _____
5. Have you in the past 2 years, qualified for public assistance?
   No ____ Yes ____ TANF case number _____
6. Do you have weekly scheduled medical appointments (Such as dialysis, etc.)?
   If yes, list:_____
7. What are your transportation needs? _____
8. How many medical appointments do you have a month? 1-2 ____ 3-4 ____ 5-6 ____ More than 7 ____
9. Do you or anyone in your household have a car? _____ (Information may be verified by DMV)
10. Would you like to ride the bus with a provided bus pass? Y or N
11. Do you have any of the following? (Please check all that apply.)

___ I am on portable oxygen.	___ I have a mental impairment.
___ I have a sight impairment.	___ I am legally blind.
___ I am totally blind.	___ I have a hearing impairment.
___ I need assistance walking.	___ I use a walker.
___ I use a cane.	___ I have a service animal.
___ I need an escort.	___ I have a personal care attendant.
___ I must travel by wheelchair.	___ I must travel by stretcher.
___ I use crutches.	___ I have medicaid.

_____
Applicant's Name

SECTION B

1. How far is the nearest bus stop? _____
2. Do you currently have a LYNX Advantage ID? Yes _____ No _____
3. Have you used LYNX bus service in the past 6-months? _____
   If no, why not? _____
4. What are your transportation needs? _____
5. How do you currently travel to your destination?
   LYNX Bus ____ Taxi ____ Drive yourself ____ Other _____
6. Do you have weekly scheduled medical appointments (Such as dialysis, etc.)?
   If yes, list: _____
7. How many medical appointments do you have a month? 1-2 ____ 3-4 ____ 5-6 ____ More than 7 ____
8. Do you or anyone in your household have a car? _____
   (Information may be verified by DMV)
9. Would you like to ride the bus with a provided bus pass? Y or N
10. Does the bus go to where you want to go? Y or N

Please check all that apply to you.

___ I am on portable oxygen.
___ I have a sight impairment.
___ I am totally blind.
___ I need assistance walking.
___ I use a cane.
___ I have a personal care attendant.
___ I must travel by wheelchair.
___ I use crutches.
___ I have a mental impairment.
___ I am legally blind.
___ I have a hearing impairment.
___ I use a walker.
___ I have a service animal.
___ I need an escort.
___ I must travel by stretcher.

_____
Applicant's Name

SECTION C

Functional Ability
Please answer yes or no.

Without the help of someone else, can you:

Board a lift-equipped bus?	Y or N	Handle coins and transfers?	Y or N
Read/hear/understand directions?	Y or N	Wait outside without support for 15 minutes or more?	Y or N
Travel one block on a sidewalk?	Y or N	Grip handles and railings?	Y or N
Travel to nearest bus stop?	Y or N	Balance while seated?	Y or N
Stand at a bus stop?	Y or N	Give your address and phone number?	Y or N
Walk 3/4 of a mile?	Y or N	Safely travel through crowded and/or complex facilities?	Y or N
Identify the correct bus?	Y or N	Recognize a destination or landmark?	Y or N
Climb a 12-inch step?	Y or N	Cross a street?	Y or N

If you answered no to any of the above, please explain. _____

_____

_____

_____

_____

What conditions or elements prevents you from getting to and from a regular bus stop:

There are no curb cuts ____	There are no sidewalks ____	Ground is not level ____
Slightly on an incline ____	High levels of pollution ____	Extreme weather ____
Busy Intersection ____	Other _____	

Do you use any of these mobility aids or equipments? (Please check all that apply)

I do not use any of these mobility aids or equipment ____

Portable Oxygen ____	Service Animal ____	Walker ____	Cane ____
Crutches ____	Stretcher ____	Powered Wheelchair ____	Manual Wheelchair ____
Scooter ____	Leg Brace ____	Other (specify) _____	

NOTE: Mobility devices that exceed the ADA definition of a common wheelchair cannot be accommodated. All wheelchairs or scooters must be no longer than 48 inches, no wider than 30 inches, and must not have a weight of more than 600 pounds when occupied.

Do you have any of the Following? (Please check all that apply.)

___ I have a mental impairment.	___ I have a sight impairment.
___ I am legally blind.	___ I am totally blind.
___ I have a hearing impairment.	___ I need assistance walking.
___ I have a personal care attendant.	___ I need an escort.

_____
Applicant's Name

SECTION D

Professional/Medical Verification

Must be completed by a licensed professional

The applicant is requesting certification to use ACCESS LYNX paratransit service. ACCESS LYNX is a door-to-door, shared ride program for individuals with physical or cognitive disabilities who are unable to use or access the regular public transportation system.

Please complete the medical verification sections of this application. The information you provide must be based solely upon the applicant having an actual physical or cognitive limitation, which prevents the use of our bus service. The diagnosis of a potentially limiting illness or condition is not sufficient determination for paratransit services.

What is the applicant's disability? _____

_____

How does this condition functionally prevent the applicant from using the regular bus service? _____

_____

_____

What other normal life functions are prevented by the disability? _____

_____

_____

Is the applicant's disability: Permanent _____ Temporary _____

If temporary until when? _____

_____

Signature **Date**

Professional License Number: _____ **State Issued:** _____

Print Name _____

Business Address: _____

City: _____ **State:** _____ **Zip Code:** _____

Phone Number: _____ **Ext.#** _____ **Contact Person:** _____

Application for ADA Paratransit Eligibility

I. Instructions to Applicant or Representative:

- Please read the enclosed Paratransit eligibility criteria carefully. If you believe that you meet **all** the criteria, please fill out the Applicant sections of the form.
- Be sure to print and complete **all** information requested and sign where indicated.
- Have the Health Care Professional sections completed and signed by an approved health care professional. ***All provided information will be verified and confirmed.*** You may attach supporting documentation. Your Health Care Professional may require that you sign an authorization for him/her to release your private medical information.
- If you have any questions, please contact Polk County Transit Services at (863)534-5500, Monday through Friday between 7:00 a.m. and 6:00 p.m., and Saturdays, from 8:00 a.m. to 6:00 p.m.

II. Instructions to Health Care Professional:

The Applicant is requesting certification to receive door-to-door paratransit transportation service in an area where fixed route bus service is available under the guidelines of the Americans with Disabilities Act (ADA) of 1990. ***ADA paratransit*** is a door-to-door ride program for individuals with physical or cognitive disabilities who are unable to use or access the fixed-route public transportation system independently, such as the Winter Haven Area Transit system.

Please complete the medical verification sections of this application. The information you provide must be based solely upon the individual's physical or cognitive ability to use or access public transportation. Considerations based on the individual's age and/or the economic status of the applicant will not be used as certification for this service. Federal law is quite specific in defining who is eligible for this specialized service. The applicant must have an actual physical or cognitive limitation which prevents use of our public transportation service. The diagnosis of a potentially limiting illness or condition is not sufficient to document the need for this service. The information you provide should describe why the applicant's disability would prevent the use of public transportation either conditionally or unconditionally.

III. Determination of paratransit eligibility is not based solely on the information in this application. In addition, the Applicant may be required to participate in our Functional Assessment and Travel Training programs.

IV. Incomplete or illegible applications will be returned for completion, which may delay the Applicant's eligibility determination. The determination of eligibility will be made within 21 days from receipt of the completed application.

V. Information provided by the Applicant may be shared with our Functional Assessment Team. Please read the Notice of Privacy Practices contained in this application packet.

WHEN COMPLETED, PLEASE RETURN THIS FORM TO:

Polk County Transit Services
Drawer HS09, P.O. Box 9005
Bartow, Florida 33831-9005
Attention: ***ADA Eligibility***
FAX: (863)534-0421

SECTION A APPLICANT

Part 1

Polk County Transit Services provides paratransit services in specially equipped vans to persons who cannot use the regular bus system. To be eligible for this service, individuals must have disabilities that prevent the use or access of regular bus system. Age of the rider is not by itself an eligible disability. Eligible persons must be unable to use or access the regular fixed route system. Please complete Section A of this form. Section B must be completed by a health care professional.
Any false or misleading statements will be cause for revoking eligibility.

Last Name: _____ **First Name:** _____ **M.I.** ___

Street Address: _____ **Apt./Bldg. Number** ____

City: _____ **State:** _____ **Zip:** _____

Home Phone: (___) _____ **Work Phone:** (___) _____ **Ext:**_____

Emergency Contact: _____ **Relationship to Applicant:** _____

Home Phone: (___) _____ **Work Phone:** (___) _____ **Ext:**_____

Emergency Contact Address: _____ **Apt./Bldg. Number** ____

City: _____ **State:** _____ **Zip:** _____

Part 2
Please check which condition(s) prevent you from accessing a regular bus:

[ ] None (Do not complete Section B, return Section A only.)

[ ] Distance to the bus stop. How far is the nearest bus stop? _____

(Do not complete Section B, return Section A only.)

[ ] Disability/barrier prevents the use of the fixed route bus system.

What is the disability/barrier that prevents you from using or accessing the wheelchair accessible fixed route bus?

_____

How does this disability prevent the use or access of our fixed route bus?

_____

Are there any effects of your disability of which we need to be aware? Please give specific answers that will assist us in making our determination.

Part 3
Mobility Limitations

Can you:

SECTION A APPLICANT					
Board a lift-equipped bus?	[ ] Yes	[ ] No	Understand directions?	[ ] Yes	[ ] No
Board a bus without a lift?	[ ] Yes	[ ] No	Travel 200 ft. w/o assistance?	[ ] Yes	[ ] No
Travel to the nearest bus stop?	[ ] Yes	[ ] No	Travel 3/4 mile w/o assistance?	[ ] Yes	[ ] No
Identify the correct bus?	[ ] Yes	[ ] No	Balance while seated?	[ ] Yes	[ ] No
Handle coins and/or tickets?	[ ] Yes	[ ] No	Grip handles and railings?	[ ] Yes	[ ] No
Climb a 12-inch step without assistance?	[ ] Yes	[ ] No	Can wait outside without support?	[ ] Yes	[ ] No

If you answered no to any of the above, why not? _____

Part 4
Access Limitations

Can use lift-equipped bus, but cannot ride because:

[ ] Lift cannot be operated where I board.

[ ] Wheelchair/scooter cannot be placed on vehicle.

[ ] Unable to use lift-equipped buses because

_____

Can get to and from a regular bus stop only if:

[ ] There are curb cuts

[ ] There is a sidewalk

[ ] Ground level or slightly inclined

[ ] No extreme weather

[ ] It is daytime

[ ] No high levels of pollution

[ ] Receive travel training

[ ] Other

_____

What conditions or elements prevent you from getting to and from a bus stop?

_____

_____

_____

SECTION A APPLICANT

Part 5
Client Mobility (Please check all that apply)

Need Assistance Walking	[ ]	Hearing Impaired	[ ]	Scooter	[ ]
Attendant Needed	[ ]	Mentally Impaired	[ ]	Guide Dog/White Cane	[ ]
No Bus Available	[ ]	Need Escort	[ ]	Sight Impaired	[ ]
Blind	[ ]	No Special Needs	[ ]	Stretcher	[ ]
Medical Condition	[ ]	No Taxi	[ ]	Walker	[ ]
Use Support Cane	[ ]	Nursing Home Patient	[ ]	Wheelchair, Can Transfer	[ ]
Car Seat	[ ]	Portable Oxygen	[ ]	Wheelchair, Cannot Transfer	[ ]
Too Far to Bus Stop	[ ]	Renal Patient	[ ]	Wide Wheelchair	[ ]

Do you need someone to travel with you? [ ]Never [ ]Sometimes [ ]Always

Part 6 Person Completing Application

Last Name: _____ First Name: _____ M.I. __ __

Street Address: _____ Apt./Bldg. Number_____

City: _____ State: _____ Zip: _____

Daytime Phone: (___) _____ Ext:_____

Relationship to Applicant: _____

Part 7 Acknowledgment of Receipt of Notice of Privacy Practices

I received a copy of Polk County's Notice of a Privacy Practices. I understand that if Polk County uses my personal health information in a manner that is different than described by the Notice, Polk County must first get my permission in writing.

I am accepting this Notice on behalf of:

[ ]Myself

[ ]Another person as his/ her personal representative (parent, guardian, family member etc.)

_____ _____

Signature of Patient or Personal Representative Date

SECTION B HEALTH CARE PROFESSIONAL

Part 1 Professional Verification

As a Health Care Professional familiar with the Applicant's medical history, please complete this form documenting all conditions which prevent the use or access of fixed route bus service. Please assist us in certifying only those individuals, who because of disability, are truly unable to used regular bus service. (Please check all that apply.)

Applicant's Name:

_____

[ ]Applicant cannot travel to or from a bus stop. [ ]Applicant needs assistance to ride bus.

[ ]Applicant unable to ride an accessible bus.

Part 2

I have read the entirety of Section A prepared by the Applicant.	[ ] Yes [ ] No
I agree with all the information in Section A.	[ ] Yes [ ] No
Is the Applicant disabled?	[ ] Yes [ ] No
Does this disability prevent use or access of regular bus service?	[ ] Yes [ ] No
Can the Applicant wait outside in good weather?	[ ] Yes [ ] No

Part 3

Capacity in which you are familiar with the Applicant: _____
Medical Diagnosis:_____

Mobility Limitations:

Applicant can travel 200 feet without assistance?	[ ] Yes [ ] No
Applicant can travel 1/4 mile without assistance?	[ ] Yes [ ] No
Applicant can travel 3/4 mile without assistance?	[ ] Yes [ ] No
Applicant can climb 12-inch step without assistance?	[ ] Yes [ ] No
Applicant can wait outside without support for 10 minutes?	[ ] Yes [ ] No
Applicant can safely navigate obstacles in travel to bus stop?	[ ] Yes [ ] No

SECTION B HEALTH CARE PROFESSIONAL

Cognitive Limitations:

Applicant can give address and phone number? [ ] Yes [ ] No

Applicant can recognize a destination or landmark? [ ] Yes [ ] No

Applicant can deal with unexpected situations? [ ] Yes [ ] No

Applicant can ask for, understand, and follow directions? [ ] Yes [ ] No

Applicant can safely travel through crowded/complex facilities? [ ] Yes [ ] No

If no to any of the above, please explain. _____

_____

Are there any other effects of this disability that we should be aware of? [ ] Yes [ ] No

If yes, please describe. _____

Part 4

Please print name and title of Health Care Professional: _____

Please indicate type of profession:

Physician	[ ]	Psychologist	[ ]
Occupational Therapist	[ ]	Registered Nurse	[ ]
Licensed Mental Health Counselor	[ ]	Ophthalmologist	[ ]
Licensed Clinical Social Worker	[ ]	Audiologist	[ ]
Independent Living Specialist	[ ]	Other _____	[ ]

License Number: _____ **State Issued:** _____

Agency (if any) of Health Care Professional: _____

Street Address: _____ **Apt./Bldg. Number** _____

City: _____ **State:** _____ **Zip:** _____

Phone: (___) _____ **Ext:** _____

Signature of Health Care Professional: _____

Date: _____

Notice to Health Care Professional concerning HIPAA: Pursuant to the Health Insurance Portability and Accountability Act of 1996 (HIPAA), Polk County Transit Services is a Covered Entity. Information provided by the Health Care Professional in this application is for the purpose of determining eligibility of the Applicant. Any protected health information provided by the Health Care Professional will be given the protection required by HIPAA and in accordance with the Polk County Board of County Commissioners Notice of Privacy Practices. The Notice of Privacy Practices is posted on the website at www.polk-county.net.

ACCESS LYNX On-line Trip Request

ACCESS LYNX ADA and Medicaid customers may schedule their transportation using our Online Trip Request service (TD customers must call their trips in the day prior to service). To request a trip online, you must already be certified to use ACCESS LYNX.

Items in **red** are required.

Select Trip Type to Schedule ☐ One-Way ☐ Two-Way (Round Trip)

(TIP: For trips where your final destination will be someplace besides your original origin, please submit multiple one-way trips.)

Applicant Information

Customer ID/SSN #

Salutation

First Name

Middle Initial

Last Name

Primary Phone ( ) -

Alternate Phone ( ) -

Email Address

Trip Date & Time

Please indicate your request type. ☐ One-time Trip ☐ Subscription

Trip Date/ Subscription Start Date

Select days this trip will take place. ☐ Sun ☐ Mon ☐ Tue ☐ Wed ☐ Thu ☐ Fri ☐ Sat

Going Trip Time

☐ Please pick me up by:

☐ Please drop me off by:

:

Return Trip Time

☐ Please pick me up by:

☐ Please drop me off by:

:

Pick-Up Location Name

Location Name Is The... -- Please Select --

Street Number

Street Name

Apt / Suite / Bldg

City

State Florida

ZIP Code

Location Phone ( ) -

Drop Off Location Name

Location Name Is The... -- Please Select --

Street Number

Street Name

Apt / Suite / Bldg

City

State Florida

ZIP Code

Location Phone ( ) -

Comments and/or Directions

Personal Care Attendants 0

Companions (ADA trips only) 0

SUBMIT

Thank you for filling out the ACCESS LYNX Trip Request form. A trip confirmation will be emailed to you. If you do not receive a trip confirmation, please contact Customer Service at 407-423-TRIP (8747) before 4 p.m. of the day prior to your trip to verify that the information was received and a reservation was created.

All trips will be created using the information currently in your customer file. To update your customer file or verify that all information is correct

Appendix 5: LYNX & PCTS Rural ITS Project Standard Operating Procedures

Rural ITS Project
Trip Sharing Procedures
LYNX/PCTS

Background

The Central Florida Regional Transportation Authority (LYNX) and Polk County Transit Services (PCTS) entered into a joint demonstration project for the Federal Transit Administration. This project is intended to show how Intelligent Transportation Systems (ITS) can be utilized to enhance demand response services in rural areas.

The procedures in this document are designed to outline how LYNX and PCTS will share trips utilizing the technology provided for this project.

Out of Service Area (OSA) Trip Booking

All trips that will have an origin, destination, or both origin and destination outside the home agency's normal service area shall be booked into Trapeze PASS with the trip type of "OSA." This designation shall be listed in the Booking Types.

OSA trips will be left unscheduled until such time as both agencies have an opportunity to review and coordinate all OSA trips.

When the initial trip request is received, customers are to be informed their transportation service may be provided by either agency or either agency's contracted provider(s) and that they will be contacted by telephone the night before the trip with their scheduled pick up time. Customers will not have an option as to which agency or contracted provider will be performing the trip.

Scheduling

Between 4:00 PM and 5:00 PM nightly, one designated scheduler/representative from each agency will connect to the other's Trapeze PASS database using a Citrix connection. Using the Trip Administration module of PASS, the schedulers will review all of the other agency's trips with a trip type of "OSA" and determine if any trip grouping can be done based on the next day's trip bookings in the two databases.

If so, the schedulers will contact one another by telephone or email to advise of the ability to perform the trip(s). If both schedulers are in agreement, the trip will be scheduled in a manner that maximizes efficiencies and still gets the customer to their destination on time.

Schedulers will notify one another when they will have a vehicle in the other's service area with down time. If the local provider has trips that the visiting provider can provide in their down time or in conjunction with coming into or leaving the local service area trips may be scheduled on the visiting provider's vehicle, as long as the trips will not interfere with the visiting provider's customer's trip(s).

Once the service provision is determined and agreed upon, the agency that reserved the trip will place the trip on a run named for the agency providing the service. The agency providing the service will create the necessary trip(s) in their database using a generic customer name and schedule the trip(s) to the appropriate run(s). The reserving agency's fare will determine the amount to collect from the customer.

Trip Provision

The providing agency's vehicle will perform the trip while meeting the standards of 14-90, F.A.C. Trips that have been arranged must be performed without hesitation and not prioritized above or below the providing agency's other trips. The fare of the reserving agency shall be collected, unless other arrangements are agreed upon prior to the customer's pick up.

Fares

Fares collected by the providing agency shall be deducted from the trip cost invoiced to the reserving agency. With the exception of a Medicaid trip, if the customer does not have the appropriate and full fare, the trip shall not be provided. If a Medicaid eligible customer is traveling for a Medicaid compensable service and does not have their fare, the fare shall be waived, reported to the reserving agency, and not deducted from the trip cost invoiced to the reserving agency.

Billing

Monthly invoicing shall be submitted by both agencies to the other agency showing date of service, customer name, origin, destination, trip cost, fare collected, and amount due. Trip cost shall be based on the booking agency's cost as approved in their TD Rate Calculation Model. Invoices shall be transmitted electronically and payment shall be made using Electronic Funds Transfers.

Definitions & Acronyms

Booked Trip: The data needed in Trapeze PASS to schedule a trip. At a minimum, this data will include: service date, customer's name, pick-up address and requested time, destination address and latest time to arrive (if applicable), funding source, fare to collect, and mobility needs including space type.

CTD: Commission for the Transportation Disadvantaged; funding source for qualified trips not funded through the Americans with Disabilities Act (ADA) or Medicaid programs.

Fare / Co-Pay: Customer's payment to the Providing Agency for transportation services.

Home Agency: Refers to the agency responsible for a customer's transportation services.

Home Service Area: For LYNX's customers this includes the three counties of Orange, Osceola, and Seminole. For PCTS's customers, this refers to Polk County only.

LYNX: Central Florida Regional Transportation Authority

OSA: Coding under Booking Types that indicates the trip has an origin, destination, or both origin and destination outside the customer's home service area.

PCTS: Polk County Board of County Commissioners – Transit Services Division

Providing Agency: The agency other than the customer's home agency that is providing the transportation services.

Reserving Agency: The customer's home agency that is making arrangements for the Providing Agency to provide the customer's trip request.

Run: Transit operational term referring to a single vehicle's scheduled trip activity for one day.

Trapeze PASS: Demand response trip scheduling software utilized by both LYNX and PCTS.

Trip Scheduling: Placing a booked trip onto a run.

Appendix 6: PCTS Report for Shared Trip Identification

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Polk County Transit Services

Billing Report

09/01/2008 to 11/30/2008

Printed 12/9/2008 1:00:30PM

Client Name / Status	Pickup Address	Date	SSN / Dropoff Address	Purpose	Time	U/R	Fare W/S
POLK							
LYNX TRIP SHARING							
AMBULATORY							
2, LYNX		**10/14/2008**	--	MEDICAL			31.50
114	**PERF**	1426 RENEE AVE - ORLANDO	429 E MICHIGAN ST - ORLANDO		08:30	R	A
		Last chg'd on 20081105	0 0		**PMM**		**18.00**
2, LYNX		**10/14/2008**	--	MEDICAL			31.50
114	**PERF**	429 E MICHIGAN ST - ORLANDO	1426 RENEE AVE - ORLANDO		10:30	R	A
		Last chg'd on 20081105	0 0		**PMM**		**18.00**
5, LYNX		**10/23/2008**	--				31.50
115	**PERF**	9956 RED CLOVER AVE - ORLAND	1335 N MILLS AVE - ORLANDO		11:30	R	A
		Last chg'd on 20081022	0 0		**PAT**		**18.00**
5, LYNX		**10/23/2008**	--				31.50
115	**PERF**	1335 N MILLS AVE - ORLANDO	9956 RED CLOVER AVE - ORLANDO		14:15	R	A
		Last chg'd on 20081022	0 0		**PAT**		**18.00**
6, LYNX		**10/23/2008**	--				31.50
115	**PERF**	5275 STONE HARBOUR RD - ORLAN	25 W KALEY AVE - ORLANDO		08:30	R	A
		Last chg'd on 20081105	0 0		**PAT**		**18.00**

POLK
LYNX TRIP SHARING
AMBULATORY

09/01/2008
11/30/2008

Unduplicated Client Count	Number of trips	Cost per unit	No. of Units	Total Cost
3	5	0.00	N/A	$ 157.50

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Polk County Transit Services

Billing Report

09/01/2008 to 11/30/2008

Printed 12/9/2008 1:00:30PM

Client Name / Status	Pickup Address	Date	SSN / Dropoff Address	Purpose	Time	U/R	Fare W/S
POLK							
LYNX TRIP SHARING							
LIFT							
4, LYNX		**10/23/2008**	--				31.50
115	**PERF**	1900 S CONWAY RD 103 - ORLANDO	895 OUTTER RD - ORLANDO		09:30	R	L
			Last chg'd on 20081105	0 0	**PAT**		**18.00**
4, LYNX		**10/23/2008**	--				31.50
115	**PERF**	895 OUTTER RD - ORLANDO	1900 S CONWAY RD 103 - ORLANDO		12:00	R	L
			Last chg'd on 20081105	0 0	**PAT**		**18.00**

POLK	09/01/2008
LYNX TRIP SHARING	11/30/2008
LIFT	

Unduplicated Client Count	Number of trips	Cost per unit	No. of Units	Total Cost
1	2	0.00	N/A	$ 63.00

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Polk County Transit Services

Billing Report

09/01/2008 to 11/30/2008

Printed 12/9/2008 1:00:30PM

Client Name / Status	Pickup Address	Date	SSN / Dropoff Address	Purpose	Time	U/R	Fare W/S
POLK							
LYNX TRIP SHARING							
WHEELCHAIR							
1, LYNX		**10/06/2008**	--	MEDICAL			37.50
114	**PERF**	2726 SAMPLE ST - KISSIMMEE		737 W OAK ST - KISSIMMEE	11:30	R	W
			Last chg'd on 20081029	0 0	**PWT**		**10.00**
1, LYNX		**10/06/2008**	--	MEDICAL			37.50
114	**PERF**	737 W OAK ST - KISSIMMEE		2726 SAMPLE ST - KISSIMMEE	13:30	R	W
			Last chg'd on 20081029	0 0	**PWT**		**10.00**
3, LYNX		**10/15/2008**	--	MEDICAL			7.00
114	**PERF**	2500 W CHURCH ST - ORLANDO		1781 PARK CENTER DR 210 - ORLANDO	09:00	R	W
			Last chg'd on 20081031	0 0	**ESC**		**0.00**
3, LYNX		**10/15/2008**	--	MEDICAL			51.50
114	**PERF**	2500 W CHURCH ST - ORLANDO		1781 PARK CENTER DR 210 - ORLANDO	09:00	R	W
			Last chg'd on 20081031	0 0	**PWT**		**18.00**

POLK 09/01/2008
LYNX TRIP SHARING 11/30/2008
WHEELCHAIR

Unduplicated Client Count	Number of trips	Cost per unit	No. of Units	Total Cost
2	4	0.00	N/A	$ 133.50

Appendix 7: PCTS Invoice to LYNX for Trips Performed

Polk County Transit Services

Billing Report

10/01/2008 to 10/31/2008

Printed 12/18/2008 1:48:59PM

Client Name / Status	Pickup Address	Date / Dropoff Address	Purpose	Time	Mileage	Fare
POLK						
LYNX TRIP SHARING						
AMBULATORY						
LYNX CLIENT MA[redacted]		**10/14/2008**	MEDICAL	08:30		
PERF	1426 RENEE AVE - ORLANDO	429 E MICHIGAN ST - ORLANDO			18.00	$31.50
LYNX CLIENT M[redacted]		**10/14/2008**	MEDICAL	10:30		
PERF	429 E MICHIGAN ST - ORLANDO	1426 RENEE AVE - ORLANDO			18.00	$31.50
LYNX CLIENT A[redacted]		**10/23/2008**		11:30		
PERF	9956 RED CLOVER AVE - ORLANDO	1335 N MILLS AVE - ORLANDO			18.00	$31.50
LYNX CLIENT A[redacted]		**10/23/2008**		14:15		
PERF	1335 N MILLS AVE - ORLANDO	9956 RED CLOVER AVE - ORLANDO			18.00	$31.50
LYNX CLIENT E[redacted]		**10/23/2008**		08:30		
PERF	5275 STONE HARBOUR RD - ORLANDO	25 W KALEY AVE - ORLANDO			18.00	$31.50

POLK
LYNX TRIP SHARING
AMBULATORY

10/01/2008
10/31/2008

Unduplicated Client Count	Number of trips	Rate per Mile		Total Cost
3	5	$1.75		$157.50

Sub-Total Mileage: 90.00

Escort Count: 0

Polk County Transit Services

Billing Report

10/01/2008 to 10/31/2008

Printed 12/18/2008 1:48:59PM

Client Name / Status	Pickup Address	Date / Dropoff Address	Purpose	Time	Mileage	Fare
POLK						
LYNX TRIP SHARING						
LIFT						
APP 7608	LYNX CLIENT [redacted]	**10/23/2008**		09:30		
PERF	1900 S CONWAY RD 103 - ORLANDO	895 OUTTER RD - ORLANDO			18.00	$31.50
APP 7608		**10/23/2008**		12:00		
PERF	895 OUTTER RD - ORLANDO	1900 S CONWAY RD 103 - ORLANDO			18.00	$31.50

POLK
LYNX TRIP SHARING
LIFT

10/01/2008
10/31/2008

Unduplicated Client Count	Number of trips	Rate per Mile		Total Cost
1	2	$1.75		$63.00

Sub-Total Mileage: 36.00

Escort Count: 0

Polk County Transit Services

Billing Report

10/01/2008 to 10/31/2008

Printed 12/18/2008 1:48:59PM

Client Name / Status	Pickup Address	Date / Dropoff Address	Purpose	Time	Mileage	Fare
POLK						
LYNX TRIP SHARING						
WHEELCHAIR						
TRIP SHARING LYNX [redacted]		**10/06/2008**	MEDICAL	11:30		
PERF	2726 SAMPLE ST - KISSIMMEE	737 W OAK ST - KISSIMMEE			10.00	$37.50
TRIP SHARING LYNX [redacted]		**10/06/2008**	MEDICAL	13:30		
PERF	737 W OAK ST - KISSIMMEE	2726 SAMPLE ST - KISSIMMEE			10.00	$37.50
[redacted] ,LYNX CLIENT		**10/15/2008**	MEDICAL	09:00		
PERF	2500 W CHURCH ST - ORLANDO	1781 PARK CENTER DR 210 - ORLANDO			18.00	$51.50
[redacted] ,LYNX CLIENT		**10/15/2008**	MEDICAL	09:00		
PERF	2500 W CHURCH ST - ORLANDO	1781 PARK CENTER DR 210 - ORLANDO			0.00	$7.00

POLK	10/01/2008
LYNX TRIP SHARING	10/31/2008
WHEELCHAIR	

Unduplicated Client Count	Number of trips	Rate per Mile	WC PU Fee	Total Cost
2	4	$1.75	$20.00	$133.50

Sub-Total Mileage: 38.00

Escort Count: 1

Polk County Transit Services

Billing Report

10/01/2008 to 10/31/2008

Printed 12/18/2008 1:48:59PM

Client Name / Status	Pickup Address	Date / Dropoff Address	Purpose	Time	Mileage	Fare

Grand Total Mileage: 164.00

Escort Count: 1

Please remit payment to:

Polk County Transit Services Division
Finance Center
Drawer HS06
Post Office Box 9005
Bartow, Florida 33831-9005

Appendix 8: LYNX Billing to CTD

Detailed Accounts Receivable Report

Central Florida Regional Transportation Authority

Funding Source: TD
Date Range: 10/01/2008 to 10/31/2008

Client Name	Service Date / Day	Origin Address	Destination Address	Pass/ Trip	Client Type	Total Cost	Fare	Net Due
[redacted]	10/14/2008 TUE	1426 RENEE AVE , ORLANDO, FL 32825	1311 E MICHIGAN ST , ORLANDO, FL 32806	1	AM	26.46	1.00	25.46
	10/14/2008 TUE	1311 E MICHIGAN ST , ORLANDO, FL 32806	1426 RENEE AVE , ORLANDO, FL 32825	1	AM	26.46	1.00	25.46
	10/15/2008 WED	2500 W CHURCH ST , ORLANDO, FL 32805	1781 PARK CENTER DR 210, ORLANDO, FL 3	2	WC	31.04	0.00	31.04
	10/15/2008 WED	1781 PARK CENTER DR 210, ORLANDO, FL 3	2500 W CHURCH ST , ORLANDO, FL 32805	2	WC	31.04	0.00	31.04
	10/23/2008 THU	5275 STONE HARBOUR RD , ORLANDO, FL 3	25 W KALEY AVE , ORLANDO, FL 32806	1	AM	26.46	1.00	25.46
	10/23/2008 THU	9956 RED CLOVER AVE , ORLANDO, FL 3282	1335 N MILLS AVE , ORLANDO, FL 32803	1	AM	26.46	4.50	21.96
	10/23/2008 THU	1335 N MILLS AVE , ORLANDO, FL 32803	9956 RED CLOVER AVE , ORLANDO, FL 3282	1	AM	26.46	4.50	21.96
	10/23/2008 THU	1900 S CONWAY RD 103, ORLANDO, FL 3281	895 OUTTER RD , ORLANDO, FL 32814	1	AM	26.46	1.00	25.46
	10/23/2008 THU	895 OUTTER RD , ORLANDO, FL 32814	1900 S CONWAY RD 103, ORLANDO, FL 3281	1	AM	26.46	1.00	25.46
	10/06/2008 MON	2726 SAMPLE ST , KISSIMMEE, FL 34744	737 W OAK ST , KISSIMMEE, FL 34741	1	WC	31.04	2.50	28.54
	10/06/2008 MON	737 W OAK ST , KISSIMMEE, FL 34741	2726 SAMPLE ST , KISSIMMEE, FL 34744	1	WC	31.04	2.50	28.54
Grand Total for TD:		**Total Customers: 6**	**Total Trips: 11**	**Total Passenger Trips: 13**		**309.38**	**19.00**	**290.38**

Appendix 9: Survey Results

LYNX/PCTS Rural ITS Survey Results

Total respondents	244	Total	Percentage	LYNX	Pick Up Line	Paratransit
What is your gender?	Male	99	40.57%	82	8	9
	Female	125	51.23%	105	16	4
	Not Specified	20	8.20%	18	2	0
What is your age?	0-18	74	30.33%	66	5	3
	19-25	51	20.90%	48	2	1
	26-35	29	11.89%	20	6	3
	36-45	35	14.34%	31	4	0
	46-65	33	13.52%	24	5	4
	65+	19	7.79%	13	4	2
	Not Specified	3	1.23%	3	0	0
How many cars are in your household?	0	73	29.92%	56	12	5
	1	86	35.25%	75	8	3
	2	53	21.72%	45	3	5
	3	18	7.38%	16	2	0
	4+	14	5.74%	13	1	0
What race/ethnicity are you?	White / Caucasian	32	13.11%	24	2	6
	Black / African American	91	37.30%	75	12	4
	American Indian / Alaskan Native	1	0.41%	0	0	1
	Asian	1	0.41%	1	0	0
	Native Hawaiian / Pacific Islander	4	1.64%	3	1	0
	Hispanic	99	40.57%	92	7	0
	Other	7	2.87%	3	3	1
	Not Specified	7	2.87%	6	1	0
Which modes do you use?	Fixed-Route (LYNX bus)	219		205	13	1
	Paratransit (ACCESS LYNX or PCTS)	19		6	0	13
	Pick Up Line	36		8	26	2

How many days per week do you use transit?	Not Specified	13	5.33%	13	0	0
	1	17	6.97%	12	0	5
	2	18	7.38%	12	3	3
	3	31	12.70%	23	6	2
	4	32	13.11%	27	5	0
	5	72	29.51%	62	7	3
	6	40	16.39%	35	5	0
	7	21	8.61%	21	0	0

Compared to a year ago, are you riding transit?	Less	21	8.61%	18	2	1
	About the same	97	39.75%	80	6	11
	More	106	43.44%	88	17	1
	Not Specified	20	8.20%	19	1	0

What is the purpose of your transit trip today?	Work	100	40.98%	93	5	2
	School	55	22.54%	50	4	1
	Doctor	24	9.84%	13	1	10
	Shopping	26	10.66%	12	14	0
	Church	0	0.00%	0	0	0
	Other	35	14.34%	33	2	0
	Not Specified	4	1.64%	4	0	0

Do you ever use more than one mode of transit for a single trip?	Yes	118	48.36%	103	14	1
	No	96	39.34%	75	9	12
	Not Specified	30	12.30%	27	3	0

If transit was not available, how would you complete this trip?	Not go	56	22.95%	47	6	3
	My Car	19	7.79%	19	0	0
	Ride with Someone	100	40.98%	84	7	9
	Walk	32	13.11%	26	6	0
	Bike	6	2.46%	4	2	0
	Taxi	11	4.51%	7	4	0
	Other	14	5.74%	13	0	1
	Not Specified	6	2.46%	5	1	0

How many people are traveling with you?	0	122	50.00%	97	16	9
	1	61	25.00%	54	4	3
	2	37	15.16%	31	5	1
	3	10	4.10%	9	1	0
	4+	14	5.74%	14	0	0

On average, how long is your trip on the bus?	1-15 Minutes	38	15.57%	21	15	2
	16-30 Minutes	60	24.59%	49	6	5
	30-45 Minutes	34	13.93%	32	0	2
	46-59 Minutes	26	10.66%	23	1	2
	1-1 ½ Hours	46	18.85%	44	1	1
	1 ½ -2 Hours	12	4.92%	10	1	1
	2+ Hours	18	7.38%	18	0	0
	Not Specified	10	4.10%	8	2	0

How did you hear about this service?	TV	15	6.15%	15	0	0
	Radio	0	0.00%	0	0	0
	Newspaper	8	3.28%	6	2	0
	Internet	2	0.82%	2	0	0
	Friend	70	28.69%	63	7	0
	Saw vehicle	102	41.80%	89	12	1
	Other	29	11.89%	17	2	10
	Not Specified	14	5.74%	12	2	0

Transfer between vehicles?	Not Specified	39	15.98%	22	6	11
	1	21	8.61%	20	1	0
	2	27	11.07%	27	0	0
	3	61	25.00%	58	3	0
	4	38	15.57%	34	3	1
	5	58	23.77%	44	13	1

Ease of Reservation?	Not Specified	44	18.03%	38	3	3
	1	17	6.97%	16	1	0
	2	31	12.70%	29	1	1
	3	66	27.05%	56	9	1
	4	38	15.57%	27	5	6
	5	48	19.67%	39	7	2

Depart and Arrive On Time?	Not Specified	23	9.43%	17	3	3
	1	33	13.52%	33	0	0
	2	36	14.75%	34	0	2
	3	47	19.26%	39	6	2
	4	47	19.26%	34	9	4
	5	58	23.77%	48	8	2

Safety/Security?	Not Specified	25	10.25%	19	3	3
	1	20	8.20%	20	0	0
	2	17	6.97%	15	0	2
	3	37	15.16%	35	2	0
	4	51	20.90%	44	5	2
	5	94	38.52%	72	16	6

Driver Competence?	Not Specified	40	16.39%	34	3	3
	1	17	6.97%	17	0	0
	2	9	3.69%	8	0	1
	3	48	19.67%	42	5	1
	4	49	20.08%	41	3	5
	5	81	33.20%	63	15	3

Fare/Price?	Not Specified	28	11.48%	21	4	3
	1	34	13.93%	32	1	1
	2	40	16.39%	35	4	1
	3	45	18.44%	42	1	2
	4	42	17.21%	35	4	3
	5	55	22.54%	40	12	3

Vehicle Comfort?	Not Specified	31	12.70%	23	5	3
	1	15	6.15%	15	0	0
	2	19	7.79%	17	0	2
	3	52	21.31%	47	2	3
	4	44	18.03%	38	5	1
	5	83	34.02%	65	14	4

Stop/Transfer Point Comfort?	Not Specified	44	18.03%	25	7	12
	1	16	6.56%	16	0	0
	2	27	11.07%	25	2	0
	3	56	22.95%	54	2	0
	4	41	16.80%	36	5	0
	5	60	24.59%	49	10	1

Office of Research, Demonstration and Innovation
U.S. Department of Transportation
1200 New Jersey Avenue, SE
Washington, DC 20590

www.fta.dot.gov/research

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