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Experience with Flex Route Transit Service in Texas

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Abstract

Flex-route and feeder bus services are solutions that more public transit providers may find advantageous to explore as they try to serve increasingly spread-out and suburban populations while maintaining cost-effective operations. This study examined the experiences of The T, VIA, DART, and other selected transit agencies in Texas who have operated flex-route bus services, examining their objectives for operating the service, experiences, and lessons learned.

Executive Summary

This study examined the use of flexible transit services in four large urban areas and four small urban areas in Texas. The purpose of the review is to evaluate if flexible transit is an alternative to fixed route to improve operating efficiency and to serve new rider markets.

Large urban areas (Austin, Dallas, Fort Worth, and San Antonio): Flexible service is/was intended to provide transit service for areas within the urban service area that are/were not dense enough to support fixed routes. In all four large urban areas, flexible service acted in part as a feeder to fixed route and/or rail. In Dallas, Fort Worth and San Antonio the service operates (or operated) in areas that had previously been served by fixed route bus service, and one of the objectives of switching to flex-route service was cost-efficiency. All four areas provide a separate complementary paratransit service in accordance with the Americans with Disabilities Act (ADA); Capital Metro's Northwest Dial-a-Ride can also provide paratransit service for ADA-eligible passengers.

Both The T and Capital Metro discontinued their flex-route services (with the exception of Capital Metro's NW Dial-a-Ride) due to the expense of operating them (considerably higher cost per passenger boarding than fixed route) and, in the case of The T, low ridership.

Small urban/rural areas (Wichita Falls, Rio Metro, McAllen, and Abilene): Flexible service was instituted either to replace former fixed route service or to initiate general-population transit service where densities did not support fixed route service. With the exception of the Rio Metro service (which provides one stop for transfers to the McAllen Express), these flex-route systems are not acting as feeders to fixed route transit; they are a city-wide substitution for fixed routes. All systems serve (or served) riders who could qualify for complementary ADA paratransit in a fixed route system; Abilene CityLink also provides a separate complementary ADA paratransit service.

These four systems all consider flexible transit to have been a success. In Wichita Falls, flexible transit replaced fixed route transit and complementary ADA paratransit with very low ridership levels. Ridership on flexible transit is now 700 passenger boardings per weekday, including general population and passengers with disabilities. The McAllen Express and Abilene CityLink flexible services evolved to fixed route (with complementary ADA paratransit service) as population densities and ridership levels increased. Rio Metro continues to provide flexible transit for smaller cities in the Hidalgo County urbanized area at a lower total cost within the resources of the community.

Customer Reaction

Customer reaction to flexible transit service has seemed generally positive in Dallas, Wichita Falls, McAllen and surrounding (Rio Metro), and Abilene. The T had mixed customer reactions, with some customers expressing dissatisfaction with the advance reservation requirement and occasional unreliability in schedules, although the curb-to-curb aspect was received positively. VIA has encountered some negative customer response, due partly to a lack of understanding of

how the system works and partly to dissatisfaction with the “non-flex” peak hours and the need for advance reservations.

Operator Response

Operators with a background in rural or ADA paratransit generally adapted most easily to flexible transit service; fixed route operators tended to have more difficulty.

Benefits

Passenger access is the benefit mentioned by six of the eight agencies surveyed; the flexible transit service provides easier access than fixed route transit or provides transit service in rural, urban peripheral, or other lower-density areas where fixed route service would not be feasible. For VIA, the flexible routes have enabled the agency to save the costs of two all-day fixed route buses.

Challenges

Operating flexible transit service is more complicated for operators and dispatchers than fixed route service; training operators, locating addresses for pick-ups, and maintaining reliable schedules are some of the challenges faced by staff. Customers new to the service tend to be apprehensive and often are confused by the “new rules” associated with flexible transit service. Finally, a distinction must be drawn between the cost per passenger boarding and the total cost of providing service when comparing flexible and fixed route transit for the same market area. The *cost per passenger boarding* is generally higher for flexible transit than fixed route transit; however, the *total cost of transit service* in an area may be lower for flexible route than fixed route.

Lessons Learned

Education of passengers, staff, and agency leadership is necessary to make flexible transit service successful. Agencies need to understand how costs differ from fixed route service in order to make decisions on the financial viability of flexible transit service for their area. Operators and dispatchers need training on providing a service that is similar to paratransit operations in many ways. Finally, passengers need advance outreach and orientation programs on reserving (if reservations are required), planning for trip schedules, and riding the service. DART suggests holding “practice” ride days and free ride days for the first two weeks of service, to allow passengers to become acclimated to the service.

Cooperation among transit agency staff and a willingness to make adjustments on a day-to-day basis are essential to providing flexible transit service.

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Chapter 1. Introduction and Background

In 1998, Fort Worth's The T revamped its transit service, reducing the total number of fixed bus routes and focusing the remaining fixed routes along the city's heaviest travel corridors. The fixed routes were supplemented with eight "Rider Request" neighborhood circulator routes, which operated on a demand-responsive basis within small areas and delivered passengers to major bus and rail transit centers, where the passengers could then board a fixed route transit vehicle. This reorganization of service was intended to better serve customers, to boost ridership, and to improve the efficiency of transit operations in Fort Worth. The Rider Request routes operated until 2003, when all but one of the routes were discontinued. In August of 2003, San Antonio VIA instituted its Comprehensive Service Plan to improve service to riders. The new service plan included three "FlexService" routes similar to The T's neighborhood circulators. Flexible routes and neighborhood service are also part of Dallas Area Rapid Transit's (DART) services. Capital Metro in Austin, which operated some flexible routes during the 1990s and currently operates a dial-a-ride service in one neighborhood, is again considering adding flexible service to its operations. Flexible routes and route-deviation services are also used in some smaller Texas cities as a way to maximize service and efficiency in less-dense transit service areas.

Flexible transit routes combine elements of both fixed route transit service and demand-responsive service; flex-route vehicles may travel an approximate route with stops determined by prior passenger request or flag-down, or they may serve fixed stops, with periodic deviations to pick up or drop off a passenger on a demand-response basis. Flexible routes can be a way to serve both paratransit passengers (with curb-to-curb service via route deviation) and the general public (fixed stops). Flex-route service may operate as feeder service, extending the reach of general transit service into areas where fixed route service would be inefficient. As transit agencies search for ways to improve efficiency and to serve new rider markets, alternatives such as these may provide part of the answer.

This study examined the use of flexible transit services in the state of Texas. Existing literature, interviews with transit agency staff and surveys of passengers on two existing flexible route systems provided information on the operations, objectives, costs, benefits, challenges, and levels of success of eight Texas transit providers who currently or formerly provided some form of flexible transit service in their communities.

The remainder of this report is divided into four chapters. Chapter 2 describes the objectives, operations, and experiences of eight Texas transit agencies that have operated flexible transit services. Chapter 3 provides the results of passenger surveys conducted on two of these services. Chapter 4 provides a more detailed financial analysis of the eight flexible transit services. Chapter 5 provides conclusions and recommendations.

Chapter 2. Flexible Transit Services in Texas

Interviews were conducted with representatives of eight transit agencies in Texas that currently or formerly operated some form of flexible transit service. Four of these agencies are in small urban or rural areas and four operate in metropolitan areas. .

Small Urban Transit Providers

Flexible transit services have been demonstrated in four small urban areas in Texas: Abilene, McAllen, the smaller cities in urbanized Hidalgo County, and Wichita Falls. For these four transit providers, flexible transit service has been a way to meet transit needs in communities that do not have the population density necessary for fixed bus routes to be cost-effective. As population and transit ridership have increased, two of the providers transitioned to fixed route systems. Table 1 summarizes the type of flexible transit service provided by these transit agencies and the results to date.

Table 1. Small Urban Flexible Transit in Texas

Transit Provider	Year Begun	Service Type	Meets ADA Requirements?	Results and Future
Abilene CityLink Rover	1981	Fixed route with pre-determined route deviations by request	No; separate paratransit service provided.	Increase in ridership promoted transition to fixed route service with no deviations
Hidalgo County Rio Metro	1998	Fixed route with route deviations up to ½ mile on request	Yes	Service has met the objective of providing transit for cities in Hidalgo County at reasonable cost
McAllen Express	1997	Flexible routing; curb-to-curb service by request	Yes (from 1997 to 1999).	Increase in ridership led to fixed route system and complementary ADA paratransit starting in 1999
Wichita Falls Transit	1992	Fixed route with route deviations up to 2 blocks on request from 8 a.m. to 4 p.m.	Yes	Average ridership increased to 700 per weekday and 724 on Saturdays

Abilene CityLink Rover

Abilene CityLink implemented “Rover” route-deviation transit service in 1981, replacing underused fixed bus routes and allowing transit service to expand within the urban area. Route deviation enabled CityLink to provide curb-to-curb transit for persons with disabilities.

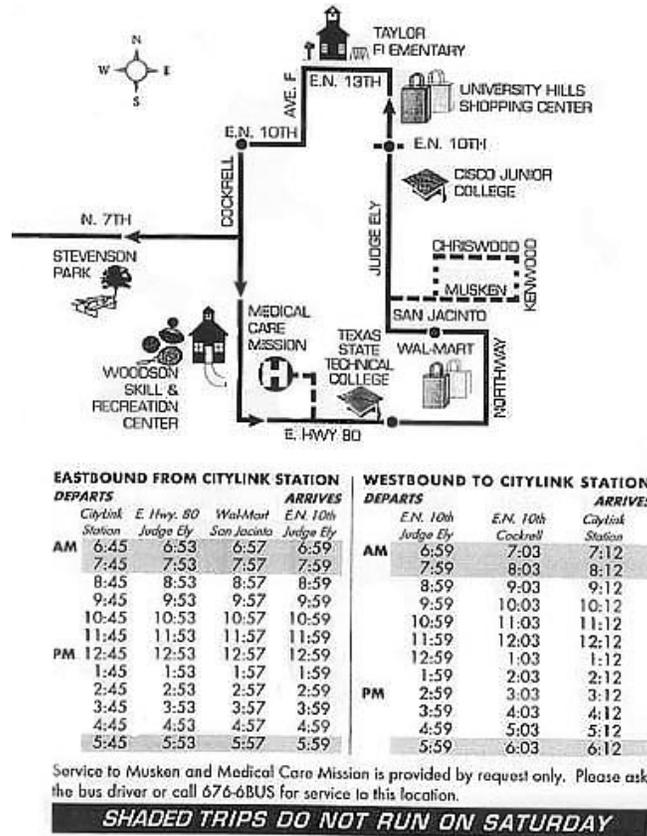
Five of CityLink’s 12 fixed routes included pre-set route deviations. These alternate route paths, serving some different destinations than the normal routes, were themselves fixed, and shown on CityLink’s route maps. (See Figure 1.) However, they added flexibility to the system by serving the alternate destinations upon passenger request. Passengers could request a route deviation to one of these points either by calling the CityLink office at least 10 minutes in advance, or by asking the bus operator to make the deviation.

Passenger response to the route-deviation service was positive, as it provided a mode of transportation that was less expensive than taxicabs and more convenient than depending on rides from friends – the primary options for non-drivers before the service was established. Operators found the service difficult to provide but most adapted over time.

The principle objectives of the service – to provide transit service at a reduced cost, to increase ridership, and to improve customer service – were met. In the years since the implementation of the Rover routes, transit ridership has increased dramatically. This increase in riders and the implementation of the 1990 Americans with Disabilities Act (ADA) led CityLink to change the route-deviation service back to fixed routes with complementary ADA paratransit.

Figure 1. CityLink Route Map

Route deviations are shown as dotted lines.



Rio Metro

Rio Metro urban area service was implemented in 1998 to provide public transit for several cities in Hidalgo County that would otherwise be unable to afford transit service. Rio Metro operates fixed routes, with deviations of up to half a mile on request. Service is operated in different cities on alternating days: Monday and Wednesday in the cities of Mission and Edinburg; Tuesday and Thursday in Mercedes, Weslaco, and Donna; and Tuesday, Thursday, and Friday in Pharr, San Juan, and Alamo. The system serves both the general population and ADA-eligible passengers, meeting the ADA transit requirements for the area. Rio Metro connects at one bus stop in McAllen to permit transfers to the fixed route McAllen Express.

Rider response to the Rio Metro transit service has been positive, with ridership continuing to increase since service began. Bus operators needed some time to adapt to the schedules and the route deviations.

The primary objective of the Rio Metro transit service is to provide some transit service to communities that cannot afford local share for more frequent transit service. This objective has been met, with the alternating-days schedule and the on-request deviations for curb-to-curb service providing general-public and ADA transportation at a lower total cost to the

communities. An added benefit to Rio Metro passengers is the ability to travel between cities in Hidalgo County, not just within their own community.

The greatest challenge for Rio Metro transit is providing transportation for persons with disabilities to technical schools and colleges in other cities that are not within the Rio Metro service area for the route in operation on a specific day. The most important lesson learned by Rio Metro staff has been to educate riders about how to request the transit service and to educate bus operators on the procedure for deviating from the route.

McAllen Express

The McAllen Express began in 1997 as a new flexible route transit service to serve both general public and ADA-eligible riders. By 1999, ridership had increased enough that the decision was made to begin fixed route service with complementary ADA paratransit service.

Rider response to the initial flexible route system was positive, especially for the curb-to-curb service it provided for elderly and passengers with disabilities. Further positive response came from public officials who had been initially reluctant to invest in a public transit system. The lower start-up cost of a flexible transit system and its subsequent success demonstrated the value of public transit in the city of McAllen and helped to lead to the current fixed route system.

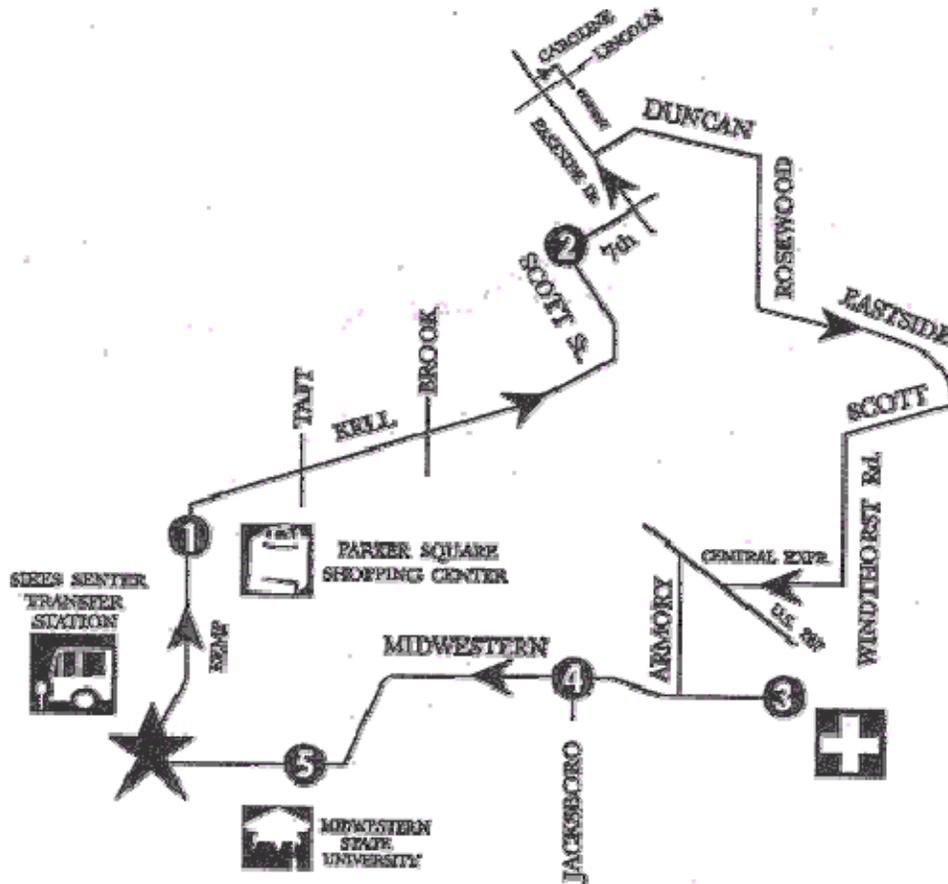
Wichita Falls

Prior to the initiation of flexible transit in Wichita Falls, the city's complementary ADA paratransit was transporting very few riders. A new flexible route system with route deviation on request was implemented in 1992 with the objective of increasing transit ridership in Wichita Falls.

The objective for increased transit ridership has been met, with the average number of passengers now 700 per day Monday through Friday, and 724 on Saturdays. Riders can board or disembark anywhere along the route, and during designated hours (8:00 a.m. to 4:00 p.m. daily) operators will deviate two blocks from either side of the route for passengers who provide 24-hour advance notice to the dispatcher. An example route is illustrated in Figure 2. Passengers have responded positively, particularly to the ease of access that the system provides. The biggest challenge has been maintaining the routes on a schedule while still providing route deviations.

Figure 2. Wichita Falls "Blue Route"

Buses can deviate up to two blocks from the route at passenger request, between 8 a.m. and 4 p.m.



Wichita Falls Transit staff report one lesson learned: “Operating a flexible system requires cooperation from drivers, dispatcher and supervision. Everyone needs to be well trained in the operation of the transit system. This type of operation will always require you to make adjustments, sometimes on an hourly basis. Nothing is predictable with this type of system.”

Metropolitan Transit Providers

Flexible transit services have been demonstrated by four regional transit authorities in Texas: Austin Capital Metro, Fort Worth The T, Dallas DART and San Antonio VIA. Flexible transit service was/is used by these metropolitan transit providers to serve particular neighborhoods within the transit service area where fixed routes were not carrying sufficient ridership or in lower density communities where fixed routes could not be cost-effective. Flexible transit represents one of several types of service provided by these metropolitan transit agencies, and the flexible routes connect to fixed route bus or light rail. All of these services carry (or carried) some ADA-eligible passengers, but a separate complementary ADA paratransit service is also

provided. Table 2 summarizes the types of flexible service offered by these providers and the results to date.

Table 2. Flexible Transit in Texas Metropolitan Areas

Transit Provider	Year Begun	Service Type	Results and Future
Capital Metro Teleride and Northwest Dial-a-Ride, Austin	1990	Zone dial-a-ride; routing within each Teleride zone determined by advance requests.	Teleride was discontinued in 1999 due to per-passenger cost. Northwest Dial-a-Ride continues on limited days/hours to provide transit to a low-density area.
The T Rider Request, Fort Worth	1998	Neighborhood circulators with some fixed stops, other stops by advance request.	Discontinued in 2003 due to low ridership, high cost, and negative customer feedback. Route serving Richland Hills continues to provide transit to a neighborhood that cannot be cost effectively served by fixed route.
DART On-Call, Dallas	1999	Neighborhood circulators with some fixed stops, other stops by advance or same-day request.	Customer service objective has been met. Cost-effectiveness goals have not been met for some neighborhoods; however ridership continues to increase, lowering cost per passenger.
VIA FlexService, San Antonio	2003	Neighborhood circulators with fixed routes during peak hours and stop by advance request during non-peak hours.	Cost-savings and service coverage goals have been met. Customer service goal has not been met.

Capital Metro’s Teleride and Northwest Dial-a-Ride, Austin

Capital Metro implemented the first Teleride zone in 1990. The “zone dial-a-ride” provided public transit service in an area of Austin where the population density was not high enough for fixed route transit to be viable. Service expanded in response to positive customer response, and by 1996, a total of six Teleride zones were in operation. Capital Metro contracted to a private-for-hire transportation provider (taxi operator). Operating a transit service required some adjustments for the taxi operator, including driver training in customer service and a more extensive safety program.

Except for one zone (now called the Northwest Dial-a-Ride), the Teleride service was discontinued in 1999 after a review by the Texas Comptroller concluded the service was too expensive to operate. However, a representative from Capital Metro said “In reality, some form of demand response service is actually the only way to operate at some hybrid of efficiency. Fixed route would be way too expensive and limited.”

Currently, the Northwest Dial-a-Ride service, now operated for Capital Metro by the Capital Area Rural Transportation System (CARTS), provides curb-to-curb service from Lago Vista, Jonestown, and Leander to Highland Mall, Northcross Mall and the Central Medical Complex. The service requires advance reservations, and operates on limited days and hours. Because of the limited service, Northwest Dial-a-Ride carries relatively few passengers. Response from riders is generally positive, as the service provides “lifeline” transit service for an area that has few other alternative transportation choices. Transit operators for Northwest Dial-a-Ride have adapted well to providing the service, as it is similar the rural paratransit services operated by CARTS in adjacent counties.

The Northwest Dial-a-Ride service has met its objective to provide transit in a low-density area where fixed route is not feasible. Capital Metro emphasizes that agencies considering flexible service should be aware that costs per passenger should not be compared with fixed route transit; rather, the total cost of providing adequate transit service in a particular area should be considered. To maximize effectiveness of a flexible transit service, providers should precisely define locations and/or corridors served and any riding restrictions to both staff and customers.

Capital Metro is currently considering additional flexible transit service, for implementation approximately 2006-2008. The agency will draw on its previous experiences to improve customer service and maximize the potential of future flexible transit in Austin.

The T Rider Request, Fort Worth

The T initiated eight Rider Request routes in January 1998, as part of its overall reorganization of transit service in Fort Worth. Rider Request neighborhood circulators replaced former fixed routes in six areas and were the first transit service available in two more areas. Rider Request is a neighborhood circulator that stops at designated bus stops but also makes other stops within the service area by advance reservation. Riders have the option of calling in one day in advance of a trip to be picked up at a requested location or flagging down a Rider Request bus at one of the regularly-scheduled stops. One route – Route 41 Richland Hills – allows same-day telephone requests for trips.

Passengers had mixed responses to the new service. While there were positive reactions to the “front door” service possible with Rider Request routes, many passengers did not like or did not understand the one-day advance reservation requirement, and some never adapted to it. As a result, ridership numbers were low. Some operators likewise found the new service difficult to provide, and some former fixed route operators never successfully made the transition.

Because of low ridership, higher per-passenger boarding subsidy, high total cost, and negative customer feedback, the Rider Request routes – with the exception of Route 41 Richland Hills –

were discontinued in October 2003. Route 41, which meets the T's objective of providing transit service in an area where fixed route service is not feasible, is still operating as a Rider Request route.

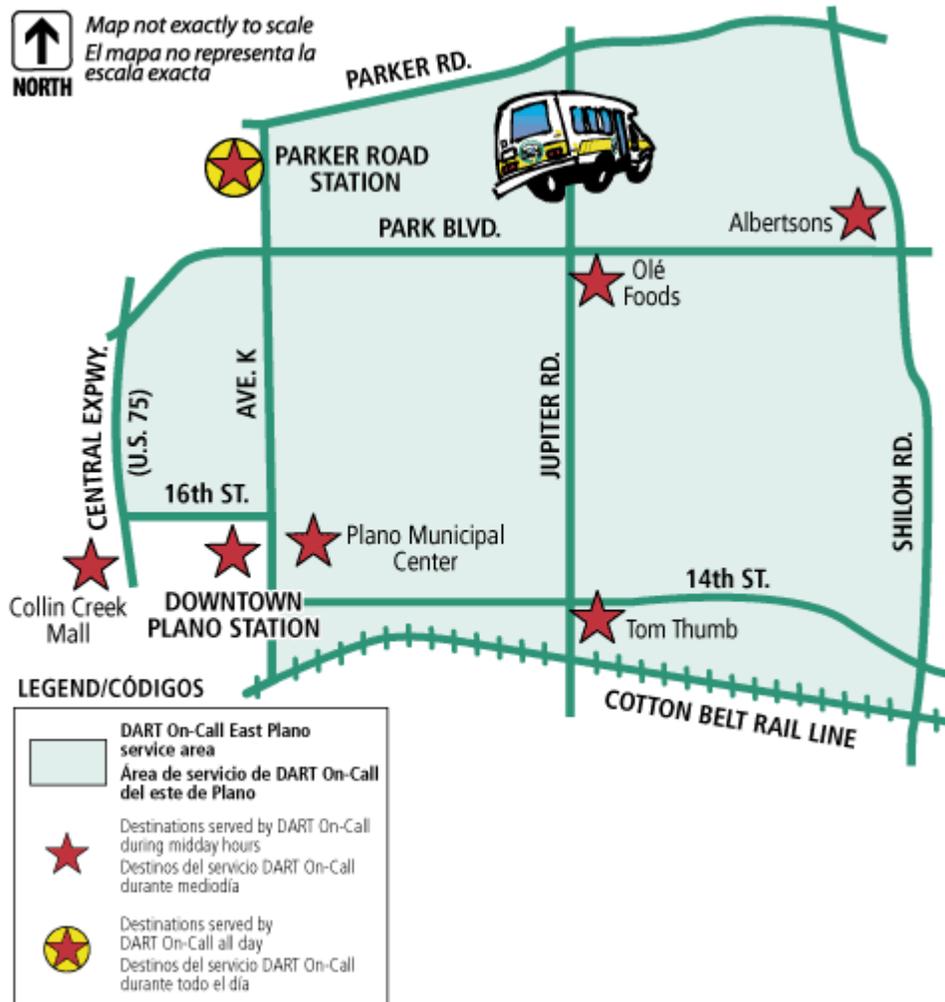
Lessons learned from the T's Rider Request experience included the following:

- Provide extensive public education and outreach prior to the implementation of flexible-route transit services, including exact information on service areas, regular routes/stops, reservation requirements, and any other riding guidelines or restrictions.
- Provide equally extensive training for bus operators, with an emphasis on customer service requirements, determining efficient routing based on scheduled pick-ups and drop-offs, completing necessary paperwork, and meeting any designated timepoints, including transfer points to other transit services.
- Ensure that an adequate number of vehicles are available for each area to meet customer demand.

DART On-Call, Dallas

DART initiated its first On-Call zone in 1999, and now operates seven zones, all in areas where population density is too low to support fixed routes. On-Call buses are neighborhood circulators that also connect to DART fixed route and/or light rail services, depending on the zone. Figure 3 illustrates the East Plano On-Call service area. Passengers may board an On-Call bus at one of its regular stops (shown on On-Call leaflets), may book a curb-to-curb pickup in advance, or may call in on the same day of travel (usually at least an hour in advance) to request a pickup. Each On-Call route has its own telephone number for passengers to call when requesting a pickup; riders speak directly with the bus operator that is driving the route, and are given an estimated time for pickup at their current location. This direct communication with the operator allows for same-day trip planning, creating the convenience that many On-Call riders cite as their favorite aspect of the service. On-Call buses operate flexible service during all service hours; during peak commute hours, each On-Call bus provides service only to and from local transit centers, while midday service also makes other regular stops at shopping centers, medical offices, grocery stores, and similar destinations. While DART operates a complementary ADA paratransit for persons with disabilities, ADA-eligible passengers have the option to ride On-Call free of charge.

Figure 3. DART East Plano On-Call



Customer feedback to DART about the On-Call service has been positive overall. Complaints are generally higher just after the service has been introduced in a new area, and include objections to the higher fare (On-Call service is considered “premium” transit service and is priced higher than the standard local-route fare) and misunderstandings about service zones and operating rules. Once customers in an On-Call zone have learned more about how the service operates, many have told DART staff they never want to return to fixed route service. Customer response was further explored in a passenger survey, detailed in Chapter 3.

On-Call operators, many of whom are former paratransit operators, have also responded positively to On-Call. The higher demands of On-Call service are challenging. Operators must learn to be their own dispatchers, handling fixed stops, advance reservations, and same-day called-in requests. Operators have to constantly re-route while maintaining consistent priorities for passenger pickups and drop-offs and while keeping to scheduled stops at transit centers. However, operators find the customer interaction to be a favorable aspect of On-Call, and several commented that they would never choose to go back to paratransit.

The objectives of On-Call service are to reduce total cost to provide transit service in specific neighborhoods, to improve cost-efficiency and cost-effectiveness, and to improve customer service. The objectives for cost are discussed in Chapter 4 of this document. . DART is operating On-Call in seven zones. The performance standard for ridership is six boardings per hour. Two of the seven zones are close to that standard. Four of the zones are new and still growing, while a seventh zone has lower ridership. Improved customer service seems to be a success with increased transit service to peripheral areas that were not well-served prior to On-Call and increased flexibility and convenience for passengers.

Lessons learned in the development and operation of On-Call include the following:

- Clarify policies regarding how the service operates. DART developed a guide to educate both operators and customers and prevent misunderstandings.
- A month before service begins in a new area, hold a “how to ride” presentation in the community to promote the new service and to educate potential riders. Include “practice” ride days, free ride days for the first two weeks to help acclimate riders to the service.
- Adapt policies as needed to promote efficiency and customer service.

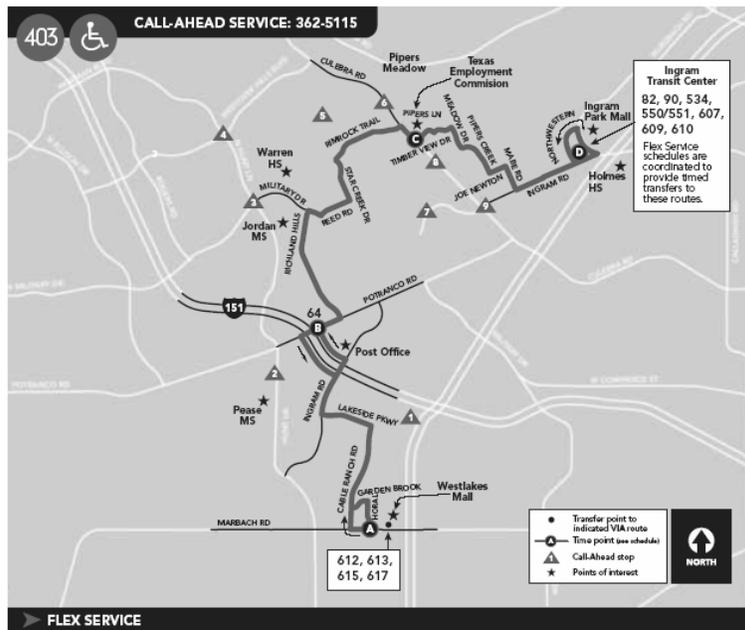
On-Call operators added the following observations and suggestions:

- A high level of cooperation between operators, station managers, and other DART staff is required for a system like this to work smoothly.
- The early months of On-Call service saw the most complaints from customers; several customers initially misunderstood the nature of the service (thinking that it was a type of taxi-cab rather than a bus). Once customers were educated on how the service operated, customer satisfaction improved.

VIA FlexService, San Antonio

VIA replaced underperforming fixed routes in two San Antonio neighborhoods with three FlexService routes in August 2003. Two of the FlexService routes serve the same area, traveling in opposite directions. The routes provide fixed route service during peak hours Monday through Friday, and flexible service during midday, evenings, and weekends. Complementary ADA paratransit service is provided separately, but ADA-eligible passengers can ride FlexService for free. VIA FlexService Route 403 is illustrated in Figure 4.

Figure 4. VIA FlexService Route 403



FlexService operators found the service difficult to provide at first but have adapted over time. Passengers, however, have expressed frustration with the service; complaints include the limitations of fixed route (non-flexible) service during peak hours, the day-ahead call-in requirement, and the fact that during the midday (flex) hours, regular stops are bypassed with no prior warning, so non-reserved service is not always available to those who wait at the bus stops.

VIA's objectives for the FlexService routes are to reduce the total cost of providing transit service in these neighborhoods, to improve service area coverage, and to improve customer service. The first two objectives have been accomplished, with the flexible routes saving VIA the costs of two all-day buses while still providing service to these low-density neighborhoods. The customer service objective has not yet been met, due to the difficulties described above. Further information on customer response is detailed in Chapter 3.

VIA's challenge in providing FlexService is providing a clear understanding of the service to the customers. Other lessons learned in the development and implementation of flexible service in San Antonio include the following:

- Flexible service requires a significant commitment by management.
- The service needs to serve a large enough segment of the transit market to warrant a public promotion campaign.

VIA operators added the following observations and suggestions:

- Currently, very few passengers on the three FlexService routes take advantage of the midday flex option. Routes 401 and 402 have only one or two flex passengers per day; Route 403 has a few more.
- Most midday passengers utilize these routes as though they were fixed route all day (as they are during peak hours). This has created some difficulty, since when an occasional flex trip is made during midday, passengers waiting at the “fixed” stops are bypassed.

Chapter 3. Passenger Surveys

Passenger surveys were conducted on DART's seven On-Call routes and on VIA's three FlexService routes. The surveys (see Appendix) were administered on board the buses, with participants given the choice of returning the completed surveys to researchers before disembarking or returning them by postage-paid mail. Surveys were administered for approximately half a day on each route, with each half-day period including both peak-period and midday hours.

Survey questions focused on respondents' personal opinions and impressions concerning the flexible transit route(s) they were riding. Respondents were asked to rate the flexible transit service and the transit authority's overall transit service on a five-point scale from "very good" to "very poor." To address more specific aspects of service, respondents were presented with a set of statements about the transit service and were asked to indicate how strongly they agreed or disagreed with the statements. Two open-ended questions were also included: "What do you like BEST about FlexService/On-Call?" and "What one change do you recommend to improve FlexService/On-Call?" Additional questions addressed demographic information and the respondents' use of both the flexible transit service and other transit services offered by the transit authority.

DART On-Call Passenger Responses

From On-Call's seven routes, researchers collected 113 completed surveys.

Demographic Information

Respondents included 67 women and 42 men (plus four respondents who did not provide this information on the survey). The women ranged in age from 15 to 74 years in age, with an average age of 38 years. Men ranged from 15 to 74 years in age, with an average age of 35 years.

Ninety-six surveys (85%) were completed in English. The remaining 17 (15%) were completed in Spanish.

Household income information was provided by 89 of the respondents. These respondents reported the following annual household income levels:

- \$10,000 or less: 28 (31%)
- \$10,001 to 20,000: 8 (9%)
- \$20,001 to 30,000: 13 (15%)
- \$30,001 to 40,000: 9 (10%)
- \$40,001 to 50,000: 18 (20%)
- \$50,001 to 75,000: 8 (9%)
- \$75,001 or more: 5 (6%)

Five of the respondents did not identify the number of persons in their households. The remaining 108 respondents reported the following household sizes (numbers include the respondent):

- 1 person: 18 (17%)
- 2 people: 22 (20%)
- 3 people: 19 (18%)
- 4 people: 24 (22%)
- 5 people: 19 (19%)
- 6 people: 1 (1%)
- 7 or more: 5 (5%)

Trip and Transit Use Information

Respondents identified the following purposes for their trips on the day of the survey (total is greater than 100 percent due to some respondents giving more than one answer to this question).

- Work 70 (62%)
- School 20 (18%)
- Shopping 10 (9%)
- Personal errands 10 (9%)
- Medical/doctor 6 (5%)
- Recreation 2 (2%)
- Other 3 (3%)

Five of the respondents (approximately four percent) were riding DART On-Call for the first time on the day of the survey. Sixteen (14 percent) had been riding the service for less than one month, 51 (45 percent) had ridden On-Call for more than one month but less than one year, and 39 (35 percent) had ridden On-Call for longer than one year. Three respondents did not provide an answer to this question.

Sixteen respondents had not ridden transit in Dallas before riding On-Call. Of those who had used DART services, 83 (73 percent) had ridden a fixed route bus, 41 (36 percent) had ridden DART light rail, and five (four percent) had ridden paratransit. One of the former paratransit riders no longer rides paratransit, two use paratransit services less than they did before beginning to use the On-Call service, and two still use paratransit services as frequently as they did before On-Call.

Twenty-two respondents (19 percent) stated that their trip did not include a transfer to or from another transit vehicle. Three (three percent) were transferring from one On-Call route to another to complete their trip, 46 (41 percent) were transferring to or from a DART fixed route bus, and 42 (37 percent) were transferring to or from the light rail system. (Nine of these respondents indicated both bus and light rail transfers as part of their trip.) Nine respondents did not indicate whether or not their trip included a transfer.

Passenger Ratings of Transit Service

On-Call passengers responding to this survey gave the On-Call transit service an average rating of 4.4, on a scale of one (“very poor”) to five (“very good”). DART transit service overall received an average rating of 4.3.

Respondents were asked if they “strongly agree,” “agree,” “don’t know,” “disagree,” or “strongly disagree” to eleven statements about the On-Call service. The responses for each statement are listed below, and illustrated in Figure 5. Percentages are rounded to the nearest whole percent.

“On-Call is more convenient than a regular bus route.”

- 63 respondents (56 percent) *strongly agreed*.
- 31 respondents (27 percent) *agreed*.
- 6 respondents (5 percent) *disagreed*.
- 2 respondents (2 percent) *strongly disagreed*.
- 5 respondents (4 percent) did not know.
- 6 respondents (5 percent) did not answer this question.

“The transfer to a regular bus or light rail is convenient.”

- 63 respondents (56 percent) *strongly agreed*.
- 30 respondents (27 percent) *agreed*.
- 3 respondents (3 percent) *disagreed*.
- 1 respondent (1 percent) *strongly disagreed*.
- 9 respondents (8 percent) did not know.
- 7 respondents (6 percent) did not answer this question.

“On-Call drivers are helpful.”

- 67 respondents (59 percent) *strongly agreed*.
- 34 respondents (30 percent) *agreed*.
- 3 respondents (3 percent) *disagreed*.
- 1 respondent (1 percent) *strongly disagreed*.
- 3 respondents (3 percent) did not know.
- 5 respondents (4 percent) did not answer this question.

“I feel safe when riding On-Call.”

- 69 respondents (61 percent) *strongly agreed*.
- 33 respondents (29 percent) *agreed*.
- 1 respondent (1 percent) *disagreed*.
- 0 respondents *strongly disagreed*.
- 4 respondents (4 percent) did not know.
- 6 respondents (5 percent) did not answer this question.

“The buses on On-Call are comfortable to ride.”

- 64 respondents (57 percent) *strongly agreed*.
- 33 respondents (29 percent) *agreed*.
- 4 respondents (4 percent) *disagreed*.
- 0 respondents *strongly disagreed*.
- 5 respondents (4 percent) did not know.
- 7 respondents (6 percent) did not answer this question.

“I can be sure On-Call will come at the times I schedule.”

- 56 respondents (50 percent) *strongly agreed*.
- 35 respondents (31 percent) *agreed*.
- 3 respondents (3 percent) *disagreed*.
- 0 respondents *strongly disagreed*.
- 10 respondents (9 percent) did not know.
- 9 respondents (8 percent) did not answer this question.

“On-Call service operates on time.”

- 54 respondents (48 percent) *strongly agreed*.
- 38 respondents (34 percent) *agreed*.
- 4 respondents (4 percent) *disagreed*.
- 0 respondents *strongly disagreed*.
- 7 respondents (6 percent) did not know.
- 10 respondents (9 percent) did not answer this question.

“Learning to use On-Call was easy.”

- 74 respondents (65 percent) *strongly agreed*.
- 26 respondents (23 percent) *agreed*.
- 4 respondents (4 percent) *disagreed*.
- 1 respondent (1 percent) *strongly disagreed*.
- 2 respondents (2 percent) did not know.
- 6 respondents (5 percent) did not answer this question.

“Information to explain how to use On-Call was available to me.”

- 64 respondents (57 percent) *strongly agreed*.
- 29 respondents (26 percent) *agreed*.
- 7 respondents (6 percent) *disagreed*.
- 1 respondent (1 percent) *strongly disagreed*.
- 4 respondents (4 percent) did not know.
- 8 respondents (7 percent) did not answer this question.

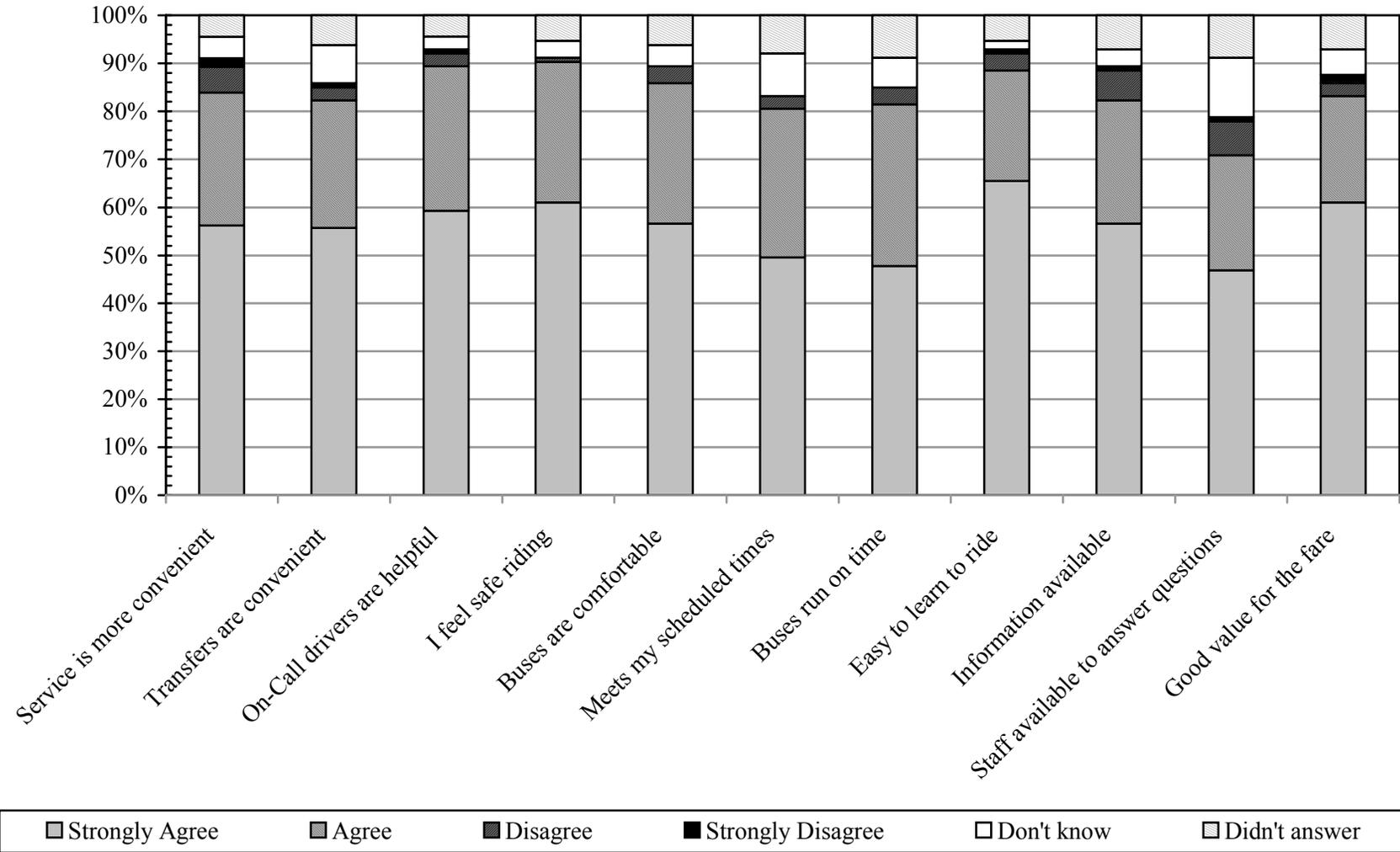
“I can reach someone at DART to provide information when I have a question about On-Call.”

- 53 respondents (47 percent) *strongly agreed*.
- 27 respondents (24 percent) *agreed*.
- 8 respondents (7 percent) *disagreed*.
- 1 respondent (1 percent) *strongly disagreed*.
- 14 respondents (12 percent) did not know.
- 10 respondents (9 percent) did not answer this question.

“On-Call service is a good value for the fare I pay.”

- 69 respondents (61 percent) *strongly agreed*.
- 25 respondents (22 percent) *agreed*.
- 3 respondents (3 percent) *disagreed*.
- 2 respondents (2 percent) *strongly disagreed*.
- 6 respondents (5 percent) did not know.
- 8 respondents (7 percent) did not answer this question.

Figure 5. DART On-Call Passenger Responses



DART Passenger Comments

The following comments were made by respondents as answers to the two open-ended questions.

What do you like best about On-Call?

The convenience and flexibility of the service was mentioned by 54 respondents as the aspect of On-Call they liked best. Comments included the following:

- [I like] the fact that they are available whenever you need a ride, whether it's work or shopping.
- No long periods of waiting unless you choose to. No long walks to/from the bus stop or drop off/pickup point.
- The flexibility of time. You can wait where you are, not at a bus stop on the side of the road.
- Easier to ride.
- It comes straight to my house.
- Door to door service
- Whenever I need to get somewhere I know I'll get there and on time. Also that he comes right in front of my house.
- They will come to my home and pick me up and drop me off at my home.
- Simplifies my travel to and from work.
- They take me anywhere in Rowlett
- I can leave my car in my garage.
- It's convenient and I can save gas.
- It drops me off right in front of my school.
- It always gets me to where I want to go on time.
- The service plan is wonderful.
- Takes me to a place without having to walk long distance.
- I like DART because it is convenient when I need a ride to school.
- It's very convenient to everyone and their special needs.
- It is easy.
- That I can schedule in advance for the week.

Drivers were mentioned by 28 respondents as their favorite part of On-Call. Several of these respondents simply wrote their driver's name in the "what do you like best?" space. Other driver-related comments included the following:

- The drivers are polite and the bus is clean.
- The drivers are very polite and on time.
- I like [the drivers] best. They are both cool and I enjoy riding/conversation.
- Our drivers are awesome.
- My driver is very responsible and friendly.
- [The driver] is a very good driver and a good person!
- The driver is pleasant and he makes my day.
- All the drivers on On-Call have been courteous to me.

- [The driver's] attitude – always upbeat, helpful, goes the extra mile to help and serve his passengers, also tactful.
- All of them are very nice and helpful.
- They make you feel welcome.
- The drivers are very polite and helpful in assisting the passengers.
- Friendly and personal drivers.
- The drivers always have a positive attitude.
- The drivers can speak Spanish.

Six respondents mentioned the on-time performance of the On-Call buses:

- On time always.
- More on time than paratransit
- It's always on time.
- Dependable times.
- Takes me where I need to be in the least amount of time
- Most of the time they are on time. If they are not, they explain why.

Other comments made by respondents:

- Very helpful with my disabilities.
- It's cheap.

Three respondents wrote the word “nothing” as an answer to this question.

Suggestions for Improvement

Twenty-three respondents requested that On-Call run for more hours and/or more days, or with greater frequency. Sample suggestions in this area included the following:

- Weekend service
- Extended evening hours
- More vehicles in my area
- More pickup times from Park and Rides
- More drivers and more frequent service
- Peak hours need two buses
- Start earlier
- I can't think of any change except it would be nice if there were more.

Thirteen respondents suggested expanding to a larger service area, or including regular stops:

- Extension to West Plano and Los Rios
- Try and go where older people live.
- Extend On-Call to more areas.
- More vehicles in East Plano... hard to get transit to the center of Carpenter Park.
- I just wish it went a little further or deeper into Rowlett.
- Would like On-Call to go farther west than Chiesa. Need more drivers and service into the western part of Rowlett.
- Expand the service to make a larger service area.
- Add Spring Valley to Midway.

- Service to Carrollton
- Larger coverage area to include high school
- Service to Areenville

Eight respondents made suggestions for changing how the On-Call service is operated.

- [I would like On-Call] to be on time. To have responsible [drivers] in the afternoon.
- Would like a standard pick-up time at the transit station.
- Faster service
- Make it so I can schedule a ride a day or more ahead. I know the drivers are supposed to do this, but no one but [name] will do it.
- The pay phone at Parker Road Station does not reach East Plano On-Call.
- The persons at the information center [in the transit station] need to be more informative.
- I wish it were easier to reach someone.
- [The drivers] need call-waiting.

Four respondents suggested changes in the way On-Call drivers operate:

- Be more helpful.
- [Some] afternoon drivers sleep, eat, take corners too fast, dart across intersections, etc.
- Better customer service from some of the drivers.
- [Driver's] attitude.

Other suggestions included the following:

- Maybe some more seating.
- A bigger van!
- Would like to have original bus route 322 back.

VIA FlexService Passenger Responses

From FlexService's three routes, researchers collected 110 completed surveys.

Demographic Information

Respondents included 63 women and 45 men, plus two respondents who did not provide this information in their responses. Women ranged in age from 14 to 79 years, with an average age of 33 years. Men ranged in age from 14 to 82 years, with an average age of 37 years. Of the 110 returned surveys, 101 (92%) were completed in English; 9 (8%) were completed in Spanish.

- Nine respondents opted not to provide household income information. The remaining 101 respondents reported annual household income as follows (percents equal the numbers given):
 - \$10,000 or less: 31
 - \$10,001 to 20,000: 18
 - \$20,001 to 30,000: 18
 - \$30,001 to 40,000: 19
 - \$40,001 to 50,000: 5

- \$50,001 or more: 8

Three respondents did not identify the number of people in their households. The remaining 107 respondents reported the following household sizes (numbers include the respondent):

- 1 person: 16 (15%)
- 2 people: 23 (21%)
- 3 people: 22 (21%)
- 4 people: 26 (24%)
- 5 people: 7 (7%)
- 6 people: 8 (7%)
- 7 or more: 5 (5%)

Trip and Transit Use Information

Respondents identified the following purposes for their trips on the day of the survey (total is greater than 100 percent due to some respondents giving more than one answer to this question).

- Work: 60 (55%)
- School: 36 (33%)
- Shopping: 8 (7%)
- Personal errands: 6 (5%)
- Medical/doctor: 5 (5%)
- Recreation: 3 (3%)
- Other: 9 (8%)

Three of the respondents were riding a FlexService route for the first time on the day of the survey. Twelve (11 percent) had been riding the service for less than one month, 39 (35 percent) had ridden FlexService for more than one month but less than one year, and 53 (48 percent) had ridden FlexService since its inception in 2003. Twenty-two respondents (20 percent) had not ridden transit in San Antonio before riding a FlexService route, and three more respondents did not indicate whether they had used other VIA transit services. Of those who had used VIA services, 84 (76 percent) had ridden a fixed route bus and one had ridden (and still uses) VIAtrans paratransit.

Twenty-nine respondents (26 percent) stated that their trip did not include a transfer to or from another transit vehicle. Seventy-three (66 percent) were transferring to or from a VIA fixed route bus, and four (four percent) were transferring to or from another mode of transportation. Four respondents did not indicate whether or not their trip included a transfer.

Passenger Ratings of Transit Service

Respondents gave FlexService transit an average rating of 3.7, on a scale of one (“very poor”) to five (“very good”). VIA transit service overall received an average rating of 4.0. Respondents were asked if they “strongly agree,” “agree,” “don’t know,” “disagree,” or “strongly disagree” to each of the following statements. The responses for each statement are listed below, and illustrated in Figure 6. Percentages are rounded to the nearest whole percent.

“FlexService is more convenient than a regular bus route.”

- 27 respondents (25 percent) *strongly agreed*.
- 30 respondents (27 percent) *agreed*.
- 16 respondents (15 percent) *disagreed*.
- 9 respondents (8 percent) *strongly disagreed*.
- 17 respondents (15 percent) did not know.
- 11 respondents (10 percent) did not answer this question.

“The transfer to a regular bus is convenient.”

- 41 respondents (37 percent) *strongly agreed*.
- 44 respondents (40 percent) *agreed*.
- 9 respondents (8 percent) *disagreed*.
- 0 respondents *strongly disagreed*.
- 6 respondents (5 percent) did not know.
- 10 respondents (9 percent) did not answer this question.

“FlexService drivers are helpful.”

- 44 respondents (40 percent) *strongly agreed*.
- 39 respondents (35 percent) *agreed*.
- 4 respondents (4 percent) *disagreed*.
- 1 respondent (1 percent) *strongly disagreed*.
- 15 respondents (14 percent) did not know.
- 7 respondents (6 percent) did not answer this question.

“I feel safe when riding FlexService.”

- 36 respondents (33 percent) *strongly agreed*.
- 45 respondents (41 percent) *agreed*.
- 4 respondents (4 percent) *disagreed*.
- 3 respondents (3 percent) *strongly disagreed*.
- 11 respondents (10 percent) did not know.
- 11 respondents (10 percent) did not answer this question.

“The buses on FlexService are comfortable to ride.”

- 37 respondents (34 percent) *strongly agreed*.
- 47 respondents (43 percent) *agreed*.
- 5 respondents (5 percent) *disagreed*.
- 0 respondents *strongly disagreed*.
- 12 respondents (11 percent) did not know.
- 9 respondents (8 percent) did not answer this question.

“I can be sure FlexService will come at the times I schedule.”

- 34 respondents (31 percent) *strongly agreed*.
- 36 respondents (33 percent) *agreed*.
- 8 respondents (7 percent) *disagreed*.

- 4 respondents (4 percent) *strongly disagreed*.
- 17 respondents (15 percent) did not know.
- 11 respondents (10 percent) did not answer this question.

“FlexService operates on time.”

- 32 respondents (29 percent) *strongly agreed*.
- 40 respondents (36 percent) *agreed*.
- 14 respondents (13 percent) *disagreed*.
- 6 respondents (5 percent) *strongly disagreed*.
- 11 respondents (10 percent) did not know.
- 7 respondents (6 percent) did not answer this question.

“Learning to use FlexService was easy.”

- 39 respondents (35 percent) *strongly agreed*.
- 44 respondents (40 percent) *agreed*.
- 8 respondents (7 percent) *disagreed*.
- 5 respondents (5 percent) *strongly disagreed*.
- 5 respondents (5 percent) did not know.
- 9 respondents (8 percent) did not answer this question.

“Information to explain how to use FlexService was available to me.”

- 29 respondents (26 percent) *strongly agreed*.
- 51 respondents (46 percent) *agreed*.
- 9 respondents (8 percent) *disagreed*.
- 4 respondents (4 percent) *strongly disagreed*.
- 9 respondents (8 percent) did not know.
- 8 respondents (7 percent) did not answer this question.

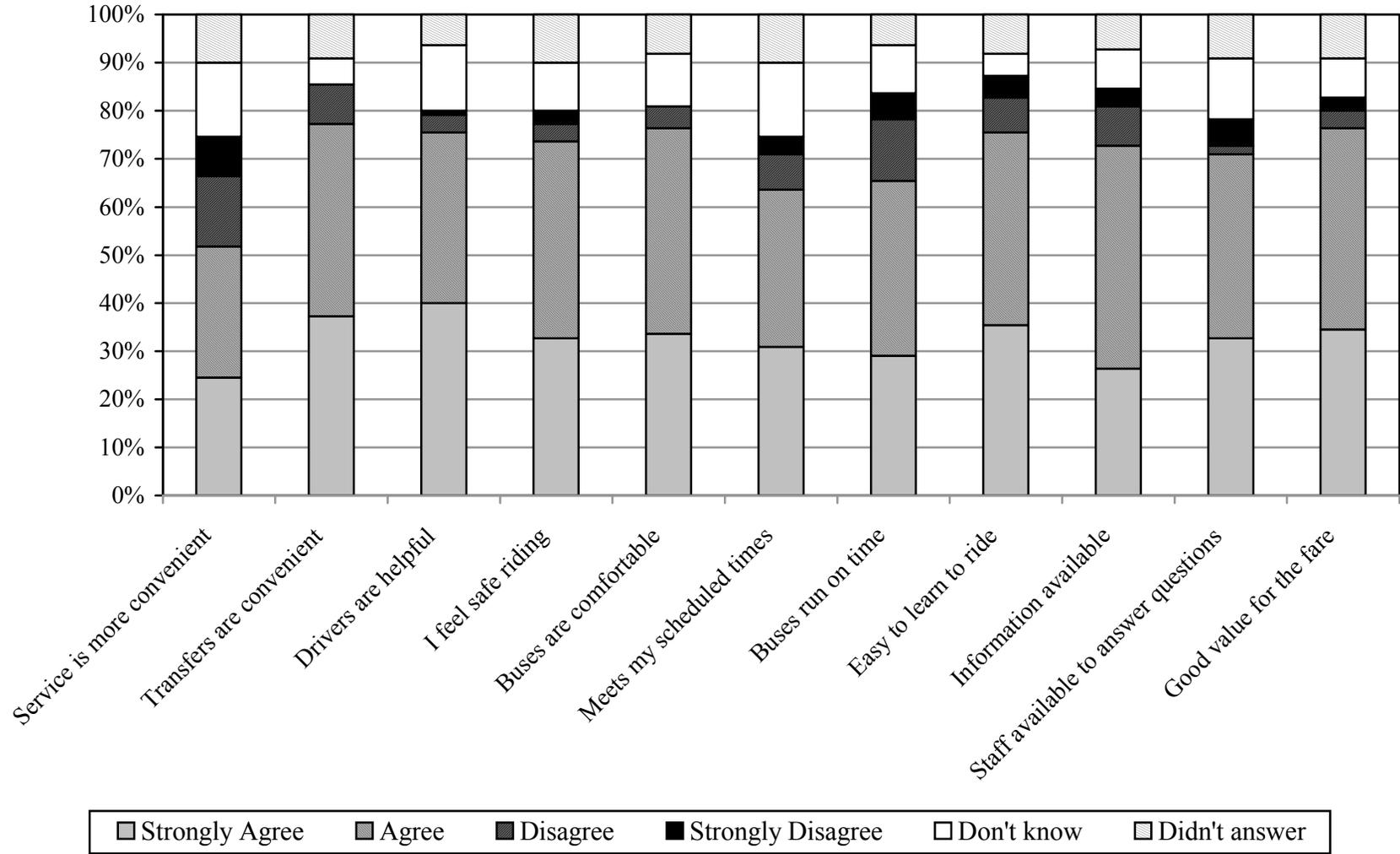
“I can reach someone at VIA to provide information when I have a question about FlexService.”

- 36 respondents (33 percent) *strongly agreed*.
- 42 respondents (38 percent) *agreed*.
- 2 respondents (2 percent) *disagreed*.
- 6 respondents (5 percent) *strongly disagreed*.
- 14 respondents (13 percent) did not know.
- 10 respondents (9 percent) did not answer this question.

“FlexService is a good value for the fare I pay.”

- 38 respondents (35 percent) *strongly agreed*.
- 46 respondents (42 percent) *agreed*.
- 9 respondents (8 percent) *disagreed*.
- 4 respondents (4 percent) *strongly disagreed*.
- 9 respondents (8 percent) did not know.
- 10 respondents (9 percent) did not answer this question.

Figure 6. VIA FlexService Passenger Responses



VIA Passenger Comments

What do you like best about FlexService

Thirty-nine respondents identified convenience and flexibility as their favorite aspect of FlexService. A selection of their comments follows:

- It saves me a 3 ½ mile walk.
- I can catch the bus closer to home.
- Great, easy, and reliable transportation.
- The service brings me closer to my destination and helps me be on time.
- It takes a shorter time to get to the places I need to go.
- Really easy to use and get where you need to go.
- The bus goes right my house.
- It makes your day easier.
- It stops anywhere I need to get off and not just at a designated bus stop.
- I like how I can just stop and wait and they'll be right there waiting for me.
- It comes earlier than the regular bus and takes me right to my destination.
- I can easily get in to work.
- It's the only way for me to get from Naco Pass to the vicinity of my work.

Seven respondents commented favorably on FlexService on-time performance. Comments included the following:

- It's fast.
- I can feel safe that both me and my daughter will get to work and school on time.
- Everything's on time, so I know I can really depend on it being on time, so I get to where I'm going on time.

Nine respondents identified their bus operators as their favorite aspect of FlexService:

- The buses are comfortable and the drivers are friendly.
- Excellent service, drivers are great people.
- If the driver sees something wrong he immediately tries to resolve it.
- The drivers are punctual and friendly.
- The drivers wake me up when I'm asleep.

Other positive comments included the following:

- Very cool air conditioning every time I ride the bus.
- We now have Saturday service.
- You don't have to pay all that much.
- You can call and arrange pickup time. I haven't used it, but I believe it works.
- The price.

Nine respondents responded to this question negatively; three of these simply said they did not like anything about the service. Other non-positive comments were as follows:

- At least it's a bus.
- Not much at all since I only ride it because it connects to the bus I really need.
- Hate flex bus, people are left stranded when it changes routes, it makes you miss connection [to other transit].
- I really don't like it because on a flex hour the regular bus stop is skipped.
- Not available except peak hours unless you know at least a day ahead. Quite often late, doesn't run after six o'clock, Sundays not at all.
- I've never ridden on it yet (as a Flex call-in), but I do wish riders had an idea of when the bus was going to a flex run so that we could catch it at another stop.

Suggestions for Improvement

More hours and days of service and/or greater frequency were suggested by 37 respondents. The suggestions included the following requests:

- Sunday service
- Longer service day
- Greater frequency
 - Every 15 or 20 minutes
 - Every 30 minutes, not every hour
- Add more buses to create more and smaller routes.
- Get two different buses when in flex hours.
- More scheduled stops.

Four respondents requested a larger service area and/or more stops:

- I hope FlexService continues and expands to all the routes and some other places as well.
- The bus stops should be easier to walk to.
- Add bus stops further down Toeppenwein.
- More stops, and go up O'Connor to I-35.

Fourteen respondents proposed either eliminating FlexService, or changing how the service operates.

- Go back to regular route because it used to go through my neighborhood, now it doesn't and everybody has to walk.
- Change it back to Route [640,618,620,606, 621].
- Stop the flex option.
- Change from flex to a more solid route.
- Change it back to Route 618 or stop flexing. It is a waste. You can't change a route for one person and it is a waste of time and money. I am thinking of stopping taking the bus and starting driving.
- Drivers need to inform riders the regular route will not be taken so we can get off before he takes us further out of the way of our destination.
- Let riders in on when a flex run is going to take the bus off the regular route.

- Be even more flexible. In Texas, with wide open spaces, people need flexibility. Also put back the bus routes taken out last August.
- I don't like calling daily. I'm at work and my time is limited.
- Be on time to VIA Transit Centers, so that passengers don't miss the bus.
- Faster route.

Four respondents suggested using a larger bus during peak hours. Other suggestions included the following:

- Require drivers' names rather than number on notice.
- Free rides.

Chapter 4. Financial Analysis

Developing comparisons and drawing conclusions about the efficiency of flexible transit is difficult from a general perspective. The expenses for operating flexible transit are calculated and reported differently depending on the transit property. The objectives for flexible transit also differ from agency to agency. For this reason, performance indicators for cost efficiency and cost effectiveness are evaluated based on locally defined criteria.

Small Urban Transit Providers

Information is available to analyze operating statistics and performance indicators for flexible route transit in Wichita Falls (fiscal 2004), Rio Metro in urbanized Hidalgo County (calendar 2003), and McAllen (calendar 1998). The McAllen Express is now a fixed route transit service with complementary ADA paratransit. In Table 3 below, the operating statistics and performance indicators for flexible services for Wichita Falls, Rio Metro and McAllen are compared to fixed route and ADA paratransit for McAllen (calendar 2003).

Table 3. Comparison Flexible and Fixed Route/ADA Paratransit in Small Urban Areas
Annual Data

Transit System	Wichita Falls	Rio Metro	McAllen Flexible Routes	McAllen Express		
				Fixed Route	ADA Paratransit	System Total
Period (Annual)	2004 FY	2003 CY	1998 CY	2003 CY	2003 CY	2003 CY
Operating Statistics						
Vehicles	8	5	8	6	1	7
Miles	428,115	165,497	228,783	262,603	18,086	280,689
Hours	26,957	10,235	18,720	23,946	3,600	27,546
Passenger Boardings	269,936	32,516	223,617	348,055	7,426	355,481
Avg Speed (mph)	16	16	12	11	5	10
Avg Miles/Boarding	1.6	5.1	1.0	0.8	2.4	0.8
Total Cost	\$1,262,521	\$465,473	\$532,970	\$948,827	\$142,054	\$1,090,881
Fare Revenues	\$194,368	\$22,569	\$141,451	\$184,332	\$6,935	\$191,267
Service Effectiveness						
Boardings/Hour	10.0	3.2	11.9	14.5	2.1	12.9
Cost Efficiency						
Cost/Hour	\$46.83	\$45.48	\$28.47	\$39.62	\$39.46	\$39.60
Cost/Mile	\$2.95	\$2.81	\$2.33	\$3.61	\$7.85	\$3.89
Cost Effectiveness						
Cost/Boarding	\$4.68	\$14.32	\$2.38	\$2.73	\$19.13	\$3.07
Fare/Boarding	\$0.72	\$0.69	\$0.63	\$0.53	\$0.93	\$0.54
Subsidy/Boarding	\$3.96	\$13.62	\$1.75	\$2.20	\$18.20	\$2.53

Source: Wichita Falls Transit and Lower Rio Grande Valley Development Council/Transportation; McAllen 1998 data from Texas Transit Statistics, Texas Department of Transportation

FY – Fiscal Year

CY – Calendar Year

Wichita Falls

The objective for introducing flexible route transit in Wichita Falls in 1992 was to increase transit ridership. The service effectiveness indicator for flexible transit was 10 passenger boardings per hour in fiscal 2004. Ten passenger boardings per hour is generally considered to be an excellent rate of productivity for flexible route transit. The cost per hour of service was \$46.83 in fiscal 2004. The average cost per boarding was \$4.68, and the average fare per passenger boarding was \$0.72, resulting in a subsidy per boarding of \$3.96.

Rio Metro

Rio Metro is a flexible transit service operating in urban areas of Hidalgo County (outside McAllen) in the Lower Rio Grande Valley of Texas. The primary objective of the Rio Metro transit service is to provide some transit service to eight small cities that cannot afford local share for daily fixed route service. Rio Metro routes serve different cities on different days during the week. Each city is provided service two or three days per week. Because routes operate on three routes on alternating days, Rio Metro flexible service requires only five passenger vehicles to serve eight cities.

The cost per hour for Rio Metro of \$45.48 is similar to the cost per hour for Wichita Falls. However, the service levels are very different. The total cost of operation for Rio Metro was \$465,500 in calendar 2003 as compared to \$1,262,500 for Wichita Falls. The Rio Metro service is funded in part from federal and state funds, and the eight cities each contribute to the local share. The productivity for Rio Metro is 3.2 passenger boardings per hour of service provided, and the cost-effectiveness measure is \$13.62 subsidy per passenger boarding. Ridership is low, reflecting the limited service hours and service days. However, the flexible service design of Rio Metro makes it possible to provide transit for the general public and ADA-eligible persons at a lower total cost and a local share within the financial resources of the cities in the Rio Metro service area. More than 32,500 passenger boardings were reported in 2003.

The subsidy per passenger for Rio Metro of \$13.62 is more than three times higher than the subsidy of \$3.96 per passenger for Wichita Falls flexible transit. The difference in cost reflects the difference in productivity for the two services: 3.2 passenger boardings per hour for Rio Metro and 10 passenger boardings per hour for Wichita Falls. The design of the two services explains in part the difference in productivity. Rio Metro operates different routes on alternating days as compared to daily service on every route in Wichita Falls. Rio Metro passengers also travel longer distances per boarding. The average distance per passenger boarding for Rio Metro is 5.1 miles, and the average distance for each Wichita Falls passenger is 1.6 miles. Thus, the subsidy per passenger-mile is \$2.48 in Wichita Falls and \$2.67 for Rio Metro. These data indicate the markets served and the trip patterns in Wichita Falls and Rio Metro are very different, making comparative evaluation difficult.

McAllen Express – Flexible Service

The McAllen Express began in 1997 as a new flexible-route transit service to serve both general-public and ADA-eligible riders. By 1999, ridership had increased to almost 12 passengers per hour. The number of boardings per hour was more than the flexible system operator could serve and still maintain schedules. The decision was made to begin fixed route service with complementary ADA paratransit service.

The objective for beginning with flexible transit was to establish new start service in McAllen with a lower total operating cost until ridership could justify a bigger local investment for fixed route transit with complementary ADA paratransit. The City of McAllen entered into an interlocal agreement with the Lower Rio Grande Development Council (LRGVDC) to provide transit. In turn, LRGVDC contracted to a private company to operate the service. The cost for McAllen flexible transit reflects the contractor cost per hour of \$28.47. By almost any evaluation criterion, the cost per hour in 1998 was cost efficient.

The productivity for McAllen flexible routes was 11.9 passenger boardings per hour of service provided, and the cost-effectiveness measure was \$1.75 subsidy per passenger boarding. The flexible service design made it possible to demonstrate the benefits of transit at a low start-up cost of \$533,000 in 1998.

McAllen Express – Fixed Route

As the ridership on flexible routes in McAllen approached 12 passenger boardings per hour, the quality of service was compromised. Schedules were difficult to maintain when route deviations were provided. The need for a larger service area for persons with a disability was also a factor. In 1999 the City of McAllen approved a change in service design to operate fixed route with complementary ADA paratransit. The LRGVDC also changed to direct operation of the transit service rather than contracting with a private company.

As compared to 11.9 boardings per hour for flexible routes in 1998, the productivity for fixed routes was 14.5 boardings per hour in 2003. The level of service (hours and miles of service) was increased with fixed route. Hours of service increased 15 percent and miles of service increased 28 percent. The investment proved successful, annual ridership increased 56 percent from 223,600 passenger boardings on flexible routes to 348,000 passenger boardings on fixed route.

With direct operation, the cost to provide fixed route transit service increased to \$39.62 per hour in 2003, a 78 percent increase over the contractor price per hour of \$28.47 in 1998. The rates per hour are both operating expense only, neither has an allocation for capital. The significant difference in cost is due to several factors: the contractor price was set before the vendor had experience providing local transit and may not have been adequate (the contractor did not compete to renew the contract upon termination), the public agency cost includes administrative and management expense that was reported separately when the service was contracted, and there is a difference of five years in the rates reported. The average fare did not change.

Accordingly, the subsidy per passenger increased with fixed route transit to \$2.20 per boarding passenger, as compared to \$1.75 for flexible route.

Complementary ADA paratransit productivity for McAllen was 2.4 passenger boardings per hour of service provided in 2003, and the cost-effectiveness measure was \$18.20 subsidy per passenger boarding. The cost to provide curb-to-curb paratransit is a higher cost per boarding than either fixed route or flexible route transit.

Metropolitan Transit Providers

Information is available to analyze operating statistics and measures of cost efficiency and cost effectiveness for Teleride by Capital Metro in Austin (February 1998), Rider Request by the T in Fort Worth (fiscal 2003), and On-Call by Dallas DART (August 2003 – February 2004). San Antonio VIA did not provide financial data to permit analysis of costs for FlexService. However, information about passengers and hours of service (October 2003 – May 2004) does provide for review of service effectiveness as compared to VIA fixed route and VIAtrans paratransit. The data for each transit system are documented in Tables 4 – 9 in the sections below. Table 10 summarizes and compares data for the four examples of flexible transit services in metropolitan areas.

Capital Metro's Teleride and Northwest Dial-a-Ride, Austin

Capital Metro implemented the Teleride to provide public transit service in six areas of Austin where the population density was not high enough for fixed route transit to be viable. The Teleride service was discontinued in 1999 after a review by the Texas Comptroller concluded the service was too expensive to operate. The Comptroller's evaluation was based on the subsidy per passenger boarding. As documented in Table 4, the subsidy per boarding for six Teleride zones averaged \$13.61 in February 1998. The Anderson Mill area had the highest boardings per hour (3.7) and the lowest subsidy per boarding (\$9.84). The cost of providing Teleride service in six communities was \$4,800 per day, or approximately \$1.2 million per year. The average daily passenger boardings were 351, or about 89,500 boardings per year.

Table 4. Capital Metro Teleride Operating and Financial Information

Data for Average Weekday: February 1998

Teleride Zone	Anderson Mill	Cedar Park/Leander	Central Millwood	Oak Hill	South Austin	Wells Branch / Pflugerville	Teleride Total
Operating Statistics							
Hours	41	23	27	20	7	19	135
Passenger Boardings	150	58	61	24	15	43	351
Total Cost*	\$1,476	\$783	\$1,031	\$ 668	\$172	\$ 647	\$ 4,776
Service Effectiveness							
Boardings/Hour	3.7	2.5	2.3	1.2	2.3	2.3	2.6
Cost Efficiency							
Cost/Hour	\$36.41	\$33.75	\$38.87	\$33.38	\$26.38	\$34.59	\$35.26
Cost Effectiveness							
Subsidy/Boarding*	\$9.84	\$13.50	\$16.90	\$27.82	\$11.47	\$15.04	\$13.61

* Cost to Capital Metro net of fare revenues that are retained by the provider = s subsidy by Capital Metro

Source: Capital Metro Teleride Summary of Service

Capital Metro continues to provide flexible transit service in one area. The Northwest Dial-a-Ride service, now operated for Capital Metro by the Capital Area Rural Transportation System (CARTS), provides curb-to-curb service from Lago Vista, Jonestown, and Leander to Highland Mall, Northcross Mall and the Central Medical Complex. The service requires advance reservations, and operates on limited days and hours. Because of the limited service, Northwest Dial-a-Ride carries relatively few passengers, as shown in Table 5.

Table 5. Capital Metro Northwest Dial-a-Ride

Annual Data for Fiscal 2003

Category	Northwest Dial-a-Ride
Operating Statistics	
Miles	31,869
Hours	1,738
Passenger Boardings	2,658
Average Speed (mph)	18
Avg Miles/Boarding	12.0
Total Cost	\$70,921
Fare Revenues	N/A
Service Effectiveness	
Boardings/Hour	1.5
Cost Efficiency	
Cost/Hour	\$40.81
Cost/Mile	\$2.23
Cost Effectiveness	
Cost/Boarding	\$26.68

Source: CARTS Allocated Operating Costs by Route

The Northwest Dial-a-Ride service meets the Capital Metro objective to provide transit in a low-density area where fixed route is not feasible. The dial-a-ride service carried 2,658 passengers in 2003 at an average cost per boarding of \$26.58 – which is double the average subsidy per boarding of Teleride. However, the dial-a-ride cost per boarding must be evaluated in light of the characteristics of the service provided. In 2003, the Northwest Dial-a-Ride average passenger

boardings per hour was 1.5 and the average miles per passenger was 12 miles. The typical distance per passenger for fixed route transit is less than 2 miles. The type of service required to serve the market for Northwest Dial-a-Ride is not fixed route.

The Northwest Dial-a-Ride operates at a high cost per passenger but also transports the average passenger a long distance. As will be shown in the discussion below, the average distance per passenger boarding for flexible transit by the T in Fort Worth is 2.9 miles (Northwest Dial-a-Ride is 4 times longer) and by DART in Dallas is 3.9 miles (Northwest Dial-a-Ride is 3 times longer). In comparison, the cost per passenger boarding for flexible transit by The T in Fort Worth is \$17.58 (the cost per passenger of Northwest Dial-a-Ride is 2 times more although the distance per passenger is 4 times longer) and by DART in Dallas is \$9.23 (the cost per passenger of Northwest Dial-a-Ride is less than 3 times more and the distance per passenger is about 3 times longer).

The T Rider Request, Fort Worth

The T discontinued Rider Request – with the exception of Route 41 Richland Hills – in October 2003 in part because the subsidy per passenger boarding was higher than fixed route. The T directly operated Rider Request and the cost of service is based on a model to allocate all operating costs. The T costs for administration, management, and other indirect operating costs are allocated between the types of transit services operated. This methodology for operating cost allocation results in a higher cost per hour for the T Rider Request (\$66.13 per hour in 2003) as compared to the contractor only cost for Teleride (\$35.26 per hour in 1998) reported by Capital Metro.

As shown in Table 6, the subsidy per boarding for five Rider Request routes averaged \$17.16. Route 46-Lake Worth/ Medical District had the highest boardings per hour (6.8) and the lowest subsidy per boarding (\$10.44). The cost of providing Rider Request service for five routes was \$2.9 million in 2003. The average passenger boardings per hour were 3.8, or about 162,700 boardings per year. The average distance per passenger was 2.9 miles.

Table 6. The T Rider Request Operating and Financial Information

Annual Data for Fiscal 2003

Rider Request Route	41-Richland Hills	42-Southeast	43-Town Center	46-Lake Worth/ Medical District	47-North Side	Rider Request Total
Operating Statistics						
Miles	96,909	90,394	67,831	157,554	63,612	476,299
Hours	8,549	9,530	7,863	11,555	5,764	43,261
Passenger Boardings	23,747	22,359	20,649	79,023	16,922	162,700
Avg Speed (mph)	11	9	9	14	11	11
Avg Miles/Boarding	4.1	4.0	3.3	2.0	3.8	2.9
Total Cost	\$579,326	\$586,431	\$457,492	\$856,015	\$381,414	\$2,860,679
Fare Revenues	\$12,943	\$11,175	\$8,687	\$31,261	\$4,421	\$68,488
Service Effectiveness						
Boardings/Hour	2.8	2.3	2.6	6.8	2.9	3.8
Cost Efficiency						
Cost/Hour	\$67.77	\$61.53	\$58.19	\$74.08	\$66.18	\$66.13
Cost/Mile	\$5.98	\$6.49	\$6.74	\$5.43	\$6.00	\$6.01
Cost Effectiveness						
Cost/Boarding	\$24.40	\$26.23	\$22.16	\$10.83	\$22.54	\$17.58
Fare/Boarding	\$0.55	\$0.50	\$0.42	\$0.40	\$0.26	\$0.42
Subsidy/Boarding	\$23.85	\$25.73	\$21.73	\$10.44	\$22.28	\$17.16

Source: The T FY03 Cost Allocation

The 41-Richland Hills service meets the T objective to provide transit in an area where fixed route is not feasible. The Rider Request route in Richland Hills carried 23,747 passengers in 2003 at an average subsidy per boarding of \$23.85 – which is 50 percent more than the average subsidy per boarding for Rider Request.

Table 7 provides a comparison of operating statistics and performance indicators for fixed route and flexible transit for the T. The average operating speed for the two types of service is approximately the same, 11 miles per hour. The average boardings per hour is 16.6 for fixed route and 3.8 for flexible route. The cost efficiency is similar for both types of service – the cost per hour for flexible transit is slightly less than fixed route. However, cost effectiveness is significantly different - \$3.79 per passenger boarding for fixed route and \$17.16 per passenger boarding for flexible route.

Table 7. The T Comparison Rider Request to Fixed Route
Annual Data for Fiscal 2003

The T Service Type	Fixed Route Transit	Flexible Transit Service	System TOTAL
Operating Statistics			
Vehicles	94	13	107
Miles	3,391,812	476,299	3,868,111
Hours	314,335	43,261	357,596
Passenger Boardings	5,206,586	162,700	5,369,286
Avg Speed (mph)	10.8	11.0	10.8
Avg Miles/Boarding	0.7	2.9	0.7
Total Cost	\$22,225,198	\$2,860,679	\$25,085,877
Fare Revenues	\$2,486,324	\$68,488	\$2,554,812
Service Effectiveness			
Boardings/Hour	16.6	3.8	15.0
Cost Efficiency			
Cost/Hour	\$70.71	\$66.13	\$70.15
Cost/Mile	\$6.55	\$6.01	\$6.49
Cost Effectiveness			
Cost/Boarding	\$4.27	\$17.58	\$4.67
Fare/Boarding	\$0.48	\$0.42	\$0.48
Subsidy/Boarding	\$3.79	\$17.16	\$4.20

Source: The T FY03 Cost Allocation

DART On-Call, Dallas

In addition to improving customer service, the DART objectives for On-Call service are to reduce total cost to provide transit service and to improve cost efficiency and cost effectiveness. Operating statistics and performance indicators for On-Call routes are provided in Table 8. DART contracts On-Call routes to a private provider. Reported costs are those of the contractor only and exclude the expenses directly incurred by DART for program management and oversight. On average, the contractor cost to provide On-Call service is \$35.78 per hour. The total monthly cost for seven routes is \$72,300. On-Call service expense is lower than fixed route for comparable levels of service.

The DART goal for six passenger boardings per hour results in a subsidy per boarding of \$5.53, as seen in Table 8 for the Lakewood On-Call route. The number of passenger boardings ranges from 2.2 to 6 passengers per hour. As the productivity (boardings per hour) increases, the subsidy per passenger decreases. Ridership is near six boardings per hour for the NC Plano On-Call route and growing for the remaining routes.

Table 8. DART On-Call Operating and Financial Information*Data for Average Month: August 2003 through February 2004*

On-Call Route	Lakewood	NC Plano	Rowlett	East Plano	Farmers Branch	North Dallas	On-Call Total
Operating Statistics							
Miles	3,603	6,489	4,389	3,716	3,273	2,017	23,487
Hours	310	415	349	312	333	302	2,020
Passenger Boardings	1,875	2,351	921	1,128	719	834	7,828
Avg Speed (mph)	12	16	13	12	10	7	12
Avg Miles/Boarding	1.9	2.8	4.8	3.3	4.6	2.4	3.0
Total Cost	\$10,803	\$16,849	\$10,856	\$11,203	\$11,759	\$10,821	\$72,291
Fare Revenues	\$432	\$1,260	\$456	\$647	\$631	\$369	\$3,795
Service Effectiveness							
Boardings/Hour	6.0	5.7	2.6	3.6	2.2	2.8	3.9
Cost Efficiency							
Cost/Hour	\$34.83	\$40.65	\$31.09	\$35.91	\$35.33	\$35.88	\$35.78
Cost/Mile	\$3.00	\$2.60	\$2.47	\$3.01	\$3.59	\$5.36	\$3.08
Cost Effectiveness							
Cost/Boarding	\$5.76	\$7.17	\$11.78	\$9.93	\$16.36	\$12.98	\$9.23
Fare/Boarding	\$0.23	\$0.54	\$0.49	\$0.57	\$0.88	\$0.44	\$0.48
Subsidy/Boarding	\$5.53	\$6.63	\$11.29	\$9.36	\$15.48	\$12.54	\$8.75

Source: DART On-call data.xls

VIA FlexService, San Antonio

One of VIA's objectives for the FlexService routes is to reduce the total cost of providing transit service in selected neighborhoods. VIA reports that flexible routes save the cost of two all-day buses, while still providing service to low-density neighborhoods. Operating statistics and limited performance indicators are provided in Table 9. VIA did not provide specific cost data for this analysis.

Table 9. VIA Comparison FlexService to Fixed Route and ADA Paratransit*Data for Average Month: October 2003 through May 2004*

VIA Service Type	Fixed Route	FlexService	VIATrans ADA Paratransit	System Total
Operating Statistics Available				
Vehicles	347	3	84	434
Hours	113,446	1,072	21,765	136,283
Total Cost	N/A	N/A	N/A	N/A
Passenger Boardings	2,954,918	9,083	43,399	3,007,400
Fare Revenues	\$1,096,231	\$3,207	\$49,447	\$1,148,885
Fare/Boarding	\$0.37	\$0.35	\$1.14	\$0.38
Service Effectiveness				
Boardings/Hour	26.0	8.5	2.0	22.1

Source: VIA flex service data

Fixed route serves on average 26 boardings per hour as opposed to 8.5 passenger boardings per hour for FlexService and 2 passenger boardings per hour for VIAtrans.

Comparison of Flexible Services by Transit Agency

Table 10 provides a comparison of selected performance data for the four flexible transit services operated by metropolitan transit authorities in Texas.

Table 10. Flexible Transit Comparative Data

Flexible Service	Capital Metro Teleride	The T Rider Request	DART On-Call	VIA FlexService
Period	Feb 1998	2003 FY	Aug 2003 - Feb 2004	Oct 2003 - May 2004
Service Effectiveness				
Boardings/Hour	2.6	3.8	3.9	8.5
Cost Efficiency				
Cost/Hour	\$35.26	\$66.13	\$35.78	N/A
Cost/Mile	N/A	\$6.01	\$3.08	N/A
Cost Effectiveness				
Cost/Boarding	--	\$17.58	\$9.23	N/A
Fare/Boarding	--	\$0.42	\$0.48	\$0.35
Subsidy/Boarding	\$13.61	\$17.16	\$8.75	N/A

The service effectiveness measure for the T Rider Request and DART On-Call are similar – 3.8 and 3.9 boardings per hour, respectively. In comparison, the Capital Metro Teleride zones provided 2.6 boardings per hour. The VIA FlexService routes average 8.5 boardings per hour; however, the routes do operate fixed route during peak periods of the day.

The cost efficiency measure for Capital Metro Teleride and Dart On-Call are similar - \$35.25 and \$35.78 per hour, respectively. Both transit systems contract(ed) flexible routes to a private operator and reported the contractor cost without an allocation of transit agency administrative costs or other related in-house expenses. On the other hand, The T operated Rider Request directly. The cost per hour for Rider Request was \$66.13 and reflected all allocated operating costs.

Cost effectiveness is reported for Capital Metro Teleride, The T Rider Request, and DART On-Call. The subsidy per boarding passengers is highest for Rider Request – \$17.16 as compared to \$13.61 for Capital Metro Teleride. The Rider Request measure is 26 percent higher per boarding passenger than Teleride; Rider Request reflects both a higher cost per hour of service (87 percent higher than Teleride) and a higher productivity (46 percent higher than Teleride).

Although the productivity measure is approximately the same for the two flexible services, the subsidy per boarding passenger for Rider Request of \$17.16 is roughly twice the subsidy per boarding passenger for DART On-Call of \$8.75. This is due to the higher cost reported by the T for direct operation as compared to the DART cost to contract On-Call. The conclusion is not that direct operation costs twice as much as contract. Rather, an observation is made that DART

has not reported the additional DART costs to administer the contract and to manage the flexible services.

Findings

Whether or not flexible transit is cost-effective for a given transit provider depends on the purpose of the program and the cost of the alternative transit service. Flexible transit can be cost-effective when comparing total costs to provide transit service.

General

- Total cost to provide flexible service in a specific service area, such as a low-density residential neighborhood, may be lower than the cost to provide adequate fixed route services for the same area.
- Flexible service can be less expensive than fixed route service when the flexible service can meet specific customer needs with fewer hours or miles of service.
- Total cost for flexible route can be lower than the cost of complementary ADA paratransit, if the flexible service meets ADA requirements for paratransit.

Service Effectiveness

- Flexible services carry fewer passengers per hour than fixed route.

Cost Efficiency

Cost per Hour

- The direct cost of providing flexible services may be lower if operated by private contractor. However, total costs may be similar. Total costs should include the expense of the transit agency to administer the contract and to manage the service to ensure customer satisfaction and service quality.
- If transit agency administration, management, and indirect costs are not allocated across types of service, it is reasonable to assume flexible cost per hour is similar to fixed route cost per hour.
- Allocated costs may show some small difference – examples analyzed showed both higher and lower flexible costs per hour than fixed route. Assumptions in allocation variables explain the differences.

Cost per Mile

- Cost per mile for flexible route is higher than fixed route.
- Flexible services operate fewer miles per hour and so cost per mile is higher.

Cost Effectiveness

- Cost per passenger for flexible transit is higher than fixed route.
- Flexible services carry fewer passengers per hour and so cost per passenger is higher.

Summary

- The cost to provide flexible transit service must be evaluated with the agency objectives in mind.

- Total costs for flexible transit may be lower than the total costs to serve a specific target service area or target market with fixed route service.
- If costs are based on the same operating approach (direct operation or contracted), the cost per hour for flexible transit will be generally the same as fixed route.
- The cost per mile and cost per passenger will be higher for flexible route.

Chapter 5. Conclusions and Recommendations

The purpose of this chapter is to review the conclusions about flexible transit drawn from the experiences of eight transit agencies in Texas and to document recommendations for the consideration of transit agencies that may be planning to implement flexible transit in the future.

Conclusions

The four small urban areas profiled (Wichita Falls, Rio Metro in urbanized Hidalgo County, McAllen, Abilene) all consider flexible transit service to have been a success, either as an end in itself or as a stepping-stone to other types of transit service. Flexible transit in these low-density communities may be more cost effective than either traditional paratransit or fixed route service.

The four large urban areas profiled (Austin, Dallas, Fort Worth, and San Antonio) have experienced a mix of results from their flexible transit services, all of which represent a small segment of the public transit service provided in these regions.

Fort Worth's The T had mixed customer reactions to its flexible transit service, with some customers expressing dissatisfaction with the advance reservation requirement and occasional unreliability in schedules, although the curb-to-curb aspect was received positively. The T discontinued Rider Request – with the exception of Route 41 Richland Hills – in October 2003 in part because the subsidy per passenger boarding was higher than fixed route. The 41-Richland Hills service meets the T objective to provide transit in an area where fixed route is not feasible.

Capital Metro implemented Teleride to provide public transit service in six areas of Austin where the population density was not enough for fixed route transit to be viable. The decision to discontinue Teleride service in 1999 was in response to a review by the Texas Comptroller that concluded subsidy per passenger boarding was too high to warrant the public investment of \$13.61 subsidy per boarding. Capital Metro continues to provide flexible transit service in one area: the Northwest Dial-a-Ride service. Agency staff emphasize that flexible service cost per passenger should not be compared with fixed route transit; rather, the total cost of providing adequate transit service in a particular area should be considered. Capital Metro is planning to expand flexible transit in the future.

DART's On-Call customers gave mostly positive responses regarding customer service. Requests for service improvement focused primarily on increasing service hours and the size or number of On-Call zones. Other areas of concern for some passengers were difficulty in reaching On-Call or DART staff, and on-time performance. Three attributes received the highest percentage of "agree" or "strongly agree" responses from passengers:

- "I feel safe when riding On-Call." (90 percent agreed or strongly agreed)
- "On-Call drivers are helpful." (89 percent agreed or strongly agreed)
- "Learning to use On-Call was easy." (88 percent agreed or strongly agreed)

DART's outreach and education efforts prior to the introduction of each new On-Call zone has likely contributed to passenger perceptions of its ease of use. Still, operators noted that

passenger complaints were higher during the first months of service, before passengers adjusted to the different service style.

In addition to improving customer service, the DART objectives for On-Call service are to reduce total cost to provide transit service and to improve cost efficiency and cost effectiveness. DART contracts On-Call routes to a private provider to reduce total cost. On-Call service expense is lower than fixed route for comparable levels of service. The DART goal for six passenger boardings per hour results in a subsidy per boarding of \$5.53. The number of passenger boardings by route ranges from 2.2 to 6 passengers per hour. As the productivity (boardings per hour) increases, the subsidy per passenger decreases. Ridership is at or near six boardings per hour for two On-Call routes and growing for the remaining routes.

VIA has encountered mixed customer response. VIA FlexService customers like having bus service in their neighborhoods, and many suggested expanding the service to cover more hours and/or territory. FlexService drivers were also considered a positive aspect of the service. Seventy-five percent or more of passengers surveyed agreed or strongly agreed with the following statements about FlexService:

- “The transfer to a regular bus is convenient.”
- “FlexService is a good value for the fare.”
- “FlexService drivers are helpful.”
- “FlexService buses are comfortable to ride.”
- “Learning to use FlexService was easy.”

Areas of concern for VIA FlexService passengers included the convenience of the service, on-time performance, and reliability. The primary reasons for the more negative responses in these areas, as expressed by passengers and vehicle operators, are as follows:

- Many customers do not fully understand how FlexService works. Part of this confusion may be due to a contradiction between the description of the service in the route-schedule flyers and the actual routing of the FlexService buses when a call-ahead request is received.
- Not many customers currently use the flexible option of the FlexService routes; particularly on routes 401 and 402, an average of 1 or 2 passengers per day use the call-in option to request a pick-up. As a result, the FlexService buses tend to operate in fixed route mode most of the day – except for the relatively infrequent times when they go off-route to pick up a Flex passenger, bypass the regular stops along the route, and possibly miss a passenger waiting at one of the marked bus stops. As a result, these passengers regard the three FlexService routes as an unreliable version of fixed route service, rather than as a more customer-focused service.

Financially, VIA staff report the objective to reduce the total cost of providing transit service in selected neighborhoods is met by eliminating the cost of two full-time fixed route buses and converting to FlexService. VIA did not provide specific cost data for this analysis.

Recommendations

Extensive education of passengers, staff, and agency leadership is necessary to make flexible transit service successful. The objectives for cost effectiveness should be realistic with the service design, target market, and service characteristics in mind.

Agencies need to understand how costs differ from fixed route service, in order to make decisions on the financial viability of flexible transit service for a particular area. Factors to be considered include the total cost of providing flexible service in a target area as compared to the total cost of providing fixed route to the same market. Flexible transit may be the only feasible way to provide service in a neighborhood or to a target market of riders due to the geographic area or the accessibility of the neighborhood. Another factor to be considered is the ability to serve a sufficient number of passengers per hour to achieve an acceptable cost per boarding. The transit agency should understand why flexible transit will have a higher cost per passenger boarding than fixed route. The flexible service design should take into consideration characteristics that influence productivity: the size of the service area, market size, density of origins and destinations, average trip distance, average speed, and special needs of the target market.

Agencies also must precisely define the parameters of flexible transit service, including locations served, hours of flexible (and possibly non-flexible) service, number of “fixed” locations included in the service area, and extent of route deviation. Flexible service requires a significant commitment of resources; an adequate number of vehicles need to be available for each area to meet its customer demand. Flexible transit requires an extensive a public information and promotion campaign for the target market.

Operators and dispatchers accustomed to fixed route transit require extensive training on providing a service that is similar to paratransit operations in many ways. If the service design is similar to DART On-Call, operators may be required to perform some dispatch duties and to determine the most efficient routing and pick-up/drop-off order depending on passenger trip requests. Additionally, flexible transit service may serve more passengers per hour and require more rigid scheduling criteria than traditional paratransit. Cooperation among transit agency staff and a willingness to make adjustments on a day-to-day basis are essential to providing flexible transit service. Managers of the flexible programs should be willing to adapt policies and procedures as needed to promote efficiency and customer service.

Finally, passengers need to be well-informed on this very different way to use public transit. Customer information methods could include the following:

- Advance outreach and orientation programs on reserving trips (if reservations are required), planning for trip schedules, and riding the service. DART suggests holding “practice” ride days and free ride days for the first two weeks of service, to allow passengers to become acclimated to the service.
- Passenger handbooks or brochures outlining how to ride, reservation requirements, differences between peak-hour and non-peak-hour service (if any), and any other information needed to successfully use the service.

Appendix – Passenger Surveys in English and Spanish



DART On-Call Passenger Survey



Español por otro lado

This survey is being conducted by the Texas Transportation Institute (TTI), in cooperation with DART. The following questions can be answered in a few minutes and will provide information to improve future transit service. Please complete the survey and return it to the TTI researcher before leaving the bus. If you cannot complete the survey during this bus ride, please ask the researcher for a postage-paid envelope and mail the survey back to TTI. Your answers will be anonymous; please do not write your name or any identifying information on the survey. If there are any questions that you do not wish to answer, leave them blank. *Thank you for your time!*

1. What is the purpose of your trip TODAY on DART On-Call? (check one)
 - Work School Recreation / Fun
 - Shopping Medical/Doctor Personal Errands
 - Other (specify) _____

2. How often do you use DART On-Call? (check one)
 - 6-7 days a week 3-4 days a week 1-2 days a MONTH
 - 5 days a week 1-2 days a week Less than once a MONTH
 - This is my first time

3. For how long have you used DART On-Call? (check one)
 - This is my first time More than one month but less than a year
 - Less than one month More than one year

4. Which other DART transit services did you use BEFORE you began riding On-Call? (check all that apply)
 - I rode DART Bus Route # _____ (fill in the number of the route)
 - I rode DART Light Rail
 - I used DART Paratransit Services
 - I rode another DART service (specify) _____
 - I did not use DART transit services before I began riding On-Call

5. If you used DART Paratransit Services, do you still make some trips on Paratransit? ____ Yes ____ No
 If Yes, How often? (check one)
 - I use Paratransit MORE now than before I began to ride On-Call
 - I use Paratransit LESS now since I also use On-Call
 - I use Paratransit about the SAME as before

6. For your On-Call trip TODAY, are you transferring to/from another DART transit service? (check one)
 - Yes. I am transferring to/from DART Bus Route # _____
 - Yes. I am transferring to/from DART Light Rail
 - Yes. Other (specify) _____
 - No, I do not transfer.

7. How do you rate DART transit service in general? (check one)
 - Very Good Good Fair Poor Very Poor

8. How do you rate On-Call specifically? (check one)
 - Very Good Good Fair Poor Very Poor

Continued

9. Do you Agree or Disagree with the following statements about On-Call?

Please check one box that best reflects your opinion for each statement	Strongly Agree	Agree	Not Sure	Disagree	Strongly Disagree
On-Call is more convenient than a regular bus route.					
On-Call drivers are helpful.					
I feel safe when riding On-Call.					
I can be sure On-Call will come at the times I schedule.					
The buses on On-Call are comfortable to ride.					
Learning to use On-Call was easy.					
On-Call service operates on-time.					
The transfer to a regular bus or light rail is convenient.					
Information to explain how to use On-Call was available to me.					
On-Call service is a good value for the fare I pay.					
I can reach someone at DART to provide information when I have a question about On-Call.					

10. What do you like BEST about DART On-Call? Please be specific. _____

11. What one change do you recommend to improve DART On-Call? Please be specific.

12. How old are you? _____ years

13. Are you: ____ Male ____ Female

14. How many persons live in your home? (circle one)
 1 2 3 4 5 6 7 or more

15. What is the combined annual income of your entire household, including non-family members? (check one)

<input type="checkbox"/> \$10,000 or less	<input type="checkbox"/> \$20,001 - \$30,000	<input type="checkbox"/> \$40,001 - \$50,000
<input type="checkbox"/> \$10,001 - \$20,000	<input type="checkbox"/> \$30,001 - \$40,000	<input type="checkbox"/> \$50,001 - \$75,000
		<input type="checkbox"/> \$75,001 or more

Thank you for your help!



DART On-Call Encuesta Sobre el Pasajero



Esta encuesta esta siendo dirigida por el Instituto de Transportación de Texas (TTI), en cooperación con DART. Las siguientes preguntas pueden ser contestadas en pocos minutos y proveeran información para mejorar el futuro servicio de tránsito. Por favor complete la encuesta y regresela al encuestador TTI antes de bajar del autobús. Si usted no termina la encuesta durante este viaje en el autobús por favor pregunte al encuestador por un sobre con estampilla y envíelo a TTI. Sus respuestas se mantendrán confidenciales; favor de no escribir su nombre ni ninguna forma de identificación en esta encuesta. Si hay algunas preguntas que no desea contestar deje el espacio en blanco. *¡Gracias por su tiempo!*

1. ¿Cuál es el propósito de su viaje HOY en DART On-Call? (marque uno)
 - Trabajo Escuela Recreación/diversión
 - De compras Clínica/Doctor Asuntos Personales
 - Otro (especifique) _____

2. ¿Qué tan seguido usa usted DART On-Call? (marque uno)
 - 6 o 7 días a la semana 3 o 4 días a la semana 1 o 2 días al MES
 - 5 días a la semana 1 o 2 días a la semana Menos de una vez al MES
 - Esta es mi primera vez Más de un mes pero menos que un año
 - Menos de una vez al MÉS Más de un año

3. ¿Cuánto tiempo lleva usando DART On-Call? (marque uno)
 - Esta es mi primera vez Más de un mes pero menos que un año
 - Menos de una vez al MÉS Más de un año

4. ¿Que otro servicio de transporte de DART usaba ANTES de que empezara a usar On-Call? (marque todos los que aplican)
 - Viajo en la ruta de DART autobús numero # _____ (escriba el numero de la ruta)
 - Viajo en DART Light Rail
 - Utilicé el servicio de DART Paratransit
 - Viajo un otro DART servicio de tránsito (especifique) _____
 - No utilicé DART servicio de tránsito antes de comenzar a usar On-Call

5. ¿Si usted utilizó DART Paratransit, usted todavía hace algunos viajes en Paratransit? ____ Sí ____ No
 ¿Si sí, que tan seguido? (marque uno)
 - Utilizo MÁS ahora Paratransit antes que empezara a usar On-Call.
 - Utilizo MENOS ahora Paratransit porque también uso On-Call.
 - Utilizo Paratransit CASI como antes.

6. ¿Para su viaje de On-Call HOY, usted está transbordando a o desde otro VÍA servicio de tránsito? (marque uno)
 - Sí. Estoy transbordando a o desde DART la ruta de autobús # _____
 - Sí. Estoy transbordando a o desde DART Light Rail
 - Sí. Otro (especifique) _____
 - No, no transfiere.

7. ¿Cómo usted califica VÍA servicio del tránsito en general? (marque uno)
 - Muy bien Bien Más o menos Mal Muy mal

8. ¿Cómo usted califica On-Call específicamente? (marque uno)
 - Muy bien Bien Más o menos Mal Muy mal

Continuar ...

9. ¿Usted esta de acuerdo o en desacuerdo con las declaraciones siguientes sobre On-Call?

Marque la caja que refleja lo mejor posible su opinión para cada declaración.	Muy de acuerdo	De acuerdo	No estoy seguro	Desacuerdo	Completo desacuerdo
On-Call es más conveniente que las rutas del autobús regular.					
Los conductores de On-Call son amables.					
Me siento seguro cuando viajo en On-Call.					
Puedo estar seguro que On-Call llegará a el horario correcto.					
Los autobuses de On-Call son cómodos para viajar.					
Aprender a usar On-Call es fácil.					
El On-Call funciona puntual.					
La transferencia a un autobús regular o light rail es conveniente.					
La información para utilizar On-Call esta disponible para mí.					
El servicio de On-Call tiene un buen precio por el servicio que da.					
Puedo encontrar a alguien de DART para que me de información cuando tengo una pregunta acerca de On-Call.					

10. ¿Qué le GUSTA MÁS a usted de el servicio de On-Call? Sea específico por favor. _____

11. ¿Qué cambio recomienda usted para mejorar On-Call? Sea específico por favor. _____

12. ¿Cuántos años tiene usted? _____ años

13. ¿Es usted: ____ Hombre ____ Mujer

14. ¿Cuántas personas viven en su casa? (círculo uno)
 1 2 3 4 5 6 7 o más

15. ¿Cuál es el ingreso anual de todas las entradas de su casa, incluyendo a los que no son miembros de la familia? (marque uno)

<input type="checkbox"/> \$10,000 o menos	<input type="checkbox"/> \$20,001 - \$30,000	<input type="checkbox"/> \$40,001 - \$50,000
<input type="checkbox"/> \$10,001 - \$20,000	<input type="checkbox"/> \$30,001 - \$40,000	<input type="checkbox"/> \$50,001 - \$75,000
		<input type="checkbox"/> \$75,001 o más

¡Muchas gracias por su ayuda!