

**TRANSIT COOPERATIVE RESEARCH PROGRAM  
(TCRP)**

**Project B-40**

**Final Research Report to Enable and Promote  
the Use of Fixed-Route Transit by People with  
Disabilities**

This is the contractor's final report for TCRP B-40.

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# Table of Contents

<b>Introduction</b>	<b>i</b>
Project Goal and Tasks .....	ii
<b>Section 1. Literature Search.....</b>	<b>1-1</b>
Factors Considered When Deciding Whether to Use Fixed-Route Transit Services.....	1-1
Current Use of Fixed-Route Transit Services .....	1-3
ADA Paratransit Eligibility Determinations.....	1-5
Fare Incentive Programs .....	1-8
Pedestrian Infrastructure Issues and Improvements .....	1-10
Travel Training Programs.....	1-13
Enhanced Trip Planning Services to Facilitate Use of Fixed-Route Transit Services.....	1-14
Enhanced Public Information and Marketing Efforts to Promote Use of Fixed-Route Transit Services .....	1-15
Improved Vehicle Designs to Accommodate Riders with Disabilities and Their Mobility Devices.....	1-15
Uses of Advanced Technologies to Facilitate Fixed-Route Transit Use.....	1-17
Enhanced Service Monitoring Efforts to Ensure Accessibility of Fixed-Route Transit Services.....	1-20
<b>Section 2. Key Factors Influencing Use of Fixed-Route Transit Services .....</b>	<b>2-1</b>
Initial Interviews of People with Disabilities .....	2-1
Interviewee Location and Types of Mobility Aids Used .....	2-1
Modes Used, Frequency of Use, and Use by Trip Purpose .....	2-2
General Comments on Fixed-Route Transit and ADA Paratransit Services .....	2-5
Importance of Selected Factors in Decisions Whether to Use Fixed-Route Transit Services .....	2-6
National Survey of People with Disabilities .....	2-14
Initial Questions.....	2-15
Frequency of Use.....	2-19
Types of Trips .....	2-22
Reasons for Choice of Transit Mode.....	2-27
More Use of Fixed-Route Transit Service .....	2-27
What Factors Are Most Important .....	2-31
Conclusions and General Observations Regarding Key Decision Factors.....	2-42

### **Section 3. Identification of Efforts by Transit Agencies to Enable and Promote Use of Fixed-Route Transit Services .....3-1**

Development and Distribution of the Survey .....	3-1
Types of Transit Services Provided.....	3-2
Current Use of Fixed-Route Transit Services by Persons with Disabilities.....	3-3
ADA Paratransit Eligibility Determination Processes.....	3-4
Fare Incentive Programs.....	3-10
Pedestrian Infrastructure Improvement Programs.....	3-13
Travel Training Programs.....	3-19
Targeted Marketing/Public Information Efforts .....	3-25
Trip Planning Information .....	3-30
Enhanced Employee Training .....	3-37
Transit Service Monitoring Efforts .....	3-41
Improved Accommodation of Mobility Aids Used By Riders.....	3-48

### **Section 4. Selection of Phase 2 Case Studies .....4-1**

### **Section 5. Case Studies of Conditional and Trip-by-Trip ADA Paratransit Eligibility Determinations .....5-1**

King County Metro, Seattle, WA: Conditional and Trip-by-Trip ADA Paratransit Eligibility Determinations .....	5-1
Background.....	5-1
Community Transportation Program .....	5-1
ADA Paratransit Eligibility Determination Process .....	5-4
Conditional and Trip-By-Trip Eligibility .....	5-8
ADA Paratransit Ridership Trends .....	5-17
Conclusions and Lessons Learned .....	5-17
Port Authority of Allegheny County (PAT) and ACCESS Transportation Systems, Inc., Pittsburgh, PA: Conditional and Trip-by-Trip ADA Paratransit Eligibility Determinations .....	5-20
Background.....	5-20
ACCESS Transportation Systems, Inc.....	5-20
ADA Paratransit Eligibility Determination Process .....	5-25
Process Statistics and Outcomes.....	5-29
Conditional and Trip-By-Trip Eligibility .....	5-30
Using Trip Review Information to Improve Community Accessibility.....	5-35
Trip-by-Trip Eligibility Review Statistics, Costs, and Savings.....	5-37
ADA Paratransit Ridership Trends .....	5-41
Conclusions and Lessons Learned .....	5-43

### **Section 6. Case Studies of Bus Stop and Pedestrian Infrastructure Improvement Programs.....6-1**

TriMet, Portland, OR: Bus Stop and Pedestrian Infrastructure Improvement Efforts .....	6-1
Introduction .....	6-1

Impetus for the Line 57-TV Highway/Forest Grove Pedestrian Improvement Project.....	6-2
How the Locations were Selected for Improvements .....	6-2
Implementation of Improvements .....	6-3
Results (Data Analysis).....	6-7
Implementation Issues .....	6-14
Continuing Challenges in the TV Highway Pedestrian Environment .....	6-16
Relationship to Paratransit Eligibility Determination Process .....	6-16
Conclusions and Lessons Learned .....	6-19
RideOn, Montgomery County, MD: Bus Stop and Pedestrian Infrastructure Improvement Efforts .....	6-20
Introduction .....	6-20
Impetus for Bus Stop and Pedestrian Infrastructure Improvements .....	6-20
How Locations Were Selected .....	6-22
Implementation and Funding.....	6-22
Results .....	6-22
Related Stop Improvement Efforts in Washington, D.C. Metro Region .....	6-28
Conclusions and Lessons Learned .....	6-30
Intercity Transit: Bus Stop and Pedestrian Infrastructure Improvement Efforts .....	6-34
Introduction .....	6-34
Impetus for the Bus Stop Improvement Project.....	6-34
How the Locations were Selected for Improvements .....	6-35
Implementation of Improvements .....	6-36
Results (Data Analysis).....	6-38
Bus Stop Accessibility Status.....	6-40
Customer Satisfaction Surveys .....	6-40
Implementation Issues .....	6-42
Related Planning Efforts and Improvement Initiatives.....	6-43
Support at the Highest Level of the Transit Organization .....	6-44
Strategic Approach to Applying for Grant Funding .....	6-45
Conclusions and Lessons Learned .....	6-45

## References

**Appendix A. Copy of Task 3 Interview Guide**

**Appendix B. Copy of Task 3 National Survey of People With Disabilities**

**Appendix C. Comments From Task 3 Survey Respondents**

**Appendix D. Copy of Task 4 National Survey of Transit Agencies**

**Appendix E. King County Metro's Access Transportation Conditional Eligibility Categories and Codes**

**Appendix F. Port Authority of Allegheny County and Access Transportation Systems' Inc. (Pittsburgh, PA) Conditional Eligibility Trip Categories and Codes**



# Introduction

This report provides a summary of research conducted for Transit Cooperative Research Program (TCRP) Project B-40: Strategy Guide to Enable and Promote the Use of Fixed-Route Transit by People with Disabilities. The report is intended to serve as a companion document to the Strategy Guide developed for the project. The Strategy Guide incorporates key information and findings from the research. This report provides a more detailed description of the research methodologies and more complete presentation of the research data.

The first three sections of this report describe the work completed and major findings for the three Phase 1 tasks, which were:

- A literature search (Task 1)
- Identification of key factors influencing the use of fixed-route transit services by people with disabilities (Task 3)
- Identification of programs and efforts by transit agencies to enable and promote use of fixed-route transit services by people with disabilities (Task 4)

Sections 4 through 6 then present the case studies conducted under Phase 2 of the project. Section 4 explains how case studies were selected and provides a listing of all case studies conducted. This includes full case studies (which included on-site data collection), as well as mini case studies (which involved data collection via phone calls and emails). Section 5 includes full case study write-ups of conditional and trip-by-trip ADA paratransit eligibility. Section 6 includes full case study write-ups of bus stop and pedestrian infrastructure improvements. Information collected for mini case studies is incorporated directly into the Strategy Guide companion document.

A complete list of all references noted in the literature search is contained at the end of this report. Copies of the interview guide and national surveys developed and used in Tasks 3 and 4 are included as Appendices.

## Project Goal and Tasks

The goal of project B-40 was:

***To provide a practitioner's strategy guide to enable and promote the use of fixed-route transit service by people with disabilities.***

The research was conducted in two phases. Phase 1 included:

1. A review of the relevant literature concerning the use of fixed-route public transit service by individuals with disabilities. As noted above, the results of the literature review are presented in Section 1.
2. Research and documentation of current use of fixed-route transit services by persons with disabilities. The results of this task are incorporated in the Strategy Guide companion document.
3. Interviews of people with disabilities in selected communities across the country and a nationwide survey of people with disabilities to document the factors considered by people with disabilities when using fixed-route transit or ADA paratransit. The results of this task are included in Section 2. The interview guide and survey tool are provided as Appendices A and B.
4. A nationwide survey to identify efforts by transit agencies to enable and promote the use of fixed-route transit services by persons with disabilities. The results of this task are provided in Section 3 and the survey tool is included as Appendix D.

Phase 2 work included:

1. Conducting case studies of selected efforts and programs to enable and promote increased use of fixed-route transit. Five full case studies and 28 mini case studies were conducted. Full case study write-ups are provided in Section 3 and 4. Mini case study information is incorporated in the Strategy Guide companion document.

Case studies were conducted for the following types of programs and efforts:

- a. Conditional and trip-by-trip ADA paratransit eligibility determinations.
- b. Fare incentive programs
- c. Bus stop and pedestrian infrastructure improvement efforts
- d. Other efforts (targeted marketing and public information, trip planning, travel training, service monitoring, and improved accommodation of riders using mobility devices)
2. Designing methodologies for evaluating the success of efforts to enable and promote use of fixed-route transit service. The methodologies are included in the Strategy Guide companion document.
3. Preparing a Strategy Guide that can be used by practitioners to enable and promote increased use of fixed-route transit services.



## Section 1. Literature Search

The first task in Phase I of the study was to conduct a search of the literature related to encouraging and facilitating use of fixed-route transit services by persons with disabilities. The literature search covered the following topics:

- Factors considered when deciding whether to use fixed-route transit services
- Current use of fixed-route transit services by persons with disabilities and general guidance for facilitating and enhancing use of fixed-route transit services
- ADA paratransit eligibility determinations
- Fare incentive programs
- Pedestrian infrastructure issues and improvements
- Travel training programs
- Enhanced trip planning services to facilitate use of fixed-route transit services
- Enhanced public information and marketing efforts to promote use of fixed-route transit services
- Improved vehicle designs to accommodate riders with disabilities and their mobility devices
- Uses of advanced technologies to facilitate fixed-route transit use
- Enhanced service monitoring efforts to ensure accessibility of fixed-route transit services

The literature search included an examination of all 27 reports and documents noted in the approved Working Plan. Many other reports and documents were also identified as the search progressed.

Following is a summary of the literature identified in each of the study categories listed above. A list of references cited in this section is provided at the end of this report.

### Factors Considered When Deciding Whether to Use Fixed-Route Transit Services

The literature review identified a somewhat limited record on the factors considered by persons with disabilities when deciding whether to use fixed-route transit versus other modes of transportation. There are a considerable number of references that address mode choice by the general public, but few studies that focus specifically on individuals with disabilities.

One early attempt to identify mode choice by persons with disabilities was TCRP Report 24: Guidebook for Attracting Paratransit Patrons to Fixed-Route Services [Balog, 1997]. This study collected data on ADA paratransit ridership and fixed-route transit lift boardings from transit agencies across the country. It also collected information on the characteristics of each agency (region of the country, climate, population density), as well as service characteristics (fares, number of fixed-route buses with lifts/ramps, etc.).

The Guidebook includes a series of tables that summarize this data. To estimate likely ADA paratransit and fixed-route transit ridership, transit agencies are first instructed to use the tables to locate other systems that have similar general characteristics (region, climate, population density, etc.). They are then instructed to select the “peer” systems that have service characteristics similar to their services (or similar to a revised design they are considering). ADA paratransit ridership and fixed-route transit lift boardings reported by the selected “peer” systems can then be used to estimate likely mode split. The Guidebook also provides a general discussion of improvements that can be made to fixed-route transit services to increase use by riders with disabilities. Bus stop access, minimizing distances to and from stops, driver training, travel training, and marketing are among the improvements recommended.

A study of the factors affecting travel by persons who use wheelchairs, with a particular focus on public transit and community mobility [Meyers, 2002] found that the most significant limitations to travel were: a general lack of the availability of fixed-route transit service; street crossing issues (heavy traffic or uncontrolled intersections); weather; lack of curb-ramps or poorly designed curb-ramps; broken lifts on buses; and narrow aisles and doors on public transit vehicles.

A study conducted in Sweden [Svensson, 2003] examined the factors considered by elderly persons when deciding whether to use “specialized transportation” (paratransit) or fixed-route transit services. It used stated preference analysis to identify the factors considered most important by elderly riders. The study concluded that distance to and from stops was the most important factor for riders who are elderly. Having adequate time to be seated safely was also rated as very important. The study results supported efforts underway in Sweden to promote the “service route” concept, which was designed to bring fixed-route transit services closer to riders and to provide more personalized service.

A report on the accessibility of transportation services by the National Council on Disability [NCD, 2005] includes qualitative information on the factors that were affecting use of transportation services by persons with disabilities. Based on input from people with disabilities, advocates and transit professionals, the report cites a number of factors. These include a lack of rail facility accessibility and concerns about proper wheelchair securement on fixed-route transit services. In a section specifically about “Use of fixed-route versus paratransit service,” the report notes concerns about personal safety on fixed-route transit, and a lack of “skills” needed to use fixed-route transit. The report also notes that some riders expressed concern that if they used the fixed-route transit service they might lose eligibility for ADA paratransit services.

A 2008 study of ADA paratransit riders in Indianapolis, IN [Crabtree, J., 2008] examines the “demographics, disabling conditions, self-reported needs, and environmental barriers” that prevent use of fixed-route transit services. The issues associated with getting to and from bus stops, riding fixed-route transit, and navigating the system (generally following the three “Categories” of ADA paratransit eligibility) are examined for 1,102 ADA paratransit applicants. The study found that the main issues with getting

to and from bus stops, in order of importance, were: distance to and from stops (68%); snow/ice (66%); uneven/broken path-of-travel surfaces (60%); and street crossings (57%). The most significant issues boarding, riding and disembarking from fixed-route transit were: balance on a moving vehicle (41%); and inability to recognize destination (36%). Significant issues navigating the fixed-route transit system were: transfers between routes (43%); dealing with unexpected situations (38%), and understanding and processing information (29%).

A more recent examination of mode choice factors is included in TCRP Report 158 [Bradley, 2012]. While the focus of this study is on estimating ADA paratransit demand, it does include data on use of fixed-route services and other modes of transportation by riders who are ADA paratransit eligible. Based on detailed rider trip diaries, data on mode choice is developed for the study area (Dallas and Ft. Worth, TX). The data indicates that persons who are ADA paratransit eligible make about 40% of their trips on ADA paratransit. Fixed-route transit was used for only 2.3% of trips. A significant percent of trips (35%) are made as a passenger in a private auto or van. The study also used stated preference analysis to identify important ADA paratransit service characteristics that affected mode choice. Of the factors studied, on-time pickups and drop-offs were found to be most important. The cost of service was also found to be important and appeared to correlate to the lower incomes of persons with disabilities.

## Current Use of Fixed-Route Transit Services

Several reports and studies discuss the current use of fixed-route transit services by persons with disabilities and provide general guidance for facilitating and enhancing greater use of fixed-route transit services. An early document [White, 1995] is written in very practical language by a transit agency manager. In four chapters, it addresses the challenge of rising demand for paratransit, then sets forth a range of policies and practices that transit agencies can consider “to control the demand for paratransit service within the constraints of the ADA.” Among the strategies to shift ridership to fixed-route transit from paratransit service are:

- Removing barriers discouraging fixed-route transit use, both physical and information
- Providing incentives, economic, service quality, and psychological
- Tailoring service to the needs of persons with disabilities

This study also provides a high-level overview of how to assess any program changes (measuring current service, collecting data on the service changes) and discusses limitations of any analysis performed, and potential next steps. Finally, it offers the Ann Arbor Transit Authority (home agency of the lead author) as a case study for the choices it made to manage paratransit ridership growth.

A TCRP study [EG&G Dynatrend, 1995] identified efforts made by transit agencies to better serve persons with disabilities, through new service models, technology, marketing and public information, and/or policies. Among the “exemplary programs” presented in the report are:

- Service routes (Madison County Transit, Madison, OH)
- On-call, accessible fixed-route buses (MBTA, Boston; TARC, Louisville; and Rogue Valley Transportation, Medford, OR)
- Accessible taxis (BC Transit, Vancouver, BC)
- Sectorized point-deviation program replacing traditional radial, fixed-route structure (Transit Management of Hamilton, Hamilton, OH)
- Paratransit feeder service (Island Transit, Coupeville, WA)
- Fixed-route subscription bus service (SRTD, Sacramento, CA)

A companion TCRP report [Multisystems, 1997] conducted a survey of 548 public transit agencies in the United States and Canada. It identified over 20 innovative operational models, support services, and technologies that were in use. The report examines in detail the effectiveness of selected service options and enhancements. The report describes detailed methodologies for evaluating each type of service option/enhancement and presents costs, cost savings, and other benefits to both transit agencies and riders.

A study sponsored by FTA [Ketola and Chia, 1997] presented a wide set of policies, practices, and small but cost-effective ideas to improve fixed-route transit accessibility. The data was collected from site visits to 29 transit agencies across the United States, plus three telephone interviews. The findings are organized according to how persons with disabilities would use the service: from system information and trip planning, to reaching and entering the vehicle, to leaving the system. Many ideas discussed are now in common use (e.g., automated stop announcements, low-floor bus and rail cars), while other ideas and practices may not be commonplace but worthy of dissemination:

- Rear-door fare card reader on buses (RPTA, Phoenix)
- Male and female train arrival announcements (MDTA, Miami)
- Intermodal transfers within paid area (MARTA, Atlanta)

Easter Seals Project ACTION developed a guide [TranSystems, Planners Collaborative, and DREDF, 2009] for improving transit agency compliance with ADA requirements for fixed-route transit (primarily bus) stop and route identification announcements. It discusses best practices across the country, for transit agencies with automated announcement systems and those relying on announcements from drivers. Besides technology, staff training, and management policies, this Guide “stresses the importance of cultivating agency-wide support for the stop announcement and route ID program, beginning with top management and union leadership. Because vehicle operators hold the keys to success, securing their active involvement and support is critical to the program’s ultimate success.”

A TCRP synthesis [Weiner, 2008] gathered information from 21 American and Canadian transit agencies about “integrated services,” i.e., paratransit feeder to fixed-route transit or hybrid paratransit/fixed-route transit. The study found that voluntary feeder service for ADA paratransit riders had generated little interest from riders, even with fare incentives. On the other hand, a small number of transit agencies have

instituted mandatory feeder service for individuals with conditional eligibility when their trip itineraries and the riders' mobility have allowed this. Other key conclusions include:

- Feeder services are not used in many agencies because of: concerns of impact on mobility of riders; perceptions of difficulty to implement; and lack of consensus on cost savings
- Transit agencies with voluntary feeder have generated little interest from riders
- Feeder works best with short FR headways
- Feeder service is more successful when complemented with travel training

Another TCRP synthesis [Chia, 2008] covered a range of policies and practices for ADA paratransit and fixed-route transit service to make paratransit more efficient or make fixed-route transit more attractive/useful to persons with disabilities. The findings are based on survey responses from 124 American transit agencies and telephone interviews with 17 respondents to follow up on potential innovative policy/practice. The synthesis includes case studies in:

- Eligibility policies
- Paratransit operating practices
- Taxis and other flexible capacity
- Coordination of ADA paratransit with other transportation services
- Improvements to fixed-route transit service
- Incentives to use fixed-route transit
- Travel training

## ADA Paratransit Eligibility Determinations

The ADA Paratransit Handbook was the first document to discuss ADA paratransit eligibility following the promulgation of the DOT ADA regulations in 1991. [FTA, 1991] Chapter 4 of this handbook explained the regulatory criteria that defined ADA paratransit eligibility and offered practical guidance on interpreting and applying the criteria. Section 3 of Chapter 4, titled "Applying Eligibility to Trip Requests," made clear that the regulatory criteria envisioned eligibility being applied at a trip-by-trip level.

In 1993, the Federal Transit Administration issued its Americans with Disabilities Act (ADA) Paratransit Eligibility Manual. The Manual provided more detailed guidance on determining and applying ADA paratransit eligibility. [FTA, 1993] Chapter 4 of the Manual, titled "Applying Eligibility Determinations to Daily Operations," offered recommendations on the determination details that would be needed, and the types of system and environmental information that would need to be developed, to make trip-by-trip eligibility determinations. This part of the Manual also suggested practical approaches, such as focusing initially on frequently made trips, and using seasonal eligibility for weather related issues.

The use of in-person interviews and functional assessments to assist in determining ADA paratransit eligibility first appears in the literature in 1995. [Hoesch, 1995] This paper described the process used by Access Transportation Systems in Pittsburgh, PA,

which included interviews, physical functional assessments and cognitive functional assessments. This approach was further refined and documented as part of a project funded by Easter Seals Project ACTION. [Hoesch 1996]

TCRP Synthesis Report 30 documented the state-of-the-practice regarding ADA paratransit eligibility determinations in 1998. [Weiner 1998] This report noted six types of “screening” used at the time: (1) self-certification by the applicant (typically in an application form); (2) professional verification via written documentation and/or follow-up telephone conversations; (3) in-person interviews; (4) in-person physical functional assessments; (5) in-person cognitive assessments; and (6) in-person assessments of visual ability. The report noted that there are numerous approaches to determining ADA paratransit eligibility that are typically defined by which of these methods of screening are used and whether they are used for all applicants or only on an as-needed basis. Information about types of processes used and determination outcomes was obtained through a survey of 32 transit agencies. The survey results suggested that transit agencies that used mainly self-certification with professional verification as needed were not as successful at identifying abilities to use fixed-route transit services. At these agencies, 93% or more of all applicants were determined unable to use fixed-route transit at any time, and only about 11% of applicants were found able to use fixed-route transit some of the time. Agencies that utilized in-person interviews and assessments found that 57-75% of applicants could not use fixed-route transit services under any conditions, and 21-37% could use fixed-route transit service some of the time. The report also found that relatively few agencies were doing trip eligibility (less than half of the survey respondents), and that many were only making broad trip-by-trip determinations (e.g., seasonal eligibility).

Easter Seals Project ACTION responded to the growing trend in the use of in-person interviews and functional assessments in the late 1990s and early 2000s with guidance on effectively implementing these process options. [ESPA 2003] Recommended model approaches for in-person interviews and functional assessments were provided in this guidance. The model processes were developed with input from seven transit agencies that were considered to have the most experience using in-person interviews and functional assessments, and the input of disability organizations and professionals.

As demand for ADA paratransit services grew in the late 1990s and early 2000s, a number of papers and articles note the importance of eligibility determination in the provision of sustainable ADA paratransit services. [Welch, 2005; Rogers, 2006; Weiner, 2007; Cross, 2007] Each of these papers noted the use of in-person interviews and functional assessments in determinations of eligibility.

The growing use of functional assessments also became a topic of interest to the rehabilitation community. Outcomes of determinations which involved in-person functional assessments were documented in a leading rehabilitation journal in 2005. [Griffin 2005]

The impacts of more rigorous eligibility determinations on ADA paratransit demand was first studied and documented in TCRP Report 119. [Koffman, 2007] An aggregate statistical model based on data from 28 “representative” transit systems was developed to improve the estimation of ADA paratransit demand. This model suggested a demand elasticity of -0.29 for the percent of applicants found “conditionally” eligible (i.e., a 1% higher percent of applicants found conditionally eligible compared to the mean value of 21% corresponds to a 0.29% decrease in demand). It also suggested that agencies that do trip-by-trip eligibility screening experience 48% lower ADA paratransit demand than agencies that do not do trip screening.

Additional research on the state-of-the-art of ADA paratransit eligibility determination was funded by the U.S. Department of Transportation (USDOT) and Florida Department of Transportation (FDOT) in 2009. [CUTR, 2009] Aside from documenting current practices, a second objective of the research was to assess the impacts of more rigorous eligibility determinations, particularly processes involving in-person assessments, on riders with disabilities. The research was conducted by a team from the University of South Florida. This research found that 33% of transit agencies responding to a survey indicated that they always included in-person interviews as part of their determinations, and another 44% indicated using interviews on an as needed basis. Nineteen percent (19%) of survey respondents also indicated always using some form of in-person functional assessment, while another 54% indicated using functional assessments on an as needed basis. The research concluded that “After an extensive literature review, an examination of trends and issues, a survey of national transit agencies, and more extensive follow-up interviews with representative transit agencies, it is the opinion of the researchers that there is no evidence or observations uncovered to indicate that segments of the disability community are unfairly denied ADA complementary paratransit services or are unfairly subject to the loss of mobility due to the new ADA paratransit eligibility procedures implemented by some of the agencies.” (page 73) The research did note that a significant number of potential applicants and existing riders opted not to complete the process or apply for recertification at agencies where significantly new procedures were introduced. The research suggested that this “self-selection out of the process” was due in part to better information provided by transit agencies about the criteria for ADA paratransit eligibility. The report also provided several recommended “best practices,” including simplified recertification processes once a more thorough initial process is established, and more consistent follow-up with professionals familiar with applicants when there is conflicting information or assessment outcomes. While the report focused on ADA paratransit eligibility determinations, one concluding finding was that “The best means to manage the demand and cost for ADA paratransit services is to encourage greater use of fixed-route bus service where and when feasible.” Suggested approaches for encouraging fixed-route use include:

- Trip planning assistance
- Travel training
- Fare incentives
- Driver training
- Bus stop improvements

The development of additional and more detailed guidance on ADA paratransit eligibility determinations was funded by FTA in 2010. [DREDF, 2010] As part of a series of “Topic Guides” on various aspects of providing accessible transportation services, this guidance identified common issues encountered in making ADA paratransit eligibility determinations and included several best practice recommendations. The guidance and recommendations were developed from the available literature, with community and transit agency input, and findings and recommendations from FTA ADA compliance reviews. This Topic Guide provided additional guidance on the issue of “conditional eligibility,” best practices in fully identifying all conditions that affect travel by riders with disabilities, and included input on making trip-by-trip eligibility decisions based on practices and experiences of the ADA paratransit broker in Pittsburgh, PA. The guidance also includes sample task and skills lists that illustrate all of the considerations that should go into making ADA paratransit eligibility determinations. Several “pitfalls” identified in FTA compliance reviews are also noted and ways to avoid them provided. These include:

- Inappropriate use of generalized “seasonal” eligibility
- Denials based on type of disability
- Inappropriate application of conditions of eligibility
- Basing decisions of travel training potential rather than completed travel training
- Requiring applicants to identify in advance the trips they cannot make on fixed-route transit
- Denials based on use of larger mobility aids
- Incomplete consideration of the use of multiple mobility aids
- Incorrect interpretations of “safety” issues
- Inappropriate consideration of eligibility for children
- Determinations based on trip purpose
- Limitations of eligibility to “feeder” service only
- Processes that steer applicants away from ADA paratransit eligibility

## Fare Incentive Programs

The Ann Arbor study noted above [White, 1995] discusses the use of economic incentives for encouraging fixed-route transit use. Three types of economic incentives are examined:

- **Fare incentive:** reduced fare on an ongoing basis or special promotion on fixed-route transit to encourage use by persons with disabilities.
- **Premium fares for premium service:** charging more than the standard ADA paratransit fare or allowable paratransit fare for paratransit services beyond the required levels, e.g., same-day service, after-hours service, and/or service beyond 3/4-mile of fixed-route transit.
- **Simplified fare collection:** “vouchers, IDs, passes, and other fixed-route transit fare collection programs targeted specifically to persons with disabilities who may have difficulty with the standard fare payment system or to simplify the process of transferring between vehicles.”



TCRP Report 9 [EG&G Dynatrend, 1995] also identified fare incentives as effective in attracting persons with disability to use fixed-route transit services. In one case study, the Greater Bridgeport Transit District instituted free fare on the fixed-route buses for individuals certified for ADA paratransit, combined with a travel training program, increased paratransit fare, and extensive outreach to the target community. This led to a large increase in fixed-route transit ridership by persons with disabilities.

TCRP Synthesis 74 [Chia, 2008] includes a description of a fare incentive for paratransit riders who use feeder service. At the RTC Washoe system (Reno, NV), the fixed-route transit fare and the ADA paratransit fare were each \$1.70. The fixed-route transit fare for persons with disabilities was 85 cents. However, if a paratransit rider took a paratransit feeder trip to fixed-route transit, RTC charged only 55 cents for the entire one-way trip.

A recent study performed for Metropolitan Transportation Commission (MTC) in California surveyed the policies of the transit agencies in the San Francisco Bay Area concerning fare incentives to use fixed-route transit service [Nelson/Nygaard, 2012]. Samtrans (San Mateo County) and VTA (Santa Clara County) provide free fixed-route transit trips to individuals with an ADA paratransit ID card. Other regional transit agencies offer significant discounts to persons with disabilities on fixed-route transit:

- AC Transit (Alameda and Contra Costa Counties): monthly pass at one-fourth of the full price
- BART (regional rail in Bay Area): 62.5 percent discount for all travel
- SFMTA (San Francisco): monthly pass at one-third of the full price

The MTC study notes a possible drawback of fare incentive programs: “some transit agencies in large urban areas have found that this type of incentive may increase demand for ADA eligibility, with individuals interested in free use of fixed-route transit service and not solely ADA paratransit certification. In this case, there is also lost revenue from fixed-route fares to consider. For example, Sacramento Regional Transit recently eliminated its free-fare program for ADA eligible riders because it was believed to be encouraging people to apply for ADA eligibility just to get the free rides. In such cases, the transit agency may provide the free fixed-route fare incentive only to those ADA eligible riders who have conditional eligibility, confirming that those individuals are able to use fixed-route service for some of their trips. Combining fare incentives with a rigorous eligibility process reduces the risk of unintended consequences from the fare incentives.”

A study performed for the Regional Public Transportation Authority (RPTA, Phoenix) included information about peer systems that provide free fixed-route transit service to persons with disabilities. [TranSystems, 2008] The reported outcomes of these free-fare policies included:

- Boston reported that 300 people had been granted passes for free fixed-route transit service after successfully completing travel training. They indicated that free fares were helpful in encouraging current riders to participate in training.

They also reported that 80% of training graduates either used paratransit less often or had switched to only using fixed-route transit service.

- Ft. Lauderdale reported that, since the program was implemented in 1996, 111 paratransit riders had opted to get free fixed-route transit service and no longer use paratransit.
- Los Angeles estimated that the free fare program had resulted in a paratransit cost savings of about \$5M per year (about a 10% reduction). They also noted, though, that they were receiving more applications for ADA paratransit eligibility as a result of the free fare benefit.
- Salt Lake City reported a 6% reduction in paratransit ridership attributed to a combination of the free fare program and stricter eligibility determinations.

The RPTA report included the following recommendation: “Implement a regional program that would allow all riders determined to be ADA paratransit eligible to ride fixed-route buses and trains free of charge. It is very important, though, that such a program only be implemented after an in-person eligibility determination process is started.” If RPTA chose not to implement an in-person eligibility determination process, the report recommended that RPTA should limit fare incentives to programs such as “providing free monthly passes to individuals who are paratransit riders and who are participating in travel training or who have successfully completed travel training; or one month bus service promotions that might provide free fixed-route transit service to paratransit riders for a limited time.”

## **Pedestrian Infrastructure Issues and Improvements**

While bus stop improvements have been a strategy that transit agencies have pursued for some years since the ADA was passed – with the objective of improving fixed-route transit service for riders with disabilities – the focus on the pathways that lead to and from bus stops is more recent. The pedestrian infrastructure or environment refers to the sidewalks and pathways, or the lack of sidewalks and pathways, that serve bus stops and riders’ final destinations. This environment may pose barriers to riders with disabilities, and those barriers take different forms and vary by different disabilities, which can make assessments of the pedestrian infrastructure and subsequent efforts to improve it relatively complex.

There is limited literature on the topic and it is typically addressed along with bus stop improvements. Project Action published a guidebook for assessing bus stop accessibility [Easter Seals Project ACTION, 2007] aimed at transit agencies and public works departments to provide “tools” for improving bus stops and their pathways. This is mostly a “how-to” resource with forms for fieldwork to review and assess whether stops meet ADA accessibility requirements as well as photos to illustrate specific points. The guidebook notes that walkways or sidewalks are essential links between the origin/destination of the trip and the bus stop. Their proper design and regular maintenance are important to providing a barrier-free travel path for all persons. For example, wheelchair and scooter users require a wider path of travel than ambulatory pedestrians. Additionally, their stability and control can be affected by surfaces with

cross-slopes, grades, or rough terrain. Cross-slopes that change very rapidly cause problems for wheelchair users. For ambulatory people using walking aids, such as canes or walkers, there may be problems with steep grades and steep cross slopes, as well as uneven surfaces.

The Utah Transit Authority (UTA) identified problems with the pedestrian infrastructure when they began to implement conditional eligibility after their fixed-route transit system became fully accessible. According to an APTA conference paper, UTA's disability advisory group identified inaccessible bus stops and impassable sidewalks as the most significant barrier to the use of fixed-route transit by riders with disabilities. In reviewing stops, the transit agency found that the problems were mostly access to or the approach to the stop, such as the sidewalk or crosswalks, elements that were outside the control of UTA. One of the agency's board members spearheaded an effort to use Community Development Block Grant (CDBG) funds to improve the stops and adjacent sidewalks. [LaBonty and Beveridge, 2003].

In a research paper looking at the relationship between ADA paratransit applicants' disability and their environment, rehabilitation professionals documented the frequency of disabilities and applicant-reported problems with using fixed-route transit service. The list of problems related to getting to and from bus stops is lengthy, and beyond "distance" which is identified as the most frequent problem, were snow/ice, cold, uneven surfaces, street crossing, cross slopes, curb cuts, and low light, among others. [Crabtree, Justiss and Troyer, 2008]

The Maryland Transit Administration studied the costs to make bus stop improvements and compared these to the costs for the agency's ADA paratransit program. Only a synopsis of the study has been located. According to the brief summary, the MTA improved some of its stops, some with "simple" improvements, costing on average \$7,000 per stop, and others with "enhanced" improvements, at \$58,000 per stop. The latter improvements included "minor" fixing of the adjacent sidewalks to the stops, among other changes. Using the fully allocated cost of \$76.64 per ADA paratransit trip, the study calculated an annual cost to the MTA of \$38,000 for an everyday ADA paratransit rider. If that rider could transition to fixed-route transit, according to the study, the MTA would recover the stop improvement costs in 10 weeks for the simple improvements and in 18 months for the enhanced improvements. [D. Cannon, unknown date]

GIS analysis can also be used to help identify bus stops that need improvement. Using secondary data (population data on persons with disabilities), ridership figures and information on inaccessible stops, as well as GIS data to determine buffers around stops and the immediate street network topography, researchers used a hierarchical process to prioritize stops for improvements. The study then incorporated general cost estimates to make improvements with an optimization model to determine how to maximize benefits at the bus stop level within budget constraints. [Wu, 2010]

Several communities have pursued pedestrian infrastructure improvements along with bus stop improvements. One of these is a large suburban Washington, DC county –

Montgomery County, Maryland. Addressing an increase in pedestrian collisions and fatalities, the County embarked on a large project to assess its more than 5,000 bus stops and the surrounding pedestrian area, recognizing that the location and design of its bus stops play a vital role in mitigating some of the safety risks associated with pedestrian movement around the stops. Conducted by a consultant, the project involved an inventory and assessment of 5,000+ bus stops, located in urban, suburban and rural parts of the county. The pedestrian portion of the assessment focused on two elements – the landing area (whether there was one, whether it met ADA requirements, and if no pad, was there adequate right-of-way to expand or install one) and pedestrian connections (was there a sidewalk leading to the stop and, if a landing pad, was it connected to the sidewalk). Regarding the pedestrian infrastructure, the assessment found:

- About 70% of the stops did not have a 5 ft. by 8 ft. landing pad (which is the ADA requirement) or did not have a pad that met ADA requirements
- 14% of the stops did not have a safe connection to/from the stop; some of these lacked a sidewalk up to the stop
- 5% were missing curb-cut connections (bus stops are paired, and some had a curb cut on one side but not on the other)
- 1% had a landing pad that was not connected to the adjacent sidewalk.

Recommendations for improvements, both safety and ADA related, were developed, along with cost estimates to design and construct the improvements. [KFH Group, 2005] (With local county funds, the county has followed the recommendations and made improvements to approximately 2,000 stops and their immediate pedestrian infrastructure as of spring 2011.)

Also in the Washington, DC area, the Council of Governments and the Washington Metropolitan Area Transit Authority (WMATA) commissioned a study to determine whether existing inventory data on sidewalks, bus stops, and other local land use information as well as aerial imagery could be useful in assessing the accessibility of pathways for riders with disabilities. The study examined the concept of developing a methodology to conduct pathway assessments primarily in a GIS environment. Study efforts identified clusters of origins and destinations of ADA eligible riders using WMATA's ADA paratransit service, MetroAccess, that showed a high level of activity; developed a desktop and field methodology to evaluate the pedestrian walk paths between the origins/destinations and the bus stop locations; assessed the walk paths based on desktop and field methodology; and identified and prioritized the necessary improvements. The study determined that review of information from secondary sources and datasets can be a useful preliminary step in assessing walk path accessibility but that assessing the walk path for potential fixed-route transit trips for ADA eligible riders requires extensive fieldwork, as the pedestrian environment changes over time (e.g., streetscape and roadway projects, utility projects) and accessibility issues vary by disability and by individuals with disabilities. [KFH Group, 2008]

## Travel Training Programs

The review of the literature identified numerous studies and project descriptions on travel training for persons with disabilities. The objective of these reports and projects was to enable persons with disabilities, and ADA paratransit riders in particular, to utilize accessible fixed-route transit services at least part of the time.

Five documents provide a broad overview of issues facing people with disabilities who wish to use public transit. An Easter Seals Project ACTION study [Kim, 2010] used a roundtable to identify issues; travel training beginning in elementary school and involving parents was supported by 90 percent of the roundtable members, as were initiatives to increase public awareness of travel options and to provide wayfinding information. Easter Seals Project ACTION [2009] also published *Helping Schools Meet the Transportation Needs of Students with Disabilities*; the need for travel training was second in a list of six key challenges. *The National Dialogue, Transportation and Research Forum on Accessible Community Transportation* [Easter Seals Project ACTION, 2004] was sponsored jointly by Project Action and FTA; travel training was one of seven key areas of discussion. An article in the American Planning Association journal *Transportation Planning* [Jenkins, 2002] provides an overview of issues and approaches for seniors; it describes travel training at locations in Florida and Illinois. A TRB monograph [Feeley, 2010] identified the relative lack of travel training for adults with autism.

An Easter Seals Project ACTION study of ADA complementary paratransit services and related innovative practices [Easter Seals Project ACTION, 2004] contains case studies of travel training programs in Seattle, WA and Eugene, OR. The case studies report that programs in both communities were highly effective. A cost-benefit analysis of both programs is presented which shows that savings in trips diverted to fixed-route transit far exceed the costs of providing the training.

Two sources describe a cost-benefit model comparing the costs of travel training with the resulting savings when patrons switch from complementary paratransit to fixed-route transit services. One paper [Wolf-Branigin, 2010] describes a simple quantitative model. A paper presented at the Transportation Research Board's 2011 Annual Meeting [Wolf-Branigin, 2011], applies this model to data from three cities in the Pacific Northwest and concludes that there are substantial net benefits.

Travel training programs in Portland OR and Phoenix AZ are highlighted in a *Metro Magazine* article [2011]. A 2008 article [Wolf-Branigin, 2008] discusses the range of approaches and funding trends in the field of travel training. A presentation from an American Public Transportation Association conference [Rubell, 2005] discusses a series of 10 workshops developed by a nonprofit rehabilitation agency in southwest Connecticut that was described as a successful effort to enable paratransit riders to use fixed-route transit service at six regional transit agencies. A Project ACTION study [2009] surveys programs in Boulder CO, Charlotte NC, Ann Arbor MI, and Palm Beach

FL; providing individual instruction specific to the rider's needs is emphasized. An APTA presentation [Padeau, 2005] documents a training program in Fairfax County, VA that includes use of a specially equipped bus that provides both real-world practice and a mobile classroom. Another APTA presentation [Kachmar, 2005] summarizes best practices in programs in Indiana.

Research using before and after surveys of participants in Walnut Creek, CA is documented in a TRB paper [Shaheen, 2009]; the paper concludes that significant changes in attitudes and travel behavior resulted from the program. A similar study of changes in attitudes and travel behavior after training in Alameda County, CA is documented in a TRB paper [Babka, 2009]. A Transport Canada article [Dorey, 2007] is a prospective conceptual framework describing the role of travel training in the overall effort to achieve universal accessibility and inclusion for an aging population.

Two reports surveyed transit agencies to identify travel training success stories. A report sponsored by US DOT [Ketola and Chia, 1997] highlighted low-cost practices and technologies used by transit agencies to aid persons with disabilities to use fixed-route transit services in the areas of: trip planning; finding the correct vehicle; and entering and alighting vehicles. A TCRP Synthesis 74 [Chia, 2008] documented two instances of transit agencies (RTC in Reno, NV and Intercity Transit in Olympia, WA) that had quantified their savings through travel training programs that shifted paratransit trips to fixed-route bus service.

## **Enhanced Trip Planning Services to Facilitate Use of Fixed-Route Transit Services**

The literature contains sources on trip planning for people with disabilities and the related area of providing accessible information necessary to plan and take a trip on fixed-route transit.

A report prepared for FTA and FHWA [SAIC, 2003] focuses on the needs of “nearly one third of all Oregonians—primarily the elderly, people with disabilities, and lower income families, who have trouble getting around.” Lack of information about accessible travel options and specific services is identified as a key barrier to mobility. The report evaluates the initial release version of the Oregon Trip Planner, which is applicable statewide. It addresses functional requirements, expected benefits, and stakeholders among other subjects.

A report by the Transportation Development Centre in Montreal, Quebec [Geehan, 1996] describes a project to research and delineate guidelines for the improvement of information provision in vehicles and transportation terminals in order to enhance accessibility for elderly and disabled persons. The report addresses enhanced information for trip planning by people with disabilities.

An article in TR News [Hunter-Zaworski, 1994] surveys a wide range of technologies both in development and in use in the United States, Canada, and Europe. These

include tactile maps, “smart traveler” systems, route cards, verbal landmark systems, and GIS.

A Project ACTION report [Baruch College, 1997] describes the development and deployment of tactual maps of the New York City subway system as well as training sessions on their use and public outreach.

Three sources addressed travel assistance devices. A National Center for Transit Research (NCTR) report [Barbeau, Georggi, and Winters, 2010a] discusses the usefulness of transit assistance device (TAD) smart phone software in connection with travel training and independent travel by people with cognitive disabilities; the report also addresses the need to integrate trip planning functionality. Another NCTR report [Barbeau, Georggi, and Winters, 2010b] discusses the functionality and institutional issues in deploying TAD software for smart phones to assist riders with cognitive disabilities. A TRB paper [Bolechala et al, 2011] contains research results on the functionality of TAD.

## **Enhanced Public Information and Marketing Efforts to Promote Use of Fixed-Route Transit Services**

Two sources were identified that address the issue of making the public aware of public transit options and accessibility programs.

An article in Metro Magazine [Lu, 2008] surveys innovative marketing programs by transit agencies to educate the public on the benefits of public transit. Programs include the marketing used by Easter Seals Project ACTION in connection with their travel training program as well as other marketing efforts aimed at senior citizens who might be eligible for paratransit service.

A monograph by the American Public Transportation Association [2007] describes how the Washington Metropolitan Transit Authority (WMATA) conducts outreach to people with disabilities, senior citizens, social service agencies, regional school systems, and disability organizations. The project address accessibility features of WMATA and encourages persons with disabilities to use Metrobus and Metrorail services.

## **Improved Vehicle Designs to Accommodate Riders with Disabilities and Their Mobility Devices**

The accommodation of riders who use wheelchairs and other wheeled mobility devices is receiving greater attention as the types of mobility devices proliferate and as they and their occupants have increased in both size and weight. With these increases in types, sizes and weights, there have been problems for users of these devices getting onto both fixed-route transit and paratransit vehicles as well as maneuvering inside the vehicle if boarding is possible.

Wheelchair standards have been developed – Standard WC-19 – but these are voluntary. WC-19 specified strength and geometrics requirements for at least 4 securement points and seat/shoulder belt anchorage points that can withstand crash forces. Because WC-19 is voluntary, its adoption is limited. For example, Medicare funding for wheelchairs limits them to “in home” use only. [D. Cross, 2006]

A 2004 Project Action synthesis on the topic of oversized and overweight mobility aids [A. Pass and K. Thompson, 2004] summarizes the key issues:

- With larger dimensions, the mobility aids tend to “catch” on lift/ramp edges, on wheel housings or in gaps in doorways. This relates to vehicle design as well as mobility aid size.
- Overweight devices may damage lifts, ramps and vehicle suspensions. Many modern lifts can handle more weight than the ADA specified and the heaviest devices usually weigh no more than 350 lbs, but if the rider is very large, total weight can be problematic.
- Securement can be a challenge, especially scooters.
- Maneuvering inside the vehicle can be difficult. For some low floor buses, it is hard to move past the farebox. This relates to vehicle design also.

A more robust Project Action report looked at the use of mobility devices on public and private transportation. The issue of new and evolving mobility devices is important because ridership by riders using wheelchairs is increasing. Many mobility devices are not available with the WC-19 option, especially scooters. Regarding accommodation of mobility devices relative to vehicle design:

- The trend toward low floor buses with ramps instead of lifts has exacerbated space and maneuverability issues.
- Maneuverability depends on ramp location, with a rear door providing more clearance to get to the securement location than a front door ramp.
- Some improvements have been made to bus design to fix problems with the farebox and other structures in the bus front, but some wheelchair users who had trouble in the past may not know of these improvements.
- Small vehicles such as minivans can have serious space limitations and vehicle suspension issues.

The report documents findings related to securement:

- Some riders refuse or prefer their wheelchairs not be secured. Their reasons include lack of independence, the stigma of special attention or “holding up the bus,” and fears of damage to their device.
- Some riders report that drivers are not sensitive to their needs.
- Use of WC-19 compliant devices and devices with specific securement attachments can improve safety during transportation.
- Most transit agencies and some vehicle and equipment manufacturers agree that some type of “certification” of wheelchairs and scooters compatible with use of transit should be mandatory. Such certification would include size, maneuverability, and “secure-ability.” However, advocates worry that such certification would be a basis to deny access to non-certified devices. [Nelson/Nygaard/Project Action, 2008]



An article from 2006 describes some emerging solutions to the problems of wheelchair access, including:

- New generation of low floor buses with better access and maneuverability.
- Better securement equipment, including four-point tie downs.
- Wheelchair marking and tether strap programs.
- The rear-facing alternative to traditional wheelchair securement.
- Wheelchair transit accessibility standards, research and development.

Securement can be problematic. ADA gives transit agencies the option to require securement or not to require it. But riders using wheelchairs must be transported whether or not they can be adequately secured. Oversize and overweight mobility devices can be a problem. One option is to expand the “envelope” for securement. However, this would have a major impact on transit vehicle interior design.

A recent TCRP synthesis addressed large items on buses and trains including wheelchairs as well as strollers and bikes. According to the synthesis:

- The study’s survey of transit agencies found that agencies, which said wheelchair transport is very important or somewhat important, reported that delay in boarding and alighting is a concern.
- One large agency responded that many of its stops have no sidewalks, concrete pads or cut outs.
- Most rail operators are more flexible than bus operators on wheelchair size and weight.
- Use of non-traditional mobility devices is increasing and there is confusion and lack of uniformity in how they are transported.

Regarding vehicle design, the synthesis reports that low floor buses are efficient in boarding wheeled devices and that some manufacturers are providing vehicle designs which will accommodate larger mobility devices. [TCRP Synthesis 88, 2011]

## **Uses of Advanced Technologies to Facilitate Fixed-Route Transit Use**

A number of advanced technology applications have been developed to make fixed-route transit services more accessible to and usable by people with disabilities. One of the first was the use of voice enunciators on fixed-route buses and trains to make on-board and external announcements, also known as “talking buses.” Early demonstrations of this technology in Vancouver, BC, Salem, OR, Orlando, FL, and Durham, NC are described in TCRP Report 9. [TCRP, 1995]

Talking bus technology is now widespread in the industry. A Notice of Proposed Rulemaking (NPRM) issued by the U.S. Access Board on July 26, 2010 noted that only seven of the nation’s largest transit systems (over 100 fixed-route buses) did not use this technology in their fleets in 2010. [U.S. Access Board, 2010] That NPRM, which was not yet adopted as of the date of this report, proposes to require that all transit

agencies operating more than 100 buses equip all fixed-route buses over 22 feet in length with both automated on-board stop announcement systems and automated external bus and route identification systems.

TCRP Synthesis 37 [Iannuzziello, 2001] examines challenges and solutions for communicating with riders with disabilities in a multimodal transit environment. It focuses on riders with sensory and cognitive disabilities. The report identifies six basic elements of a transit trip:

- Understanding the system
- Accessing the correct vehicle
- Entering the vehicle
- Traveling in the vehicle
- Exiting the vehicle and
- Exiting the stop/station/terminal.

The report then describes the information required for each element; and the method of communicating that information by disability. The report discusses non-electronic communications practices as well as technologies that can assist in each area. Included are discussions of telephone devices, tactile technologies, electronic information systems, audio technologies, and computerized technologies. The report also discusses the importance of employee training to ensure effective use of systems and technologies.

TCRP Synthesis 48 [Schweiger, 2003] is an early report on real-time bus arrival information systems. The report includes a description of the technical characteristics of a real-time bus arrival system. This description included a list of agencies and the number of AVL equipped vehicles in the fleet.

A paper on a recent ESPA IDEA Project [Barbeau, 2010] reports on a study to demonstrate the use of travel assistance devices (TAD) to help new fixed-route transit riders, especially those with cognitive disabilities. The paper notes that advances in mobile communications technology point to the use of GPS enabled cell phones as travel assistant devices. The project developed and tested an application that would communicate between a transit agency's AVL system and a TAD. The system was used to:

- Display the wait time for the transit rider while they are waiting for the bus to arrive at the stop;
- Alert the rider when the correct bus is approaching;
- Show real time bus locations on the TAD web site; and
- The TAD software should determine the earliest appropriate time it can send an alert to a rider to pull the cord to request a stop.

The report describes the results of testing each of the functionalities listed above. The report concludes that:

- TAD does not replace a travel trainer. It is a tool to be used to help speed the learning curve for using public transportation and provide assistance to those

who have been travel trained. It can also act as a safeguard to remind the rider when to exit the vehicle.

- The success of the application is dependent upon the cellular network signal strength.
- Battery life of the mobile device is a concern.

A news article reported in Seattle, WA [Pittman, 2011] describes a mobile technology application being developed by Computer Science and Engineering students at the University of Washington (UW). The application, called One Bus Away, will provide audio access to maps and schedules in the Seattle area for persons with vision disabilities. The application will tell users where a stop is located and what to expect to find when there. The article indicates that the application will be available by the end of 2011 or beginning of 2012.

TCRP Synthesis 91 [Schweiger, 2011] documents the state of the practice in use and deployment of real-time transit information on mobile devices. The study includes the results of a survey of 28 agencies that have deployed mobile technology. Types of information provided using this technology includes predicted arrival/departure time, planned detours, service disruptions, and schedule information during specific events. Vehicle arrival and departure time is the information that is updated at specific intervals of time.

A recent article in *Update*, the newsletter of Easter Seals Project ACTION [ESPA, 2011] discusses the impact that the implementation of new technology has on increasing mobility for all riders. It specifically points out that route, transfer and stop announcements are being made more often with automated voice annunciation systems. These systems help to meet ADA requirements because they provide visual and audible announcements. The article states that these systems combine Automatic Vehicle Location (AVL) and Global Positioning Systems (GPS) with bus stop coordinates and have proven to be reliable and consistent. The article also mentions that some buses are now equipped with sensors that can transmit bus system diagnostic information. The article states that this data can be used to “get a jump” on mechanical issues before a major breakdown occurs. These diagnostics often include ADA equipment issues such as lift or ramp performance.

Proceedings of a workshop on “Technological Innovations in Transportation for People with Disabilities,” sponsored in 2011 by the Federal Highway Administration, are provided in [Morton and Yousuf, 2011]. Topics and presentations include: “Environmental Awareness for People with Visual Impairments—Gaps, Challenges, and Opportunities;” “Getting There if You are Blind: Synergistic Convergence of Technologies to Improve Wayfinding;” “Using Robotics and Artificial Intelligence to Improve Mobility and Navigation of People with Special Needs;” “Opportunities and Innovations in ITS and Mobile Technology for Accessible Transportation;” and “Making Technology Universally Accessible for all Users, Including Those with Sensory and Cognitive Impairments.” Current information on vehicle communications, technologies for wayfinding, navigating intersections, and pedestrian safety is included.

A recent article in a public transit journal [Metro Magazine, 2012] reports on technology developed in Barcelona, Spain to assist riders with vision disabilities. The application developed for personal mobile technology, called OnTheBus, is designed to “alert the user where and when they need to board, signal and disembark. The article says that “After checking a few routes with the rider, the app will direct them to the nearest bus stop and inform them when their bus should be arriving. Once on, it will tell them how many stops they will be riding for, and tell them when to activate the ‘stop’ cord or button. And once they’ve returned to the pavement, it continues to guide them to their destination with walking directions.”

## **Enhanced Service Monitoring Efforts to Ensure Accessibility of Fixed-Route Transit Services**

The importance of effective service monitoring to ensure the accessibility and usability of public transit services is noted in a national report prepared for the National Council on Disability [DREDF, 2005]. Several recommendations are made for improved service monitoring to ensure that equipment is properly maintained, stop announcements are made, and policies and procedures are followed by transit agency employees. The report specifically noted the importance and effectiveness of “secret rider” programs.

The ADA Topic Guides [DREDF, 2010] also note the importance of effective service monitoring. The guides on “Equipment Maintenance” and “Stop Announcements and Route Identification” both recommend ongoing monitoring efforts to ensure system accessibility. The “Stop Announcements and Route Identification” guide also describes an innovative program in Washington State that allows transit agencies to have performance reviews conducted by other transit agencies in the state. Utilizing employees of other transit agencies to monitor services allows anonymity to be maintained.

Two recent fixed-route transit service compliance reviews conducted by the Federal Transit Administration include information about innovative monitoring efforts at grantee agencies. A review of Kitsap Transit in Bremerton, WA [Planners Collaborative, 2009] describes the monitoring program developed by the Washington State Transit Association (WASTA) that is also mentioned in the ADA Topic Guides. A review of the Toledo Area Regional Transit Authority [Planners Collaborative, 2011] also describes a similar “shared” monitoring program available to transit agencies in Ohio. Similar to the program in Washington State, the Ohio program, called the Ghost Rider Program, arranges for service monitors from other transit agencies to conduct performance reviews. This service is available to transit agencies through the Ohio Transit Risk Pool (OTRP).

## Section 2. Key Factors Influencing Use of Fixed-Route Transit Services

The objective of Task 3 of the study was to identify the key factors considered by people with disabilities when deciding whether or not to use fixed-route transit services. An interview guide was developed and telephone interviews with people with disabilities in selected cities across the country were conducted. The input obtained from these initial interviews was then used to design an online survey that was distributed to people with disabilities across the country. A copy of the interview guide is provided as Appendix A. A copy of the national online survey is provided as Appendix B.

Following is a summary of the work completed in this area. First, the initial telephone interviews are described. Next, the nationwide online survey effort is summarized. Finally, some overall observations and conclusions are presented.

### Initial Interviews of People with Disabilities

With the assistance of the Project Panel, the research team first identified communities and transit systems where initial telephone interviews would be conducted. The selection was made to include large cities, smaller cities as well as rural communities. An effort was also made to obtain input from different geographic areas of the country. All communities selected have both fixed-route transit service as well as ADA paratransit service.

Transit agencies and local disability organizations were then contacted in each community and asked to assist in identifying people with disabilities who use fixed-route transit and ADA paratransit services. The agencies and organizations also assisted the research team by making contact with individuals to determine their willingness to be interviewed. An effort was made to identify individuals in three separate groups:

- Those who use both fixed-route transit and ADA paratransit services
- Those who use fixed-route transit but not ADA paratransit service
- Those who use ADA paratransit but do not use fixed-route transit services

An Interview Guide was also developed to ensure consistency in the interviews. The Guide was also developed with Project Panel input. A copy of the Interview Guide is provided in Appendix A.

### *Interviewee Location and Types of Mobility Aids Used*

Thirty transit riders with disabilities were interviewed about the key factors affecting their choice of transit mode for each trip. The number of persons interviewed by community is noted below.

Anchorage, Alaska	2
Bellingham, Washington	2
Chicago, Illinois region	5
Corpus Christi, Texas	5
Eugene, Oregon	4
Grand Forks, North Dakota	1
San Francisco Bay Area	10
Washington DC Metropolitan area	1

The majority of the riders who were interviewed stated that they used mobility devices and equipment while using public transit, as reflected below. This often differed from what they normally used. A substantial number of the riders, who use either a wheelchair or cane at home, use power wheelchairs when riding public transit. The power device was needed to traverse otherwise-inaccessible pedestrian environments.

White cane:	3
Manual wheelchair:	3
Power assist wheelchair:	4
Power wheelchair:	10
Scooter:	4
Walker:	2
Cane:	1
Quad cane:	1
Service dog:	3 (each of these also uses a white cane or mobility device as reflected above)
No mobility device or aid:	2

### ***Modes Used, Frequency of Use, and Use by Trip Purpose***

Regarding what mode of transit is used by each rider, 24 use both fixed-route transit and ADA paratransit; 4 use only the fixed-route transit system; and 3 only use ADA paratransit. Of the total, 22 also use at least one other form of transportation, including: private auto, non-ADA paratransit, and taxi.

Only the fixed-route system:	3
Only ADA paratransit:	3
Both the fixed-route system and ADA paratransit:	24
Other, in addition to above:	22

Table 2-1 shows the reported frequency of travel by mode. Twelve of the 27 people who indicated that they use fixed-route transit said they use it daily. Another 11 indicated traveling by fixed-route transit several times a week. Only a few people who said they use fixed-route transit reported using it only occasionally.

**Table 2-1. Frequency of Travel by Mode**

<b>Frequency of Travel</b>	<b>Fixed-Route Transit</b>	<b>ADA Paratransit</b>	<b>Other*</b>
Daily	12	5	1
Several Times a Week	11	10	6
Several Times a Month	1	5	11
About Once a Month	1	4	1
About once a Year	2	3	3
<b>Total Interviewees</b>	<b>27</b>	<b>27</b>	<b>22</b>

\* Private auto, non-ADA paratransit, taxi

Use of ADA paratransit was somewhat less frequent. Only five of the 27 people who said they use ADA paratransit use it daily. Most (10) use it several times a week. Five people use ADA paratransit several times a month; four use it only about once a month; and three use it only about once a year.

Riders who said they also use other modes of transportation travel by these other modes even less frequently. Only one person uses other modes on a daily basis. Six indicated using other modes several times a week. The majority (11) rely on these other modes for travel several times a month. One person indicated using other modes about once a month, and three people said they use other modes only about once a year.

Table 2-2 shows the types of trips made by mode. Individuals who use fixed-route transit often reported traveling for a variety of purposes, including the commute to work, school, or other daily activities. Reasons mentioned most often for using the fixed-route transit system for these trips:

1. Fixed-route transit allows you to be spontaneous and flexible.
2. Fixed-route transit use fosters independence, while other modes of transportation mean accepting a ride from someone else, often resulting in feelings of dependency

Other reasons mentioned for using fixed-route transit were:

- Fixed-route transit is more cost-effective than ADA paratransit
- Fixed-route transit doesn't require scheduling pickups

**Table 2-2. Types of Trips Taken by Mode**

<b>Types of Trips</b>	<b>Fixed-Route Transit</b>	<b>ADA Paratransit</b>	<b>Other*</b>
Work	13	7	4
School	4	3	2
Medical	10	17	16
Shopping	17	10	12
Social/Recreational	14	14	18
Personal Business	14	7	13
<b>Total Interviewees</b>	<b>27</b>	<b>27</b>	<b>22</b>

\* Private auto, non-ADA paratransit, taxi

Fewer individuals who reported using ADA paratransit said they use it to get to and from work. They noted that they were not always able to trust the service to get them to work on time. The most common uses of ADA paratransit were for medical, social/recreational, or shopping trips. Reasons mentioned most often for using ADA paratransit for these trips:

- Used when weather makes the fixed-route transit system dangerous, increasingly time consuming, or otherwise difficult.
- To avoid dealing with complex and cumbersome fixed-route transfers.

Other reasons mentioned were:

- Used when getting out of an activity at night (late travel on fixed-route transit is perceived to be dangerous by many).
- To bypass construction on the street (hazardous pedestrian environment).
- Used when fixed-route transit stops aren't located close by.

Riders who use ADA paratransit also said that the cost of the service limits their use of this form of transport. These riders were unable or unwilling to take fixed-route transit, and sometimes didn't make trips because of the cost of ADA paratransit service.

Few individuals reported using other modes for trips to work or school. Other modes were used mainly for social/recreational, medical, personal business and shopping trips. Reasons mentioned most often for using other modes of transportation were:

- Shopping: if you have more than two bags, your use of ADA paratransit is prohibited. Because multiple bags also make travel on fixed-route transit difficult, many decide to opt for alternative modes of transportation.
- Convenience and spontaneity

Other factors mentioned were:

- Individual doesn't need to push wheelchair to reach home, or transfer from station of first drop off.
- Taxis often come in handy when conducting business at the last minute
- Not having to travel alone at night, when receiving a ride from someone
- Doesn't live in a location where fixed-route transit services are available
- When destination is somewhere that the bus doesn't go.

Several users of other modes of transportation, such as getting a ride in a private car, reported depending on family members, spouses/partners, and caregivers more than they desired. In several cases, this was due to prior experiences with public transit. Several who indicated using family and friends to get to and from medical appointments indicated untimely ADA paratransit service. Others noted a general lack of fixed routes for making these trips.



## **General Comments on Fixed-Route Transit and ADA Paratransit Services**

Those who use the bus and/or train cited the flexibility and spontaneity allowed by this mode. They also commented on the lack of spontaneity in planning ADA paratransit trips as well as the cost and inability to stop at a desired intermediate location.

Several interviewees commented on the shortcomings of their fixed-route transit systems. Common issues noted were:

- Vehicles stop running early in the evening and were often even more limited on weekends, if not unavailable.
- Safety is an issue in rough weather when riders need to reach some of the few accessible bus stops, which were often at quite a distance.

Comments about both fixed-route transit and ADA paratransit noted that they often don't run across county lines, and in the case of ADA paratransit, without difficult transfers.

When individuals who **don't** currently use fixed-route transit service were asked what would enable or encourage them to do so, the following things were mentioned:

- Sometimes there are elevator outages that are not made known, but should be.
- Cleaner stations, and especially cleaner elevators, as well as cleaner trains, buses, and the vicinity at large.
- Fewer transfers
- Weather: Would appreciate if during the winter, curbs and bus stops were cleared of snow.
- Extend hours where fixed-route transit only runs until 7 p.m. on the weekends; more holiday service
- The distant location of elevators built as an afterthought often makes nighttime access a safety concern.
- Buses should run more frequently
- Automated stop and route announcement systems and signage should be available in every fixed-route transit vehicle and at each stop.

When people who **do** use the fixed-route transit system were asked what would encourage them to use it more often, similar issues were mentioned, including:

- Keep lifts functioning—sometimes a bad past experience discouraged fixed-route transit ridership.
- Better training for drivers—provide assistance consistently
- People don't move from wheelchair seating without being directed to, and so the driver must often announce a wheelchair user's presence, making it impossible to just be "normal" like anyone else, and carry out daily functions under the radar.
- Stops are often far from each other.

When asked what are the key factors for each rider when he or she decides whether to use fixed-route transit service, ADA paratransit, or another mode of transit, individuals named these factors:

- Convenience, spontaneity
- Weather
- Hours of operation
- Cost
- Door to door feature as opposed to going to train station
- Paratransit door-to-door service, vs. distance to fixed-route transit stops, which discourages use.
- Found that paratransit is basically run like a cab company in regards to customer service. When drivers think they won't get a tip, they take their time, are inconsistent in coming, or give attitude.
- Automated announcements should be more comprehensive: saying what stop it is, and what transfers are available. Stops, landmarks, and cross streets should also be available on buses.
- Need lighted stops for enhanced visibility
- With fixed-route transit you can wait for another bus, but with paratransit, no matter the reason, if you don't show, you are marked as a no show. E.g. Work goes unexpectedly longer than planned (as is typically the case). Individual must send paratransit away (unable to reschedule at such short notice), take a cab and paratransit marked as no show because one couldn't walk away from job responsibilities. Need to differentiate situations like these from no shows.
- Fixed-route transit in some cases seems designed to make people leave the system, it is so bad.

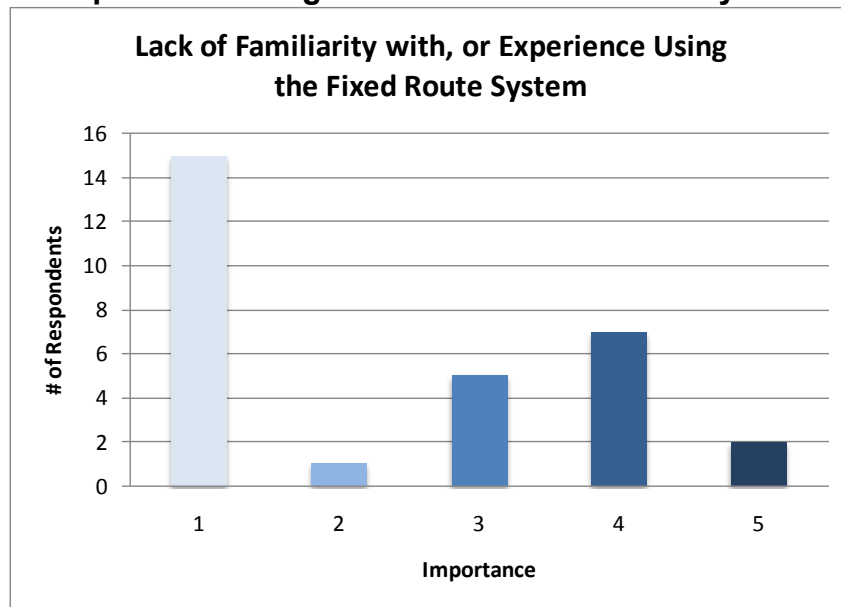
### ***Importance of Selected Factors in Decisions Whether to Use Fixed-Route Transit Services***

Interviewees were asked to rate the importance of 13 factors that the research team identified as likely issues that impact decisions about whether to use fixed-route transit service. The charts below show how each of the following common factors was rated in importance, on a scale from 1 to 5, with 1 representing the least importance, and 5 representing the greatest importance. Riders who rated each factor as 3 or higher were asked for more specific information; any comments made on that factor are listed after each chart below.

#### **Factor A: Lack of familiarity with, or experience using, the fixed-route transit system**

Most people who were currently using the fixed-route transit service did not cite a lack of familiarity or experience with using the service as a significant issue. Those who were not currently using fixed-route transit did say it was a factor, and rated this as moderately important.

**Figure 2-1. Reported Importance of Lack of Familiarity or Experience Using the Fixed-Route Transit System**



Riders' specific comments on this factor were:

- If taking fixed-route transit to unfamiliar location
- The combination of distance and lack of familiarity makes fixed-route transit something of a risk.
- Often initial fear and hesitations are felt, but soon resolved with practice and familiarity.

#### **Factor B: Negative past experiences using the fixed-route transit system**

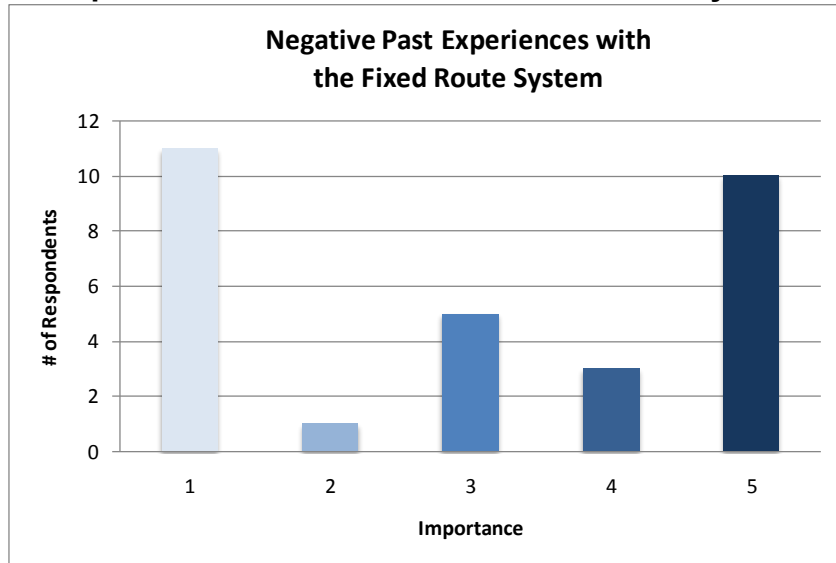
A significant number of people interviewed did report negative past experiences using fixed-route transit services. For 10 people, a third of those interviewed, this was a very important factor in their decisions about whether to continue to use this mode. For another eight people, this was a moderately important factor.

For individuals with no experience using fixed-route transit, this obviously was not a factor.

Riders' specific comments on this factor were:

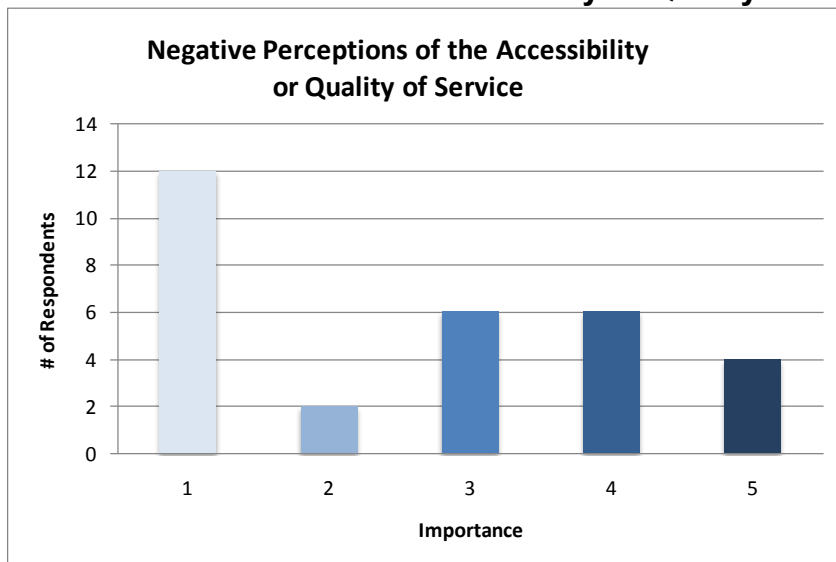
- Having to carry mobility assistance equipment while seated on the bus/train (e. g. a walker) can be uncomfortable.
- Bus pass by
- Young people not wanting to move/drivers not asking them to do so.
- The need to advocate for driver's help if ramp is too steep or assistance is needed.
- Fear that mobility device will become stuck in the gap between train and platform

**Figure 2-2. Reported Importance of Negative Past Experiences with the Fixed-Route Transit System**



**Factor C: Negative perceptions of the accessibility or quality of service**

**Figure 2-3. Reported Importance of Negative Perceptions of Fixed-Route Transit Service Accessibility or Quality of Service**



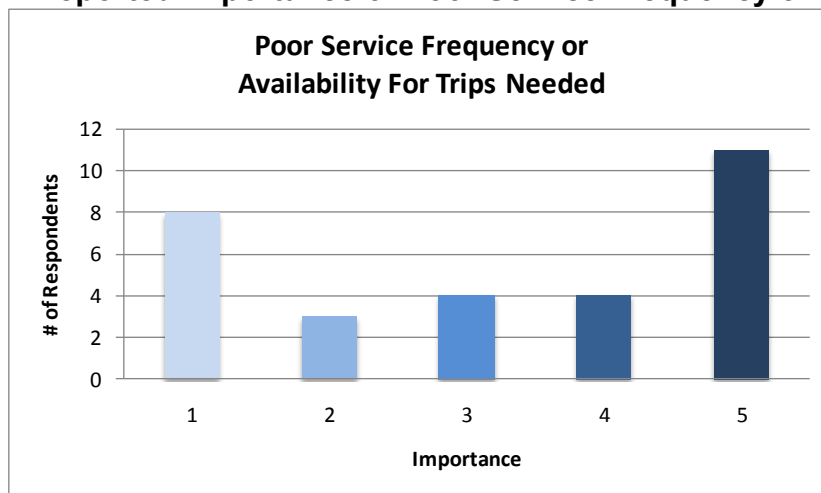
Perceptions of the accessibility of fixed-route transit service or the quality of fixed-route transit service was not as important as actual past experiences. A similar number of people expressed some concern about this, but did not rate it nearly as important as actual past experiences.

**Factor D: Poor service frequency or availability for trips needed**

The lack of available, or the low frequency of service, was rated as very important in deciding whether or not to use fixed-route transit services. Eleven interviewees

indicated that this was a very important factor. Another eight rated it as moderately important.

**Figure 2-4. Reported Importance of Poor Service Frequency or Availability**



Other riders' specific comments on this factor were:

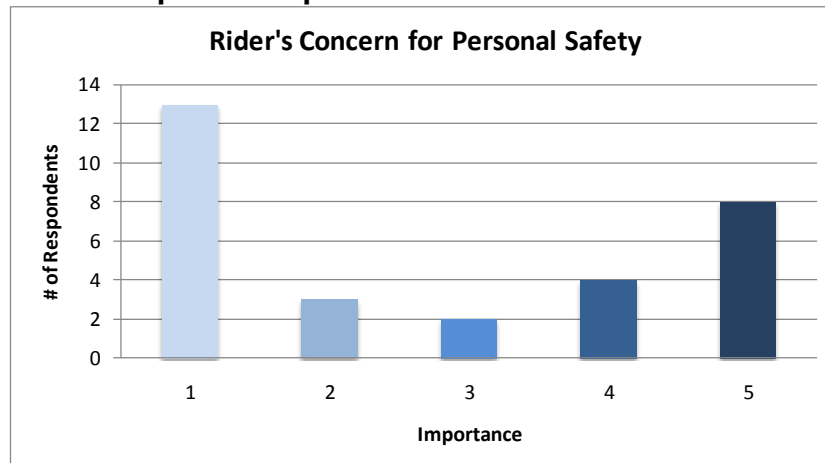
- Not as often as would like
- Budget cuts: lines have been cut and haven't been replaced.

#### **Factor E: Rider's concern for personal safety**

Personal safety was indicated to be somewhat important. It was a very important factor for eight of the 30 interviewees, and moderately important for another six. Riders' specific comments on this factor were:

- Very important: won't use alone at night
- Not all stops are safe, which limits where one goes.
- Brake retarders are supposed to save brakes, but make for quite the uncomfortable ride ("jerked all over the place").
- Car drivers often cut off the bus, which makes for sudden stops/abrupt movement.

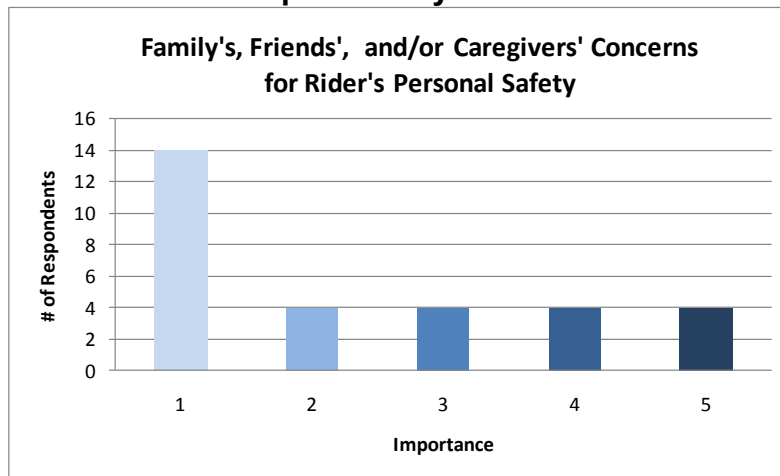
**Figure 2-5. Reported Importance of Concern for Personal Safety**



**Factor F: Spouses'/partners', family's, friends', and/or caregivers' concerns for riders personal safety**

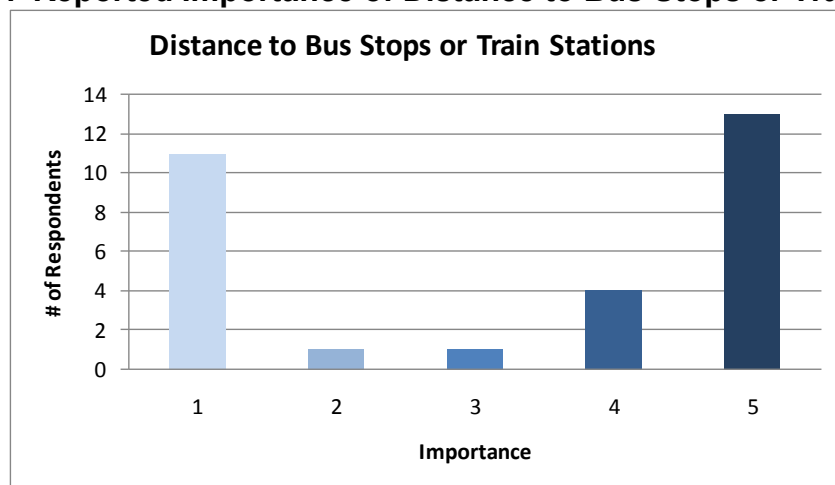
Concerns expressed by others about the riders' personal safety were somewhat less important. Only four interviewees cited this as a very important factor. Another eight indicated that it was moderately important.

**Figure 2-6. Reported Importance of Concerns for Personal Safety Expressed by Others**

**Factor G: Distance to bus stops or train stations**

Distances to and from bus stops or train stations was cited as a very important factor. Thirteen people said this was very important and another five said it was moderately important. One person elaborated on this issue, saying "Because of the location of stops and final destinations, there is often a lot of traveling involved."

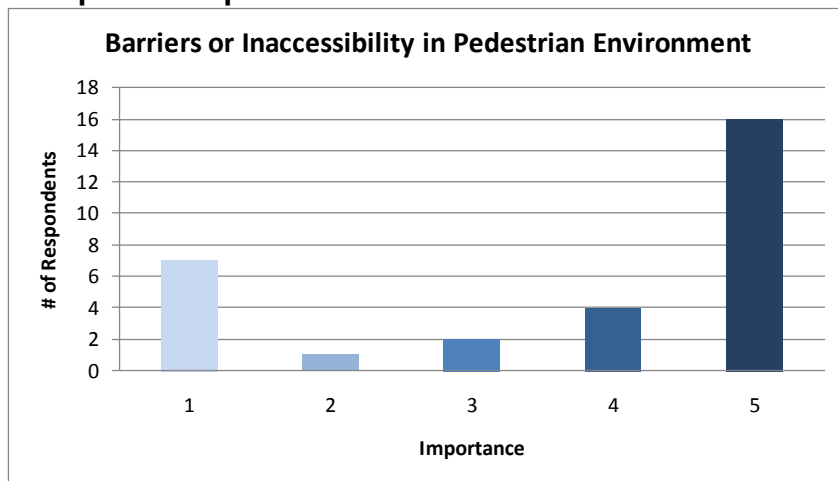
**Figure 2-7. Reported Importance of Distance to Bus Stops or Train Stations**



**Factor H: Barriers or inaccessibility in the pedestrian environment, such as sidewalks, crosswalks, curb ramps, traffic signals, and/or bus stops**

Barriers in the pedestrian environment were cited as the most important of all of the factors mentioned. Sixteen people said this was very important and another six said it was moderately important. Only seven people said it was not important.

**Figure 2-8. Reported Importance of Barriers in the Pedestrian Environment**

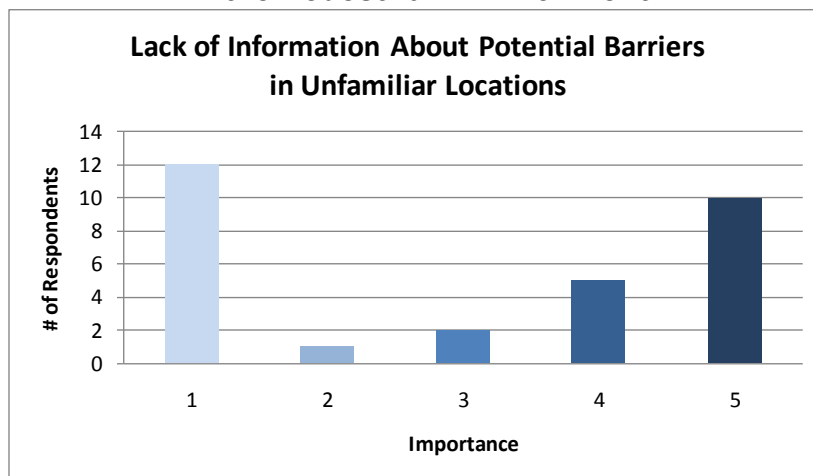


Three interviewees specifically noted the poor condition of sidewalks and the lack of curb ramps in areas where they travel. One specifically mentioned inaccessible bus stops. And one person noted that traffic lights change too quickly and not enough time is allowed to safely cross the street.

**Factor I: Lack of information about potential barriers in unfamiliar locations**

A lack of information about potential barriers in the pedestrian environment was also relatively important. Ten people indicated that the lack of information about potential

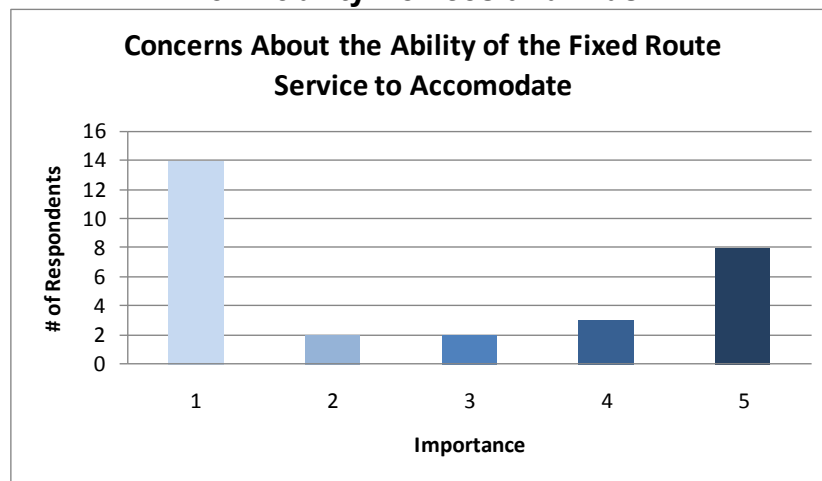
**Figure 2-9. Reported Importance of Lack of Information about Potential Barriers in the Pedestrian Environment**



barriers in unfamiliar locations was very important. Another seven people said this was moderately important. One rider said that she used paratransit when traveling to unfamiliar locations.

**Factor J: Concerns about the ability of the fixed-route transit service to accommodate you and your mobility device or service animal**

**Figure 2-10. Reported Importance of Concerns about Accommodation of Mobility Devices and Aids**



Concern about the accommodation of mobility devices on the fixed-route transit service was somewhat important. Eight interviewees said this was very important and another five said it was moderately important. One person noted that drivers often react badly to the presence of a dog guide on the bus. She noted that drivers should be trained to not react and understand the legitimate purpose of dog guides.

**Factor K: Concern that using the fixed-route transit system may negatively impact ADA paratransit eligibility**

Concern about losing ADA paratransit eligibility was very important to six interviewees, but in general was not a significant concern. One person noted that she has arthritis and on good days can use the fixed-route bus. She is afraid that the transit system will not understand the variable nature of her disability and will take away her ADA paratransit eligibility.

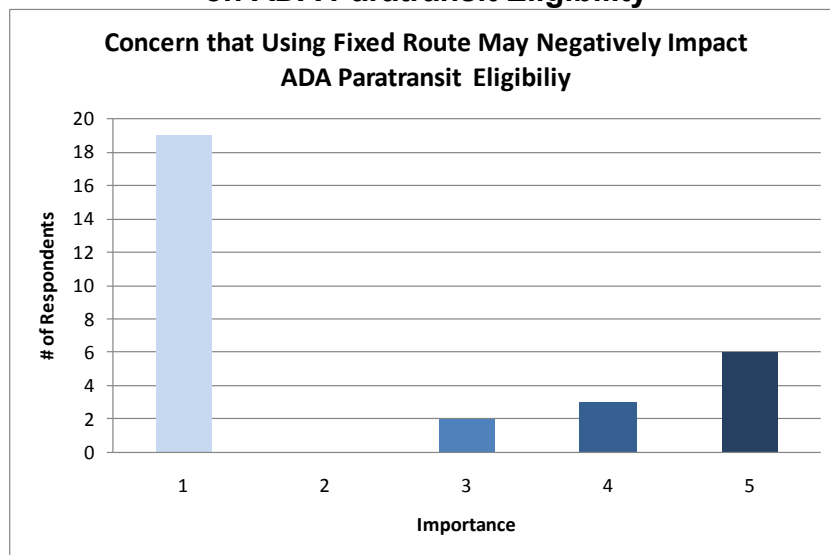
**Factor L: Cost**

Most interviewees said that cost is not a significant factor in their decision whether to use fixed-route transit service. This was particularly true for those individuals who used fixed-route transit service frequently and only used ADA paratransit service occasionally. Individuals that relied mainly on ADA paratransit service did note issues with the cost of that service. While they recognized that fixed-route transit was less expensive, they indicated that other factors prevented them from using the bus even though they would have chosen it for cost reasons. This perspective was summed up

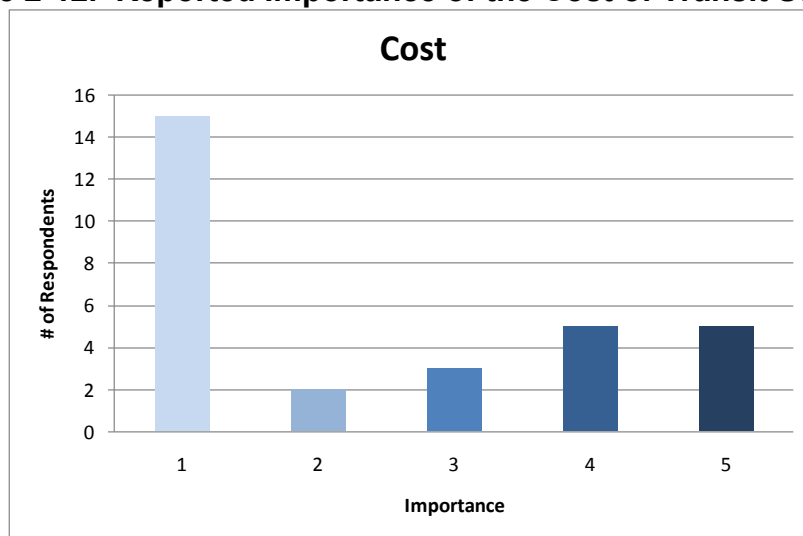


well by one person who said “Fixed-route transit is more cost-effective, but I can’t always use it because of accessibility issues and personal health.”

**Figure 2-11. Reported Importance of Concerns about Impacts on ADA Paratransit Eligibility**

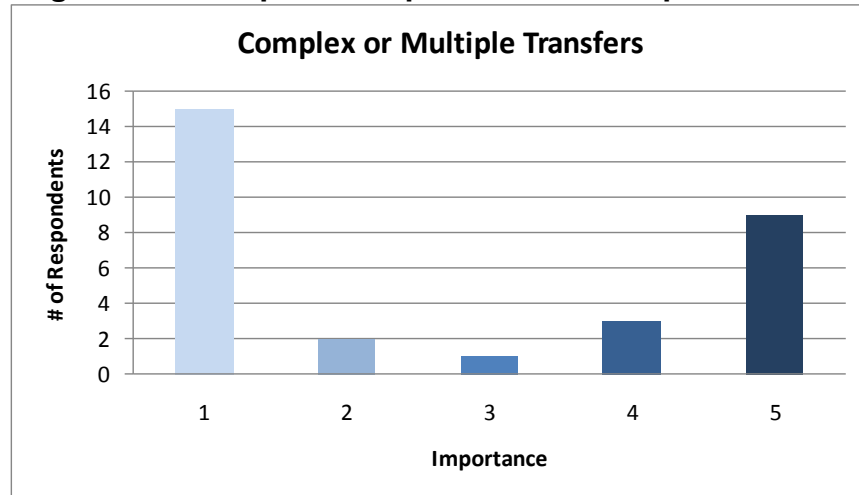


**Figure 2-12. Reported Importance of the Cost of Transit Services**



### **Factor M: Complex or multiple transfers:**

The need to make multiple or complex transfers when using fixed-route transit services was an important factor for a fair number of those interviewed. Nine people said this was a very important decision factor. Four others said it was moderately important. Those who cited this as an important factor had strong opinions. One person responded “Definitely!” Another who was speaking for herself and others she knew said it was her opinion that when people with disabilities are traveling to places that require many transfers they most often choose a mode other than fixed-route transit.

**Figure 2-13. Reported Importance of Multiple Transfers**

Finally, people were asked if they had further comment about factors not specifically mentioned that they felt affected their choice of fixed-route transit, ADA paratransit, or another mode of transportation. The comments received were:

- If you travel across counties, you must again become certified for ADA paratransit—the information should be in one system
- There needs to be simplification of the ADA paratransit eligibility form
- Some individuals mentioned the improvements that the fixed-route transit system has undergone in the last 10 years. One mentioned that lifts on buses are broken much less often than five years ago
- Training made a real impact for some riders. Many people with disabilities would greatly enjoy the freedoms of the fixed-route transit system, if personnel were more extensively trained
- Accessibility in the public right-of-way must be remembered as a factor. Wheelchair users are often discouraged from using fixed-route transportation services due to inaccessible streets, sidewalks, stops, etc.

## National Survey of People with Disabilities

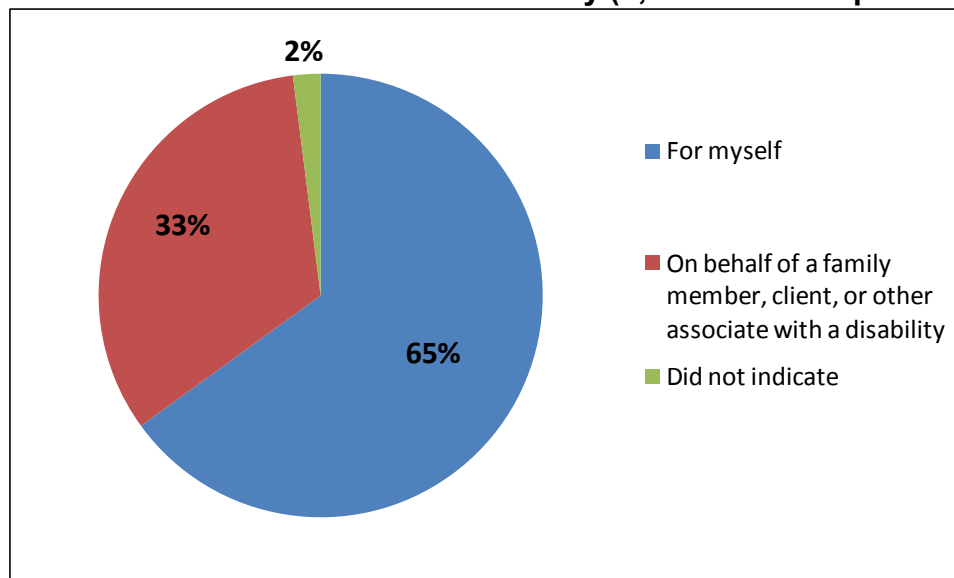
Using the input received from the 30 detailed interviews of riders with disabilities, an online survey of people with disabilities in the United States was developed. The survey focused on the modes of transportation used and on the factors considered when deciding whether to use fixed-route transit services, ADA paratransit, or other transportation options. The survey was heavily promoted throughout the U.S. disability community by the Disability Rights Education & Defense Fund (DREDF) and other disability organizations, including but not limited to the American Council of the Blind (ACB), the National Council on Independent Living (NCIL), and the American Association of People with Disabilities (AAPD). The survey opened on April 20, 2012 and closed its primary data collection phase on May 14, 2012.

The survey response was quite robust. Within two hours of the initial distribution of the web link to a number of mailing lists, 70 completed responses had been received. By the time the primary data collection phase was closed, 1,927 U.S.-based responses were received. (Responses were also received from India, Iran, Canada, and Ireland, though those were not included in this analysis.) The response rate showed that efforts to reach the target audience appeared quite successful. Also, it confirmed that the disability community in the United States has a deep interest in the effectiveness of public transit to serve their needs. In fact, because of sustained community interest, the survey remains open to participation on the web, with a proviso clearly posted that the primary data collection phase has closed. A hard copy of the survey is also provided in Appendix B.

### **Initial Questions**

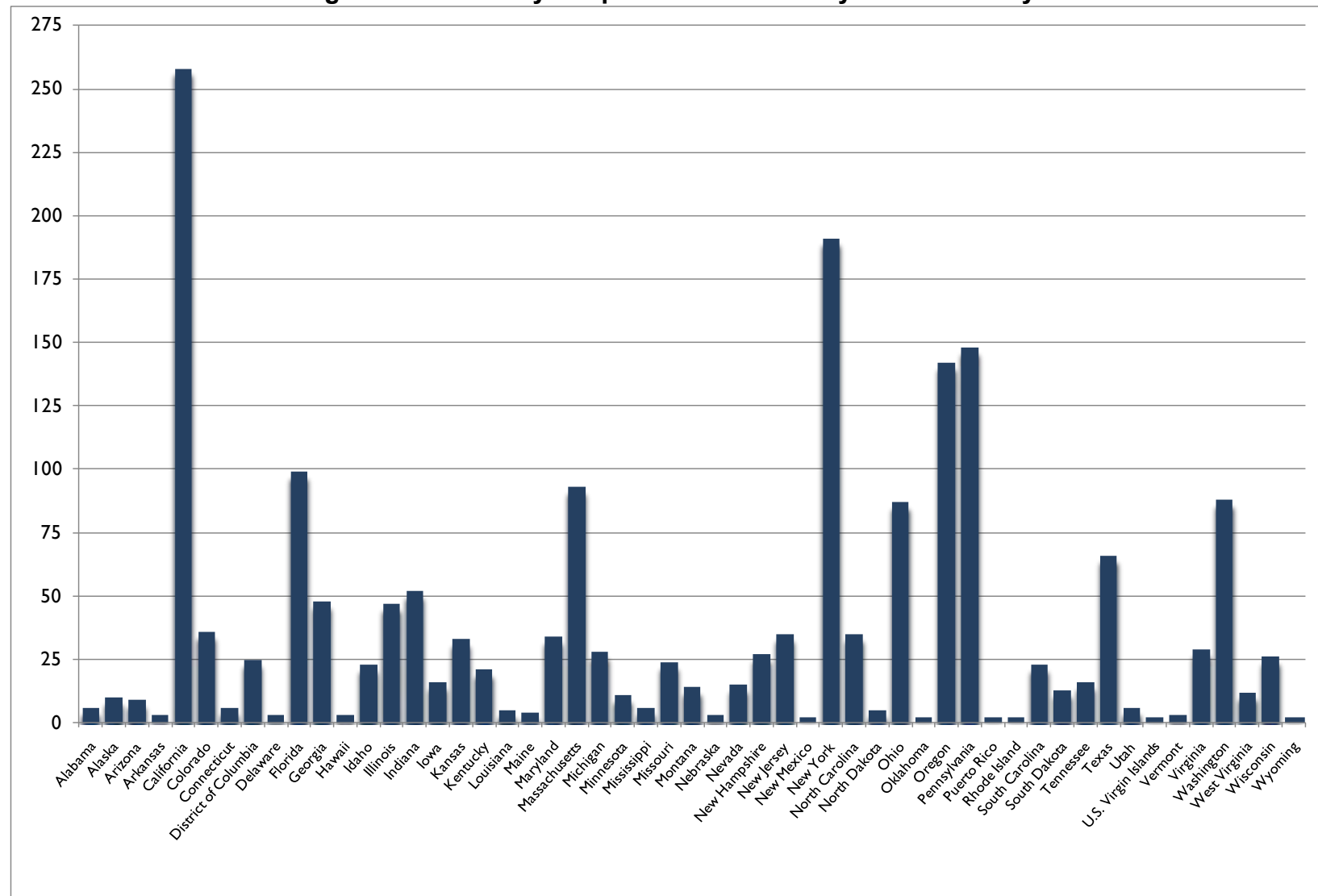
The survey began by asking whether the respondent was completing the survey for him/herself, or on behalf of a family member, client, or other associate with a disability. As shown in Figure 2-14, approximately two-thirds of those responding indicated they were doing so on their own behalf; approximately one-third were doing so on behalf of another party.

**Figure 2-14. Survey Responses Provided Directly Or On Behalf of a Person with a Disability (1,927 Total Respondents)**



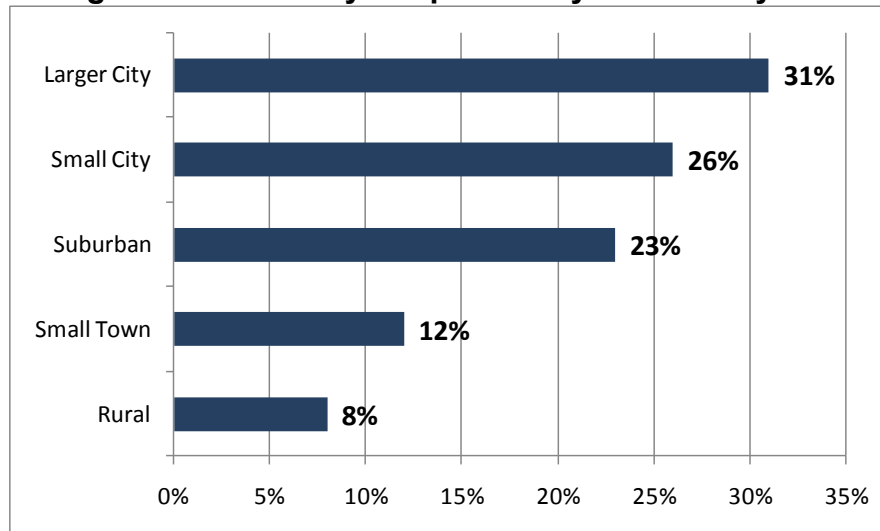
Participants were then asked their city, state, and zip code. As shown in Figure 2-15, responses were received from every US state as well as from the District of Columbia, Puerto Rico, and the US Virgin Islands. The largest number was received from California (258), followed by New York (191), Pennsylvania (148), Oregon (142), Florida (99), Massachusetts (93), Washington State (88), Ohio (87), and Texas (66).

Figure 2-15. Survey Responses Received By State/Territory



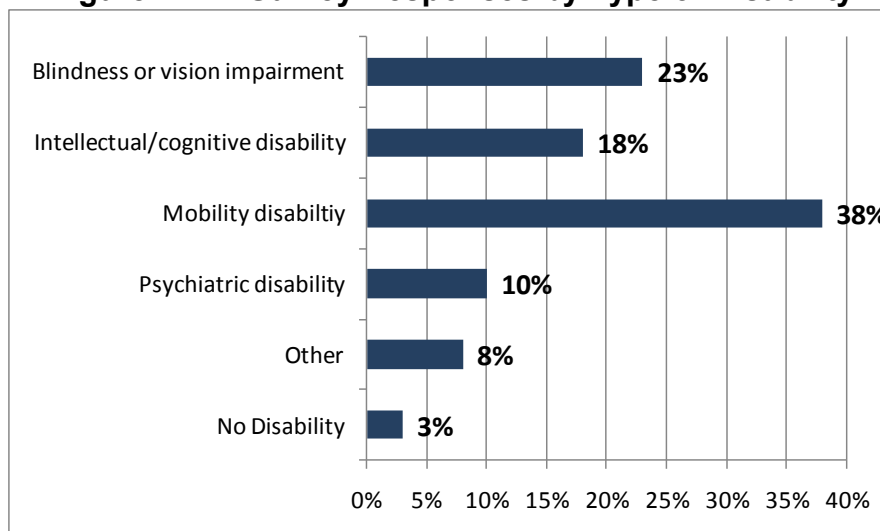
Participants were also asked to describe the community in which they live, followed by five choices. As shown in Figure 2-16, the largest number of survey respondents identified themselves as from a larger city (31%). Just over one-fourth of survey respondents reported living in a small city (26%). “Suburban” was selected by 23%; “small town” was selected by 12%, and “rural” was selected by 8%.

**Figure 2-16. Survey Responses by Community Size**



The next question asked, “Please indicate the disability or disabilities that affect your travel in the community? (Check all that apply)” A significant percent of survey respondents (29%) indicated multiple disabilities. The most common disability reported was a mobility disability (38%), followed by blindness or vision impairment (23%), intellectual/cognitive disability (18%), psychiatric disability (10%), and “other” (8%). In what might have been erroneous responses from non-disabled associates, 3% of respondents indicated “I do not have a disability.”

**Figure 2-17. Survey Responses by Type of Disability**



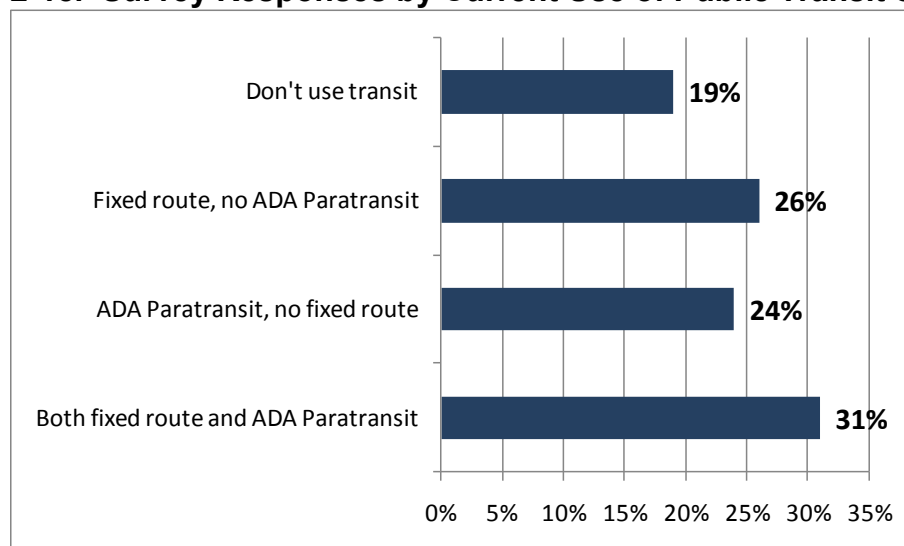
Respondents were then asked if there is a public transit agency in their community that provides both fixed-route transit service and ADA complementary paratransit service. Definitions of the terms “fixed-route transit service” and “ADA complementary paratransit” were noted nearby, stating that “Fixed-route transit service is bus and/or train service for everyone, with advertised time schedules and established stops/stations” and that “ADA complementary paratransit service is on-request service, usually by van or sedan, for people with disabilities who have qualified as eligible for it.” If respondents indicated “No” or “Not Sure,” they were directed to an end-of-survey thank-you screen. All the remaining survey data, described below, came solely from respondents who indicated “Yes” to this question.

Respondents who indicated that there was fixed-route transit and ADA paratransit service in their community were then asked, “Please select the statement below that best describes your use of the public transit services in your area.” The choices were:

- I use the fixed-route transit service, but don't use the ADA paratransit service
- I use the ADA paratransit service, but don't use the fixed-route transit service
- I use both the fixed-route transit service and the ADA paratransit service
- I do not use either the fixed-route transit service or the ADA paratransit service

Thirty-one percent (31%) of respondents (499) indicated that they use both the fixed-route transit service and ADA paratransit service. Twenty-four percent (24%) indicated they use ADA paratransit service, but don't use the fixed-route transit service (382). Twenty-six percent (26%) indicated they use the fixed-route transit service but not ADA paratransit service (426). And 19% indicated they don't use either service (314). Depending on this response, respondents were directed to one of four survey tracks; that is, to a set of questions specifically tailored to each of these groupings.

**Figure 2-18. Survey Responses by Current Use of Public Transit Services**

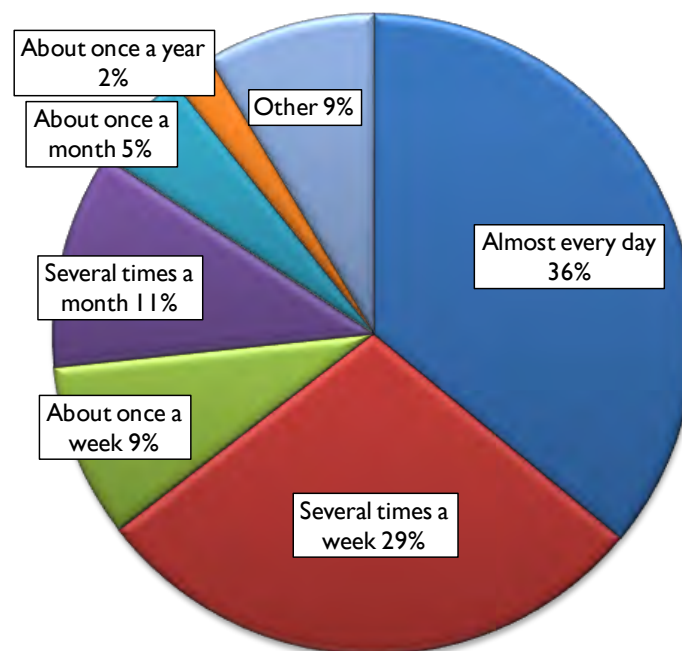


## Frequency of Use

### Respondents Who Use Only ADA Paratransit

The first question for each track was about how frequently respondents use each transit mode. The first track, for respondents who only use ADA paratransit, asked, “How often do you use the ADA paratransit service?” The largest number selected the response “Almost every day” (36%). The next-largest number indicated “Several times a week” (29%), followed by “Several times a month” (11%), “About once a week” and “Other” (both 9%), “About once a month” (5%), and “About once a year” (2%).

**Figure 2-19. Frequency of Use by Respondents Who Only Use ADA Paratransit Services**



Respondents were able to enter comments after this question, and 78 people made comments. Many of the comments just clarified their answers on frequency, such as “Five days a week; to the site and back home.” Other comments provided additional insight into the frequency of use of ADA paratransit and are included in Appendix C.

### Respondents Who Use Both the Fixed-Route Transit System and ADA Paratransit

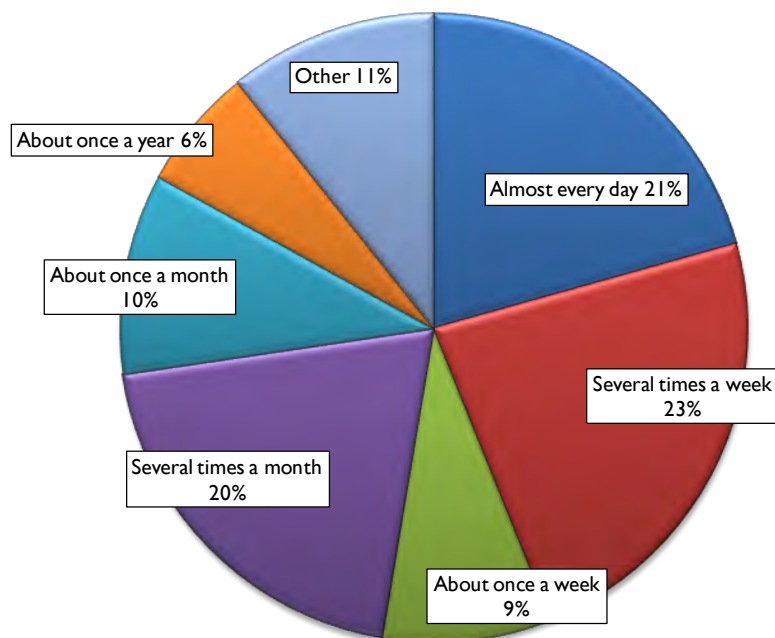
Respondents who use both the fixed-route transit system and ADA paratransit were also asked, “How often do you use the ADA paratransit service?” The largest number selected the response “Several times a week” (23%). The next-largest number indicated “Almost every day” (21%), followed by “Several times a month” (20%), “About once a month” (10%), “Other” (11%), “About once a week” (9%), and “About once a year” (6%).

These respondents, who reported using both the fixed-route transit system and ADA paratransit, were also asked the same question about their fixed-route transit use: “How often do you use the fixed-route transit service?” The largest number selected the response “Almost every day” (23%), followed by “Several times a week” (22%), “Several times a month” and “About once a month” (both 14%), “About once a week” (12%), “Other” (8%), and “About once a year” (6%).

Figures 2-20 and 2-21 show the reported frequency of use of each mode. As these charts illustrate, respondents indicated a fairly similar frequency of use of each mode.

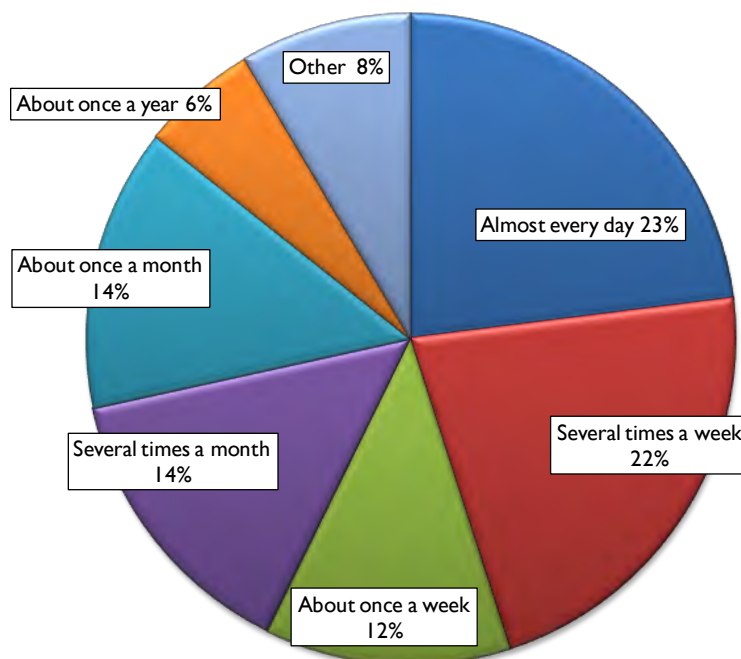
Respondents were able to enter comments after these questions, and 202 people made comments. Again, many just clarified or repeated the frequency of use, such as “5 days a week,” but other comments provided interesting insight and are provided in Appendix C.

**Figure 2-20. Frequency of Use of ADA Paratransit Service by Respondents Who Also Use Fixed-Route Transit Services**





**Figure 2-21. Frequency of Use of Fixed-Route Transit by Respondents Who Also Use ADA Paratransit Services**

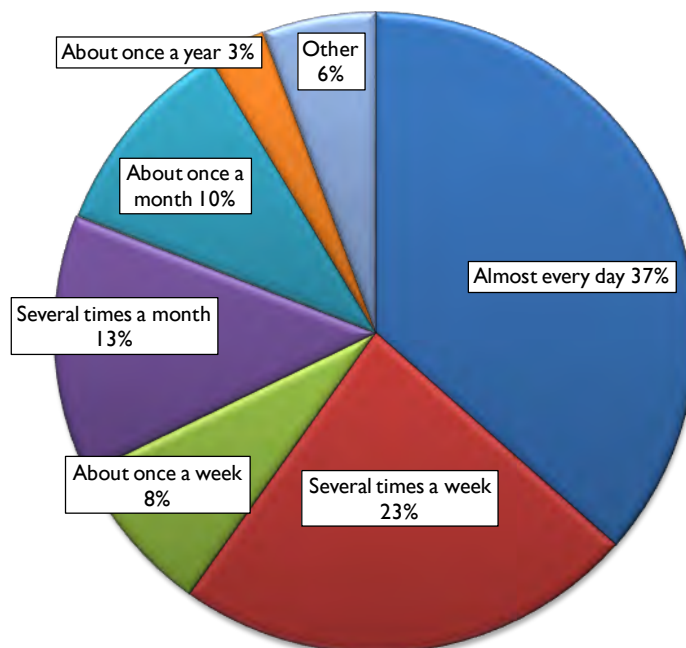


### **Respondents Who Use Only the Fixed-Route Transit Service**

Respondents who use the fixed-route transit service, but not ADA paratransit, were asked, “How often do you use the fixed-route transit service?” The largest number selected the response “Almost every day” (37%). The next-largest number indicated “Several times a week” (23%), followed by “Several times a month” (13%), “About once a month” (10%), “About once a week” (8%), “Other” (6%), and “About once a year” (3%).

A total of 89 people provided additional comments. Selected comments are provided in Appendix C.

**Figure 2-22. Frequency of Use by Respondents Who Only Use Fixed-Route Transit Services**

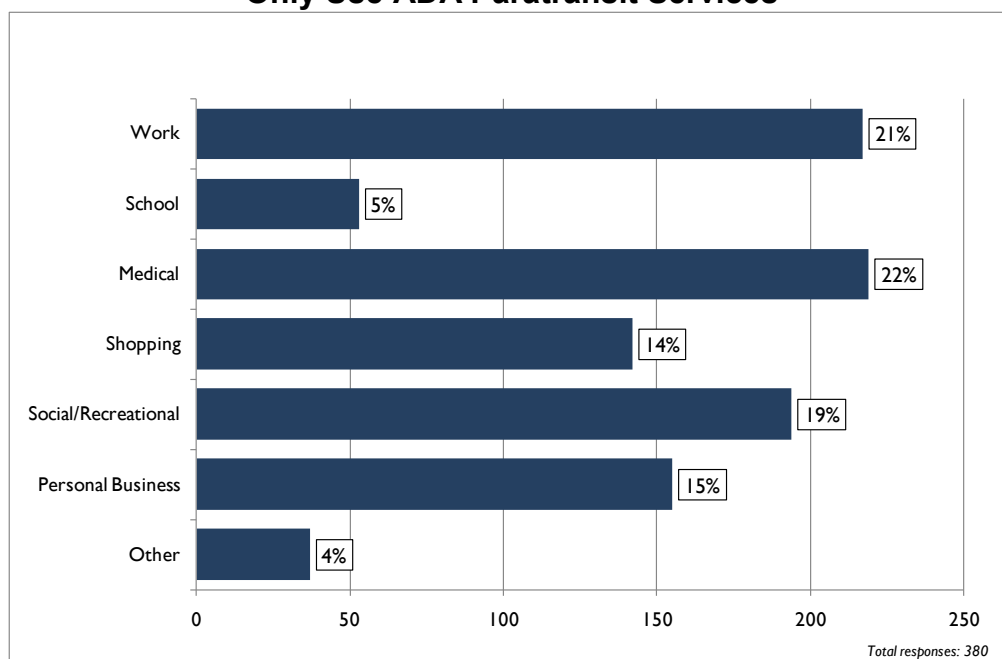


## ***Types of Trips***

### **Respondents Who Use Only ADA Paratransit**

The next question for each track was about what types of trips they make on the transit modes that they use. Respondents who use only ADA paratransit were asked, "What types of trips do you make using the ADA paratransit service? (check all that apply)." The categories Medical (22%) and Work (21%) were indicated the most often, followed by Social/Recreational (19%), Personal Business (15%), Shopping (14%), School (5%), and Other (4%).

**Figure 2-23. Types of Trips Made By Respondents Who Only Use ADA Paratransit Services**



Respondents were able to enter comments after this question, and 59 did so. Most clarified the nature of their trips, such as:

- Disability meetings
- Going to church, the hospital for therapy and next week for surgery. Bi-monthly for government meeting on transportation issues for our county.
- I am a state and national long-term care advocate. I go to our State House, to town meetings, to speak, to government meetings; et al. Paratransit service is essential to my activism.
- Paratransit allows me to remain independent, work, and stay active/connected in the community with friends and my spiritual community. Without the service I would truly become depressed due to isolation.
- Respite services
- Sometimes to go to entertainment or eating establishments.

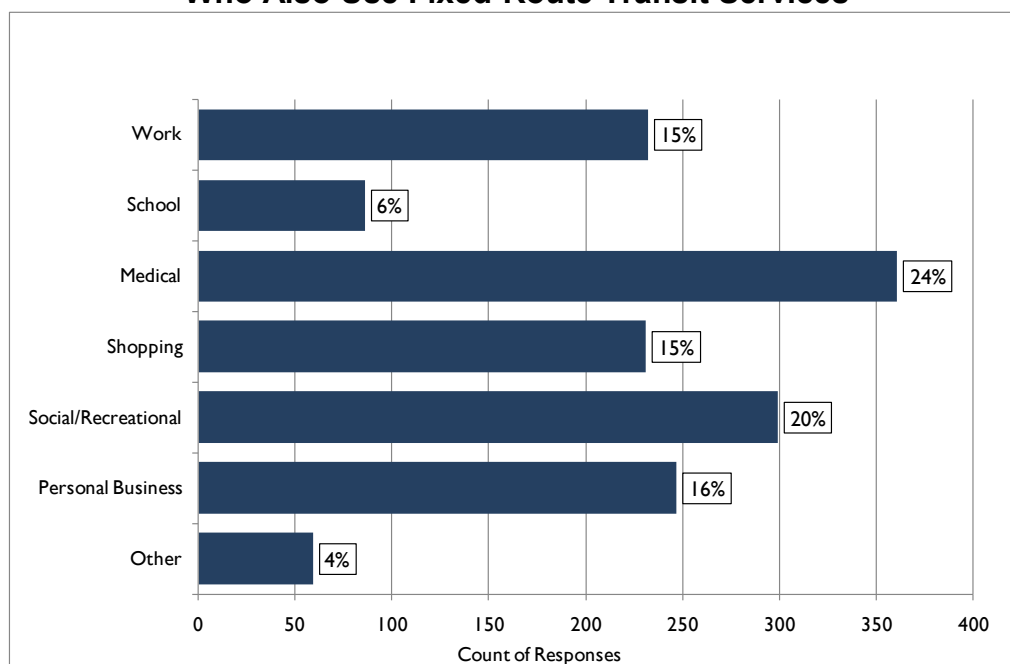
Respondents were next asked, “What are the main reasons you use ADA paratransit, rather than fixed-route transit service, for these types of trips?” A total of 349 comments were received. Some comments indicated disability related issues that precluded use of fixed-route transit. Others indicated positive attributes of paratransit services. And others suggested things that might be changed on the fixed-route transit system. Selected comments are provided in Appendix C.

### **Respondents Who Use Both the Fixed-Route Transit System and ADA Paratransit**

Regarding types of trips, respondents who use both modes were first asked, “What types of trips do you make using the ADA paratransit service? (check all that apply).” Next, these respondents were asked, “What types of trips do you make using the fixed-route transit service? (check all that apply).” Figures 2-24 and 2-25 show the number and percentage of trips by type for each mode.

ADA paratransit was used most often for Medical (24%) and Social/Recreational (20%), followed by Personal Business (16%), Shopping and Work (both 15%), School (6%), and Other (4%). Fixed-route transit service was used most often for Social/Recreational (23%), followed by Shopping (20%), Personal Business (19%), and Medical (16%). Work was indicated by 13% of respondents. Fixed-route transit service was used the least frequently for School (5%) and Other (3%).

**Figure 2-24. Types of Trips Made On ADA Paratransit by Respondents Who Also Use Fixed-Route Transit Services**



**Figure 2-25 Type of Trips Made on Fixed-Route Transit by Respondents Who Also Use ADA Paratransit Services**

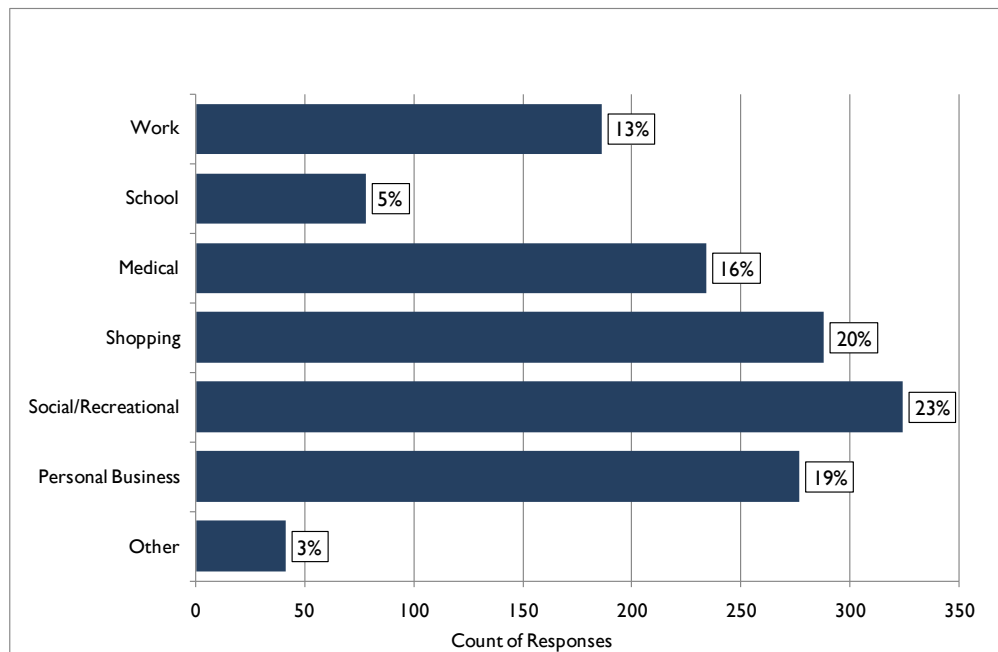
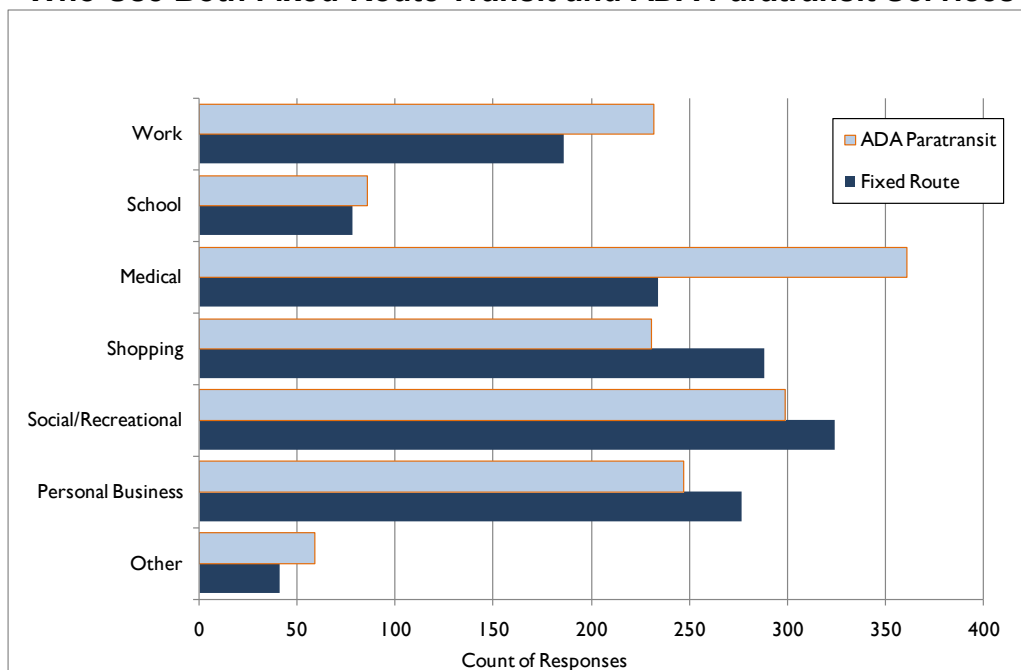


Figure 2-26 combines data for both modes to more clearly show the variation. As shown, respondents reported using ADA paratransit service more often for Work and Medical, and slightly more often for Other. Fixed-route transit service was used more often for Shopping and somewhat more often for Social/Recreational and Personal Business.

**Figure 2-26. Types of Trips by Mode for Respondents Who Use Both Fixed-Route Transit and ADA Paratransit Services**



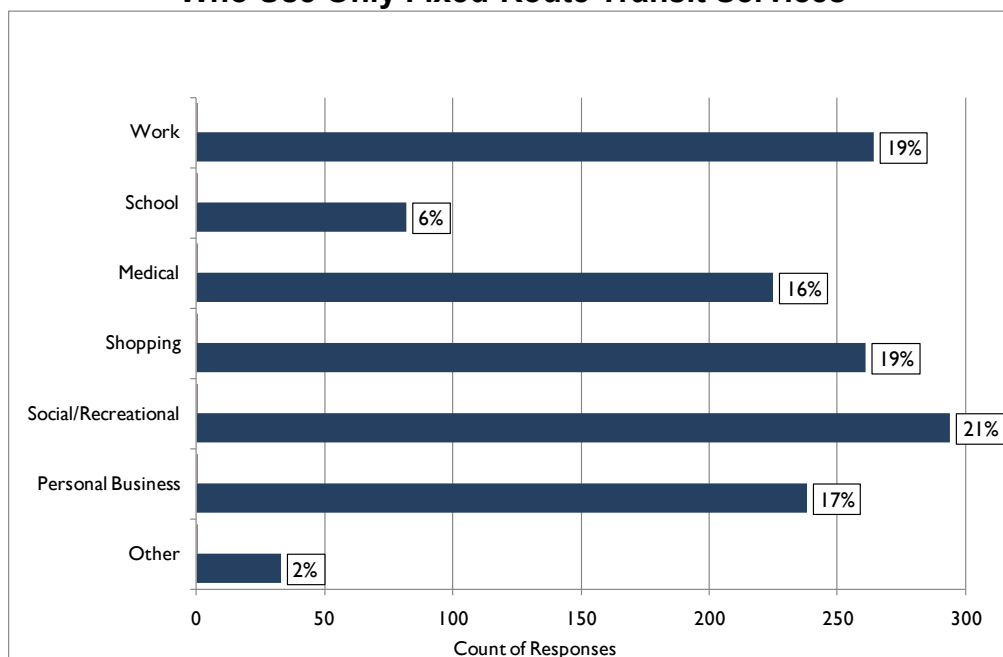
Respondents were able to enter comments after this question, and 160 did so. Many of the comments simply clarified or restated the types of trips made on each mode. Other comments provided some insight into the reasons each mode was used.

### **Respondents Who Use Only the Fixed-Route Transit Service**

Respondents who use only the fixed-route transit service were asked “What types of trips do you make using the fixed-route transit service? (check all that apply)” The categories “Social/Recreational (21%) as well as “Shopping” and “Work” (both 19%) were indicated most often. This was followed by “Personal Business” (17%), “Medical” (16%), “School” (6%), and “Other (2%).

A total of 54 respondents who only use fixed-route transit provided additional comments. Most comments from this group of respondents simply restated the trip purposes. A few provided some additional insight and are provided in Appendix C.

**Figure 2-27. Types of Trips Made By Respondents Who Use Only Fixed-Route Transit Services**



## ***Reasons for Choice of Transit Mode***

The next question for each track was about the main reasons respondents use their chosen mode(s) of transportation for the particular types of trips they take on that mode. Respondents who use only use ADA paratransit were asked, “What are the main reasons you use ADA paratransit, rather than fixed-route transit service, for these types of trips?”

Respondents who use both modes were asked for their main reasons in choosing each mode for some of their trips. They were first asked, “Why do you use ADA paratransit service rather than fixed-route transit service for some of your trips?” They were then asked “Why do you use fixed-route transit service rather than ADA paratransit service for some of your trips?”

Respondents who use only fixed-route transit service were also asked, “What are the main reasons you use fixed-route transit service, rather than other types of transportation, for these trips?”

Respondents who use neither the fixed-route transit service nor ADA paratransit were asked, “Please describe below the reasons you do not use the fixed-route transit service in your community.”

A total of 1,911 comments were received in response to these questions. Many comments noted the unique characteristics of each mode that better met their specific travel needs. Some comments suggested that if certain conditions were changed, travel by fixed-route transit instead of ADA paratransit might be possible. Other comments addressed the level and quality of each type of service—either praising it or noting service problems—and citing these service level and quality issues as reasons for their mode choice. Selected comments are provided in Appendix C.

## ***More Use of Fixed-Route Transit Service***

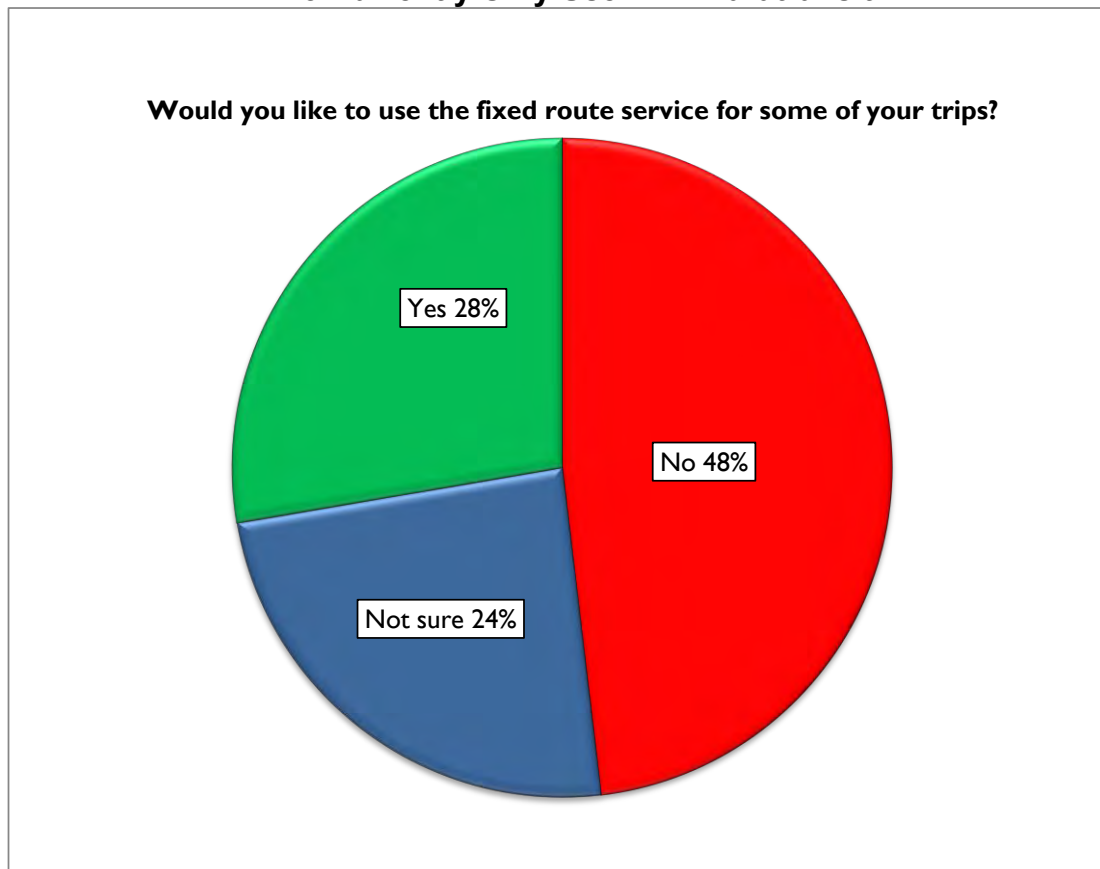
Respondents in each track were also asked if they would like to use the fixed-route transit service more than they currently do. Following is a summary of the responses for each group of respondents.

Comment boxes were also available to each group of respondents after each question was asked. A total of 453 comments were received. Some comments reflected disabling conditions that preclude fixed-route transit use. Some commenters expressed thoughts, concerns, and experiences suggesting fixed-route transit use could be possible or that transit agency action could impact the rider’s mode choice. Selected comments for each respondent group are provided in Appendix C.

### **Respondents Who Use Only ADA Paratransit**

Respondents who only use ADA paratransit were asked, “Would you like to use the fixed-route transit service for some of your trips?” As illustrated in Figure 3-28, 48% of the 372 respondents in this group indicated “No,” 28% indicated “Yes,” and 24% indicated “Not sure.”

**Figure 2-28. Desire to Use Fixed-Route Transit by Respondents Who Currently Only Use ADA Paratransit**

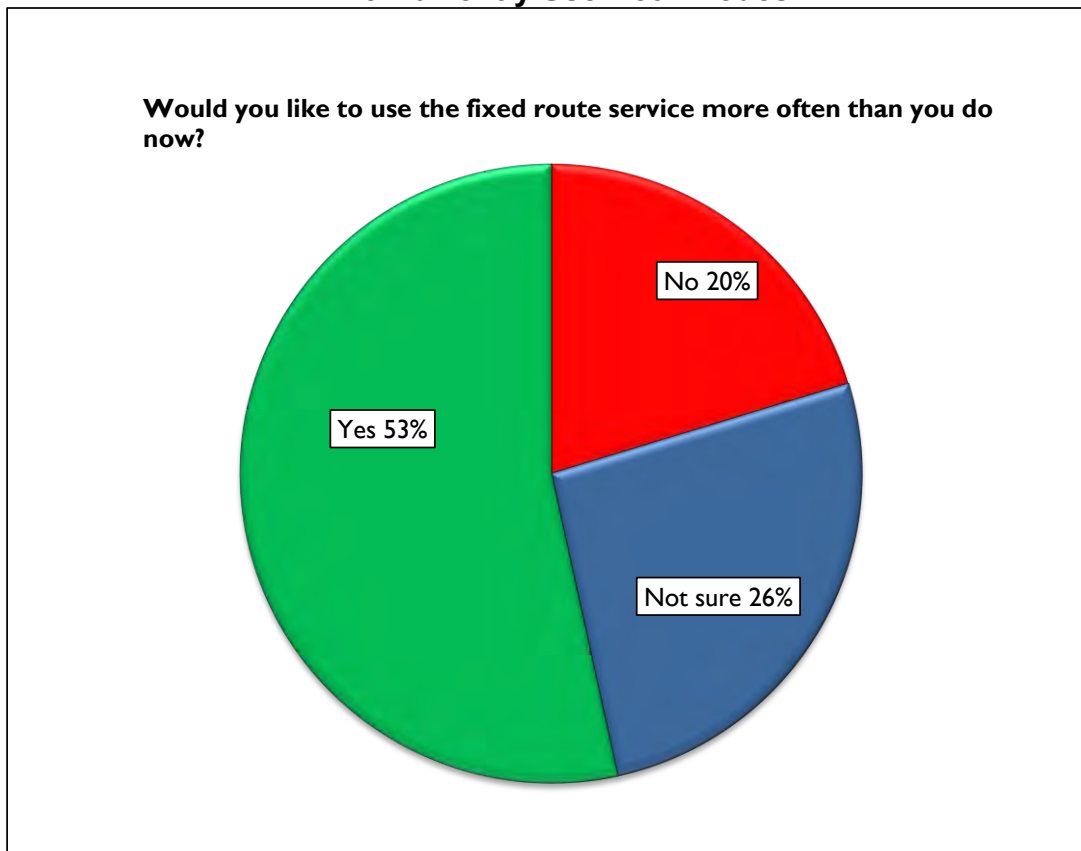




**Respondents Who Use Both the Fixed-Route Transit System and ADA Paratransit**

Respondents who use both fixed-route transit and ADA paratransit were asked, “Would you like to use the fixed-route transit service more often than you use it now?” A strong 53% of respondents answered, “Yes”; 20% responded “No”; and 26% indicated “Not sure.”

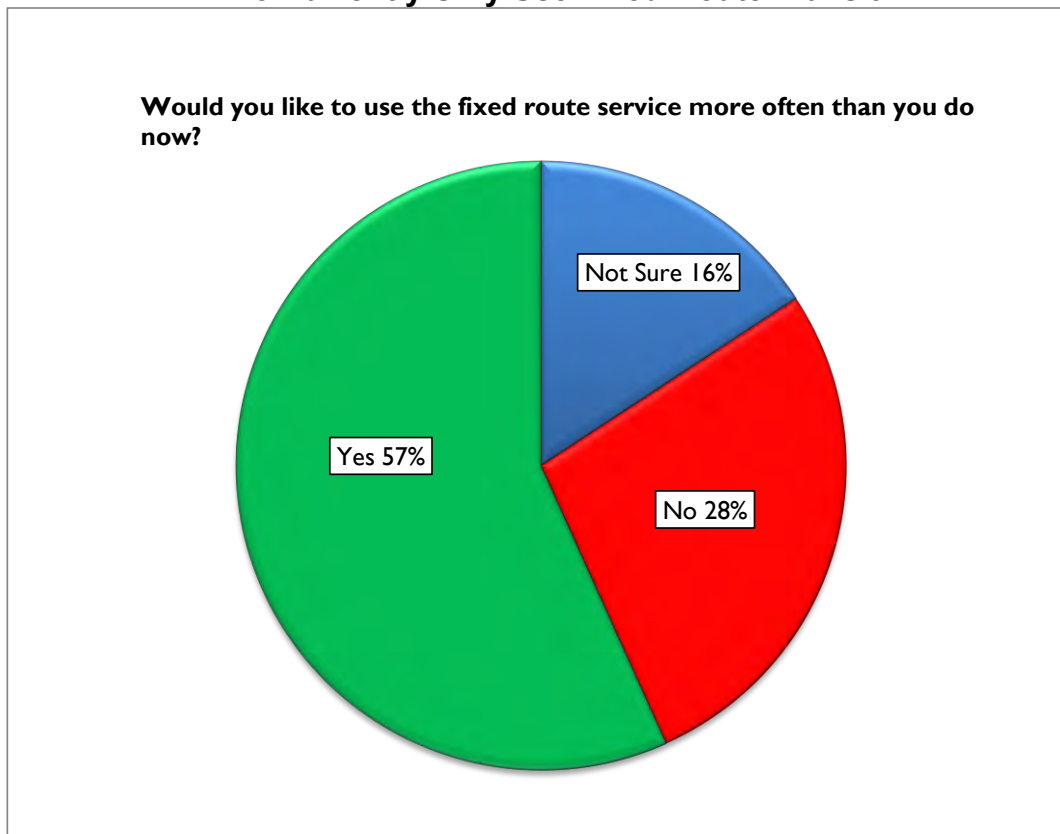
**Figure 2-29. Desire to Use Fixed-Route Transit More By Respondents Who Currently Use Both Modes**



### **Respondents Who Use Only the Fixed-Route Transit Service**

Respondents who use only the fixed-route transit service were similarly asked, “Would you like to use the fixed-route transit service more often than you use it now?” A majority of respondents, 57%, indicated “Yes;” 28% indicated “No;” and 16% indicated “Not sure.”

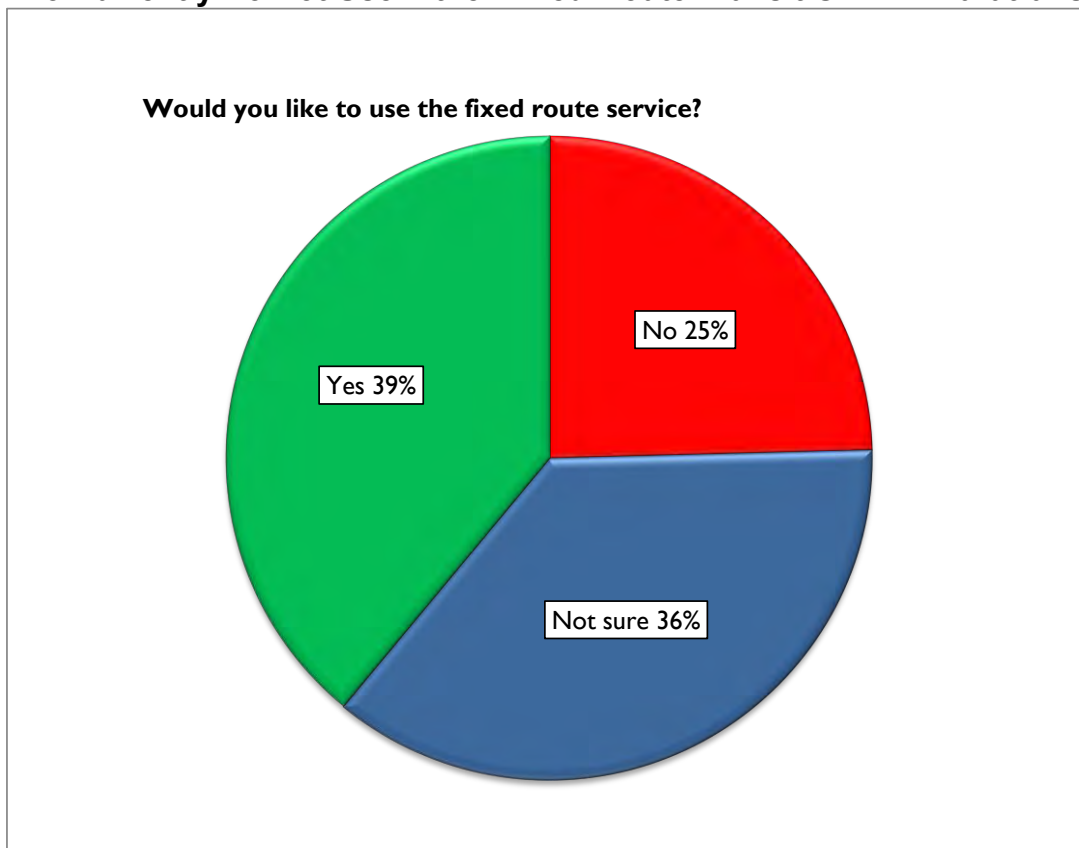
**Figure 2-30. Desire to Use Fixed-Route Transit More By Respondents Who Currently Only Use Fixed-Route Transit**



### **Respondents Who Use Neither the Fixed-Route Transit Service Nor ADA Paratransit**

Finally, respondents who use neither the fixed-route transit service nor ADA paratransit were also asked, “Would you like to use fixed-route transit service?” 39% of respondents indicated “Yes,” 25% of respondents indicated “No,” and 36% of respondents indicated “Not sure.”

**Figure 2-31. Desire to Use Fixed-Route Transit by Respondents Who Currently Do Not Use Either Fixed-Route Transit Or ADA Paratransit**



### ***What Factors Are Most Important***

The last questions to all respondents were about what factors are the most important to them in choosing whether to use the fixed-route transit system or another mode of transportation. Respondents were presented with a list of “factors that sometimes discourage or prevent people with disabilities from using fixed-route transit service as often as they would like.” They were asked, “On a scale of 1 to 5, with 1 being ‘not important’ and 5 being ‘very important,’ please indicate how important these factors are to you in deciding whether to use the fixed-route transit service.” The list of factors was:

- Fixed-route transit service doesn't run often enough
- Fixed-route transit service doesn't run at the hours I need to travel
- Complex or multiple transfers on fixed-route transit service
- Cost of the fixed-route transit service
- I'm not sure how to use the fixed-route transit service
- Negative past experiences using the fixed-route transit service
- Poor fixed-route transit service quality
- Problems with stop announcements
- Concerns for my personal safety when using fixed-route transit service
- Distances to or from stops/stations
- Barriers in the pedestrian environment getting to and from stops/stations
- Lack of information about potential barriers I may encounter getting to/from fixed-route stops/stations
- Fixed-route transit service doesn't accommodate my mobility aid as well as I would like
- Poor fixed-route transit driver attitudes or assistance
- Attitudes of other fixed-route transit passengers

### **All Respondents**

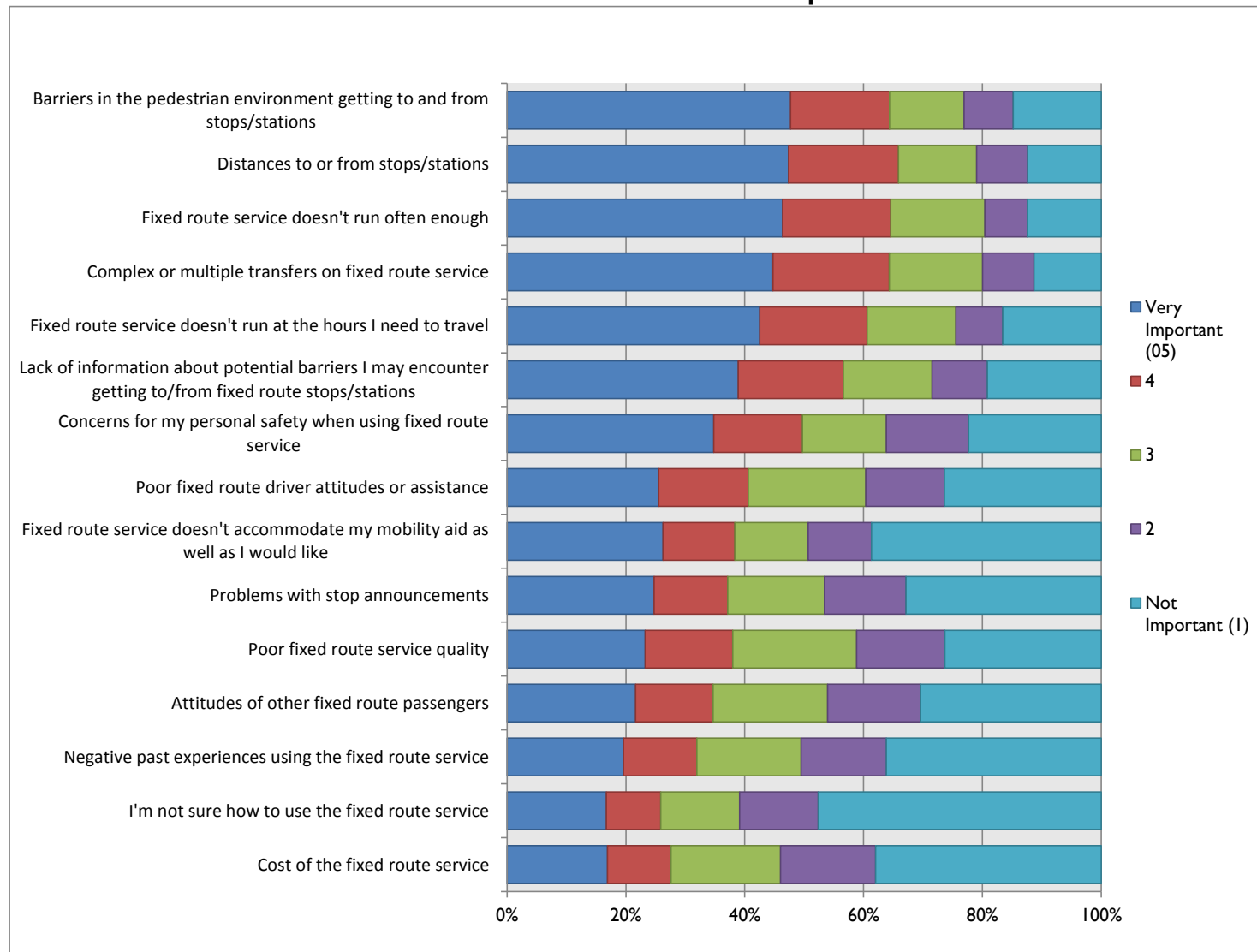
Figure 2-32 on the following page provides a rating of the factors for all respondents. The following factors were rated as the most important ones keeping respondents from using fixed-route transit service, or using it more, by respondents in all the tracks combined, in this order:

- Barriers in the pedestrian environment getting to and from stops/stations (Highest-rated factor, rated as Very Important by 48% of respondents)
- Distances to or from stops/stations (47%)
- Fixed-route transit service doesn't run often enough (46%)
- Complex or multiple transfers on fixed-route transit service (45%)
- Fixed-route transit service doesn't run at the hours I need to travel (43%)
- Lack of information about potential barriers I may encounter getting to/from fixed route stops/stations (39%)
- Concerns for my personal safety when using fixed-route transit service (35%)

Respondents, in aggregate, deemed these factors not important:

- I'm not sure how to use the fixed-route transit service (48%)
- Cost of the fixed-route transit service (38%)
- Negative past experiences using the fixed-route transit service (36%)

**Figure 2-32. Importance of Selected Factors in Decision Whether to Use Fixed-Route Transit Services—All Respondents**



### **Respondents Who Use Only ADA Paratransit**

Figure 2-33 on the following page shows how respondents who use ADA paratransit but not the fixed-route transit service rated each factor. This group of respondents rated the following factors as the most important ones keeping them from using fixed-route transit service, in this order:

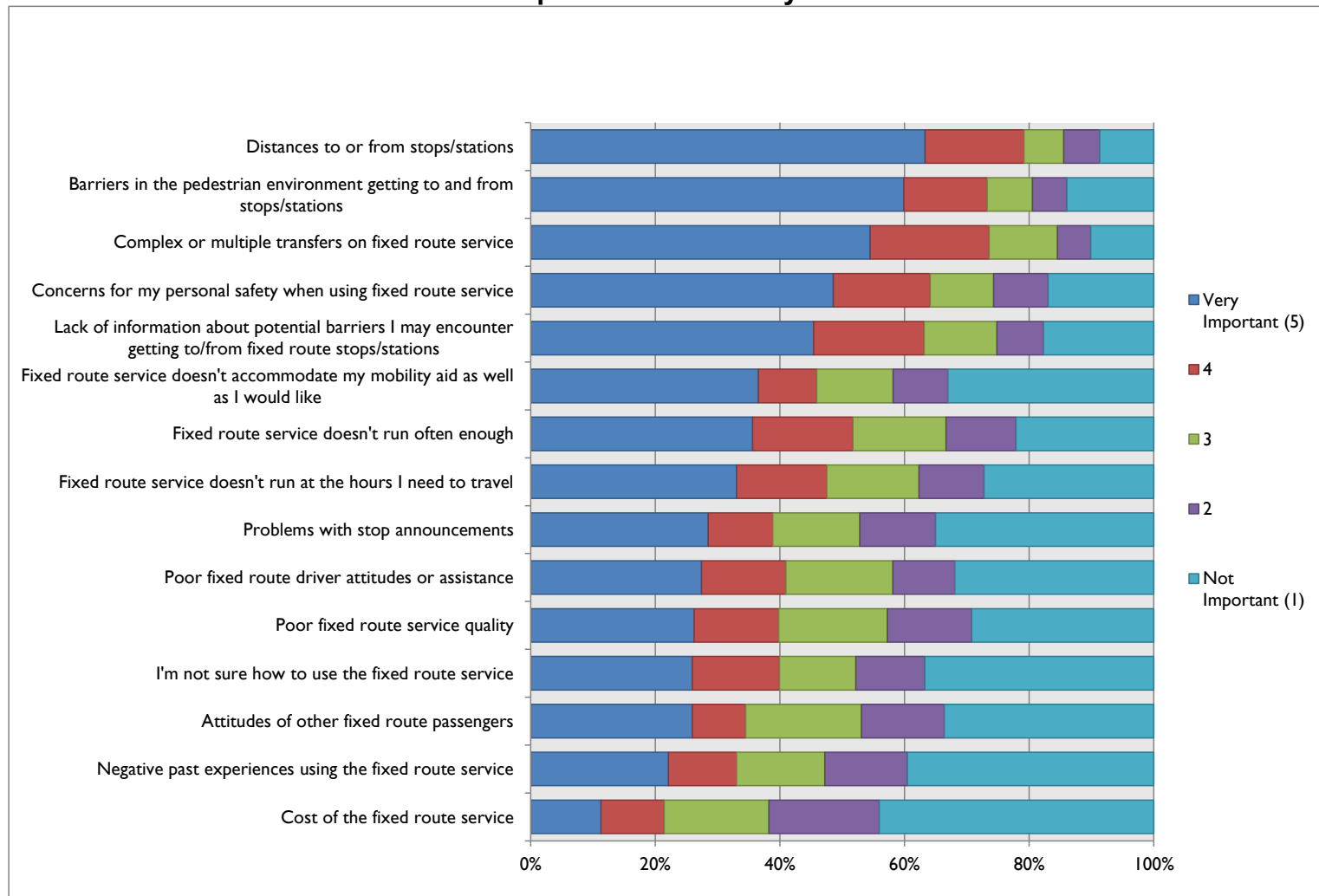
- Distances to or from stops/stations (63%)
- Barriers in the pedestrian environment getting to and from stops/stations (60%)
- Complex or multiple transfers on fixed-route transit service (54%)
- Concerns for my personal safety when using fixed-route transit service (49%)
- Lack of information about potential barriers I may encounter getting to/from fixed route stops/stations (45%)
- Fixed-route transit service doesn't accommodate my mobility aid as well as I would like (37%)
- Fixed-route transit service doesn't run often enough (36%)
- Fixed-route transit service doesn't run at the hours I need to travel (33%)

This grouping of respondents rated these factors as not important:

- Cost of the fixed-route transit service (44%)
- Negative past experiences using the fixed-route transit service (40%)
- I'm not sure how to use the fixed-route transit service (37%)

This group of respondents was also asked, "Are there any other factors that are important to you when you consider whether or not to use the fixed-route transit service?" A total of 109 respondents entered comments. These additional factors and related comments are provided in Appendix C.

**Figure 2-33. Importance of Selected Factors in Decision Whether to Use Fixed-Route Transit—Respondents Who Only Use ADA Paratransit Now**



**Respondents Who Use Both the Fixed-Route Transit Service and ADA Paratransit**

Ratings of factors by respondents who use both the fixed-route transit service and ADA paratransit are shown in Figure 2-34. This group rated the following factors as the most important ones when deciding whether to use the fixed-route transit service, in this order:

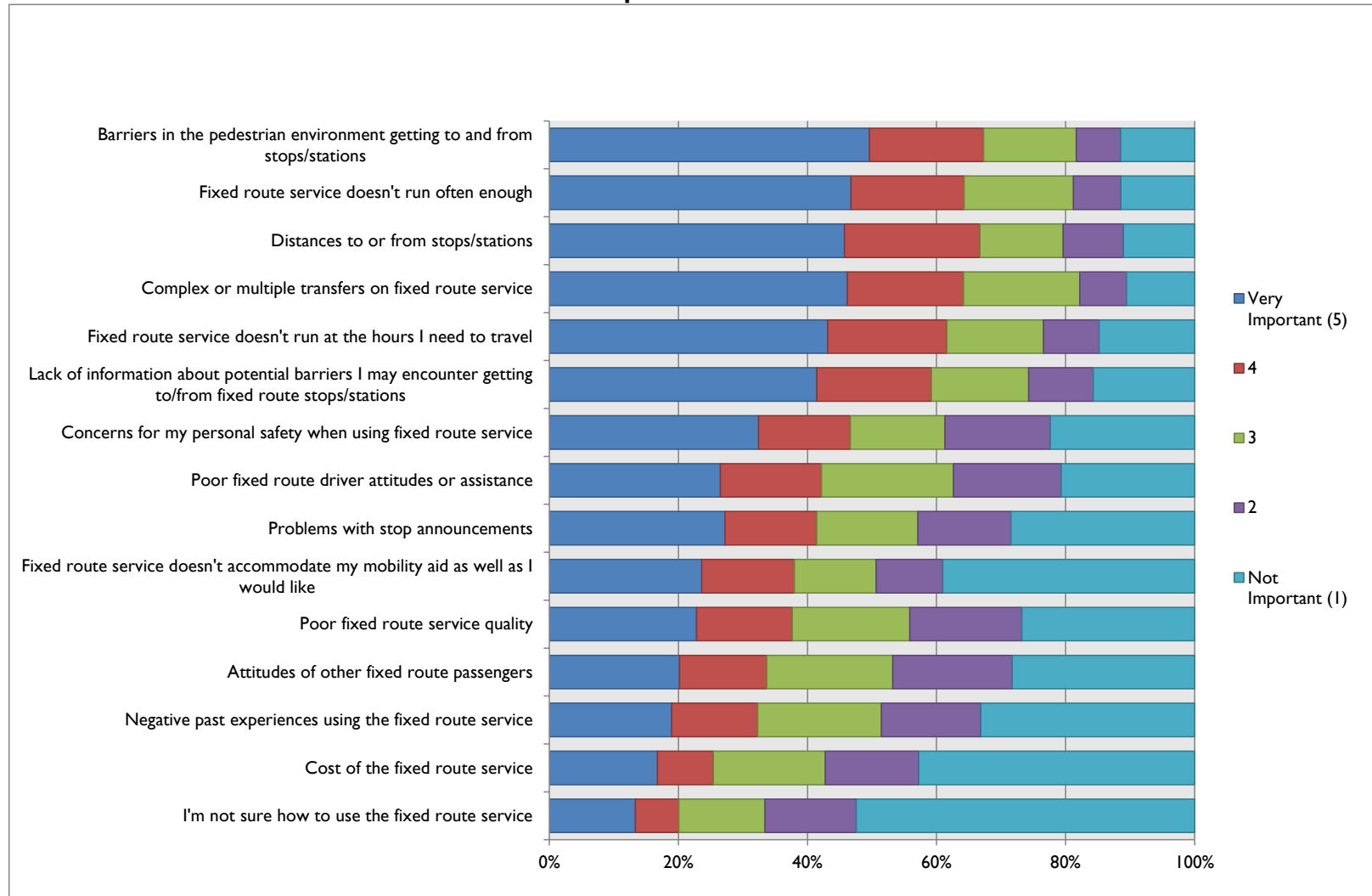
- Barriers in the pedestrian environment getting to and from stops/stations (50%)
- Fixed-route transit service doesn't run often enough (47%)
- Distances to and from stops/stations (46%)
- Complex or multiple transfers on fixed-route transit service (46%)
- Fixed-route transit service doesn't run at the hours I need to travel (43%)
- Lack of information about potential barriers I may encounter getting to/from fixed route stops/stations (41%)

Factors that were considered not important to this group were:

- I'm not sure how to use the fixed-route transit service (52%)
- Cost of the fixed-route transit service (43%)
- Fixed-route transit service doesn't accommodate my mobility aid as well as I would like (39%)



**Figure 2-34. Importance of Selected Factors in Decision Whether to Use Fixed-Route Transit—Respondents Who Use Both Modes Now**



**Respondents Who Use Only the Fixed-Route Transit Service**

As shown in Figure 2-35, respondents who use the fixed-route transit service but not ADA paratransit rated the following factors as the most important ones in deciding whether to use the fixed-route transit service, in this order:

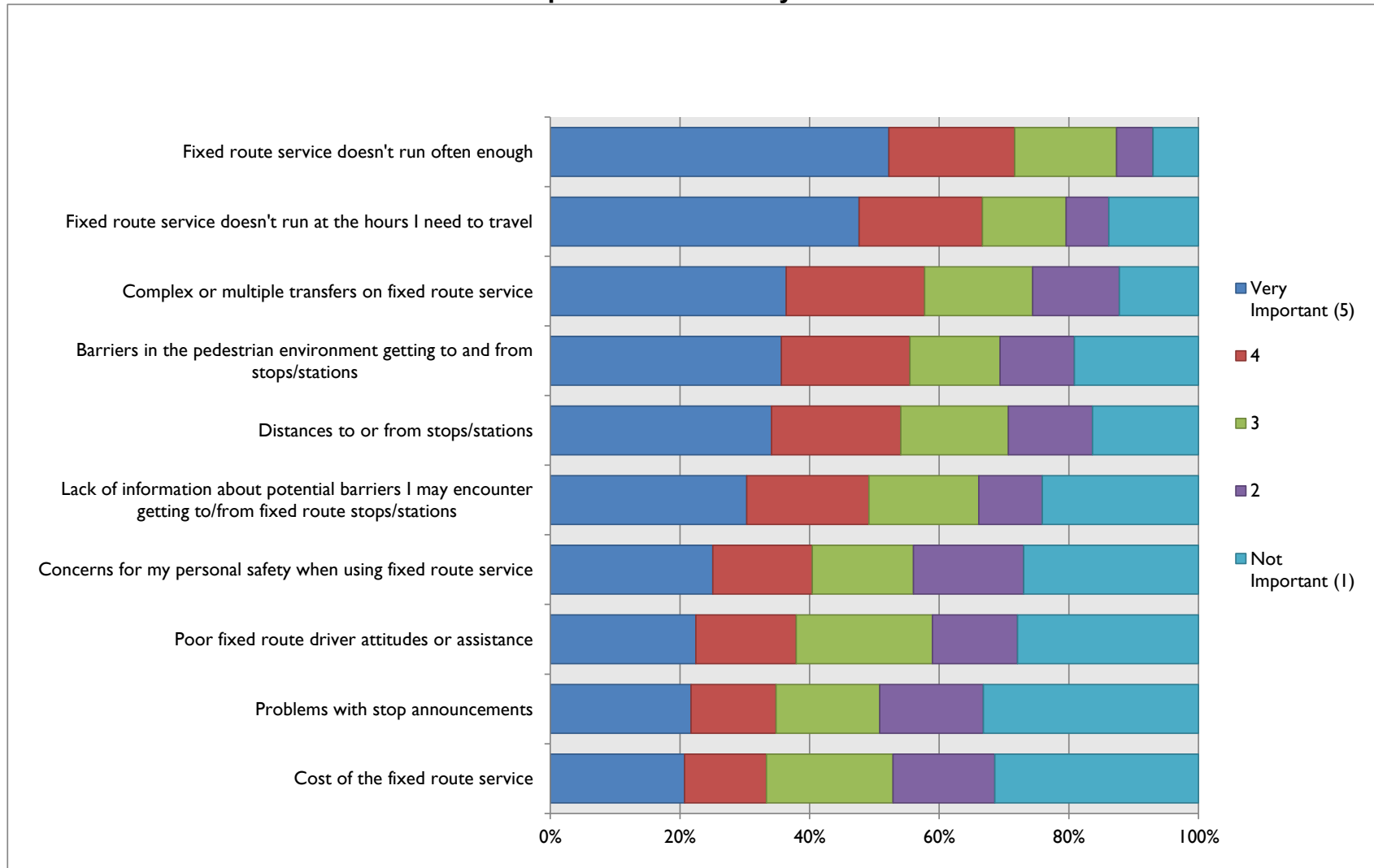
- Fixed-route transit service doesn't run often enough (52%)
- Fixed-route transit service doesn't run at the hours I need to travel (48%)
- Complex or multiple transfers on fixed-route transit service (36%)
- Barriers in the pedestrian environment getting to and from stops/stations (36%)
- Lack of information about potential barriers I may encounter getting to/from fixed route stops/stations (30%)

This grouping of respondents deemed these factors not important:

- I'm not sure how to use the fixed-route transit service (60%)
- Fixed-route transit service doesn't accommodate my mobility aid as well as I would like (46%)

Respondents had the opportunity to comment on additional factors, and 157 entered comments. Selected comments are provided in Appendix C.

**Figure 2-35. Importance of Selected Factors in Decision Whether to Use Fixed-Route Transit—Respondents Who Only Use Fixed-Route Transit Now**

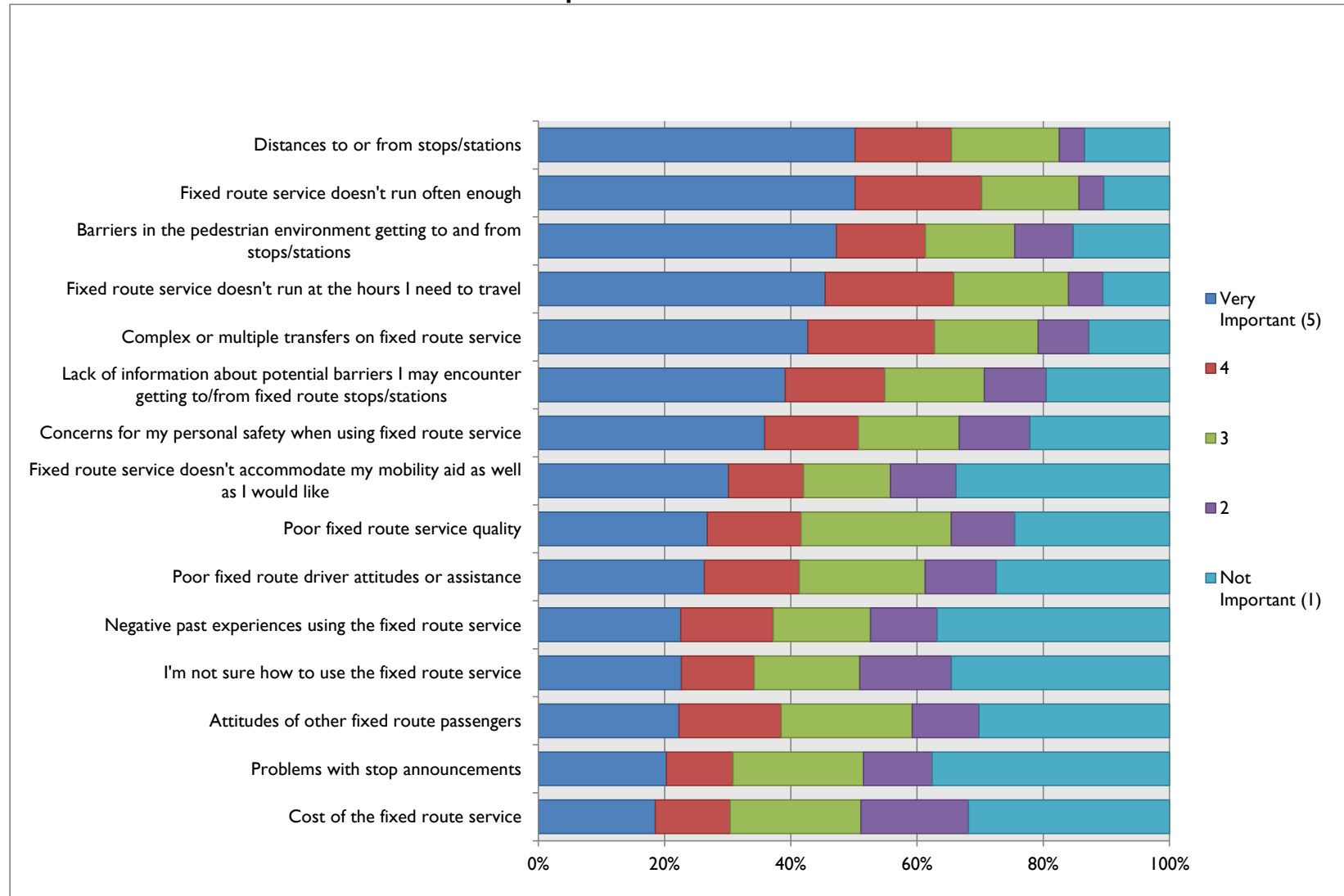


### **Respondents Who Use Neither the Fixed-Route Transit Service Nor ADA Paratransit**

Respondents who use neither the fixed-route transit service nor ADA paratransit rated the following factors as most important (see Figure 2-36):

- Fixed-route transit service doesn't run often enough (50%)
- Distances to or from stop/stations (50%)
- Barriers in the pedestrian environment getting to and from stops/stations (47%)
- Fixed-route transit service doesn't run at the hours I need to travel (45%)
- Complex or multiple transfers on fixed-route transit service (43%)
- Lack of information about potential barriers I may encounter getting to/from fixed route stops/stations (37%)
- Concerns for my personal safety when using fixed-route transit service (36%)
- Fixed-route transit service doesn't accommodate my mobility aid as well as I would like (30%)
- Poor fixed-route transit service quality (27%)
- Poor fixed-route transit driver attitudes or assistance (26%)
- Not sure how to use the fixed-route transit service (23%)
- Negative past experiences using the fixed-route transit service (23%)
- Attitudes of other fixed-route transit passengers (22%)
- Problems with stop announcements (20%)
- Cost of the fixed-route transit service (19%)

**Figure 2-36. Importance of Selected Factors in Decision Whether to Use Fixed-Route Transit—Respondents Who Do Not Use Either Mode Now**



## Conclusions and General Observations Regarding Key Decision Factors

The following general observations and conclusions can be drawn from the extensive input provided by individuals with disabilities:

1. As a group, individuals who use both ADA paratransit and fixed-route transit services appear to use each mode with similar frequency. Twenty-three percent (23%) of respondents in this group reported using fixed-route transit services daily, while 21% indicated they used ADA paratransit service daily. Twelve percent (12%) said they used fixed-route transit about once a week, compared to 9% who indicated using ADA paratransit about once a week.
2. Similarly, those who use only ADA paratransit or only fixed-route transit service appear to use these modes with similar frequency. While 36% of those who indicated only using ADA paratransit service said they used this service almost every day, and 9% said they used it about once a week, 37% of those who only use fixed-route transit said they used it almost every day, and 8% said they used it about once each week.
3. Those who use both ADA paratransit and fixed-route transit services tend to use ADA paratransit more for medical trips and fixed-route transit services more for shopping trips. Use of each mode for other types of trips was very similar.
4. Those who use only ADA paratransit or only fixed-route transit services tend to make similar types of trips on each mode.
5. With the exception of some variation in the number of medical and shopping trips made on each mode, decisions to use one mode or the other appear to be related more to functional abilities, barriers that prevent use of fixed-route transit service, the availability of fixed-route transit service, or past experiences with each mode, rather than to the type of trips being taken.
6. Like all riders, the availability and level of fixed-route transit service provided is a key decision factor in whether or not to use this mode. Persons with disabilities indicated that the frequency of fixed-route transit service and the days and hours of operation are key factors in deciding whether or not to use this mode. As would be expected, this was particularly important to those who only use fixed-route transit and do not use ADA paratransit service. This suggests that improving the general level of fixed-route transit service is an important factor in attracting riders with disabilities.
7. Other than general level of service, persons with disabilities reported that the most important factor in deciding whether or not to use fixed-route transit were (in order of importance):

- Distances to and from stops/stations
  - Barriers in the pedestrian environment to and from stops/station
  - Complex or multiple transfers required
  - Lack of information about potential barriers in the pedestrian environment
  - Concerns about personal safety
8. Factors that were important, but not as important as those listed above included:
- Concerns about the accommodation of mobility devices
  - Poor fixed-route transit driver attitudes or assistance
  - Problems with stop announcements
  - Poor fixed-route transit service quality in general
9. Factors that were rated as less important included:
- Cost of fixed-route transit service
  - Not being sure how to use the fixed-route transit service
  - Negative past experiences using the fixed-route transit service
  - Attitudes of other passengers
10. Negative experiences with ADA paratransit services were mentioned by many survey respondents as a reason they use the fixed-route transit service instead.
11. A significant percentage of persons with disabilities are interested in using fixed-route transit services more often. Fifty-seven percent (57%) of those who only use fixed-route transit now indicated they would like to use it more often. And 53% of individuals who use both fixed-route transit and ADA paratransit said they are interested in using fixed-route transit service more. Even 28% of those who said they only use ADA paratransit now expressed an interest in using fixed-route transit services.





## Section 3. Identification of Efforts by Transit Agencies to Enable and Promote Use of Fixed-Route Transit Services

A national survey of transit agencies was conducted to identify current efforts to enable and promote greater use of fixed-route transit services. The survey asked specifically about experiences with the following types of programs and efforts:

- Thorough ADA paratransit eligibility determinations, including conditional and trip-by-trip eligibility
- Fare incentive programs
- Pedestrian infrastructure improvement efforts
- Travel training programs
- Targeted marketing and public information efforts
- Trip planning services
- Enhance employee training
- Enhanced service monitoring
- Improvements in accommodation of riders using mobility aids

Information about other types of programs and efforts was also requested. In each case, transit agencies were asked for information about the specific efforts being made. They were also asked to provide a subjective rating of the effectiveness of each type of program or effort.

This chapter describes the development and distribution of the survey and provides a summary of responses.

### Development and Distribution of the Survey

A draft survey was developed and shared with members of the TCRP Project Panel. A revised draft that incorporated Panel comments was then prepared. Panel members that worked for transit agencies were also asked to take the revised survey as a pre-test. Further input and suggestions were obtained and the survey was revised a second time. A copy of the final survey is provided in Appendix D.

The final survey was distributed on March 7, 2012 to 674 public transit agencies listed in the 2010 National Transit Database. This included all agencies that were identified as providing fixed-route transit or demand responsive transit services. Individualized survey links were created for each agency and the links were emailed along with a brief summary of the study to the individuals identified as the primary contacts. In most cases this was the Executive Director or Chief Executive Officer of the agency. The cover email requested that the link be forwarded to the agency's ADA Coordinator or manager in charge of accessible services.

A general link to the survey was also sent on March 7, 2012 to the Section 5311 Program Administrators in all 50 states as well as U.S. Territories. The transmittal email asked that the Administrators forward the link to Section 5311 subrecipients that operated fixed-route transit and ADA complementary paratransit services.

In total, the survey link was emailed to a total of 727 local and state organizations—674 public transit agencies and 53 Administrators of the federal Section 5311 Program.

Survey responses were tracked by agency. After two weeks a reminder was sent to those agencies that had not yet responded. A third reminder was sent to State 5311 Program Administrators in an effort to get responses from rural systems.

## Types of Transit Services Provided

The online survey link was kept open until April 30, 2012. Complete responses were received from a total of 163 agencies.

Respondents were asked to identify all of the types of transit service they provided. Table 3-1 shows the types of services provided. As shown, 148 respondents provided some form of fixed-route bus service. Another 16 agencies provided rapid or light rail service. And 12 respondents also provided commuter rail service.

**Table 3-1. Types of Transit Service Provided By Respondents**

<b>Types of Public Transit Services Administered and/or Operated</b>	<b>Total</b>
Fixed-route bus service/BRT/Commuter bus	148
Rapid rail and/or light rail service	16
Commuter rail service	12
ADA complementary paratransit service	128
Flex-route (e.g., route deviation) service	37
Other non-ADA demand responsive service (e.g., community Dial-A-Ride)	58
Subsidized taxi service	17
Other	14

In terms of demand responsive service, 128 respondents indicated that they provided ADA complementary paratransit service. Thirty-seven (37) indicated that they also provided flex-route service, 58 provided another form of non-ADA demand responsive services, 17 noted having taxi subsidy programs, and 14 said they provided “other” services. Those that indicated “Other” noted vanpool services, airport express services,

human services transportation, ferry services, trolley services, volunteer transportation, people mover services, park & ride services, express bus services, bus rapid transit services, and “contracted ride” services.

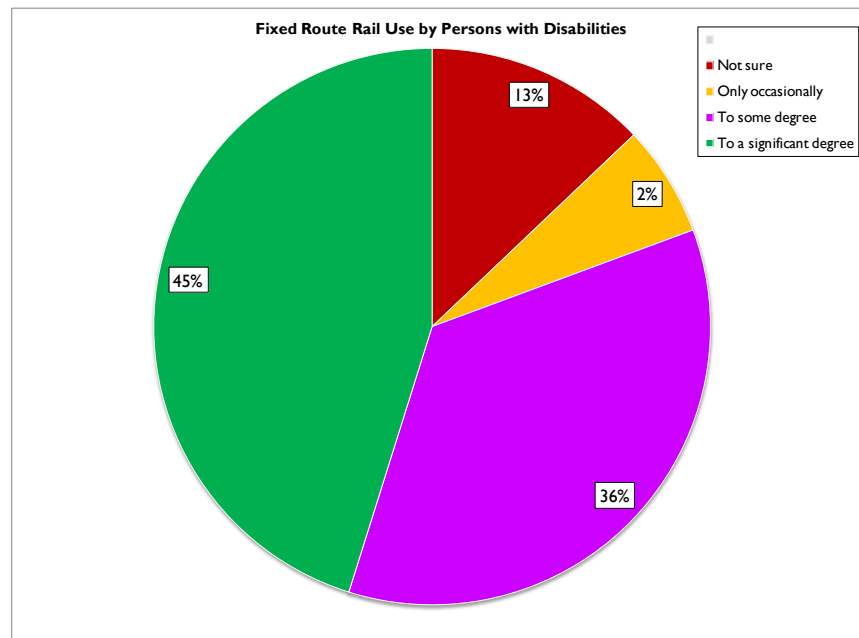
Note that the number of types of modes operated exceeds the total number of respondents as many respondents operated more than one type of service.

## Current Use of Fixed-Route Transit Services by Persons with Disabilities

Respondents were asked for their opinion on whether persons with disabilities in their area were using fixed-route transit services “to a significant degree,” “to some degree,” “only occasionally,” or “not sure.” Separate responses were requested for rail services and fixed-route bus services. Figure 3-1 shows opinions on rail use and Figure 3-2 shows opinions on fixed-route bus use.

Thirty-one (31) respondents provided an opinion on current use of rail services.<sup>1</sup> As shown in Figure 3-1, 45% felt that persons with disabilities currently used the rail service “to a significant degree.” Another 36% said “to some degree.” Only 2% indicated that persons with disabilities “only occasionally” used the rail service.

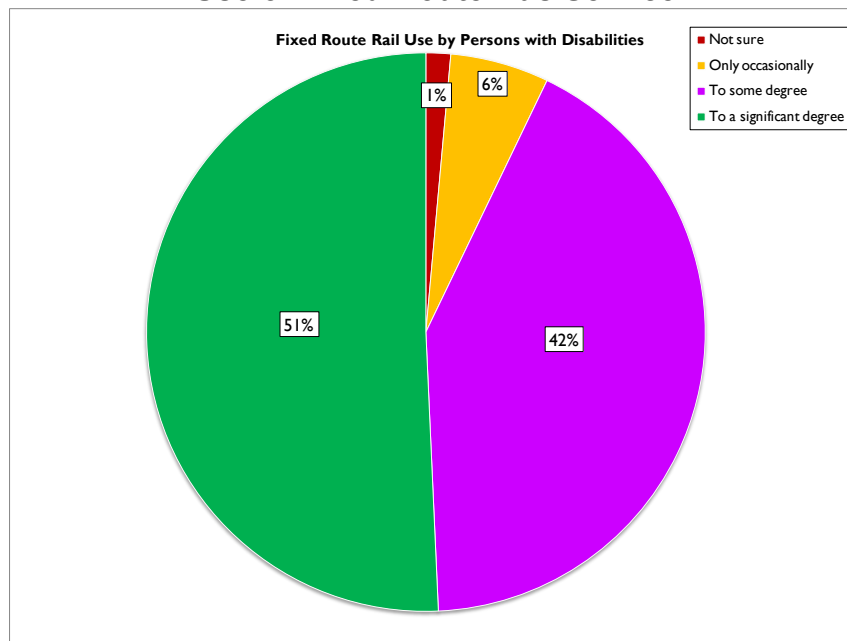
**Figure 3-1. Respondent Opinions about Current Use of Fixed-Route Rail Service**



<sup>1</sup> Note that while only 28 respondents indicated operating rapid or light rail services, a few also indicated operating commuter rail services or “heavy rail” services as “Other.” This accounts for the difference in the number of agencies providing opinions on rail use.

One hundred and forty (140) respondents provided an opinion on current use of fixed-route bus services. As shown in Figure 3-2, 51% felt that persons with disabilities currently used the fixed-route bus service “to a significant degree.” Another 42% said “to some degree.” Only 6% indicated that persons with disabilities “only occasionally” used the rail service. Only 1% indicated that persons with disabilities “only occasionally” used the rail service.

**Figure 3-2. Respondent Opinions about Current Use of Fixed-Route Bus Service**



## ADA Paratransit Eligibility Determination Processes

Respondents were asked a series of questions (Questions 6-11) about their determinations of ADA paratransit eligibility. First, they were asked what sources of information were used to make determinations (e.g., paper applications, in-person interviews, etc.). They were then asked to rate how effective they thought their current processes were in accurately and thoroughly identifying applicant ability to use fixed-route transit services. Next, they were asked if they find some applicants to be conditionally eligible, and if so what percent of applicants are found to have conditional eligibility. Respondents who indicated that some applicants are granted conditional eligibility were asked if they applied the conditions to trip requests (i.e., trip-by-trip eligibility). They were also asked whether trip-by-trip eligibility was done “for only some limited types of conditions,” or “for many different types of conditions.” Finally, those who indicated using conditional eligibility and trip-by-trip eligibility were asked to rate how effective this process was in encouraging the use of fixed-route transit services by persons with disabilities.

Table 3-2 shows the types of information used by respondents to make ADA paratransit eligibility determinations. As noted, a total of 127 respondents answered this question.

**Table 3-2. Types of Information Used to Make ADA Paratransit Eligibility Determinations**

Sources of Information	Total	% of Total Respondents
Paper applications completed by applicants or others on their behalf	115	85%
Information from professionals familiar with applicants	95	70%
In-person interviews of <b>all</b> applicants	37	27%
In-person interviews of <b>some</b> applicants	28	21%
In-person functional assessments of <b>all</b> applicants	18	13%
In-person functional assessments of <b>some</b> applicants	33	24%
Other	13	10%
Total Respondents	127	

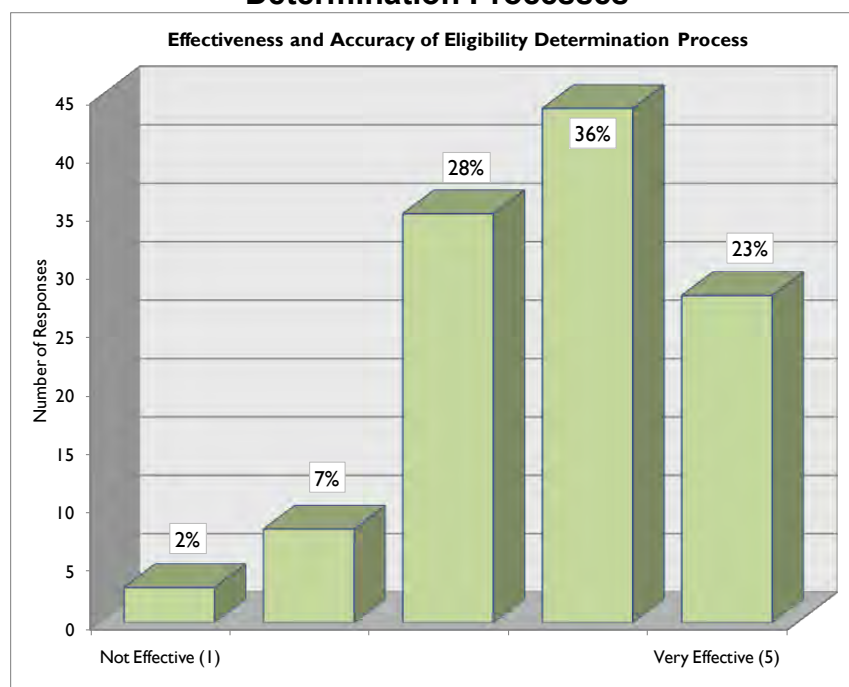
Paper applications are part of the process at most transit agencies (85%). A high percentage of all respondents (70%) also indicated that information from professionals familiar with applicants is used. Twenty-seven percent (27%) indicated that they require all applicants to participate in in-person interviews, while 21% said that interviews were used, but only for some applicants. Thirty-seven percent (37%) of respondents indicated that in-person functional assessments were used—with 13% saying all applicants participate in assessments and 24% using assessments for only some applicants. Ten percent (10%) of respondents noted using “other” information. Types of other information noted were telephone follow-up with applicants, “actual community assessments,” and information obtained from family members or friends who might be part of the in-person interview.

Fifty-one (51) respondents, or 40%, indicated that they only use paper applications and/or information from professionals. Sixty percent (60%) of respondents use in-person interviews or functional assessments to some degree. Forty (40) respondents, or 31%, use both in-person interviews and functional assessments.

Overall, respondents indicated that they felt the processes being used were moderately to very effective. Figure 3-3 shows that 23% of respondents rated their processes as “5- very effective,” another 36% indicated a “4,” and 28% rated the effectiveness of the process as a “3.” Relatively few transit agencies, only 9% felt the processes were not very effective.

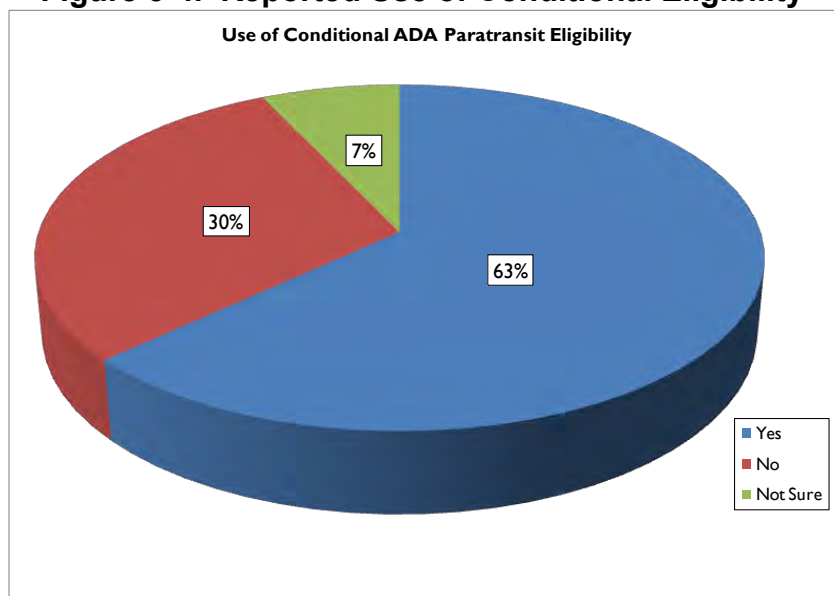
Effectiveness ratings did vary by the type of information used. Respondents who indicated only using paper applications and/or information from professionals rated their processes, on average, as 3.3 on the 1-5 scale. Transit agencies that included some level of in-person interviews or assessments had an average rating of 4.0. And transit agencies that combined paper applications with in-persons interviews and functional assessments had an average rating of 4.2.

**Figure 3-3. Respondent Ratings of the Effectiveness of Eligibility Determination Processes**



As shown in Figure 3-4, conditional eligibility was reported to be used by the majority of respondents (63%). Thirty percent (30%) of respondents said they did not use conditional eligibility, and 7% were “not sure.”

Use of conditional eligibility varied significantly. A total of 55 respondents provided data on the percent of applicants found to be conditionally eligible. The rate of conditional eligibility ranged from 1% to 90%. Table 3-3 shows different ranges of conditional eligibility rates and the number of agencies in each range. Most transit agencies indicated that they found only 1-15% of applicants conditionally eligible. Sixteen agencies reported finding 16-40% of applicants conditionally eligible. Five agencies indicated that 41-60% of applicants were given conditional eligibility. And 7 agencies reported finding 61% or more of applicants conditionally eligible.

**Figure 3-4. Reported Use of Conditional Eligibility****Table 3-3. Percent of Applicants Found Conditionally Eligible**

% of Applicants Found Conditionally Eligible	# of Respondents
1-15%	27
16-40%	16
41-60%	5
61+%	7

Fifty-eight respondents indicated that they were applying conditions of eligibility in daily operations—doing trip-by-trip eligibility. As indicated in Table 3-4, 53% said that they were only doing trip eligibility for a limited number of conditions (e.g. winter/summer eligibility), and 47% indicated that they were doing trip eligibility for a wider range of conditions.

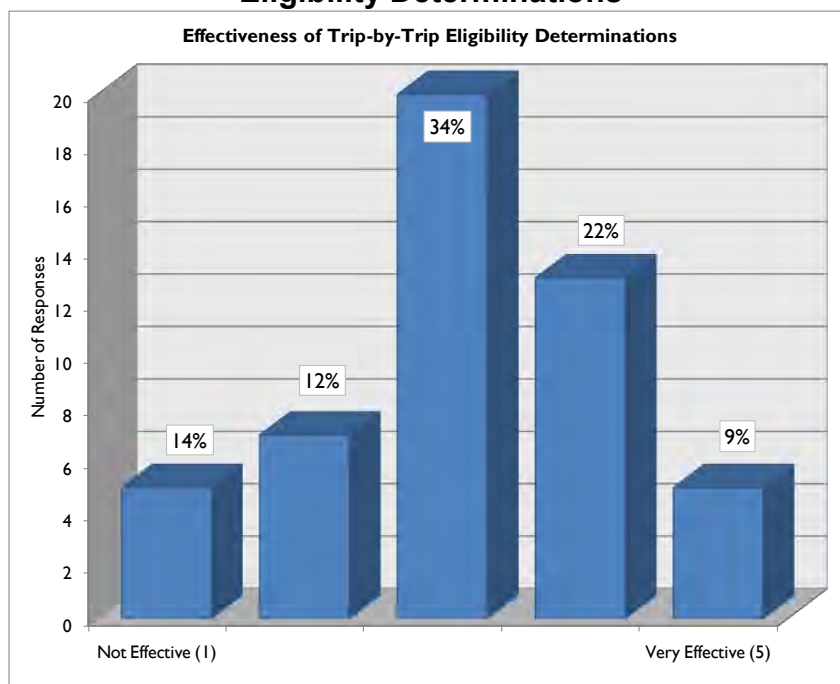
**Table 3-4. Reported Use of Trip-by-Trip Eligibility**

Use of Trip-by-Trip Eligibility	# of Respondents	% of Respondents
For only some limited types of “conditions” (e.g., winter/summer eligibility)	31	53%
For many different types of “conditions”	27	47%
<i>Total:</i>	58	100%

All 58 respondents that indicated doing trip-by-trip eligibility provided an opinion on the effectiveness of this practice in encouraging persons with disabilities to use fixed-route

transit services. As shown in Figure 3-5, 9% of respondents said the practice was “very effective” (5 on a scale from 1-5). Twenty-two percent (22%) of respondents rated the effectiveness as a “4,” another 34% rated their efforts as a “3,” and 26% said it was not very effective (rating it a “2” or “1”).

**Figure 3-5. Reported Effectiveness of Trip-by-Trip Eligibility Determinations**



To help identify transit agencies as possible case studies, information about the use of conditional eligibility, the implementation of trip-by trip eligibility, and the reported effectiveness of trip-by-trip eligibility was considered. Table 3-5 shows transit agencies that use conditional eligibility, do trip-by-trip eligibility, and reported that effectiveness of trip-by-trip eligibility to be at least a “3” on the 1-5 rating scale.



**Table 3-5. Selected Survey Respondents Indicating Moderate to Good Success with Implementation of Trip-by-Trip Eligibility**

Agency	% of persons granted conditional	How Agencies Apply Conditions		Effectiveness Rating (1-5) 1 - Not Effective
		Many types of conditions	Limited types of conditions	
Agency for Community Transit	70%	x		3
Capital Metropolitan Transportation Authority	45%		x	4
Capital District Transportation Authority	35%		x	3
Central Maryland Regional Transit	3%		x	4
Charlotte Area Transit System	7%	x		3
Clinton Municipal Transit Administration	1%		x	4
CNY Centro, Inc.	7%	x		4
Community Transit	4%	x		5- Very Effective
Corpus Christi Regional Transportation Authority	20%		x	3
Duluth Transit Authority	25%	x		4
Eau Claire Transit	10%		x	4
Greater Glens Falls Transit	75%		x	3
Hillsborough Area Regional Transit Authority (HART)	65%		x	3
Intercity Transit	11%	x		3
Lane Transit District	22%	x		3
Manchester Transit Authority	40%		x	5- Very Effective
Marshalltown Municipal Transit	5%		x	4
Metro RTA	10%		x	3
Nashua Transit System	10%		x	4
Northwest Indiana Regional Bus Authority	2%		x	3
Ozark Regional Transit	52%	x		3
Pierce Transit	21%	x		4
Razorback Transit at The University of Arkansas	80%	x		3
Salem Keizer Transit	9%	x		3
San Francisco Municipal Transportation Agency	30%		x	3
San Mateo County Transit District	16%	x		4
Shoreline Metro			x	5- Very Effective
Southwest Ohio Regional Transit Authority	20%	x		4
Spartanburg Area Regional Transit Agency	1%	x		4
St. Cloud Metro Bus	20%	x		3
Sun Tran	20%		x	5- Very Effective
Toledo Area Regional Transit Authority	10%		x	3
Tuscaloosa Transit Authority	10%	x		4
Utah Transit Authority	30%	x		5- Very Effective
County of Volusia VOTRAN	3%		x	3
Washington Metropolitan Area Transit Authority	42%		x	3
Westchester County Bee-Line System	55%	x		3
Winchester Transit	90%	x		3

## Fare Incentive Programs

The survey included several questions about fare incentive programs (Questions 12-14). Respondents were first asked to indicate if they offered reduced or free fares to fixed-route transit riders with disabilities. They were then asked to rate the effectiveness of their reduced fare programs in encouraging greater fixed-route transit use. Finally, respondents were asked to indicate if they had offered free fares in the past, but had elected to discontinue the program.

Table 3-6 shows the number of transit agencies reporting fare incentive programs by type of program. Five agencies, or 4% of respondents, noted that they only provided reduced fare during off-peak hours (which is required of federal grantees). Eighty-two agencies (66%) indicated that they had extended reduced fares to all hours of operation. Fifteen transit agencies (12%) reported free fare programs for riders with disabilities, and another 21 agencies (17%) noted that they offered both reduced fares (for some riders with disabilities) and free fares for others (typically persons determined ADA paratransit eligible). One respondent indicated “not sure.”

**Table 3-6. Types of Fare Incentive Programs**

<b>Fare Programs Offered for Riders with Disabilities Using Fixed Route Service</b>	<b># of Respondents</b>	<b>% of Responses</b>
Both reduced and free fares	21	17%
Reduced fare during off-peak hours only	5	4%
Reduced fares during all operating hours	82	66%
Free fare	15	12%
Not Sure	1	1%
<i>Total</i>	124	100%

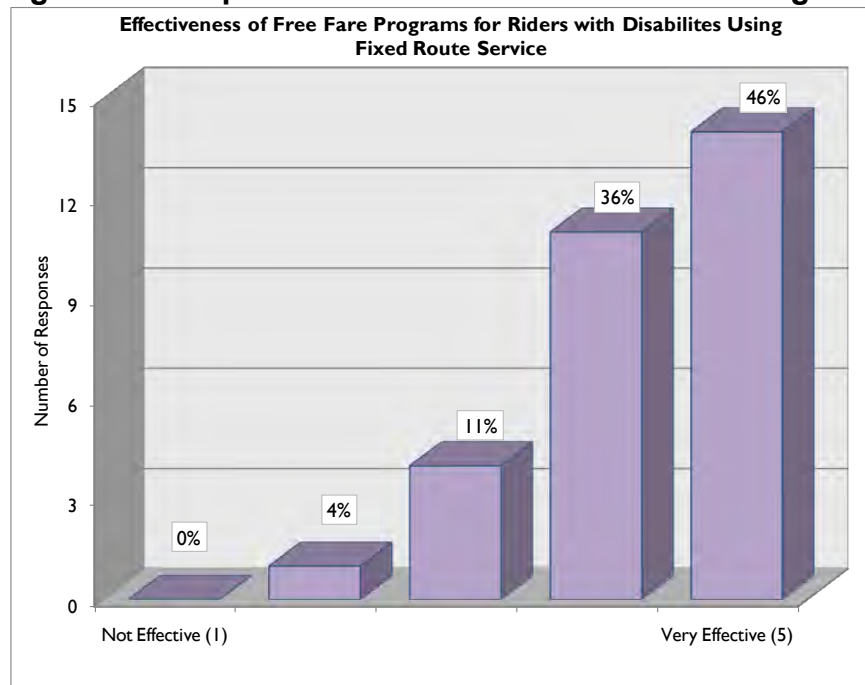
Thirty-one of the 36 respondents that indicated having free fare programs provided an effective rating for these programs. As shown in Figure 3-6, the programs were reported to be very effective. Forty-six percent (46%) of respondents said the programs were very effective (“5”), another 36% rated the effectiveness as a “4,” and 11% rated the effectiveness as a “3.” Only five respondents (4%) rated the programs as less than a “3” in terms of effectiveness in encouraging use of fixed-route transit services.

Five survey respondents indicated that they had implemented free fare programs in the past, but had decided to discontinue the programs. The five agencies were:

- Sacramento RTD (Sacramento, CA)
- MTA of Harris Cty. (Houston, TX)
- Ozark Regional Transit (Springdale, AR)
- Livermore Amador Valley Transit Authority (Livermore, CA)

- Capital Metro (Austin, TX)

**Figure 3-6. Reported Effectiveness of Free Fare Programs**



The survey also asked respondents to provide data on the number of persons with disabilities approved for free fixed-route transit fares, and the number of free fare trips provided per year to persons with disabilities. To assist in the identification of possible case studies, this information is shown in Table 3-7 for the 29 transit agencies that reported free fare programs and rated the effectiveness of these programs as a “3” or higher. Note that the request for service data was an “optional” part of the survey and not all respondents provided this data, or provided only some of the requested data.

Table 3-7 also includes information about the process used by each of these transit agencies for determining ADA paratransit eligibility. Specifically, it shows whether the agencies require all applicants for ADA paratransit eligibility to participate in in-person interviews or functional assessments, some applicants to participate in interviews and/or assessments, or if they do not require applicants to appear in-person. This information is included since the literature review indicated that a strict ADA eligibility determination process is needed to effectively manage free fare programs if the benefit is provided to persons who qualify as ADA paratransit eligible.

**Table 3-7. Transit Agencies Rating Free Fare Programs a “3” Or Greater In Effectiveness**

<b>Agencies with Free Fare Programs for Riders with Disabilities Using Fixed Route Service</b>	<b># Persons Registered for Free Fares</b>	<b># of Free Fare Trips/Year</b>	<b>Service Area Population</b>	<b>Free Fare Trips/Capita per Year</b>	<b>Effectiveness Rating (1-5) 1 - Not Effective 5 - Very Effective</b>	<b>In-Person Eligibility Determ.?</b>
Agency for Community Transit	10,000	25,000	259,000	0.10	3	Some
Ann Arbor Transportation Authority	NA	NA	NA	NA	4	Some
Antelope Valley Transit Agency	11,000	NA	349,050	NA	5- Very Effective	No
Arlington Transit (ART)	1,559	11,180	208,000	NA	5- Very Effective	All
Broward County Transit	NA	NA	1,766,476	NA	3	Some
Charlottesville Area Transit	2,100	151,252	125,564	1.20	5- Very Effective	No
Chicago Transit Authority	NA	NA	NA	NA	4	All
City of El Paso-Mass Transit Department-Sun Metro	10,000	184,925	609,415	0.30	5- Very Effective	No
Clinton Municipal Transit Administration	NA	NA	NA	NA	4	No
Fort Worth Transportation Authority	7,500	268,384	752,200	0.36	5- Very Effective	Some
Hernando County Board of County Commissioners	NA	1,498	173,234	0.01	5- Very Effective	All
IndyGo	NA	NA	NA	NA	4	All
Lane Transit District	NA	NA	293,800	NA	5- Very Effective	All
Longview Transit	224	10,109	98,884	0.10	4	Some
Macatawa Area Express Transportation Authority	NA	NA	NA	NA	5- Very Effective	All
Manchester Transit Authority	24	372	160,000	0.00	4	All
Metropolitan Transit Authority of Harris County	8,528	368,238	2,887,323	0.13	5- Very Effective	Some
Metropolitan Tulsa Transit Authority	2,800	NA	400,000	NA	4	Some
Miami-Dade Transit	30,201	NA	2,496,435	NA	5- Very Effective	All
Municipality of Hormigueros	20	NA	17,250	NA	3	All
Niagara Frontier Transportation Authority	4,009	NA	919,040	NA	5- Very Effective	No
Ozark Regional Transit	NA	NA	172,500	NA	4	No
Whatcom Transportation Authority	NA	NA	166,826	NA	4	Some
RTC of Southern Nevada	12,000	600,000	1,500,000	0.40	4	All
Gainesville Regional Transit System	6,500	557,849	151,294	3.69	5- Very Effective	All
Utah Transit Authority	3,400	122,556	1,744,417	0.07	5- Very Effective	All
San Mateo County Transit District	6,578	NA	737,100	NA	5- Very Effective	Yes
Washington Metropolitan Area Transit Authority	NA	NA	NA	NA	4	Yes
Montachusett Regional Transit Authority	NA	NA	NA	NA	3	No

## Pedestrian Infrastructure Improvement Programs

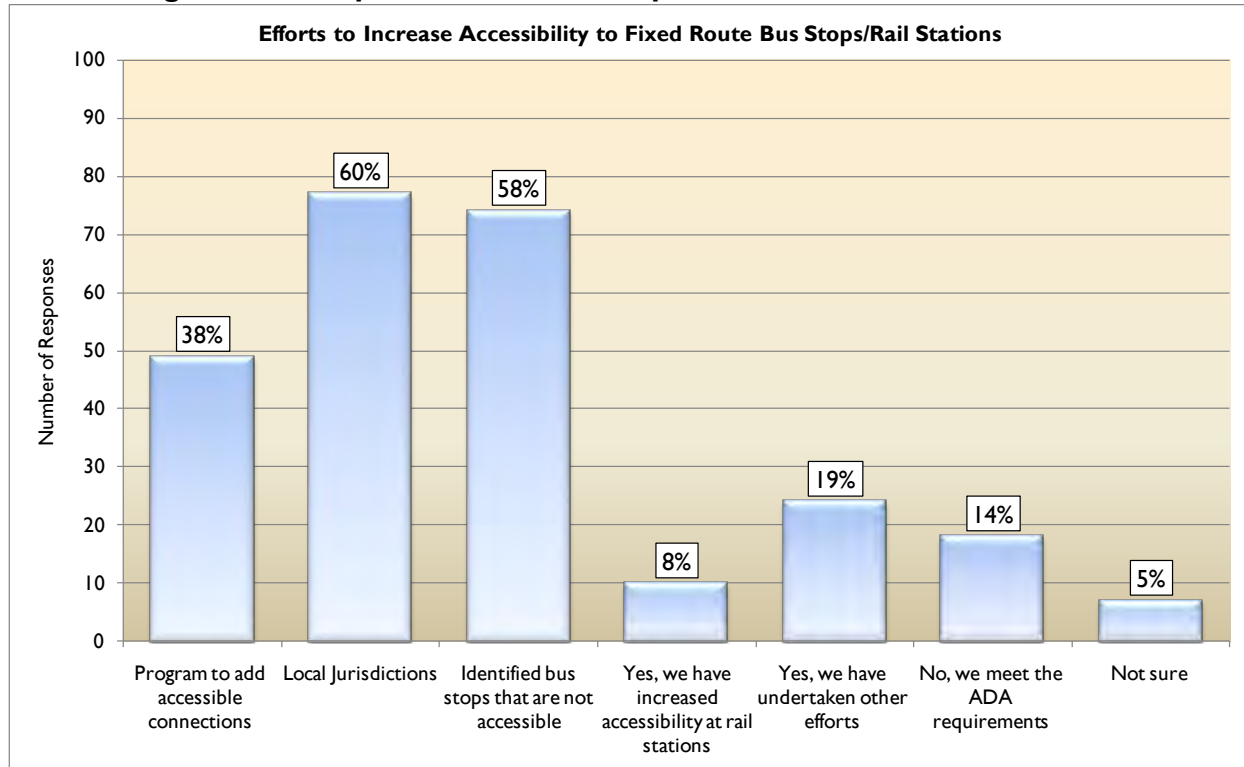
Questions 15 and 16 in the survey asked respondents about programs and efforts to improve pedestrian infrastructure. Question 15 asked respondents to identify what types of efforts had been made and if they were made by the transit agency directly or through local governments. Question 16 then asked for a subjective rating of the effectiveness of these efforts in facilitating increased use of fixed-route transit services.

Table 3-8 provides a summary of responses provided by 128 respondents to Question 15. Figure 3-7 provides a graphic representation of the responses.

Forty-nine transit agencies (38%) indicated that they have programs to add bus pads and/or accessible connections to non-accessible bus stops. Seventy-seven agencies (60%) noted that they work with local jurisdictions to construct improvements at non-accessible bus stops. Seventy-four agencies (58%) reported that they had undertaken an inventory of their bus stops and identified those that were not accessible. Ten agencies that operated rail systems (8%) noted that they had made efforts to improve access at rail stations above and beyond the minimum requirements for key stations or new stations. Eighteen transit agencies (14%) indicated that they meet the ADA requirements when building new facilities or altering existing facilities, but have not made efforts above and beyond the minimum regulatory requirements.

**Table 3-8. Reported Efforts to Improve Pedestrian Infrastructure**

<b>Efforts to Increase Accessibility to Fixed Route Bus Stops/Rail Stations for Riders with Disabilities</b>	<b># of Respondents</b>	<b>% of Respondents</b>
Yes, we have a program to add bus pads and/or accessible connections to existing non-accessible stops	49	38%
Yes, we work with local jurisdictions to construct improvements at bus stops that are not accessible	77	60%
Yes, we have undertaken an inventory of our bus stops and identified those that are not accessible	74	58%
Yes, we have increased accessibility at rail stations beyond the minimum “key” and “new station” requirements	10	8%
Yes, we have undertaken other efforts	24	19%
No, we meet the ADA requirements for new or altered bus stops/rail stations, but have not made additional efforts	18	14%
Not sure	7	5%
<i>Total</i>	128	

**Figure 3-7. Reported Efforts to Improve Pedestrian Infrastructure**

Twenty-four survey respondents indicated “Other efforts” or provided additional comments. Types of other efforts and comments were:

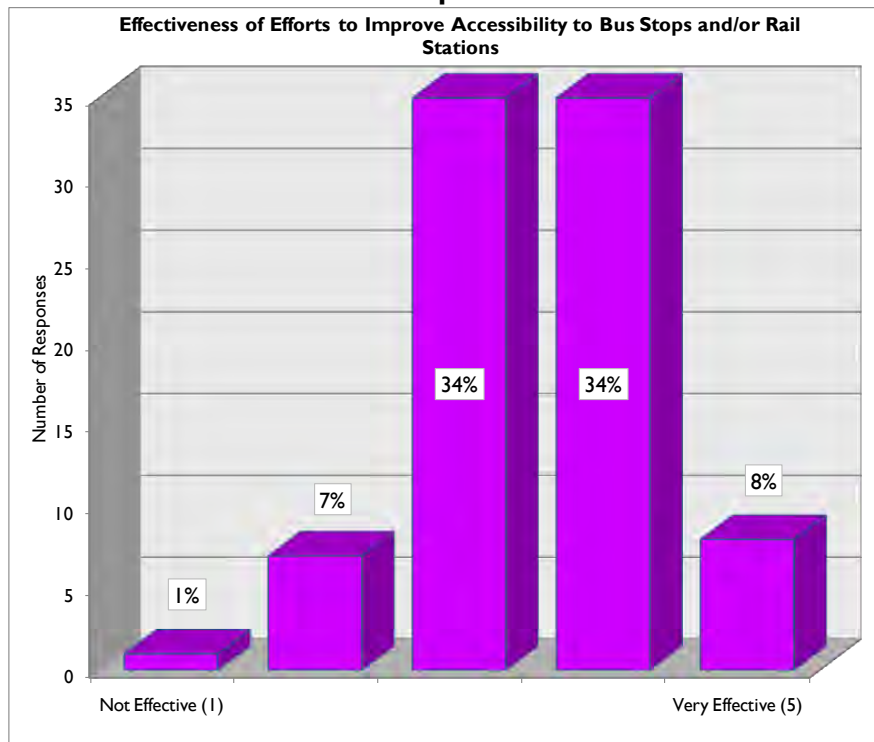
- Working with the city to make sidewalk connections. We are working to look beyond the bus stop to consider the entire path of travel. (Augusta, GA)
- A joint task force of CTA staff from ADA Compliance, Planning, Capital Finance, Engineering and Operations worked for more than a year and a half with a group of local experts versed in both transportation and disability issues to create a detailed white paper that articulates: (1) a specific methodology for identifying now and in the future the priority of rail stations to be renovated or reconstructed for accessibility; (2) specific concept schemes for various types of station environs; and (3) specific accessibility program and element design preferences. (Chicago, IL)
- We are starting to replace our fixed-route bus stop round poles with square poles to inform those that are visually impaired that they are at a bus stop. We also take consider recommendations from the community as to which bus stop needs to have additional accessibility. (El Paso, TX)
- Conduct Path of Travel Assessments around bus stops, take pictures, distribute information for planning. (Syracuse, NY)
- New bus shelters are constructed with large concrete pads and set back sufficiently to support convenient use by passengers using wheelchairs. (Danville, VA)

- We've received ARRA funds to improve ADA accessibility at bus stops throughout our coverage area. (Lafayette, LA)
- We encourage placing concrete pads at bus stops when road construction takes place on a bus route. (Macatawa, MI)
- We work with construction on new bus stops in compliance with the ADA requirements. (Hatillo, PR)
- The inventory resulted in changes to all shelters in system to be accessible and usable by persons with disabilities. (Northwest IN)
- We are currently finalizing a bus stop amenities and accessibility inventory (Omnitrans, San Bernardino, CA)
- We work closely with our advisory committee the SFMTA Multi-modal Accessibility Advisory Committee (MAAC) to make modifications to our system to improve accessibility, including, better signage, universal design principles for new projects, multiple elevators at stations, audible next bus information on buses and at stops, design of buses to maximize accessibility, adding additional accessible stops on rail system, low fares for senior and disabled customers, operator training, etc. (San Francisco MTA, CA))
- On a case by case basis and upon the request of a consumer, Samtrans will install bus pads, benches or Simme seats. (San Mateo, CA)
- We are currently involved in a number of activities and funding sources to improve accessibility. Regional bus shelter project coordinated by our council of governments on behalf of the MPO's transit agencies. Also using CDBG program with municipality's public works department for sidewalk and accessibility improvements. Also submit grant requests for FHWA Surface Transportation program for bicycle and pedestrian improvements, many with positive spin-off to ADA (South Portland, ME)
- Bus stops are assessed for those who have disabilities and may be using fixed-route transit. Eligibility can be based on whether or not a bus stop is accessible. Operations works hard to add or adapt bus stops when feasible. (St. Cloud, MN)
- The City of Tucson has undertaken a bus stop accessibility project which inventories all bus stops and makes improvements to provide accessible pathways and bus stops. (Tucson, AZ)
- We have installed a number of ADA accessible bus shelters to further aid our passengers who have physical disabilities. (Tar River, NC)
- All Metro bus stops are ADA Accessible. (Omaha, NE)
- Targeted corridors on main bus lines are being inventoried, but not the entire system. (TARC, KY)
- Respond to customer request to add bus stops or amenities to increase accessibility. We are also adding additional signage (audible and print) at our rail stations and major bus hubs. (Salt Lake City, UT)

Respondents who have made efforts to improve pedestrian infrastructure also provided a subjective rating of the effectiveness of these efforts. A summary of the ratings provided by 102 respondents is provided in Figure 3-8. As shown, respondents rated efforts to provide improved pedestrian and bus stop access to be moderately successful in encouraging greater use of fixed-route transit services. Sixty-eight percent (68%) of

respondents rated the effectiveness as a “3” or a “4” on a scale from 1 to 5. Eight percent (8%) indicated the efforts were very effective, and an equal number (8%) indicated the efforts were not very successful (a “1” or a “2”).

**Figure 3-8. Reported Effectiveness of Pedestrian Infrastructure Improvement Efforts**



To help identify possible case study sites, transit agencies were identified that: (1) had internal programs to improve bus stop access; (2) were working with local jurisdictions to improve pedestrian infrastructure; (3) and rated these efforts as either a “4” or a “5” in effectiveness. A few selected transit agencies that rated efforts as a “3,” but had included interesting comments about their efforts (see above) were also identified. This short-list of agencies developed as possible case study sites is provided in Table 3-9 on the following pages.



**Table 3-9. Transit Agencies Reporting Effective Pedestrian Infrastructure Improvements Programs and Efforts**

Agency	Does your transit agency currently engage in any of the following efforts to increase					Effectiveness Rating (1-5) 1 - Not Effective 5 - Very Effective
	Internal program to improve bus stop and/or ped. access	Work with local jurisdictions to improve access	Have inventoried bus stops	Have increased accessibility at rail stations beyond min. requirements	Have undertaken other efforts	
Ashland Bus System		x				4
Augusta Public Transit		x	x		x	4
Capital District Transportation Authority		x	x			3
Central Maryland Regional Transit		x	x			4
Charlottesville Area Transit		x	x			4
Chicago Transit Authority	x	x	x	x	x	3
City of Commerce Municipal Buslines	x	x	x			5- Very Effective
City of El Paso-Mass Transit Department-Sun Metro		x	x		x	5- Very Effective
City of Las Cruces/RoadRUNNER Transit	x					4
City of Visalia/Visalia Transit	x	x	x			4
Cleveland Area Rapid Transit (CART)		x	x			4
CNY Centro, Inc.	x	x	x		x	4
Collier Area Transit		x				4
Corvallis Transit System	x	x	x			4
Fort Worth Transportation Authority		x	x	x		4
Hillsborough Area Regional Transit Authority	x	x	x	x		3
Intercity Transit	x	x	x			5- Very Effective
Jacksonville Transportation Authority	x	x	x		x	4
Laketran	x		x			4
Lane Transit District	x	x	x		x	5- Very Effective
Livermore Amador Valley Transit Authority	x	x	x			4
Longview Transit	x		x			4
Metro RTA		x				4
Metropolitan Council	x	x	x	x	x	4

**Table 3-9. Transit Agencies Reporting Effective Pedestrian Infrastructure Improvements Programs and Efforts, cont.**

Agency	Does your transit agency currently engage in any of the following efforts to increase					Effectiveness Rating (1-5) 1 - Not Effective 5 - Very Effective
	Internal program to improve bus stop and/or ped. access	Work with local jurisdictions to improve access	Have inventoried bus stops	Have increased accessibility at rail stations beyond min. requirements	Have undertaken other efforts	
Metropolitan Transit Authority of Harris County	x	x		x		4
Miami-Dade Transit	x	x	x	x		4
Municipality of Cataño		x				4
Municipality of Hatillo					x	5- Very Effective
Northwest Indiana Regional Bus Authority		x	x		x	4
Pierce Transit	x	x	x			4
Port Arthur Transit	x					5- Very Effective
RTC of Southern Nevada	x	x	x			3
San Diego Metropolitan Transit System		x	x			Not sure
San Francisco Municipal Transportation Agency		x	x	x	x	4
San Mateo County Transit District		x	x	x	x	4
Southwest Ohio Regional Transit Authority		x				4
Space Coast Area Transit		x				4
Sun Tran	x	x	x		x	4
SunLine Transit Agency	x	x	x			4
Tar River Transit	x		x			4
Town of Cary (NC)	x	x				5- Very Effective
Transit Authority of Omaha					x	5- Very Effective
TriMet	x	x	x	x	x	3
Utah Transit Authority	x	x	x		x	4
Valley Regional Transit	x	x	x			4
Washington Metropolitan Area Transit Authority		x		x		3
Wichita Transit	x	x	x			4

## Travel Training Programs

Respondents were asked two questions (Questions 17 and 18) about travel training programs and efforts. First, they were asked if they provided or supported local travel training efforts and to indicate the types of programs (e.g., one-on-one instruction, group instruction, training through a school system, etc.). Then, they were asked to provide a subjective rating of the effectiveness of these efforts.

Table 3-10 shows the types of travel training efforts identified and the number and percent of transit agencies providing or supporting each type. A total of 130 respondents answered this question. As shown, 78 agencies (60%) indicated that they provide or support one-on-one travel instruction. Seventy-four transit agencies (57%) noted that they provide or support group instruction. Sixty-five agencies (50%) work with local school systems to support the training of students in using fixed-route transit services. Only 30 of the 130 transit agencies that responded to this question (23%) said that they did not either provide travel training or support other organizations that provide travel training.

**Table 3-10. Types of Travel Training Programs Reported**

<b>Types of Travel Training Provided or Supported</b>	<b># of Respondents</b>	<b>% of Respondents</b>
Provide/support one-on-one training in using fixed route transit services	78	60%
Provide/support group instruction in using fixed route transit services	74	57%
Support the local school system(s) in training students on the use of public transit services	65	50%
Other efforts	32	25%
Do not currently provide/support travel training programs	30	23%
<i>Total Respondents</i>	130	

Thirty-two respondents indicated “other efforts” or provided additional comments on their programs. Comments received were:

- We refer people to a WMATA-sponsored training program run by local CILs (Centers for Independent Living) including the ENDependence Center of Northern Virginia (Arlington, VA)
- We work with Wyoming Independently Living to provide travel training (Casper, WY)
- We use the Association for the Blind to assist with travel training. (Charlotte, NC)

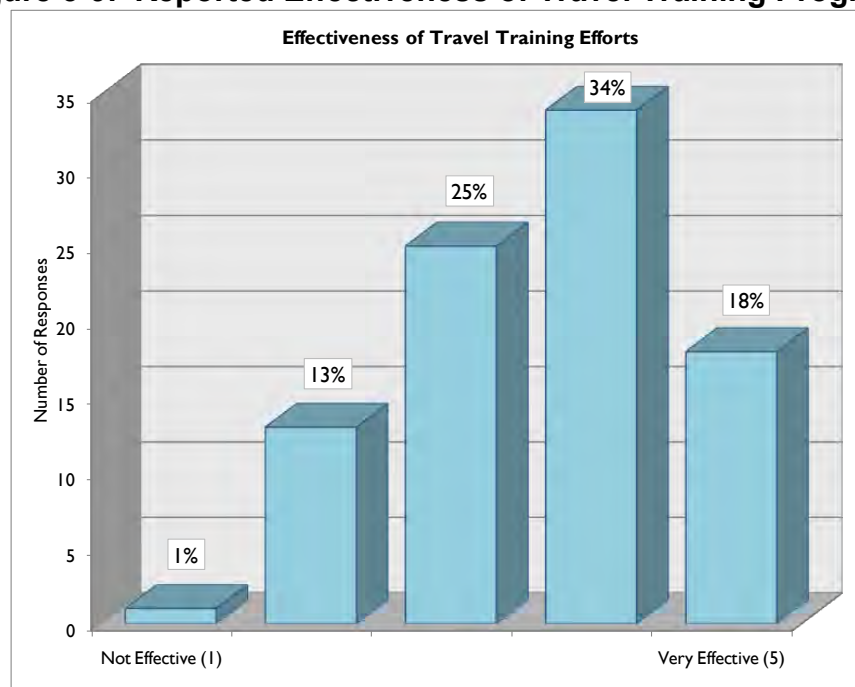
- In our region, the Regional Transportation Authority provides travel training, not CTA. (Chicago, IL)
- We just started to have a Mobility Manager as of July 2011 and it has help with the training process. (Grand Forks, ND)
- We have partnered with other entities that provide services to persons with disabilities to also provide travel training. (El Paso, TX)
- City of Harrisonburg students through Grade 12 ride fixed-route transit at no charge. This allows students the opportunity to become familiar with bus service. (Harrisonburg, VA)
- One on one training is provided to persons needing orientation only and is not an in depth travel training model. We do not have personnel dedicated solely to provide travel training. (Syracuse, NY)
- We work with service animal trainers and trainees several times a year to familiarize the animals and their new owners with how to ride, what to expect, practice boarding and deboarding, etc. (VOTRAN, FL)
- We contract with a Center for Independent Living to do Travel training for groups and individuals as necessary. (Duluth, MN)
- Our support is in the form of Mobility Trainer Passes provided at no charge to individuals who work with students learning to use the fixed-route transit system. The MTP allows a trainer to board without fare if they are accompanying someone they are training. We are in the process of releasing print material for use in the classroom to support a Travel Training video released early this year. (Gold Coast Transit, Oxnard, CA)
- We support the efforts of the Kennedy Center of Trumbull CT in their travel training efforts. The Kennedy Center conducts training for the entire state under a DOT contract. We coordinate our presentations to Senior Centers and Disabled support organizations with them and provide office space for their regional travel trainer. (Hartford, CT)
- Travel train on Demand Response and paratransit also (Laketran in Lake County, OH)
- Provide transit hosts to help customers with changes between buses, the attendants for individuals with disabilities ride free, provide transit trainers with free bus passes (Eugene, OR)
- Summer School Training including CSLB and summer camps (Long Beach, CA)
- Schedule reading classes for those who do not need one on one or group training. (Akron, OH)
- Just completed Train The Trainer Document that will be posted on our website. (Omaha, NE)
- We coordinate with disability advocacy groups that offer travel training such as State Services for the Blind and the Metropolitan Center for Independent Living. (Minneapolis, MN)
- We hold many outreach sessions throughout the year. (Houston, TX)
- Travel Training Brochure (Northwest Indiana)

- The local CTSA is implementing a Travel Training program in the service area which the agency will be supporting with the provision of a training bus as needed. (OMINITRANS, CA)
- We also provide travel training for paratransit passengers. (Portage Area RTA, OH)
- Pierce Transit does group travel training with senior housing communities, sheltered workshop groups and any group requesting travel training services. (Tacoma, WA)
- We offer one-on-one Fixed Route Training. It is used infrequently. When we have passengers that request complimentary ADA rides that could be accomplished by the individual using fixed-route transit service, but the individual is unfamiliar with that particular fixed route or location. We will allow the individual to schedule the ride with paratransit service and then have the paratransit driver show/train the passenger how to use fixed-route transit for that trip in the future. The passenger would then use fixed-route transit for that trip in the future. (Razorback Transit, AR)
- Senior Training Program (Las Vegas, NV)
- Many years ago we worked with Developmentally Disabled programs to develop a video to encourage parents to allow their children to be travel trained to use fixed-route transit. We also did a video for potential paratransit customers showing the range of accessible fixed-route transportation services available in San Francisco. (San Francisco MTA, CA)
- We have a Mobility Ambassador program that uses volunteers to work with seniors at senior centers to help them use bus and train service. ADA paratransit applicants whose eligibility is declined are given information on the Mobility Ambassador program so they can receive travel training, if they want it. (Samtrans, CA)
- We routinely hold training for seeing eye guide dogs. (South Portland, ME)
- We work with our areas agencies/organizations who provide support to those with disabilities. (St. Cloud, MN)
- Sun Tran provides occasional training to students with disabilities and their teachers at some schools. (Tucson, AZ)
- We do not provide travel training ourselves, but we provide support to a county program called Way2Go, which provides travel training to help people overcome transportation barriers. (Ithaca, NY)
- TriMet contracts with Ride Connection to provide outreach and travel training in all the categories mentioned above. (Portland, OR)
- We provide discount coupons for schools/programs that train students to use public transit services. (Salt Lake City, UT)
- We have offered travel training through JARC and New Freedom grant with CILS. Grant is due to expire so we recently have funded contracts to continue providing this training in the MD, VA and DC operational areas (WMATA, DC)
- We have a limited travel training one-on-one travel training program utilizing two volunteers both of whom have disabilities themselves. We have also developed two group instruction programs - one for seniors and another program for transitions students. (Whatcom Transit, WA)

- We give free passes to groups that provide training to individuals on how to use the bus. We also give presentations to groups on how to use the bus through our marketing programs. (Wichita, KS)
- CTTTRANSIT oversees a statewide travel training program that is primarily intended to enable individuals certified to use ADA paratransit to travel independently on fixed-route transit. The program is funded by ConnDOT and performed by The Kennedy Center. This should be considered a model travel training program for other areas throughout the country. (Connecticut Transit)

One hundred of the 130 transit agencies that responded to the question on travel training provided effectiveness ratings for the programs provided or supported. As shown in Figure 3-9, 18 agencies (18%) indicated the programs were very effective ("5"). Thirty-four transit agencies (34%) rated the programs as a "4." Twenty-five (25%) rated programs as a "3." And 13 agencies (13%) rated travel training efforts as a "2." Only one transit agency rated the efforts as a "1," and nine agencies said they were "not sure" about the effectiveness of the travel training programs.

**Figure 3-9. Reported Effectiveness of Travel Training Programs**



To help identify possible case study sites, transit agencies were identified that rated the travel training programs in their areas as either a "4" or a "5" in effectiveness. This short-list of agencies is provided in Table 3-11 on the following pages.

Table 3-11. Transit Agencies Reporting Effective Travel Training Programs

Agency	your transit agency currently provide or support any of the following types of travel tra				Effectiveness Rating (1-5) 1 - Not Effective 5 - Very Effective
	Provide/support one-on-one training in using fixed route transit services	Provide/support group instruction in using fixed route transit services	Support the local school system(s) in training students on the use of public transit services	Other efforts	
Agency for Community Transit	x				5- Very Effective
Arlington Transit (ART)	x				4
Ashland Bus System		x	x		4
Augusta Public Transit		x	x		5- Very Effective
Capital Metropolitan Transportation Authority	x	x			5- Very Effective
Central Maryland Regional Transit		x	x		4
Charlotte Area Transit System	x			x	4
Cities Area Transit	x	x	x	x	4
City of El Paso-Mass Transit Department-Sun Metro	x	x		x	4
City of Visalia/Visalia Transit	x	x	x		4
Claude McFerguson	x	x	x		5- Very Effective
Clinton Municipal Transit Administration	x		x		4
Collier Area Transit	x	x			4
Community Transit	x	x	x		4
Connecticut Transit	x	x	x		5- Very Effective
Corvallis Transit System	x		x		4
Duluth Transit Authority				x	4
Eau Claire Transit	x	x	x		4
Fort Worth Transportation Authority	x	x	x		5- Very Effective
Greater Glens Falls Transit	x	x	x		4
Hillsborough Area Regional Transit Authority (HART)	x				4
Intercity Transit	x	x	x		5- Very Effective
Jacksonville Transportation Authority	x	x	x		5- Very Effective
Laketran	x	x	x	x	4
Lane Transit District	x	x	x	x	5- Very Effective
Long Beach Transit	x	x	x	x	4

**Table 3-11. Transit Agencies Reporting Effective Travel Training Programs, cont.**

Agency	your transit agency currently provide or support any of the following types of travel tra				Effectiveness Rating (1-5) 1 - Not Effective 5 - Very Effective
	Provide/support one-on-one training in using fixed route transit services	Provide/support group instruction in using fixed route transit services	Support the local school system(s) in training students on the use of public transit services	Other efforts	
Longview Transit	x	x	x		4
Macatawa Area Express Transportation Authority	x	x			4
Manchester Transit Authority	x	x	x		5- Very Effective
Marshalltown Municipal Transit	x	x	x		4
Maryland Transist Administration	x	x	x		4
METRO Regional Transit Authority	x	x	x	x	4
Metro Transit		x	x	x	5- Very Effective
Nashua Transit System	x				5- Very Effective
Nashville Metropolitan Transit Authority	x	x	x		4
Petaluma Transit	x	x	x		4
Pierce Transit	x	x	x	x	5- Very Effective
Richland County Transit Board	x	x	x		5- Very Effective
San Mateo County Transit District	x	x		x	5- Very Effective
Shoreline Metro	x	x			5- Very Effective
Southwest Ohio Regional Transit Authority (SORTA)	x	x	x		4
Space Coast Area Transit	x	x	x		5- Very Effective
St. Cloud Metro Bus	x	x	x	x	4
Sun Tran		x	x		4
SunLine Transit Agency	x	x	x		4
The Jule		x	x		4
Town of Cary (NC)	x				5- Very Effective
TriMet	x	x	x	x	4
Utah Transit Authority	x	x	x	x	4
Washington Metropolitan Area Transit Authority	x	x	x	x	4
Whatcom Transportation Authority	x	x	x		4
Wichita Transit		x	x	x	4



## Targeted Marketing/Public Information Efforts

The survey included two questions about targeted marketing and public information efforts (Questions 19-20). Respondents were first asked to indicate if they had developed any marketing or public information specifically for riders with disabilities, and to identify the type of material developed. They were then asked to rate the effectiveness of their marketing and/or public information efforts in encouraging greater fixed-route transit use.

Table 3-12 shows the types of targeted marketing and public information efforts identified and the number and percent of transit agencies providing each type. A total of 135 respondents answered this question. As shown, 85 agencies (67%) indicated that they have developed general marketing materials that include riders with disabilities in an effort to educate the public about the accessibility of fixed-route transit services. Forty-five agencies (35%) have developed more targeted marketing materials just for people with disabilities. Fifty agencies (39%) indicated that they have developed information that communicates the benefits of using fixed-route transit services.

**Table 3-12. Types of Marketing/Public Information Efforts Reported**

Types of Marketing/Public Information Efforts Used	# of Respondents	% of Respondents
Have developed <b>general</b> marketing material that includes riders with disabilities to educate the public about the accessibility of our fixed route transit services	85	67%
Have developed marketing material <b>specifically targeted</b> to persons with disabilities to inform them of the accessibility of fixed route transit services	45	35%
Have developed information that <b>communicates the benefits</b> of using fixed route transit services to persons with disabilities	50	39%
Have developed informational brochures for riders with disabilities that provide detailed information about using accessible fixed route transit services	57	45%
Have undertaken other efforts	15	12%
Have not developed marketing or public information that addresses fixed route transit system accessibility	17	13%
Not sure	4	3%
<i>Total Respondents</i>	135	

Fifty-seven transit agencies (45%) have developed brochures that provide details on how to use the fixed-route transit service. Fifteen agencies (12%) noted “other efforts,” which included:

- Information specifically for persons with disabilities is included on our printed system maps and website. (Volusia, FL)

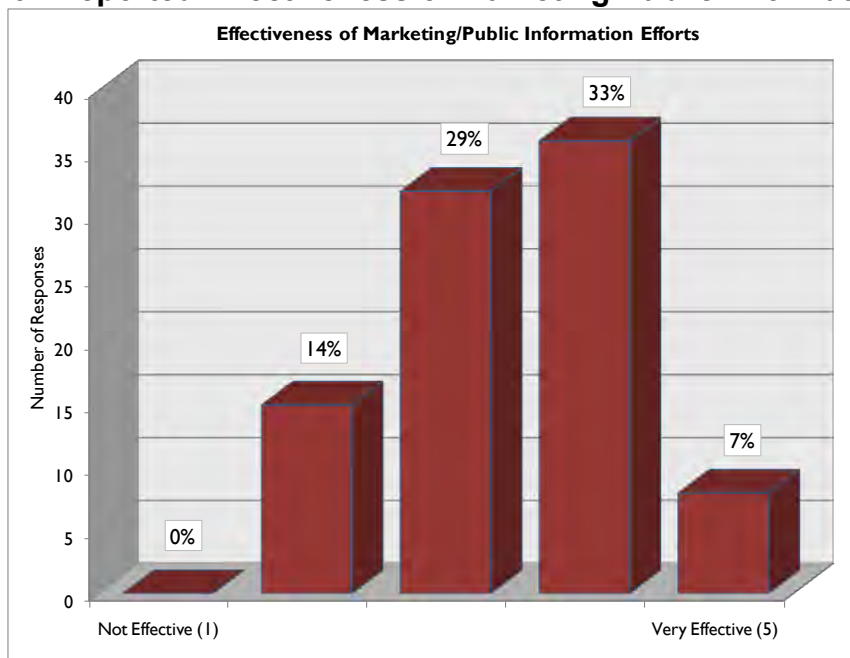
- We participate in Transit 101, which are workshops for staff of social service providers and job developers with informational materials included. The Kennedy Center developed the materials and presentation. We have done variations on this proposal for Senior Centers as well. (Danbury, CT)
- Participation in local events promoting use of transit to targeted audiences, including disabled community. (Jacksonville, NC)
- Meet with disability groups, very active Accessible Transportation Committee made up of members of the public, agencies, and providers (Eugene, OR)
- We have developed an extensive video in cooperation with the DRC to assist those with disabilities in riding fixed-route transit. (Long Beach, CA)
- We did two marketing plans in the last three years that included targeting individuals with disabilities but also general ridership too. We have monthly ads in a local newspaper reminding and offering transit to person with disabilities. (Portage Area RTA, IN)
- Our Paratransit Eligibility Requirements brochure begins with a description of the fixed-route bus and train services and their accessibility features. The purpose of this information is to increase awareness of regular public transit opportunities before people apply for ADA paratransit. (San Carlos, CA)
- In the process of creating commercials with current disabled individuals using fixed-route transit. (Shoreline Metro, WI)
- All brochures and route schedules inform the public the bus fleet is 100 percent ADA accessible. (Omaha, NE)
- We have extensive information available both in print and on our website for people with disabilities about using the fixed-route transit system. RC has also worked with all the transit agencies within our region to develop a brochure with information about using all the transit agencies and RC services which we distribute to all new applicants. TriMet has developed a brochure on the benefits of using fixed-route transit which includes some personal accounts of people with disabilities who have been successful in using fixed-route transit for at least some of their trips. (Portland, OR)
- Share information provided by national organizations (Project Action "the Transit access project"), developed a "how to ride" video that is currently being updated and linked to YouTube. (Salt Lake City, UT)
- We provide outreach to various organizations and senior centers. We also have produced a DVD that is shown in our eligibility center waiting room and on our web site (WMATA, DC)

Only seventeen transit agencies (13%) said they had not made any specific marketing or public information efforts related to accessible fixed-route transit services.

One hundred and nine of the 135 transit agencies that responded to the question on marketing/public information provided effectiveness ratings for the programs provided or supported. As shown in Figure 3-10, agencies rated these types of efforts as moderately effective. Eight agencies (7%) indicated the programs were very effective ("5"). Thirty-six transit agencies (33%) rated the programs as a "4." Thirty-two (29%) rated programs as a "3." And 15 agencies (14%) rated travel training efforts as a "2."

No transit agencies rated the efforts as a “1,” and 18 said they were “not sure” about the effectiveness of marketing and public information efforts.

**Figure 3-10. Reported Effectiveness of Marketing/Public Information Efforts**



To help identify possible case study sites, transit agencies were identified that rated their marketing/public information efforts as either a “4” or a “5” in effectiveness. This short-list of agencies is provided in Table 3-13 on the following pages.

Table 3-13. Transit Agencies Reporting Effective Marketing/Public Information Efforts

Agency	Does your agency currently engage in any of the following types of marketing/public information efforts to					Effectiveness Rating (1-5) 1 - Not Effective 5 - Very Effective
	General marketing material that includes riders with disabilities	Material <b>specifically targeted</b> to persons with disabilities to inform them of the accessibility of fixed route transit services	Information that <b>communicates the benefits</b> of using fixed route transit services to persons with disabilities	Informational brochures for riders with disabilities that provide detailed information about using accessible	Other efforts	
Arlington Transit (ART)	x				x	4
Ashland Bus System	x					3
Augusta Public Transit	x	x	x	x		4
Broward County Transit	x	x		x		4
Central Maryland Regional Transit				x		4
Charlottesville Area Transit	x	x	x			4
Cities Area Transit	x		x	x	x	4
City of Annapolis Department of Transportation	x					4
City of Commerce Municipal Buslines	x			x		4
City of El Paso-Mass Transit Department-Sun Metro	x	x	x	x		4
City of Houston				x		4
City of Los Angeles Department of Transportation			x	x		5- Very Effective
Clinton Municipal Transit Administration	x					4
Collier Area Transit					x	4
Community Transit	x	x	x	x		4
Eau Claire Transit	x	x	x	x		4
Fort Worth Transportation Authority	x	x	x	x		5- Very Effective
Gainesville Regional Transit System	x	x				4
Golden Empire Transit	x	x	x	x		4
Hernando County Board of County Commissioners	x	x	x	x		4
Intercity Transit	x	x	x	x		4
Laketrans	x	x	x	x		4
Lane Transit District	x	x	x	x		5- Very Effective

Table 3-13. Transit Agencies Reporting Effective Marketing/Public Information Efforts, cont.

Agency	Does your agency currently engage in any of the following types of marketing/public information efforts to					Effectiveness Rating (1-5) 1 - Not Effective 5 - Very Effective
	General marketing material that includes riders with disabilities	Material <b>specifically targeted</b> to persons with disabilities to inform them of the accessibility of fixed route transit services	Information that <b>communicates the benefits</b> of using fixed route transit services to persons with disabilities	Informational brochures for riders with disabilities that provide detailed information about using accessible	Other efforts	
Livermore Amador Valley Transit Authority	x					4
Long Beach Transit	x		x		x	5- Very Effective
Longview Transit	x	x	x			4
Macon-Bibb County Transit Authority				x		4
Maryland Transist Administration	x	x	x	x	x	4
Miami-Dade Transit	x	x		x		4
Municipality of Hatillo				x		5- Very Effective
Nashua Transit System	x		x	x		4
Port Arthur Transit	x					4
Town of Cary (NC)	x					5- Very Effective
San Francisco Municipal Transportation Agency	x	x	x	x		4
San Mateo County Transit District	x	x	x	x	x	5- Very Effective
Shoreline Metro					x	Not sure
Southwest Ohio Regional Transit Authority	x	x	x	x		4
Space Coast Area Transit	x	x	x	x		5- Very Effective
Spartanburg Area Regional Transit Agency				x		4
St. Cloud Metro Bus		x	x	x		4
SunLine Transit Agency	x	x		x		4
Utah Transit Authority	x	x			x	4
Washington Metropolitan Area Transit Authority		x	x	x	x	4
Wichita Transit	x	x	x	x		4
Winchester Transit	x			x		4

## Trip Planning Information

Question 21 in the survey asked respondents “Does your transit agency (or the regional planning agency you work with) provide online trip planning information?” If respondents indicated they do have online trip planning services, the survey asked “Please indicate the service on which your trip planner is built.”

Regardless whether respondents provided online trip planning or not, all respondents were then asked whether they provided any of the following types of service accessibility information as part of their trip planning services:

- Walking distances to/from bus stops/stations
- Accessibility of pathways to/from bus stops/rail stations
- Accessibility of bus stops
- Accessibility of rail stations
- Elevator/escalator outage information
- Other

Respondents that indicated that they did provide one or more of the above types of accessibility information were then asked whether they provided the information by phone, online, or both.

Finally, respondents that indicated that they provided one or more of the above types of accessibility information were asked to provide a subjective rating of the effectiveness of these trip planning services in facilitating and encouraging use of fixed-route transit services by persons with disabilities.

A total of 136 respondents answered the initial question about online trip planning information. Eighty (59%) indicated that they had online trip planning. Fifty-six (41%) did not. For the 80 transit agencies that have online information, Table 3-14 shows the services that the trip planning programs are built on. As shown, the majority are built on Google Transit. A few are built on Trapeze, Hastus, or a proprietary system.

**Table 3-14. Types of Online Trip Planning Platforms**

Online Trip Planning Platform	# of Respondents	% of Respondents
Google Transit	36	45%
Trapeze or HASTUS	8	10%
Google Transit in Combination with Other	8	10%
Proprietary	7	9%
Other	15	19%
Not Sure	6	8%
<i>Total</i>	80	

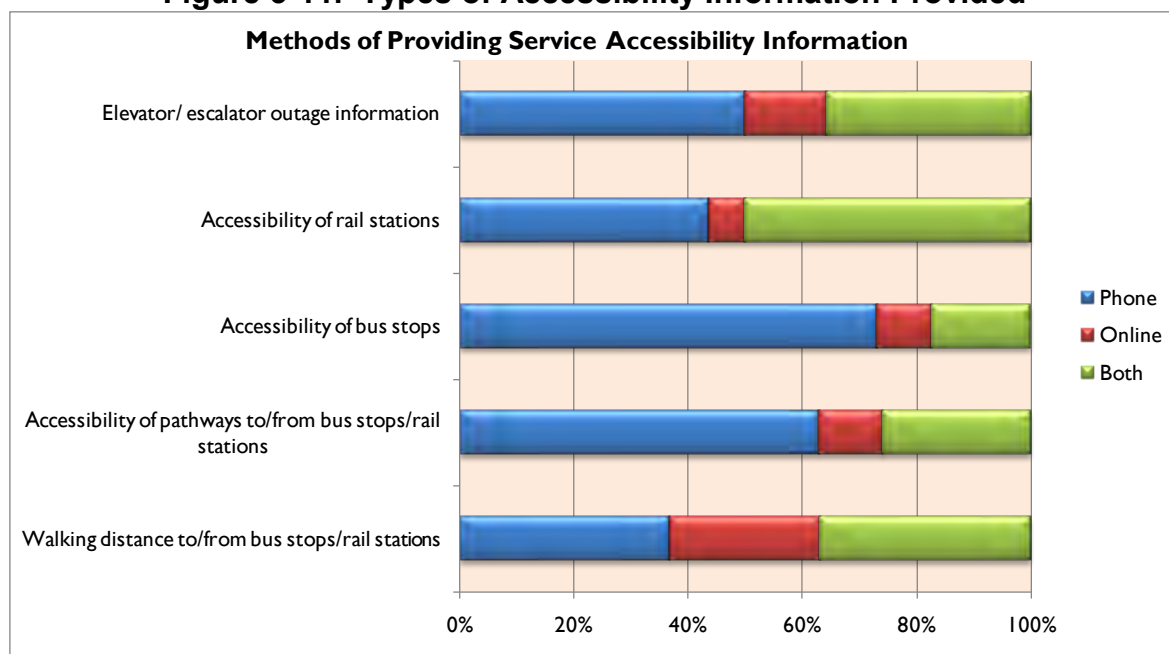
A total of 125 respondents answered the question on whether their trip planning programs provided accessibility information. Eighty-two transit agencies (66%) indicated that one or more type of accessibility information is provided. Forty-three (34%) responded that accessibility information is not provided.

Table 3-15 and Figure 3-11 provide more detailed information on the specific types of accessibility information provided and whether this information is provided by phone, online, or both. Sixty-eight transit agencies indicated that they provide information on walking distances to and from stops/stations—25 by phone, 18 online, and 25 both by phone and online. Twenty-seven agencies provide information on the accessibility of pathways to and from stops/stations—17 by phone, three online, and seven by both. Fifty-two agencies provide information on the accessibility of bus stops—38 by phone, five online, and nine by both. Sixteen transit agencies provide information on the accessibility of rail stations—seven by phone, one online, and eight by both. And 14 agencies provide information about elevator and/or escalator outages—seven by phone, two online, and five by both.

**Table 3-15. Types of Accessibility Information Provided**

	Walking distance to/from bus stops/rail stations	Accessibility of pathways to/from bus stops/rail stations	Accessibility of bus stops	Accessibility of rail stations	Elevator/ escalator outage information
Phone	25	17	38	7	7
Online	18	3	5	1	2
Both	25	7	9	8	5

**Figure 3-11. Types of Accessibility Information Provided**



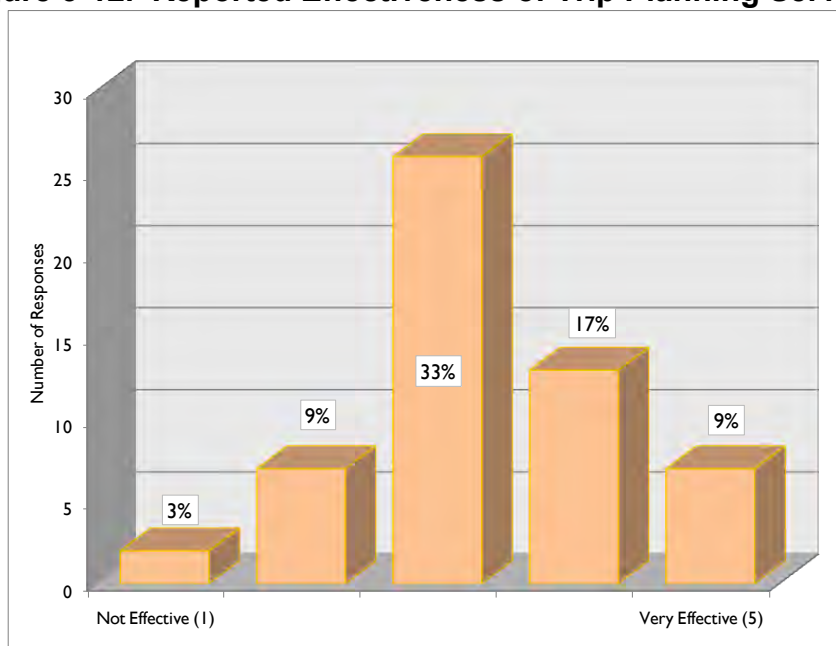
Fourteen respondents also provided additional comments or descriptions of other types of accessibility information provided as part of trip planning. The additional comments received were:

- WMATA provides accessibility information and elevator/escalator info for Metrorail stations. The Trip Planner at [www.wmata.com](http://www.wmata.com) includes ART routes and stops and includes walking distance. Accessibility info for individual stops would require a phone call and staff perusal of the bus stop inventory and possibly use of Google Streets. (Arlington, VA)
- ADA paratransit trips can be scheduled online or by using the keypad of a telephone (Charlotte, NC)
- We have exact information about the location of each of our more than 11,000 bus stops, including coordinates and whether the stop is near-side of the intersection, far-side of the intersection or midblock. (Chicago, IL)
- This information will be complete and available to the public by September 2012 (Collier Area Transit, FL)
- Accessibility of vehicles (Housatonic Area Transit, CT)
- Our fixed-route transit maps can be accessed online and passengers can call for more details. (Port Arthur, TX)
- Answers general questions on what routes to take and what time the bus runs (Gainesville, FL)
- Information on accessibility procedures, equipment and facilities on train and bus are available to the public by phone through the Customer Service Center 1-800-660-4287 line. If the CSC representative does not have specific information available, s/he will transfer the call to the Accessibility Specialist in the Accessible Transit Services unit or provide the phone number to the caller. (Samtrans, CA)
- We're on Google transit, but predominant trip planning seems to be by telephone. (South Portland, ME)
- Information about walking distance can be given over the phone based on information from Google. Information regarding the accessibility of bus stops and pathways to/from bus stops can often be given over the phone. This information can only be given if the customer service rep or dispatcher is familiar with the stop/area because this information has not been compiled into a database (Ithaca, NY)
- When scheduling conditional transit trips, the paratransit department assesses the "path of travel" to the bus stop/rail station. (Salt Lake City, UT)
- Use of smart phone apps (WMATA, DC)
- Accessibility of bus stops viewable on Google Earth once the bus stop intersection/location is identified by our information services. Accessibility of rail stations can be learned online and by phone by contacting MTA Metro-North Commuter Rail. (Westchester, NY)
- Goroo trip planner includes walking distance for all fixed-route bus & rail services Rail station accessibility is listed both on line and with customer service for Metra and CTA Elevator outage info is provided via hotlines and on-line/calls but needs refinement for both CTA and Metra (Chicago, IL)



Seventy-eight of the 82 transit agencies that indicated that accessibility information was part of their trip planning services provided ratings on the effectiveness of these services in facilitating use of fixed-route transit by persons with disabilities. As shown in Figure 3-12, transit agencies rated their trip planning services as somewhat effective. Seven agencies (9%) indicated the services were very effective (“5”). Thirteen agencies (17%) rated the effectiveness as a “4.” Twenty-six (33%) rated the services as a “3” in terms of effectiveness. And 9 agencies (12%) rated the services as a “2” or a “1” in effectiveness. Twenty-three agencies (29%) said they were “not sure” about the effectiveness of providing accessibility information through their trip planning services.

**Figure 3-12. Reported Effectiveness of Trip Planning Services**



To help identify possible case study sites, transit agencies were identified that rated the effectiveness of providing accessibility information via their trip planning services as either a “4” or a “5.” This short-list of agencies is provided in Table 3-16 on the following pages.

The provision of information about the accessibility of pathways to and from bus stops and rail stations, and the provision of information about the accessibility of bus stops was of particular interest to the research. A list of transit agencies indicating that they provide this type of information, as well as their ratings of the effectiveness of providing this information is provided as Table 3-17 on the following pages.

Table 3-16. Transit Agencies Reporting Effective Trip Planning Services

Agency	Walking distances	Accessibility of pathways	Accessibility of bus stops	Accessibility of rail stations	Elevator/escalator outages	Other	Effectiveness Rating (1-5) 1 - Not Eff. 5 - Very Eff.
Broward County Transit	P		P				4
Central Maryland Regional Transit	O	O					4
Charlottesville Area Transit	P	P					4
City of Commerce	P	P	P	P			4
Collier Area Transit			O				4
Intercity Transit	B	P	P				5- Very Effective
Laketran	P		P				4
Long Beach Transit	B	B	B				5- Very Effective
Macon-Bibb County Transit Authority			O				5- Very Effective
Maryland Transit Administration			P	P	P		4
Metro Transit	O		O				5- Very Effective
Miami-Dade Transit	P		P	P	P		5- Very Effective
Pierce Transit	B		P				4
Port Arthur Transit	P	P	P				4
San Mateo County Transit District	O	P	P	B	P		5- Very Effective
SORTA	P	P	P				4
Space Coast Area Transit	B	B	B				5- Very Effective
Town of Cary	P						4
Tuscaloosa Transit Authority	P		P				4
Utah Transit Authority	B		P	B		P	4

P: Available via Telephone    O: Available Online    B: Available via Telephone and Online

**Table 3-17. Transit Agencies Providing Information about Accessibility of Pathways and Bus Stops as Part of Their Trip Planning Services**

Agency	Accessibility of pathways to/from bus stops/rail stations	Accessibility of bus stops	Effectiveness Rating (1-5) 1 - Not Eff. 5 - Very Eff.
Arlington Transit (ART)		P	3
Ashland Bus System		P	3
Broward County Transit		P	4
Capital Metropolitan Transportation Authority		P	Not sure
Casper Area Transportation Coalition, Inc		P	2
Central Maryland Regional Transit	O		4
Charlottesville Area Transit	P		4
Cities Area Transit		P	3
City of Annapolis Department of Transportation	P	P	Not sure
City of Commerce	P	P	4
City of El Paso-Mass Transit Department-Sun Metro	O	O	Not sure
City of Harrisonburg Department of Public Transportation	P	P	Not sure
City of San Luis Obispo Transit/SLO Transit		P	3
Collier Area Transit		O	4
Dallas Area Rapid Transit		P	Not sure
Danville Transit System		P	2
Gary Public Transportation Corporation		P	
Hernando County Board of County Commissioners		O	3
Housatonic Area Regional Transit	P	P	3
Intercity Transit	P	P	5- Very Effective
Jacksonville Transit	P	P	3
Laketran		P	4
Long Beach Transit	B	B	5- Very Effective
Longview Transit	P	P	3
Macon-Bibb County Transit Authority		O	5- Very Effective
Maryland Transist Administration		P	4
Metro Transit		O	5- Very Effective
P: Available via Telephone    O: Available Online    B: Available via Telephone and Online			

**Table 3-17. Transit Agencies Providing Information About Accessibility of Pathways and Bus Stops As Part Of Their Trip Planning Services, cont.**

Agency	Accessibility of pathways to/from bus stops/rail stations	Accessibility of bus stops	Effectiveness Rating (1-5) 1 - Not Eff. 5 - Very Eff.
Metropolitan Council		B	3
Miami-Dade Transit		P	5- Very Effective
Municipality of Cataño	P	P	
Nashville Metropolitan Transit Authority		P	2
Ozark Regional Transit	P	P	3
PARTA - Portage Area Regional Transportation Authority	P	P	Not sure
Pierce Transit		P	4
Port Arthur Transit	P	P	4
Razorback Transit at The University of Arkansas		P	3
Sacramento Regional Transit District	B	B	3
San Mateo County Transit District	P	P	5- Very Effective
SORTA	P	P	4
South Portland Bus Service	B	P	Not sure
Space Coast Area Transit	B	B	5- Very Effective
Sun Tran	P	P	3
SunLine Transit Agency		P	3
The Jule		P	3
Transit Authority of Northern Kentucky		B	2
Transit Authority of River City (TARC)	B	B	Not sure
TriMet	B	B	3
Tuscaloosa Transit Authority		P	4
Utah Transit Authority		P	4
Valley Regional Transit	P	P	3
Washington Metropolitan Area Transit Authority	O	P	Not sure
Westchester County Bee-Line System	B	B	Not sure
Whatcom Transportation Authority	P	P	Not sure
Wichita Transit		B	3
P: Available via Telephone    O: Available Online    B: Available via Telephone and Online			

## Enhanced Employee Training

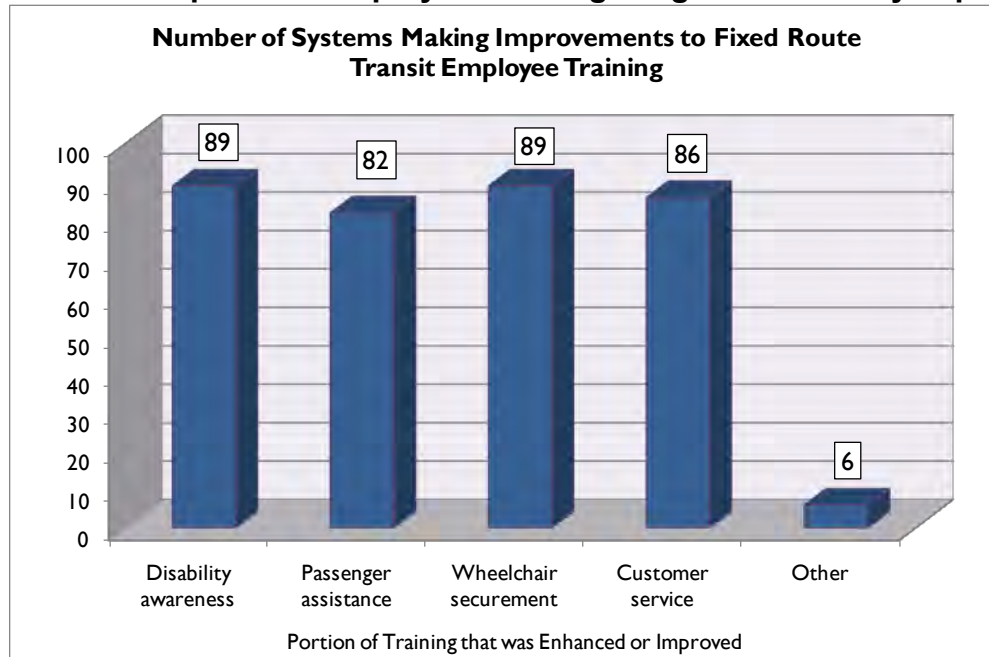
Respondents were asked several questions about employee training (Questions 26-29):

- Whether they had improved employee training recently (since 2005)
- If so, what aspects of the training had been improved
- Whether persons with disabilities were involved in the training
- How effective they thought their new, enhanced training was in facilitating and promoting the use of fixed-route transit services by persons with disabilities.

A total of 130 respondents answered the first question on whether they had made improvements to employee training programs since 2005. One hundred and four (80%) indicated that they had made improvements. Nineteen (15%) said they had not made improvements. And seven (5%) said they were “not sure.”

Figure 3-13 shows the aspects of training that were improved and the number and percentage of respondents that indicated making improvements in each area. As shown, 89 transit agencies indicated making changes to the disability awareness part of their training, 82 made changes to training related to passenger assistance, 89 made changes to instruction on wheelchair securement, and 86 made changes to the customer service portion of the training.

**Figure 3-13. Aspects of Employee Training Programs Recently Improved**



Six agencies indicated changes to other aspects of training, including:

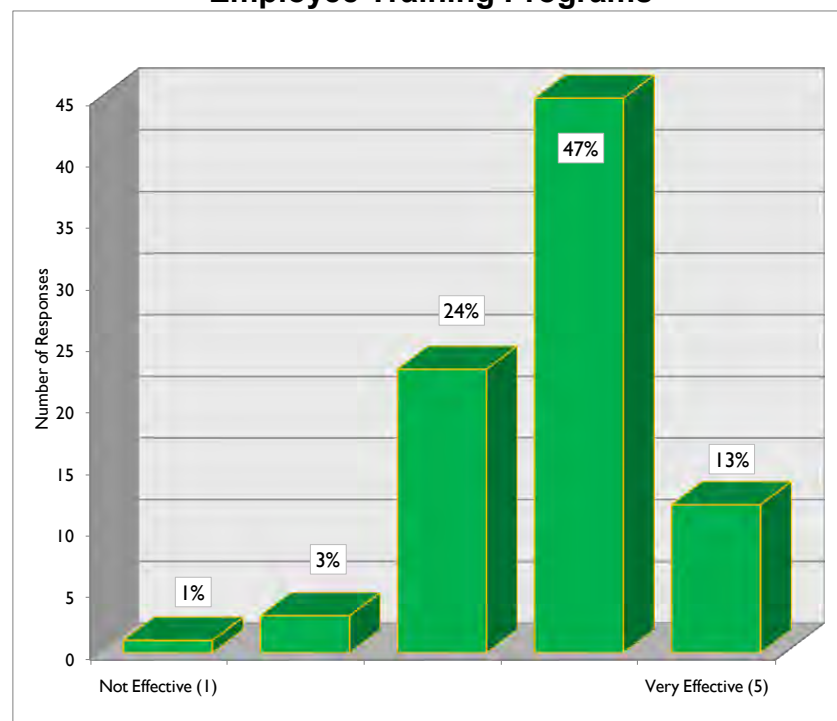
- Communicating with PWD, Disability Etiquette, ADA as a Civil Rights Law
- Sensitivity Training
- Trip and Fall Hazards in Bus Operations

- Service animals
- EPAMD Securement
- Diversity training (in general)

All 130 respondents also answered the question on whether or not they included persons with disabilities in employee training. Sixty-six transit agencies (51%) said that they do involve persons with disabilities. Fifty-five (42%) said they did not involve persons with disabilities. And nine agencies (7%) said “Not sure.”

Ninety-six of the 130 transit agencies that indicated that employee training programs had recently been provided ratings on the effectiveness of this training. As shown in Figure 3-14, transit agencies rated their improved training as relatively effective in helping to facilitate and encourage fixed-route transit use by persons with disabilities. Twelve agencies (13%) indicated the improved training was very effective (“5”). Forty-five agencies (47%) rated the effectiveness as a “4.” Twenty-three (24%) rated the new training as a “3.” Only four transit agencies (4%) rated the improved training as a “2” or a “1” in effectiveness. Twelve agencies (13%) said they were “not sure” about the effectiveness of the new, revised training.

**Figure 3-14. Reported Effectiveness of Recently Improved Employee Training Programs**



To help identify possible case study sites, transit agencies were identified that rated the effectiveness of new, enhanced training as either a “4” or a “5.” This short-list of agencies is provided in Table 3-18 on the following pages. The table also indicates whether these agencies involve persons with disabilities in employee training.

**Table 3-18. Transit Agencies Reporting Effective Employee Training Programs**

Agencies that have improved/enhanced the portions of their fixed route transit employee training	Which portions of your fixed route transit employee training have been improved/enhanced to improve the					Agency involve persons with disabilities in training of fixed	Effectiveness Rating (1-5) 1 - Not Effective 5 - Very Effective
	Disability awareness	Passenger assistance	Wheelchair securement	Customer service	Other		
Arlington Transit (ART)	x	x	x	x		Yes	5- Very Effective
Ashland Bus System	x	x	x	x		No	5- Very Effective
Augusta Public Transit	x	x	x	x		Yes	4
Capital District Transportation Authority	x		x	x		No	4
Casper Area Transportation Coalition, Inc	x	x	x	x		Yes	4
Charlotte Area Transit System	x	x	x	x		Yes	4
Charlottesville Area Transit	x	x	x	x		Yes	4
City of Annapolis Department of Transportation	x	x	x	x		No	4
City of Commerce Municipal Buslines	x	x	x	x		Yes	4
City of El Paso-Mass Transit Department-Sun Metro	x	x	x	x	Note 1	Yes	5- Very Effective
City of Los Angeles Department of Transportation		x	x	x		No	5- Very Effective
City of Visalia/Visalia Transit	x	x	x	x		Yes	4
Cleveland Area Rapid Transit (CART)	x	x	x	x		Yes	4
CNY Centro, Inc.	x	x	x	x	Note 2	Yes	4
Collier Area Transit	x	x	x	x		Yes	4
County of Volusia VOTRAN	x	x	x	x		Yes	4
CTTRANSIT Hartford New Haven Stamford Divisions	x		x			Yes	4
Danville Transit System	x		x	x		Yes	4
Duluth Transit Authority	x	x	x	x		Yes	4
Eau Claire Transit	x	x	x	x		Yes	4
Hernando County Board of County Commissioners		x	x	x		No	4
Housatonic Area Regional Transit	x	x	x			Yes	4
Intercity Transit	x	x	x			Yes	5- Very Effective
Jacksonville Transit	x	x	x	x		No	4
Jacksonville Transportation Authority	x	x	x	x		Yes	4
Laketran	x	x	x	x		Yes	4
Lane Transit District	x	x	x	x		Yes	5- Very Effective
Long Beach Transit	x	x	x	x		Yes	5- Very Effective
Longview Transit	x	x	x	x		No	4
1. Sensitivity Training      2. Trip and Fall Hazards in Bus Operations+AI86							

**Table 3-18. Transit Agencies Reporting Effective Employee Training Programs, cont.**

Agencies that have improved/enhanced the portions of their fixed route transit employee training	Which portions of your fixed route transit employee training have been improved/enhanced to improve the					Agency involve persons with disabilities in training of fixed	Effectiveness Rating (1-5) 1 - Not Effective 5 - Very Effective
Agency	Disability awareness	Passenger assistance	Wheelchair securement	Customer service	Other		
Macon-Bibb County Transit Authority				x		Not sure	4
Marshalltown Municipal Transit	x	x		x		No	4
METRO Regional Transit Authority	x	x	x	x		Yes	4
Metropolitan Transit Authority of Harris County	x	x	x	x	Note 3	No	4
Metropolitan Tulsa Transit Authority	x	x	x	x		No	4
Miami-Dade Transit	x	x	x	x		Yes	5- Very Effective
Municipality of Hatillo				x		Not sure	5- Very Effective
Nashville Metropolitan Transit Authority	x	x	x	x		Yes	4
Northwest Indiana Regional Bus Authority	x	x	x	x		Not sure	4
Ozark Regional Transit	x	x	x	x		No	4
PARTA - Portage Area Regional Transportation Authority	x		x			Yes	4
Port Arthur Transit	x	x	x	x		No	4
Razorback Transit at The University of Arkansas	x	x	x	x		No	4
Richland County Transit Board	x	x	x	x		Not sure	4
San Diego Metropolitan Transit System	x	x	x	x		Yes	4
San Francisco Municipal Transportation Agency	x	x				Yes	4
San Mateo County Transit District	x	x	x	x	Note 4	Yes	4
Shoreline Metro	x	x	x	x		Yes	5- Very Effective
Space Coast Area Transit	x	x	x	x		Yes	5- Very Effective
St. Cloud Metro Bus	x	x	x	x		No	4
Sun Tran	x	x	x	x		No	4
SunLine Transit Agency	x	x	x	x		No	4
The Jule	x		x	x	Note 5	No	4
Town of Cary (NC)	x	x	x	x		No	4
Transit Authority of Omaha	x	x	x	x		Yes	4
Transit Authority of River City	x		x			Yes	4
Tuscaloosa Transit Authority	x		x	x		Yes	5- Very Effective
Wichita Transit	x	x	x	x		Yes	4
3. Accommodating service animals 4. EPAMD Securement 5. Diversity training (in general)							



## Transit Service Monitoring Efforts

The survey included two questions about monitoring of the accessibility of transit services (Questions 30 and 31). Respondents were first asked if they had implemented either of the following types of monitoring:

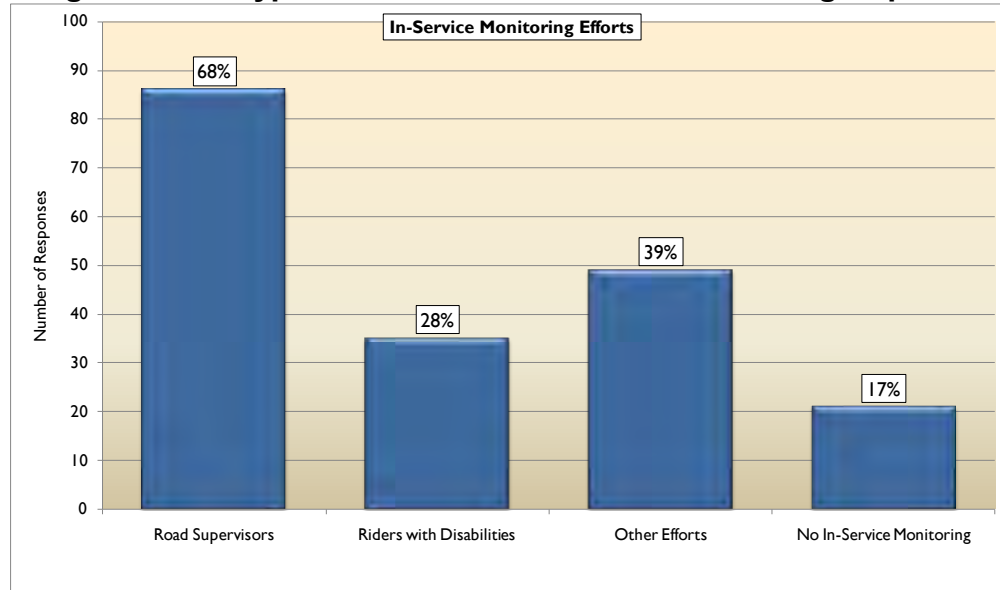
- Use road supervisors to regularly monitor stop announcements, lift/ramp and securement system use, and driver performance
- Have a program involving riders with disabilities who report on fixed-route transit service accessibility and quality

Respondents were also asked if they used other types of monitoring, and to describe these other approaches. Finally, they were asked to rate the effectiveness of their service monitoring efforts.

Table 3-19 shows responses to the types of monitoring efforts used. A total of 126 transit agencies responded to this question. Eighty-six transit agencies (68%) indicated that they use road supervisors to monitor stop announcements, lift/ramp use and other issues related to the provision of accessible services. Thirty-five agencies (28%) said they used riders with disabilities to assist in monitoring services (e.g., “secret rider” programs). Forty-nine transit agencies (39%) said they used other efforts, and 21 agencies (17%) said they didn’t do this kind of monitoring. Figure 3-15 provides a graphic depiction of the responses.

**Table 3-19. Types of Accessible Service Monitoring Reported**

<b>Does your transit agency currently use any of the following methods to monitor fixed route transit service delivery to persons with disabilities?</b>	<b># of Respondents</b>	<b>% of Respondents</b>
Road supervisors regularly monitor stop announcements, lift/ramp and securement system use, and driver performance	86	68%
A program involving riders with disabilities who report on fixed route transit service accessibility and quality	35	28%
Other monitoring efforts	49	39%
Do not use this kind of in-service monitoring	21	17%
Not sure	3	2%
<i>Total Respondents</i>	126	

**Figure 3-15. Types of Accessible Service Monitoring Reported**

The 49 respondents who indicated that they used other types of monitoring provided the following descriptions and comments:

- We have on-board video in which we monitor and retrain drivers as necessary. We also have automatic enunciators to announce bus stops and major intersections. (Granite City, IL)
- An advisory committee of people with disabilities provides input to AATA Board of Directors (Ann Arbor, MI)
- We have an internal customer comments on-line system that includes a category for ADA issues. Every comment is recorded and the response time and quality of response is monitored. (Arlington, VA)
- Camarillo Area Transit contracts with MV Transit, Inc. who provide all driver, dispatcher and maintenance for Camarillo owned bus fleet of 1 fixed-route bus and 7 Dial a Ride vehicles. MV Transit provides all the services for training, road supervision ,etc. (Camarillo, CA)
- Secret riders (Albany, NY)
- Camera's on fixed-route transit (Casper, WY)
- We work with ADA programs in the community that report and advise us on any problems with ADA equipment that is not working. (Charlottesville, VA)
- Currently, we have two ADA performance monitors for our entire system, both rail and bus. We rely heavily on customer complaints to let us know about service delivery issues. (Chicago, IL)
- We have disabled individuals ride our service as mystery riders and let us know of improvements needed and we just installed auto stop announcement system. Grand Forks, ND)
- We encourage riders that have issues with the above, to call our customer service number and report and problems they may be having. (El Paso, TX)

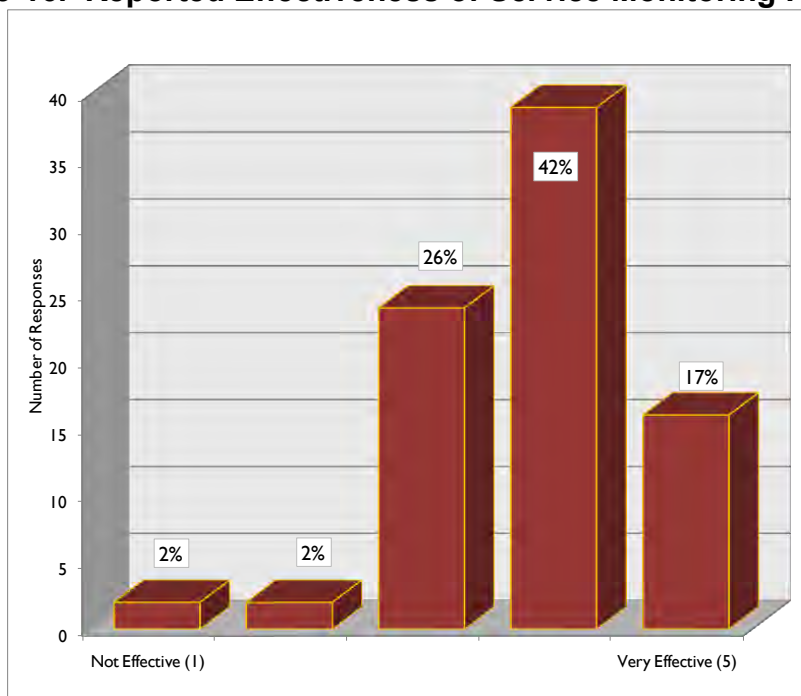
- Since we contract out our fixed-route bus service in Glendale (to the City of Phoenix), we do not employ any of the above to monitor the service delivery of fixed-route transit service. But I know the City of Phoenix and the service providers they contract with do employ road supervisors to monitor service. They also have used spotters in the past to ride bus routes to monitor the service delivery, but I'm not sure if they still use that program or not. (Glendale, AZ)
- Staff monitors all routes on a monthly basis for customer delivery services. (Lompoc, CA)
- Video camera random checks. We also have a complaint phone line where a person can call in and report any problem with service and securements. (Cleveland, OH)
- All fixed-route transit vehicles are equipped with surveillance cameras including audio. Stop announcements can be heard. (Syracuse, NY)
- Our ITS system provides for Automated enunciators for both the visually and hearing impaired (Collier Cty., FL)
- Spot checking of on-board camera video, following a checklist. The observer is looking to see if the driver does everything on the checklist. (Columbia, MO)
- Company agents ("secret shoppers") anonymously ride buses to observe and report operator performance in such areas as driving safety, customer courtesy, ADA stop announcements, etc., including proper boarding and securement of passengers with disabilities. To the extent possible, complaints regarding an operator's service delivery to a passenger with a disability are investigated using on-board surveillance camera information. (Hartford, CT)
- We use camera surveillance footage which includes audio (Danville, VA)
- View Random Videos from the bus to ensure compliance (Eau Claire, WI)
- We have mystery riders that report on the drivers compliance to ADA requirements (Gainesville, FL)
- Whenever we pull a video for any type of review, we check the Operator for ADA compliance. (Golden Empire, CA)
- We use an outside agency to monitor driver performance and ADA compliance using "mystery riders" (Tampa, FL)
- We monitor trips through farebox. CAD/AVL is used to track reports of malfunctions, overloads, etc. (Indianapolis, IN)
- We have a Mystery Rider Program where we have individuals ride the system and report back to us. Our fleet is also equipped with video surveillance equipment which is monitored by our Quality Assurance Staff and Operations Staff. (Jacksonville, FL)
- Customer in-put surveys, and customer database (Eugene, OR)
- 16 cameras per bus (Long Beach, CA)
- on-board cameras (Marshalltown, IA)
- Video on fixed-route transit (Baltimore, MD)
- We have a bimonthly accessibility committee. (Houston, TX)
- Buses are equipped with cameras. We check stop announcement compliance by viewing video tapes on random basis. (Tulsa, OK)

- Secret Shopper program and regular re-training and updating of all drivers and field supervisors. (Miami, FL)
- We require all employees to ride the bus at least once a month and fill out surveys on their ride, reporting everything from the safety, security, ADA announcements, lift assist maintenance functionality, courtesy of operator, etc. (Nashville, TN)
- Cameras are on vehicles. (Buffalo, NY)
- The RBA contracts all service operations for both fixed-route transit and complementary paratransit and these companies provide extensive training and re-training when needed if issues arise. (Northwest, IN)
- Our Fleet Safety and Training staff conduct on-board "ridechecks" and produce evaluations for each of our coach operators annually; more frequently if an operator has issues. (Omnitrans, CA)
- The road supervisor oversight is occasional - as needed, to determine if additional training is needed, to check in response to complaints, and in preparation for annual reviews (Ozark, AR)
- We participate with other RTAs in the area in a "ghost rider" program, sponsored by the Ohio Transit Risk Pool. This involves anonymous riders riding other systems and reporting back to the RTA on a variety of customer service and safety issues. (Portage Area, OH)
- We are too small, barely survived the depression of 2008 with one road supervisor left! Our road super occasionally monitors stop announcements and driver performance - but not regularly (Petaluma, CA)
- We use a secret rider and audit company. (Tacoma, WA)
- We use a survey rider system. We have students employed to ride the buses and report by surveys about our fixed-route transit service. (Razorback, AR)
- Spotters (under contract) and Accessible Services staff monitor the bus and light rail system for ADA compliance on a quarterly basis. (Sacramento, CA)
- Use ghost riders to monitor the system. (San Diego, CA)
- Bus Operators report malfunctions in the Automated Announcement component of the Advanced Communication System and deficiencies are corrected before the bus is placed into service. Operations Training conducted 149 ride checks of veteran Bus Operators in the year ending 2/29/2012. The number of Supervisor ride checks for veteran Operators is unknown. The DVR bus camera system is used to validate customer complaints and observe and document Operator deficiencies. TransitSafe is used to record, investigate and respond to customer comments, complaints and concerns about accessibility and quality of service. All customer accessibility issues are referred to the Accessibility Specialist for processing and follow-up with the consumer. (Samtrans, CA)
- Rely on driver, customer feedback and audio/visual equipment (Shoreline, MI)
- We document and monitor all comments, complaints and compliments related to transit system delivery to persons with disabilities. We track ridership of participants in our Bus Rider Trainings for people with disabilities. (Tucson, AZ)
- Ride Checks (Racine, WI)
- Cameras on the buses (Toledo, OH)

- All comments submitted online and / or phone are reviewed this includes review of on-board video and audio surveillance hard drives. (Omaha, NE)
- Trained observer program for complaints. (TARC, KY)
- We also use a contractor to perform quality assurance rides. We also take reports from riders with disabilities through both our customer service department and through our work with our citizen advisory committee, the Committee on Accessible Transportation (CAT). (Portland, OR)
- Follow up on input given by passengers with disabilities. (Valley RT, ID)
- Our office of ADA programs conduct regular inspections of rail and bus operations (WMATA, DC)

Ninety-three of the 126 transit agencies that responded to the question about service monitoring provided ratings on the effectiveness of their monitoring programs. As shown in Figure 3-16, transit agencies rated their monitoring efforts as relatively effective in helping to facilitate and encourage fixed-route transit use by persons with disabilities. Sixteen agencies (17%) indicated the monitoring was very effective (“5”). Thirty-nine agencies (42%) rated the effectiveness as a “4.” Twenty-four (26%) rated their monitoring as a “3.” Only four transit agencies (4%) rated monitoring programs as ineffective (a “2” or a “1”). Ten agencies (11%) said they were “not sure” about the effectiveness of their monitoring programs.

**Figure 3-16. Reported Effectiveness of Service Monitoring Programs**



To help identify possible case study sites, transit agencies were identified that rated the effectiveness of their monitoring programs as either a “4” or a “5.” This short-list of agencies is provided in Table 3-20 on the following pages. The table also indicates the type(s) of monitoring done by each agency.

**Table 3-20. Transit Agencies Reporting Effective Service Monitoring Programs**

Agency	Methods used to monitor fixed route transit				Effectiveness Rating (1-5) 1 - Not Effective 5 - Very Effective
	Road Supervisor's Monitor	Riders Report	Other Monitoring	No Monitoring	
Agency for Community Transit			x		4
Arlington Transit (ART)	x		x		5- Very Effective
Ashland Bus System	x				4
Augusta Public Transit	x				4
Camarillo Area Transit	x				4
Capital District Transportation Authority	x		x		4
Charlotte Area Transit System	x	x			4
City of Annapolis Department of Transportation	x				4
City of Commerce Municipal Buslines	x				4
City of El Paso-Mass Transit Department-Sun Metro	x	x	x		4
City of Lompoc	x		x		4
City of Los Angeles Department of Transportation	x				5- Very Effective
City of Visalia/Visalia Transit	x	x			4
Cleveland Area Rapid Transit (CART)	x		x		5- Very Effective
Collier Area Transit	x		x		5- Very Effective
Corvallis Transit System	x				4
County of Volusia VOTRAN	x				4
CTTRANSIT Hartford New Haven Stamford Divisions			x		4
Fort Worth Transportation Authority	x				4
Gainesville Regional Transit System	x		x		4
Gary Public Transportation Corporation	x				5- Very Effective
Greater Glens Falls Transit	x				4
Hernando County Board of County Commissioners	x				4
Housatonic Area Regional Transit	x		x		4
Intercity Transit	x	x			5- Very Effective
Jacksonville Transit	x				4
Jacksonville Transportation Authority	x	x	x		4
Jonesboro Economical Transit System	x				4
Laketran	x		x		4
Lane Transit District	x	x	x		5- Very Effective
Livermore Amador Valley Transit Authority	x	x			4

**Table 3-20. Transit Agencies Reporting Effective Service Monitoring Programs, cont.**

Agency	Methods used to monitor fixed route transit				Effectiveness Rating (1-5) 1 - Not Effective 5 - Very Effective
	Road Supervisor's Monitor	Riders Report	Other Monitoring	No Monitoring	
Long Beach Transit	x		x		5- Very Effective
Longview Transit	x				4
Macatawa Area Express Transportation Authority	x	x			4
Macon-Bibb County Transit Authority	x				5- Very Effective
Manchester Transit Authority	x				4
Marshalltown Municipal Transit		x	x		4
Maryland Transist Administration	x	x	x		4
Metropolitan Council	x	x			4
Miami-Dade Transit	x		x		5- Very Effective
Municipality of Hatillo	x	x			5- Very Effective
Nashua Transit System	x				4
Nashville Metropolitan Transit Authority	x	x	x		4
Northwest Indiana Regional Bus Authority			x		4
Omnitrans			x		4
Pierce Transit	x		x		4
Port Arthur Transit	x				5- Very Effective
Razorback Transit at The University of Arkansas			x		4
Richland County Transit Board	x				5- Very Effective
Sacramento Regional Transit District	x		x		4
San Diego Metropolitan Transit System	x		x		4
San Mateo County Transit District	x	x	x		5- Very Effective
Shoreline Metro			x		5- Very Effective
Space Coast Area Transit	x	x			5- Very Effective
SunLine Transit Agency	x	x			4
The Belle Urban System /DART	x		x		4
Town of Cary (NC)	x				5- Very Effective
Transit Authority of Omaha	x		x		4
TriMet	x	x	x		4
Washington Metropolitan Area Transit Authority	x	x	x		4
Whatcom Transportation Authority	x	x			4

## Improved Accommodation of Mobility Aids Used By Riders

The survey included two questions about improvements to better accommodate riders using mobility aids (Questions 32 and 33). Respondents were first asked if they had used any of the following approaches to better accommodate riders with mobility aids:

- Provide riders with special straps (e.g., Stokes straps) that they can permanently affix to their mobility devices to improve securement
- Worked with riders with disabilities to redesign the securement areas or securement systems
- Worked with riders with disabilities to improve lift/ramp design

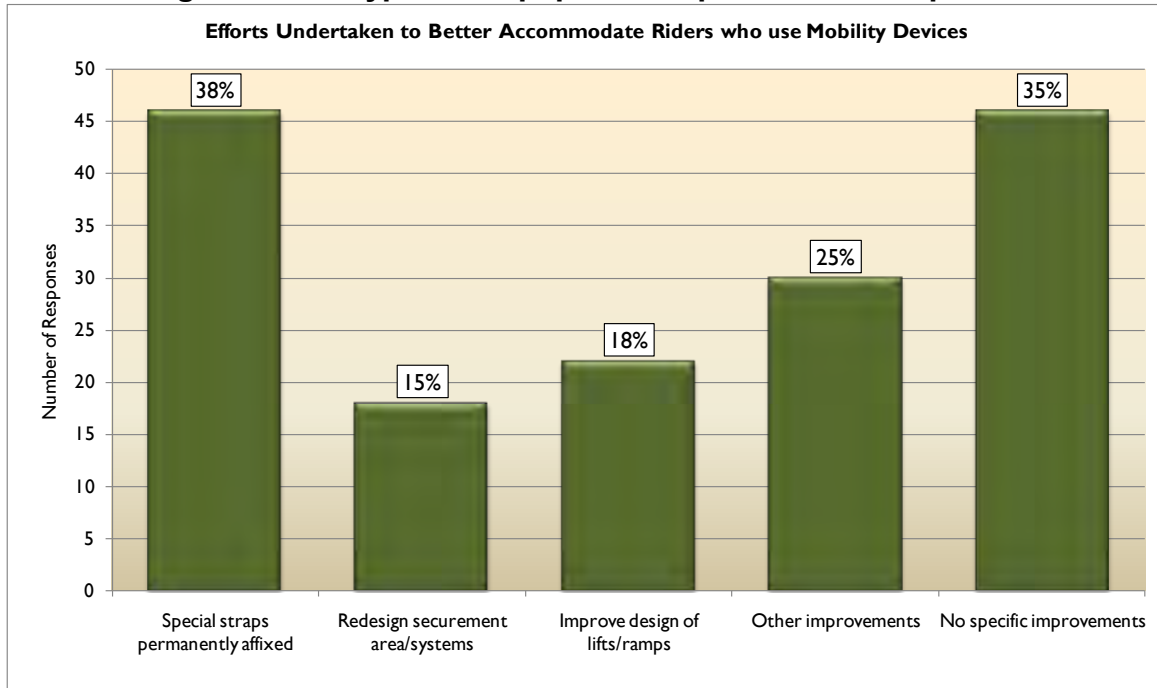
Respondents were also asked if they had made other equipment improvements, and to describe these other efforts. Finally, they were asked to rate the effectiveness of their efforts to better accommodate riders using mobility aids.

Table 3-21 shows responses to the types of monitoring efforts used. A total of 122 transit agencies responded to this question. Forty-six agencies (38%) indicated that they have provided special straps to riders with mobility devices. Eighteen agencies (15%) said they have redesigned their securement areas or securement systems. Twenty-two transit agencies (18%) said they have improved the design of their lifts/ramps, 46 agencies said they have made other types of equipment improvements, and 5 agencies (4%) said they were “Not sure” if they have made equipment improvements. Figure 3-17 provides a graphic depiction of the responses.

**Table 3-21. Types of Equipment Improvements Reported**

<b>Has your transit agency undertaken any of the following efforts to better accommodate riders who use mobility devices on fixed route transit services?</b>	<b># of Respondents</b>	<b>% of Respondents</b>
Provide riders with special straps that they can permanently affix to their mobility devices to improve on-board securement	46	38%
Worked with riders with disabilities to redesign our securement area and securement systems	18	15%
Worked with riders with disabilities to improve the design of our lifts/ramps	22	18%
Have made other equipment improvements	30	25%
Have not made any specific equipment improvements	46	38%
Not sure	5	4%
<i>Total Respondents</i>	122	



**Figure 3-17. Types of Equipment Improvements Reported**

The 46 respondents who indicated that they had made other types of equipment improvements provided the following descriptions and comments:

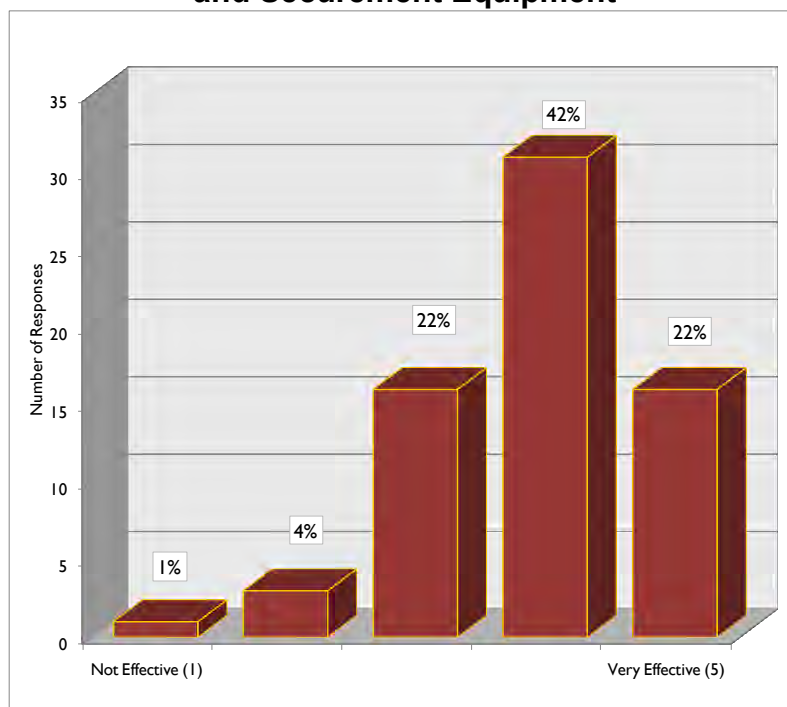
- Next month, all vehicles regularly used for ART will be low-floor with ramps and wheelchair securement devices. (Arlington, VA)
- All of our vehicles are lift equipped and a senior or elderly resident in a walker, assisted mobility device can request the lift over the steps and we will accommodate them in accessing our vehicles. (Camarillo, CA)
- We get the community involved in equipment procurement as much as possible. (Austin, TX)
- We are in the process of purchasing newer strapping mechanisms on buses that make it easier and safer to secure wheelchairs and mobility devices. We are currently testing the Q-POD & QRT Max securement system to see how it works and to see if it makes for a better securement process. (El Paso, TX)
- Up until just recently, the region did provide special straps that riders could permanently affix to their mobility device. But with the recent budget constraints, that program has since been discontinued. As far as our circulator and DAR buses, we have made equipment improvements in the last few years going to a newer design of securement and we are looking at the possibility of going to a low floor (kneeling) bus to start replacing our 30' buses with lifts for our circulator routes. (Glendale, AZ)
- Securement devices have been improved (Paso Robles, CA)
- Each bus is equipped with special straps to accommodate difficult to secure mobility devices. These straps are a big help to drivers when faced with securement issues. (Cleveland, OH)

- We revised bus specifications to elongate the ramp on low floor buses to minimize slope. (Syracuse, NY)
- We have bought Q-pods from Q-straint and have accommodated all sorts of Wheelchairs. (Eau Claire, WI)
- We have purchased new Q-straint systems for some of our older buses and we have continually updated our fleet lowering the average age of our fleet (Gainesville, FL)
- We have made the wheelchair securement area larger so the operator can secure the wheelchair easier. (Golden Empire, CA)
- We have been transitioning to an all low-floor bus fleet. (Jacksonville, FL)
- Specialized straps for securing scooters, rear-facing passive securement bays, jump seat for individuals who use walkers etc. (Eugene, OR)
- Improved communication system (Long Beach, CA)
- Consult with the Transportation Advisory Committee on new construction accessibility features. For example, the acceptable gap between the LRT platforms and vehicles, layout of the WC space in light rail vehicles. (Minneapolis, MN)
- We have automatic stop announcements and digital displays of ADA stops. All of our bus stop poles are square shaped with no holes for easier identification. (Houston, TX)
- Also provided securement training sessions as part of annual training. (Omnitrans, CA)
- more easily moved and more easily used and retracted straps, belt extensions for use around a chair base of to extend the lap belt (Ozark, AR)
- our fixed-route transit fleet is all low floors with easy to use ramps (Petaluma, CA)
- We have purchased securement equipment that is easier and safer for riders and operators to use. (Tacoma, WA)
- We provide our drivers with special loop straps to better accommodate the various types of mobility devices. (Razorback, AR)
- Due to budgetary challenges, RT stopped providing special straps in 2010. (Sacramento, CA)
- We are currently working to expand the number of passengers in wheelchairs that can be carried on Caltrain. Seating and bike storage will be reconfigured to provide more space. Also, we have a protocol and full procedures for use of EPAMDs on fixed-route buses and rail service. (Samtrans, CA)
- Only purchasing low floor buses (Shoreline, MI)
- We provide a simulated bus to their home and allow them to practice boarding and deboarding to increase their confidence and speed at boarding. (St. Cloud, MN)
- All Sun Tran buses meet or exceed all ADA requirements. We work closely with the City of Tucson Commission on Disability Issues. Members of this commission have helped with certain design aspects of our buses including positioning of fareboxes, slope of the ramps. (Tucson, AZ)

- Reconfigured then farebox area for greater turning access. Also provide one-on-one boarding/alighting training. (Salt Lake City, UT)
- We have a very robust Accessibility Advisory committee that meets monthly. They are key in improving accessibility to both paratransit and fixed-route. They were instrumental in providing input to the accessibility design of our busses and new 7000 series rail cars (WMATA, DC)
- We are using automated voice to call out all the intersections for the visually impaired or DD clients who are riding. (Wichita, KS)

Seventy-four of the 122 transit agencies that responded to the question about equipment improvements provided ratings on the effectiveness of these efforts. As shown in Figure 3-18, agencies rated their monitoring efforts as relatively effective in helping to facilitate and encourage fixed-route transit use by persons with disabilities. Sixteen transit agencies (22%) indicated the efforts were very effective (“5”). Thirty-one agencies (42%) rated the effectiveness as a “4.” Sixteen (22%) rated equipment improvements as a “3.” Only four agencies (5%) rated efforts to improve equipment as ineffective (a “2” or a “1”). Ten agencies (11%) said they were “not sure” if efforts had been made to improve equipment to better accommodate riders with disabilities.

**Figure 3-18. Reported Effectiveness of Efforts to Improve Vehicle and Securement Equipment**



To help identify possible case study sites, transit agencies were identified that rated the effectiveness of their equipment improvements as either a “4” or a “5.” This short-list of agencies is provided in Table 3-22 on the following pages. The table also indicates the type(s) of improvements made by each agency.

**Table 3-22. Transit Agencies Reporting Effective Equipment Improvement Programs**

Agency	Efforts to better accommodate riders who use mobility				Effectiveness Rating (1-5) 1 - Not Effective 5 - Very Effective
	Special Straps	Redesign our securement area and systems	Improve the design of lifts/ramps	Other equipment improvements	
Arlington Transit (ART)				x	5- Very Effective
Ashland Bus System	x				4
Augusta Public Transit		x	x		5- Very Effective
Capital Metropolitan Transportation Authority		x	x	x	4
Casper Area Transportation Coalition, Inc	x				4
Charlottesville Area Transit	x				4
City of Commerce Municipal Buslines	x		x		4
City of El Paso-Mass Transit Department-Sun Metro	x	x	x	x	4
City of Lompoc		x	x		5- Very Effective
City of Los Angeles Department of Transportation	x				5- Very Effective
Cleveland Area Rapid Transit (CART)				x	4
CNY Centro, Inc.	x		x	x	4
Collier Area Transit	x				4
Corvallis Transit System	x				4
County of Volusia VOTRAN	x				4
Eau Claire Transit				x	4
Golden Empire Transit				x	4
Hernando County Board of County Commissioners	x				5- Very Effective
Intercity Transit	x				5- Very Effective
Laketran		x	x		4
Lane Transit District	x	x	x	x	5- Very Effective
Livermore Amador Valley Transit Authority	x				4
Long Beach Transit		x	x	x	5- Very Effective
Macon-Bibb County Transit Authority	x				4

**Table 3-22. Transit Agencies Reporting Effective Equipment Improvement Programs, cont.**

Agency	Efforts to better accommodate riders who use mobility				Effectiveness Rating (1-5) 1 - Not Effective 5 - Very Effective
	Special Straps	Redesign our securement area and systems	Improve the design of lifts/ramps	Other equipment improvements	
Maryland Transist Administration	x				4
METRO Regional Transit Authority			x		4
Metropolitan Council				x	4
Miami-Dade Transit		x	x		4
Municipality of Cataño	x				4
Municipality of Hatillo	x			x	5- Very Effective
Nashua Transit System	x				4
Ozark Regional Transit				x	5- Very Effective
Port Arthur Transit	x				5- Very Effective
Sacramento Regional Transit District	x		x		4
San Diego Metropolitan Transit System	x				4
San Francisco Municipal Transportation Agency		x	x		4
San Mateo County Transit District	x			x	5- Very Effective
Shoreline Metro				x	5- Very Effective
Southwest Ohio Regional Transit Authority	x	x		x	4
Space Coast Area Transit	x	x	x		5- Very Effective
Spartanburg Area Regional Transit Agency	x				5- Very Effective
St. Cloud Metro Bus	x			x	4
Sun Tran	x		x	x	4
Town of Cary (NC)	x				4
TriMet	x	x	x		4
Washington Metropolitan Area Transit Authority		x	x	x	4
Wichita Transit	x			x	5- Very Effective



## Section 4. Selection of Phase 2 Case Studies

The approved project Working Plan called for case studies to be conducted as part of Phase 2 of the study. This section describes the process used to select case study sites. It then notes the case studies that were conducted.

Case studies were proposed to gather additional information about several different types of programs and efforts. This included:

- Conditional and trip-by-trip ADA paratransit eligibility determination
- Fare incentive programs
- Bus stop and pedestrian infrastructure improvements
- Target marketing and public information
- Trip planning services
- Service monitoring
- Accommodation of riders using mobility devices

While travel training was identified as a very effective type of service for enabling and promoting use of fixed-route transit, and it was included in the Strategy Guide, case studies of travel training programs were not conducted. The literature review identified extensive documentation of travel training programs, including several detailed studies with program outcomes, costs and benefits. It was therefore decided that additional case studies were not needed.

Two types of case studies were included in the approved project Working Plan. These were full case studies and mini-case studies. Full case studies typically involved on-site visits. They also sometimes included the development of data that was not readily available. Mini-case studies typically involved telephone and email contact and the collection of readily available information. Full case study write-ups are included in Sections 5 and 6. Information gathered from mini case studies was incorporated directly into the Strategy Guide.

Potential case study sites were presented to the Project Panel as part of the Interim Report. Sources of information used to identify possible case study sites were:

- The literature review. Some transit agencies were selected because they were identified in the literature as having effective and successful programs and efforts.
- The Task 4 survey. Some transit agencies were selected based on the responses they provided to the Task 4 survey. Transit agencies that provided reasonable data and also self-rated their programs and efforts as effective or very effective were shortlisted for possible study. Follow-up calls were made to several of these shortlisted transit agencies to get additional information and to confirm that the programs and efforts had been implemented as stated.

- The research team's knowledge. In a few cases, possible case study sites were selected based on the research team's knowledge. Successful programs and efforts had been identified as part of prior research conducted by team members.

The development of the list of potential case study sites also considered geographic diversity and system size. An effort was made to include transit agencies from different parts of the country, as well as a mix of small, medium and large systems.

The list of proposed case study sites was discussed at the Interim Project Panel Meeting that was conducted in October 2012. A revised list of potential sites was developed based on that discussion. The final list included primary as well as secondary sites. Secondary sites were included in the event that transit agencies listed as primary sites declined to participate, or if data collection or other issues were identified.

Case study work began in November 2012 and was largely completed by April 2013. Some follow-up data collection and data verification continued into May and June 2013.

A total of 33 different programs and efforts were studied at 27 transit agencies. This included five full case studies and 28 mini-case studies. Table 4-1 lists the transit agencies at which case studies were conducted. It also shows the types of programs/efforts studied at each location and the types of case studies conducted (Full or Mini).

Two full and three mini-case studies of conditional and trip-by-trip ADA paratransit eligibility determinations were conducted. The full case study write-ups are included in Section 5.

Seven mini-case studies of fare incentive programs were completed. Information from these mini case studies was incorporated into the Strategy Guide.

Three full and three mini-case studies of bus stop and pedestrian infrastructure improvements were completed. The three full case study write-ups are included in Section 6.

Information was collected from eight transit agencies (mini-case studies) on targeted marketing and public information programs. Information about trip planning services was obtained from four transit agencies. Information about service monitoring programs and efforts was gathered from two transit agencies. And information about efforts to better accommodate riders who use mobility devices was obtained from four transit agencies. The information collected on all of these "Other" types of efforts and programs was incorporated directly in the Strategy Guide.



Table 4-1. Number and Types of Case Studies Conducted in Phase 2

Transit Agency, City, ST	ADA Paratransit	Fare Incentives	Bus Stops/ Ped. Infra.	Marketing/ Public Info.	Trip Planning	Service Monitoring	Accomm. Of Mob. Devices
KC Metro, Seattle, WA	Full						
PAT/ACCESS, Pittsburgh, PA	Full						
SamTrans, San Carlos, CA	Mini						
UTA, Salt Lake City, UT	Mini	Mini					
Intercity Transit, Olympia, WA	Mini	Mini	Full	Mini			
City of Arlington, VA		Mini					
AATA, Ann Arbor, MI		Mini					
MBTA, Boston, MA		Mini					
The T, Fort Worth, TX		Mini		Mini			
Hernando County, FL		Mini					
TriMet, Portland, OR			Full		Mini		
RideOn, Montgomery Cty., MD			Full				
Town of Cary, NC			Mini				
Link Transit, Wenatchee, WA			Mini				
Sun Tran, Tucson, AZ			Mini				
LTD, Eugene, OR				Mini			
Laketran in Lake County, OH				Mini			Mini
MUNI, San Francisco, CA				Mini			
SEPTA, Philadelphia, PA				Mini			
Shoreline Metro, Sheboygan, WI				Mini			
WMATA, Washington, DC				Mini	Mini	Mini	
RTA, Chicago, IL					Mini		
Long Beach Transit, Long Beach, CA					Mini		
MTA, Nashville, TN						Mini	
CCRTA, Corpus Christi, TX							Mini
Golden Empire Transit, Bakersfield, CA							Mini
NYCTA, New York, NY							Mini



## **Section 5. Case Studies of Conditional and Trip-by-Trip ADA Paratransit Eligibility Determinations**

Two full case studies of conditional and trip-by-trip ADA paratransit eligibility determinations were conducted. These were of:

- King County Metro in Seattle, WA
- Port Authority of Allegheny County and ACCESS Transportation Systems, Inc. in Pittsburgh, PA.

Following are the complete case study write-ups.

### **King County Metro, Seattle, WA: Conditional and Trip-by-Trip ADA Paratransit Eligibility Determinations**

#### ***Background***

King County Metro (Metro) is the 10th largest bus transit agency in the nation. It provides public transit services in Seattle and King County, Washington. Metro's service area is more than 2,000 square miles. The service area population is about 1.9 million.

Metro provides bus, trolley, streetcar, dial-a-ride, paratransit, and vanpool services. This includes the South Lake Union Streetcar service and a growing system of bus rapid transit services. Service is operated over a network of 220 routes. In 2011, a total of 112.8 million passenger trips were provided on bus and trolley services.

Metro's fixed-route transit fleet totals 1,450 vehicles—including standard and articulated coaches, electric trolleys, dual-powered buses, and streetcars. All Metro buses have wheelchair lifts and are equipped with bicycle racks.

Metro's vanpool service is the largest publicly operated vanpool program in the country. Ridesharing efforts also include a regional ridematch system with carpools and vanpools across a seven county area in western Washington State.

#### ***Community Transportation Program***

In addition to a fully-accessible fixed-route transit system, Metro provides or supports several other programs to meet the transportation needs of persons with disabilities, seniors, and low-income residents. These services are known collectively as the Community Transportation Program, and include:

## **Access Transportation**

Access Transportation is Metro's ADA Paratransit service. Access Transportation provides curb-to-curb service to all origins and destinations within  $\frac{3}{4}$  of a mile of all fixed-route bus and light rail services. Door-to-door and hand-to-hand assistance is provided as needed. In 2006, voters passed a Transit Now Initiative that also provides funding for Access services in rural areas of Eastern King County which are outside the base  $\frac{3}{4}$  mile service corridors. Washington State law requires that services for persons with disabilities be provided at the same cost as services to the general public, so Access fares are the same as full fixed-route transit fares--\$1.25 per trip. In 2012, about 1.1 million one-way passenger trips were provided on the Access Transportation service. Access Transportation coordinates transfers with Community Transit to the north and Pierce Transit to the south to facilitate paratransit travel throughout western Washington State.

## **Taxi Scrip Program**

Metro Transit also provides taxi scrip to King County residents with disabilities, seniors (age 65 and over), and individuals between the ages of 18 and 64 who are low-income. Eligible individuals can purchase up to six books of taxi scrip each month. Each book has a value of \$10 and can be purchased for \$5.

The fleets operated by participating companies include 45 accessible taxis. The local taxi ordinance also calls for all new medallions to be issued for accessible vehicles. In 2011, about 76,600 trips were made using taxi scrip. Average operating cost per taxi scrip trip was \$8.35.

## **Transit Instruction Program**

Metro provides free training services to persons with disabilities and seniors who are interested in learning to ride fixed-route transit. Several different types of training are provided, including:

- one-on-one training to learn how to make specific trips or learn specific routes;
- group training that provides general orientation to riding fixed-route transit (e.g., planning trips, reading schedules, etc.) and sometimes include field trips on the fixed-route transit system; and
- instruction for persons who use wheelchairs and have never used fixed-route transit on how to use lifts, ramps, and securement systems.

In 2011, 302 individuals were provided transit instruction. This included 60 group trainings and 98 field trips. One-on-one training for 33 individuals was also provided. Metro Transit staff estimates that transit instruction in 2011 facilitated about 48,847 trips on fixed-route transit that would likely have been provided on the Access paratransit service.

### **Local Community Shuttles**

Metro Transit partners with Senior Services of King County to operate a network of local community shuttles. Also known as “Hyde Shuttles,” in honor of a resident who bequeathed \$500,000 to help start the program, the service provides door-to-door transportation to seniors and people with disabilities of all ages. The shuttle services are free (donations are accepted) and focus on providing transportation to hot meal programs, medical appointments, senior centers, grocery stores, and other local destinations. Service is provided Monday through Friday on a first-come, first served basis.

Metro contracts with Senior Services of King County to manage and operate the shuttles. Reservations, scheduling and dispatching are handled from a single call and control center, with vehicles located throughout the county. In 2011, the shuttles provided 88,730 one-way passenger trips to 2,815 eligible individuals.

### **Advantage Vans and Vanworks**

Metro also assists several other community agencies with meeting their transportation needs. This assistance is provided through the Advantage Vans and Vanworks programs.

Advantage Vans assists agencies that operate more general transportation services for seniors and persons with disabilities. Metro provides vehicles and funding for maintenance, and participating agencies cover other operating costs. Metro also provides driver training. Agencies agree to provide a minimum number of rides to ADA paratransit eligible individuals each month. Additional operating assistance is provided if agencies can demonstrate that the services they operate provide more than 150 trips per month to individuals who are ADA paratransit eligible. Rides are requested through and scheduled by the participating agencies.

The Vanworks program assists agencies that transport seniors and persons with disabilities to work or work training. Metro pays the monthly cost of a standard Vanpool agreement for the local agencies, which covers the vehicle, fuel, comprehensive/collision insurance, and maintenance. Local agencies provide drivers, administrative support, and liability insurance. Local agencies also commit to providing at least 50 trips per month to individuals who are ADA paratransit eligible and who would otherwise use the Access Transportation service.

In 2011, 24 agencies participated in the Advantage Vans and Vanworks programs. A total of 93 vehicles were operated by the agencies. Over 303,000 trips were provided at an average cost to Metro of \$4.51 per trip.

## **ADA Paratransit Eligibility Determination Process**

A review of Metro's process for determining ADA Paratransit eligibility was conducted in October 2012. The review focused on Metro's use of conditional eligibility and on trip-by-trip eligibility determinations.

Individuals with disabilities who are interested in transportation options are directed to call Metro's Accessible Services Office. Metro Transit makes a particular point of marketing its broad range of accessible transportation services, rather than specific services like ADA paratransit. When individuals call, information is provided on all accessible transportation services, as appropriate. Options include accessible fixed-route transit as well as the many services provided under the Community Transportation Program.

Individuals who express an interest in ADA paratransit eligibility are sent a pre-application packet. The packet includes a brochure titled "Access to Metro: Public Transportation for All of Us" that includes inserts explaining the various accessible transportation service options. The packet also includes a "Pre-Application for Access Transportation" form that explains the criteria used to determine eligibility for Access, the ADA Paratransit service. The Pre-Application requests general information—name, address, telephone number, etc.—and asks individuals to check "Yes" or "No" to each of the following three questions:

- Do you have a cognitive or physical disability that, some or all of the time, prevents you from getting on, riding or getting off the bus by yourself, without the help of another person?
- Do you have a disability that requires the use of a lift/ramp to get on or off a regular bus?
- Do you have a disability that prevents you from traveling to or from a bus stop?

The Pre-Application also describes personal care attendants and asks if individuals would like to have a Certification Request to Bring a Personal Care Attendant form sent along with a standard application form. Finally, the Pre-Application asks if being left unattended is an issue and if a Certification Request for Hand to Hand Service form should also be sent. Completed Pre-Applications are reviewed by staff at the Accessible Services Office and the appropriate forms sent to prospective applicants.

The Access Application is 10 pages long. It requests information about types of disabilities or health conditions, mobility aids used, functional abilities to perform tasks required to use fixed-route transit services, and the impacts of weather and physical barriers on the ability to travel. It also asks for the name of a professional who can be contacted, as needed, to verify the disabilities and functional abilities of applicants. Metro accepts information from a wide variety of professionals including therapists, vocational rehabilitation counselors, special education teachers, social workers employed by a medical facility, Orientation and Mobility Specialists, as well as medical doctors.

Completed application forms are reviewed by Accessible Services Office staff. Follow-up telephone calls are made to all applicants to discuss the information in the application form and to get additional information as needed. Staff also uses this follow-up as another opportunity to discuss all of the types of accessible transportation services available.

All applicants are then asked to participate in in-person interviews at the Harborview Medical Center (HMC), a county medical and rehabilitation facility that is contracted to Metro.<sup>2</sup> Evaluators at HMC review the completed application forms and then discuss travel issues noted in more detail. The interviews are particularly helpful in getting a better understanding of travel abilities and issues for applicants with cognitive, psychiatric and vision disabilities, as well as applicants with seizure conditions. Size and weight measurements are also recorded for applicants who use wheelchairs to ensure that Metro services can safely accommodate them.

Following the interviews, Harborview staff decides if an in-person functional assessment is also needed. Blood pressure, pulse and blood oxygen levels are also recorded and used to determine if full assessments, including travel outdoors, are appropriate. The indoor portion of the assessments evaluates:

- Balance and gait
- Ability to obtain and use information needed to ride fixed-route transit (see Figure 5-1)<sup>3</sup>
- Ability to recognize the correct fixed-route bus needed for a trip<sup>4</sup> (see Figure 5-2)
- Ability to board and navigate on a mock-up of a fixed-route bus (see Figure 5-3)



**Figure 5-1**



**Figure 5-2**

*(photos courtesy of TranSystems Corp.)*

<sup>2</sup> Prior to 2006, Metro required only some applicants to participate in in-person interviews and assessments, based on the review of the application form.

<sup>3</sup> This portion of the assessment is adapted from the Functional Assessment of Cognitive Transit Skills (FACTS), developed by Easter Seals Project ACTION.

<sup>4</sup> Ibid



**Figure 5-3** (photo courtesy of TranSystems Corp.)

As appropriate, applicants are also observed traveling outdoors in the real environment. Evaluators take applicants on a walk to and from a nearby bus stop that can be up to  $\frac{1}{2}$  mile if completed. Evaluators first provide directions to the bus stop (see Figure 5-4) and then observe applicants as they travel to and from the stop. The walk includes moderate terrain, uneven surfaces, and two types of street crossings, one controlled and one uncontrolled (see Figure 5-5). Evaluators record distances, times, and other observations along the way. Evaluators also watch for any signs of distress so the evaluation can be discontinued when appropriate.



**Figure 5-4**



**Figure 5-5**

(photos courtesy of TranSystems Corp.)

During the interview and assessment process, Evaluators at HMC again review the variety of accessible transportation services provided by Metro. If applicants express an interest in any of these services, Evaluators provide information from a Transportation Resource Center (see Figure 5-6). In addition to brochures and information about all accessible services, the Resource Center also has useful safety equipment, such as reflectors and flags for individuals who use wheelchairs (see Figure 5-7). This equipment is provided at no cost to applicants who feel it could be helpful for travel in the community.



**Figure 5-6****Figure 5-7**

*(photos courtesy of TranSystems Corp.)*

When discussing all available accessible services with applicants, Metro staff and HMC Evaluators make a point of stressing that use of these other services does not affect eligibility for the Access (ADA paratransit) program. Metro staff noted that there was a misperception in the community that use of fixed-route transit services would make them ineligible for Access. The agency has worked to change this misperception and to encourage use of all available services.

Results of the interviews and assessments are returned to the Accessible Services Office. This information is then considered along with the information provided in the application form. If there are still questions about eligibility, Accessible Services Office staff contact professional identified by applicants for additional information. Fax requests for information are typically sent along with a copy of a signed release form (obtained from applicants as part of the application form).

All of the information obtained (from applications, interviews, assessments, and professionals) is the used to make final eligibility determinations. Final decisions are communicated in letters prepared by the Accessible Services Office. Individuals granted eligibility are also sent Access Ride Guides.

Access eligibility is typically granted for a period of three years, after which riders must reapply and have their eligibility recertified. A simplified recertification process is used for riders who are unconditionally eligible and whose functional abilities are not likely to improve over time (even with different mobility aids). The simplified recertification process includes a brief application form and does not include additional in-person interviews or functional assessments.

Applicants who are found not eligible or who are granted conditional eligibility are notified of their right to appeal. The appeal process involves an in-person interview and assessment with a rehabilitation nurse practitioner who is on retainer to Metro.

Metro Transit, Pierce Transit, Community Transit, Everett Transit, Kitsap Transit, Intercity Transit and Jefferson Transit have a joint paratransit eligibility agreement. Persons found eligible by any of those agencies are eligible to use paratransit service offered by the other agencies

### **Process Statistics and Outcomes**

As of October 2012, about 30,000 individuals were eligible to use the Access service. In 2011, Metro received 8,027 applications for Access eligibility. Of these, 1,834 were found to be incomplete, and were returned to applicants. A total of 6,193 applications were complete (an average of 516 completed applications per month). About 17% of the individuals who completed applications (1,083) opted not to continue to pursue eligibility when contacted to have in-person interviews and functional assessments scheduled. A total of 4,731 applicants were referred for in-person interviews and functional assessments, as needed. Of these, a relatively small number (37) no-showed scheduled appointments. So, 4,694 individuals participated in interviews and/or assessments at HMC. Another 416 individuals were granted eligibility based solely on the completed application form (individuals applying for recertification who qualified for the simplified recertification process).

Counting the 4,694 individuals who participated in interviews and assessments, plus the 416 granted continued eligibility using the simplified recertification process, a total of 5,110 eligibility determinations were made in 2011. Outcomes for these 5,110 applicants were:

- 3,582 fully (unconditionally) eligible (70%)
- 1,481 conditionally eligible (29%)
- 47 not eligible (1%)

Thirty-two (32) applicants found not eligible or conditionally eligible requested appeals. One appeal was not pursued and 31 were heard. Five appellants who had been found not eligible or only conditionally eligible were granted full eligibility. Another 17 had their conditional eligibility modified somewhat (e.g., an additional condition was added).

### ***Conditional and Trip-By-Trip Eligibility***

Metro staff indicated that the use of a thorough determination process, including in-person interviews and/or assessment for all applicants, has enabled them to identify specific conditions under which some riders can use fixed-route transit service. Metro has established 17 basic types of conditions and customizes these to individual riders. The types of conditions used by Metro are shown in Appendix E. Conditions of eligibility are explained to riders in determination letters. All riders granted conditional eligibility are also contacted in-person after letters are sent and their conditions of eligibility are explained and discussed.

Prior to 2006, riders were informed of the conditions under which they were considered able to use fixed-route transit, but all trip requests were accepted and scheduled. Beginning in 2006, Metro began to apply conditions of eligibility to rider trip requests. Before implementing eligibility conditions, Metro discussed the concept at length with its advisory committee. Some advisory committee members had concerns about applying conditions and did not fully understand how trip-by-trip eligibility determinations would work. Metro continued these discussions and provided information on the proposed process until all questions were answered and the advisory committee was on-board with the approach.

Metro started by doing trip eligibility reviews for the most frequently made trips. From 2006 through 2008, only trips made at least once per week were reviewed. Once these most frequent trips were identified and reviewed, Metro changed the threshold. In 2009, trips made at least 10 times in 12 weeks were reviewed. In 2010, the threshold was changed to trips made at least 8 times in 12 weeks. In 2011, this was changed to 6 trips in 12 weeks. And in 2012, at the time of the review, all trips made at least 3 times in 12 weeks were being reviewed.

Metro uses software to manage the Access paratransit service. Detail about rider eligibility is entered into the software system. This includes applicable codes for riders granted conditional eligibility. It also includes information about individual trips that have been reviewed for eligibility. The software has been customized to use the information in the rider eligibility file to assist with trip-by-trip eligibility determinations.

As shown in Appendix E, some eligibility conditions vary by time of day or time of year. These include things such as hot or cold temperatures, the presence of snow or ice, and low or bright light. Metro has developed the following policies and procedures related to these types of conditions:

- “Hot temperature” (HT) conditions have been standardized to mean that riders are not able to travel when the temperature exceeds 85° F. Seasonal eligibility is granted from July 1 through August 31 to riders with HT conditions. During this period, riders may request trips during the full advance reservation period (up to three days in advance). From September 1 through June 30, riders with HT conditions can only request trips one day in advance and trips are booked only if the daytime high temperature is greater than 85° F for that day.

From July 1 through August 31, the software is set to not limit any trip requests based on the HT condition. From September 1 through June 30, managers in the call center look at the predicted temperatures throughout the service area for the next day. If the temperature in any part of the area is predicted to be above 85° F, the software is set to not limit trips based on the HT condition. If no areas are predicted to have temperatures above 85° F, the software is set to apply HT conditions to any trips requested by riders who have this as part of their conditional eligibility.

- “Cold temperature” (CO) conditions have been standardized to mean that riders are not able to travel when the temperature is below 40° F. Seasonal eligibility is granted from November 1 through February 28 to riders with CO conditions. During this period, riders may request trips during the full advance reservation period (up to three days in advance). From March 1 through October 31, riders with a CO condition can only request trips one day in advance and trips are booked only if the daytime high temperature is below 40° F for that day.

From November 1 through February 28, the software is set to not limit any trip requests based on the CO condition. From March 1 through October 31, managers in the call center look at the predicted temperatures throughout the service area for the next day. If the temperature in any part of the area is predicted to be below 40° F, the software is set to not limit any trip requests based on the CO condition. If no areas are predicted to have temperatures below 40° F, the software is set to apply CO conditions to any trips requested by riders who have this as part of their conditional eligibility.

- “Snow/ice” (SNI) conditions apply when there is actually snow or ice on the ground that would prevent travel. Riders with this condition must call one day in advance to book trips. During non-winter months, the software is set to apply the SNI condition to any trip requests by riders who have this as part of their eligibility conditions. Throughout the winter months, managers in the call center review the predicted weather throughout the service area and adjust the software setting appropriately. If snow or ice is predicted anywhere in the service area, the software is set to not limit trip requests based on this condition. If there is no snow or ice predicted in the service area, the software is set to apply this condition to trips requested by riders who have this as one of their conditions.
- “Darkness” (NT) conditions apply to riders who have vision disabilities and cannot travel during times of low light. These riders may book trips that involve travel from sunset to sunrise. The scheduling software is programmed to apply or not apply this condition using time settings each month. The time settings are based on the longest hours of darkness each month rounded to the nearest 5 minutes (rather than being set each day).
- “Extreme Light” (LT) conditions apply to riders who cannot travel during times of bright light. Metro’s policy is to allow riders with this condition to use Access during any daylight hours. Daylight hours are set each month based on the longest hours of daylight for that month rounded to the nearest 5 minutes.

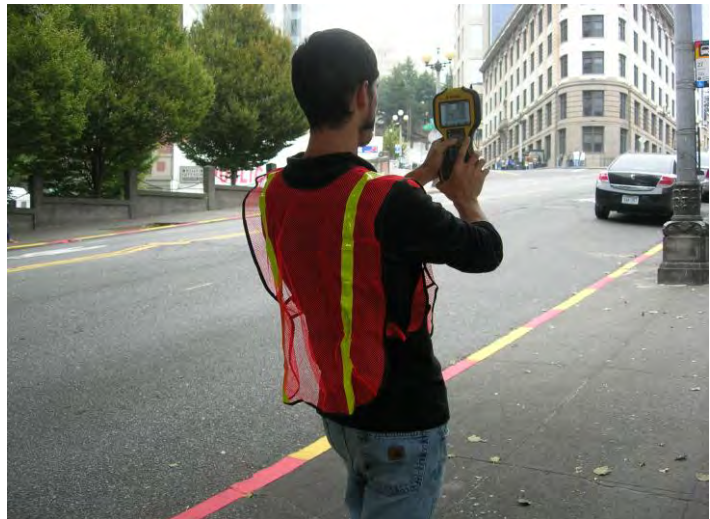
“Pathway” conditions must be evaluated for the specific trips requested. These include things such as maximum walking distances, steep hills, inaccessible bus stops, difficult intersections or street crossings, uneven terrain, or the lack of sidewalks or curb ramps. Metro has three Mobility Specialists, employed by their call center contractor, to assist with pathway reviews. Mobility Specialists regularly generate lists of riders and trips meeting the review threshold (currently at least 3 times in 12 weeks). Trips that have

not yet been evaluated are then assigned for review. Mobility Specialists start by identifying the specific conditions that would prevent riders from using fixed-route transit service. If riders have “Pathway” conditions, the Mobility Specialists use Metro’s fixed-route trip planner to determine how the trips could be made by bus or train. The fixed-route stops that would need to be used are identified and maps are generated showing the streets and paths-of-travel that would be used to get from the origin to the boarding stop and from the alighting stop to the destination. On-street reviews are then conducted along these paths-of-travel to determine if any barriers exist.

Metro has developed an automated data collection process to assist in recording observations and storing information about pathways. Mobility Specialists use hand-held computers to record observations (see Figure 5-8). Maps of the street networks at both the origin and destination are loaded onto the computers. Observations about the accessibility of each street segment are then entered directly into the computers and linked to the street segments or intersections on the maps. Graphic attributes (such as the location of curb ramps, the steepness of the street segments, or uneven surfaces) are then used to display accessibility features on the maps (see Figures 5-9 and 5-10).

All physical barriers, whether or not they apply to the rider in question, are evaluated so that the information for those street segments can be stored and used in the evaluation of other trips in those areas.

Results of the on-street reviews are then used to determine if there are any pathway barriers that would prevent the trips being evaluated from being made by fixed-route transit. This information is entered into a trip spreadsheet for each conditionally eligible rider. Each row in the spreadsheet represents a trip



**Figure 5-8. Mobility Specialist Recording Data on Hand-held Computer** (photo courtesy of Metro)



**Figure 5-9. Map showing street segments with graphic attributes** (screenprint courtesy of Metro)



that has been evaluated. If no barriers are identified, trips are tagged in the spreadsheet with a NQ (Not Qualified) coding, meaning there are no pathway barriers that qualify them for Access paratransit service. Information in rider trip spreadsheets is then uploaded into the rider eligibility file in the software system.

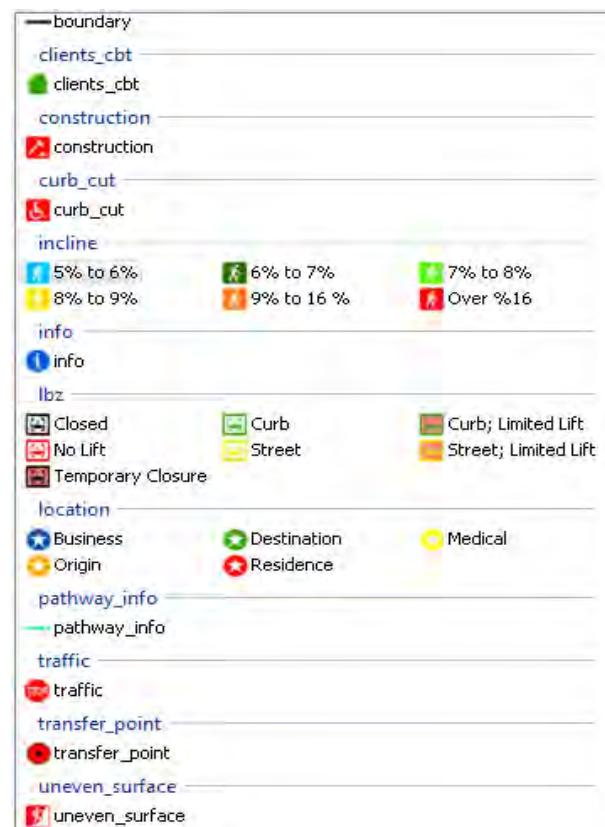
If pathway reviews indicate that there are no travel barriers, riders are contacted in person by Metro's Mobility Planner. They are informed of the reviews and told that there do not appear to be any barriers that would prevent the use of fixed-route transit. Detailed information about how to make the trips by fixed-route transit is also prepared and sent to riders. If riders are not comfortable attempting the trips alone, travel training services are offered to assist them with the transition. This in-person contact is made before information is uploaded into the rider eligibility file, so riders do not first learn that trips are no longer eligible when they call to book the trips.

If riders have been successfully travel trained to make certain trips by fixed-route transit, this information is also added to their eligibility file. The origin and destination addresses for these trips are entered and these trips are given the code "BTT" (Bus Travel Trained). As trips are requested, the software will search to see if the origins and destinations of the trips being requested match any BTT trips in the riders' file. If so, the software generates a "pop-up" box alerting the reservationist that this is a trip for which the rider has been travel trained. Metro's policy is to still book the trip, but reservationists record these trips and notify travel trainers that riders have requested the trips by paratransit. Travel trainers then follow-up with individuals to determine why they decided to make these trips by Access paratransit.

Metro only considers riders to have been successfully travel trained if they completed training provided by Metro. Information provided by applicants about training received from others is not considered. Staff noted that this policy has been adopted so that Metro can be sure of the quality and results of the training.

Another condition that is considered is whether trips can be made direct on fixed-route transit or whether one or more fixed-route transfers are required. Some riders can only use fixed-route transit for direct trips. Riders with this type of condition have a "BX" coding in their eligibility file. Mobility Specialists consider this issue when doing reviews

**Figure 5-10. Attributes and Attribute Icons Used on Trip Review Maps**  
(screenprint courtesy of Metro)



of frequently made trips. If trips can be made direct, the trip is given a NQ code in the rider's trip spreadsheet. If there are no other conditions or barriers, and the trip can be made by fixed-route transit, riders are contacted in-person by the Mobility Planner and options for using the bus or train are explained.

Two conditions depend on the effects of the disability on the day of service. These are "Life Sustaining Medical" (LSM) and "Good Day/Bad Day" (GBD) conditions. The software is programmed to not limit trip requests based on these conditions. Trip requests from riders with these conditions are simply accepted, but these riders must book trips no more than one day in advance.

The software used by Metro to accept and schedule trip requests has been customized to consider all of the above information. If a trip is being scheduled for a conditionally eligible rider, the software will examine the rider's trip eligibility file to see if there are any trips coded as NQ that match the origin and destination of the trip being requested. If the trip is found to be in the file and coded NQ, the software will also consider whether any other conditions apply for that rider that would prevent use of fixed-route transit. This includes conditions related to weather and time of day. The system will only generate a pop-up window and alert reservationists that the trip is not eligible and can be made by fixed-route transit if all conditions in the file for the rider are satisfied. The pop-up windows are also designed to provide relevant information that reservationists can relay to riders. For example, if a rider only has a cold temperature condition (CO), and the predicted weather does not prevent travel by fixed-route transit, the pop-up screen will indicate the rider is only eligible from to ride November 1 through February 28, or when the temperature is below 40° F.

While riders can challenge trip eligibility decisions, it was noted that this rarely happens. Metro staff attributed this to: (1) telephone follow-up with all riders to explain their conditions of eligibility; (2) personal contact by phone if trip reviews indicate no barriers and the possibility of making trips by fixed-route transit; and (3) sending riders detailed information about how to make trips by fixed-route transit when reviews identify this as an option.

### **Trip-by-Trip Eligibility Review Statistics, Costs, and Savings**

Table 5-1 provides information about trip-by-trip eligibility reviews from 2008 through 2011. This includes the number of unique trips screened by Mobility Specialists, the number of unique trips found not eligible, estimates of the number of trips per year affected by these decisions, estimates of annual operating cost savings, the annual costs of reviewing trips, and estimates of the net savings per year.

**Table 5-1. Metro Transit Trip Eligibility Review Statistics and Costs, 2008-2011**

	<b>2008</b>	<b>2009</b>	<b>2010</b>	<b>2011</b>
Unique Trips Reviewed	2,245	2,937	3,062	3,318
Unique Trips Able to be Made by Fixed-Route Transit	624 (28%)	1,459 (50%)(1)	640 (21%)	655 (20%)
Est. Trips Per Year Able to be Made by Fixed-Route Transit	32,448 (2)	31,368 (3)	11,200 (4)	8,515 (5)
Est. Cumulative Trips Able to be Made by Fixed-Route Transit (6)	32,448	96,264	138,832	158,547
Est. Operating Cost Savings (7)	\$1,114,264	\$3,408,708	\$5,067,368	\$5,966,124
Cost to do Trip Screenings (8)	\$293,396	\$302,470	\$311,825	\$320,384
Est. Net Savings	\$820,868	\$3,106,238	\$4,755,543	\$5,645,740

(1) The increase in trips able to be made by fixed-route transit in 2009 is due to a backlog of reviews conducted in 2008 but not communicated to riders until 2009. Metro does not record trips as being able to be made by fixed-route transit until notice is provided to riders.

(2) Assumes average trip reviewed was made twice each week (104 trips per year) and that reviews were evenly distributed throughout year so that about 52 trips were affected on average.

(3) Assumes average trip was made 10 times in 12 weeks (43 times a year) and that reviews were evenly distributed throughout year.

(4) Assumes average trips were made 8 times in 12 weeks (35 times per year) and that reviews were evenly distributed throughout year.

(5) Assumes average trips were made 6 times in 12 weeks (26 times per year) and that reviews were evenly distributed throughout year.

(6) Assumes trips each year continue to be made in subsequent years.

(7) Average 2011 paratransit operating cost was \$42.11 per trip, paratransit fare was \$1.25, fixed-route transit operating cost was \$3.98 per trip, and fixed-route transit (reduced) fare was \$0.75. Savings per trip in 2011 therefore estimated at \$37.63 (((\$42.11-\$1.25)-(\$3.98-\$0.75)). Savings were considered to be 3% less each subsequent year (\$36.50 in 2010; \$35.41 in 2009; and \$34.34 in 2008).

(8) Actual costs for 2010 and 2011 were calculated. Costs for 2008 were assumed to be 3% less than 2010. Costs for 2008 were assumed to be 3% less than 2009.

Metro keeps statistics related to trip reviews conducted by Mobility Specialists, including the total number of trips reviewed and the number found not eligible. In 2008, when trips made at least once each month were evaluated, Mobility Specialists reviewed a total of 2,245 unique trips. Each leg of a trip is counted separately, so this represents one-way trips reviewed. Of these, 624 (or 28%) were found to have no pathway or navigational barriers that would prevent use of fixed-route transit. In 2009, when trips



made at least 10 times in 12 weeks were considered, 2,937 unique trips were reviewed and 1,459 (or 50%) were found to have no barriers<sup>5</sup>. In 2010, trips made at least 8 times in 12 weeks were evaluated. A total of 3,062 trips were reviewed and 640 (21%) were found to have no barriers. And in 2011, when trips made at least 6 times in 12 weeks were considered, a total of 3,318 trips were reviewed and 655 (or 20%) were found to have no barriers.

To estimate the total number of trips affected each year, an average number of trips per year per unique trip reviewed was assumed. In 2008, when the review threshold was that trips must be made at least one time per week, it was assumed that the average trip was made twice each week (104 times per year). This is likely a conservative estimate since riders using the service to go to work or work training make the same trips five times per week. It was also assumed that the trip reviews were spread evenly throughout the year, so about half of the trips reviewed would be affected that year. The estimate of trips affected in 2008 is therefore 32,448 (624 unique trips x 52 trips per year x 0.5).

In 2009, it was assumed that most trips made at least once each week would have already been reviewed, and that the reviews that year would have focused on trips made from 10 times in 12 weeks to once each week. It was conservatively estimated that the average trip reviewed that year would have been made 10 times in 12 weeks, or about 43 times each year. During that year, reviews would have therefore affected about 31,368 trips (1,459 unique trips x 43 trips per year x 0.5). It was also assumed that the trips affected by reviews in 2008 would still exist, and that a full year of trips reviewed in 2008 would still be affected (or 64,896 trips). The cumulative number of trips affected by reviews in 2008 and 2009 would therefore be 96,264 (64,896 trips from 2008, plus 31,368 trips affected in 2009).

Similar calculations for trips affected each year and the cumulative number of trips affected were made for 2010 and 2011. In 2010, it was conservatively estimated that each trip found to have no barriers was made 8 times in 12 weeks (35 times per year), which was the review threshold for that year. In 2011, it was conservatively estimated that each trip found to have no barriers was made 6 times in 12 weeks (26 times per year), which was the review threshold for that year. The calculations of cumulative trips affected in 2010 and 2011 are as follows:

For 2010: 64,896 continuing trips affected by 2008 reviews, plus 62,736 continuing trips affected by 2009 reviews, plus 11,200 trips affected in 2010, or 138,832 total trips affected.

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<sup>5</sup> *The increase in trips able to be made by fixed-route transit in 2009 is due to a backlog of reviews conducted in 2008 but not communicated to riders until 2009. Metro does not record trips as being able to be made by fixed-route transit until notice is provided to riders. While the data is presented based on the way it is recorded by Metro by year, an averaging of data for 2008 and 2009 would provide a more accurate picture of the percent of trips found able to be made by fixed-route transit in those years.*

For 2011: 64,896 continuing trips affected by 2008 reviews, plus 62,736 continuing trips affected by 2009 reviews, plus 22,400 continuing trips affected by 2010 reviews, plus 8,515 trips affected in 2011, or 158,547 total trips affected.

To estimate the savings in operating costs, the average costs for Access paratransit and fixed-route transit trips, and the fares for each mode, were considered. In 2011, the average operating cost per Access paratransit trip was \$42.11, the paratransit fare was \$1.25, the average fixed-route transit cost was \$3.98, and the reduced fare on fixed-route transit was \$0.75. The savings per trip for trips made by fixed-route transit rather than Access paratransit was therefore \$37.63  $((\$42.11 - \$1.25) - (\$3.98 - \$0.75))$ . It was assumed that savings for each subsequent year would be 3% less than this amount, or \$36.50 in 2010, \$35.41 in 2009, and \$34.34 in 2008. Applying these average per trip savings to the cumulative number of trips affected each year suggests total operating cost savings of \$1,114,264 in 2008, \$3,106,238 in 2009, \$4,755,543 in 2010, and \$5,645,740 in 2011.

Finally, the cost to conduct trip reviews and make trip eligibility determinations was considered. In 2011, Metro estimated that program costs included the full time Mobility Planner (\$103,658), 30% of the time of the CERT Administrator (or \$37,658), three Mobility Specialists at \$45,605 each (or \$136,815), 25% time for a dispatch manager to adjust software settings (or \$16,760), and 16.6% overhead and profit on contractor provided positions (or \$25,493). Total costs for 2011 were therefore estimated to be \$320,384. Similar calculations were done for 2010. These calculations yielded a cost estimate of \$311,825 for 2010, or about 3% less than the costs for 2011. For 2009, it was assumed that costs were 3% less than 2010 (or \$302,470). For 2008, costs were assumed to be 3% less than 2009 estimates (or \$293,396).

Subtracting program costs from operating cost savings, it was estimated that trip-by-trip eligibility saved a net amount of \$820,868 in 2008, \$3,106,238 in 2009, \$4,755,543 in 2010, and \$5,645,740 in 2011.

A large part of these savings is based on the assumption that trips reviewed in past years would likely continue to be made and requested in subsequent years. However, even if only a portion of prior year trips continue to be made, the amount of the savings would still be significant and much greater than annual program costs. The estimates in Table 5-1 also do not include the effects of trip reviews conducted between 2006 and 2008.

While Metro continues to use three full time Mobility Specialists in 2012 to do on-street pathway reviews, it was noted that fewer trips will likely need to be reviewed each year. Program costs are expected to decrease each year once the most frequent trips have already been reviewed.

## ***ADA Paratransit Ridership Trends***

Figure 5-11 and Table 5-2 show Access ADA paratransit ridership (boardings) from calendar years 2001 through 2012. Table 5-3 identifies significant eligibility or service changes by year.

From 2001 through 2006, ridership increased from 976,707 to 1,128,496, or about 3.1% per year. During this period, the Access paratransit fare was \$0.75 and the first Hyde Shuttle was implemented (2003).

Starting in 2006, Metro began requiring that all applicants for ADA paratransit eligibility participate in interviews and functional assessments. Trip eligibility was also implemented in 2006. The growth in ridership slowed from 4% in 2005 to 2% in 2006. Ridership then declined 1% in 2007.

A number of changes were made between 2007 and 2012. The Transportation Resource Center was created and began to be used by Evaluators at HMC in July of 2007. The Access paratransit fare was increased twice—first from \$0.75 to \$1.00 in 2008, and then from \$1.00 to \$1.25 in 2010. And the Hyde Shuttle and community bus programs were steadily expanded from 2007 through 2012.

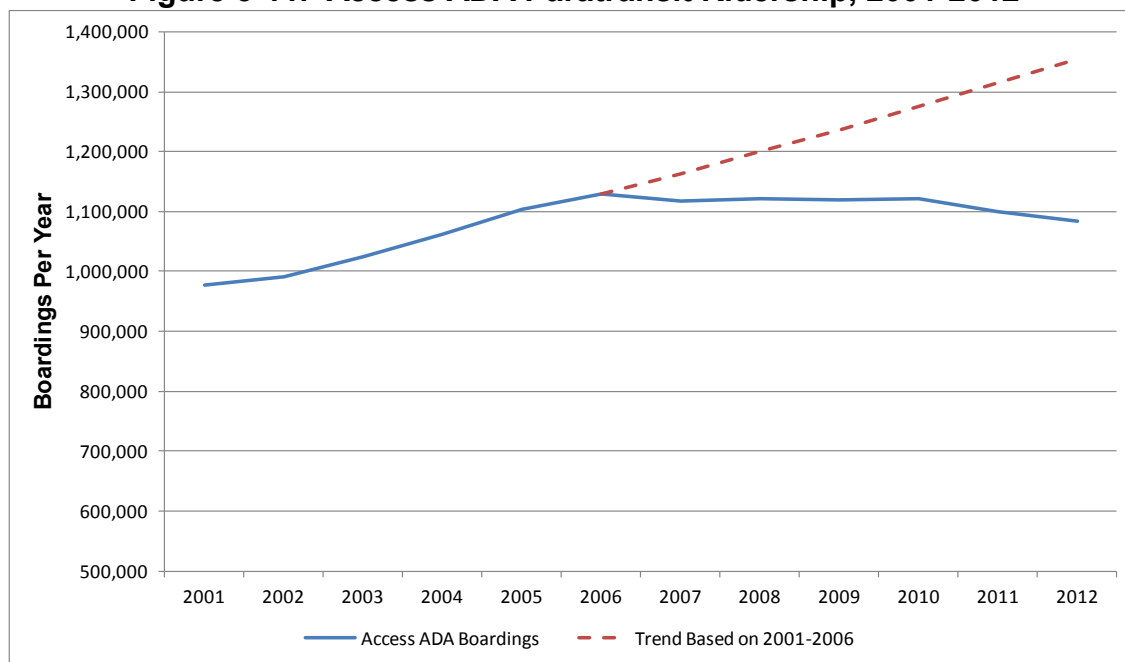
After the 1% decrease in 2007, Access paratransit ridership remained essentially unchanged from 2008 through 2010. In 2011, ridership declined 2%. And in 2012, it declined by 1%.

The many eligibility and service changes between 2006 and 2012 appear to have had an impact on the use of Access paratransit. If the trend experienced from 2001 through 2006 had continued, the expected ridership in 2012 would have been 1,355,352. The actual ridership of 1,084,041 in 2012 is about 20% less than this projection.

## ***Conclusions and Lessons Learned***

Metro has successfully implemented conditional ADA paratransit eligibility and trip-by-trip determinations. Metro staff identified several things that were important to the implementation. These were:

- Developing a range of accessible transportation services and options for riders with disabilities.
- Stressing that the application process is not just about eligibility for the ADA paratransit service, but is also to identify all of the accessible transportation options that can assist individuals with meeting their travel needs.

**Figure 5-11. Access ADA Paratransit Ridership, 2001-2012****Table 5-2. Access ADA Paratransit Ridership, 2001-2012**

Calendar Year	ADA Paratransit Boardings	% Change	Est. Boardings (2001-2006 Trend)
2001	976,707	NA	976,707
2001	991,464	2%	991,464
2003	1,024,491	3%	1,024,491
2004	1,062,092	4%	1,062,092
2005	1,104,480	4%	1,104,480
2006	1,128,496	2%	1,128,496
2007	1,118,400	-1%	1,163,479
2008	1,121,776	0%	1,199,547
2009	1,119,927	0%	1,236,733
2010	1,120,990	0%	1,275,072
2011	1,099,954	-2%	1,314,599
2012	1,084,041	-1%	1,355,352

**Table 5-3. Significant Eligibility and Service Changes by Year**

Year	Changes
2003	First Hyde Shuttle implemented
2006	Increased use of in-person interviews/assessments (from 40% of applicants to 100% of applicants). Started trip eligibility determinations.
2007	Implemented Transportation Resource Center
2007-2012	Expanded Hyde Shuttles and community buses.
2008	Access fare increased from \$0.75 to \$1.00.
2010	Access fare increased from \$1.00 to \$1.25

- Taking every opportunity throughout the process to inform individuals about all accessible transportation services, including sending this information with application materials, telephone follow-up when applications are received, and discussing transportation options during in-person interviews.
- Including in-person interviews and functional assessments in the process so that conditions of eligibility can be accurately and thoroughly determined.
- Setting measurable and specific conditions of eligibility so that they can be applied to trip requests.
- Conducting detailed on-street assessments to identify path-of-travel barriers.
- Not relying on determination letters to communicate conditions of eligibility, but following-up by phone with individuals determined conditionally eligible to explain their conditions and to answer any questions they may have.
- Having a travel training program that can assist riders with the transition to fixed-route transit service.
- Developing and using technology to record pathway and trip eligibility information.
- Customizing trip reservations and scheduling software to review trip eligibility information and provide trip eligibility decisions for reservationists and schedulers.

The impacts of conditional and trip-by-trip eligibility determinations appear to be significant. Prior to implementing conditions of eligibility, Access paratransit ridership was increasing by about 3.1% each year. In each of the six years following implementation of trip-by-trip eligibility, as well as other service changes, ridership has remained constant or has decreased slightly. Access paratransit ridership in 2012 appears to be about 20% less than it would have been if trip-by-trip eligibility and other service changes had not been made. Conditional and trip-by-trip eligibility have not been the only changes that have encouraged greater use of other transit modes, but appear to have played a significant role, in combination with travel training and the development of other accessible transportation options.

## **Port Authority of Allegheny County (PAT) and ACCESS Transportation Systems, Inc., Pittsburgh, PA: Conditional and Trip-by-Trip ADA Paratransit Eligibility Determinations**

### ***Background***

The Port Authority of Allegheny County (PAT) provides public transportation services in Allegheny County, PA, which includes the City of Pittsburgh. PAT's 2011 NTD report lists a service area of 775 square-miles and a service area population of 1,415,244.

PAT provides fixed-route bus, light rail, ADA complementary paratransit, and other demand responsive transportation service. The Authority also operates two historic inclines (funiculars), the Monongahela Incline and the Duquesne Incline. Bus service is provided with a fleet of 700 vehicles. Bus service also includes three bus rapid transit (BRT) busways that range in length from 4.3 to 9.1 miles. The light rail service, known as The T, operates over 26.2 miles of track.

In 2011, PAT provided almost 64 million unlinked passenger trips. This included over 54 million on bus and BRT, almost 7 million on light rail, over 1.7 million ADA paratransit and demand responsive trips, and over 1.1 million trips on the historic inclines.

All of PAT's fixed-route transit services, including the historic inclines, are accessible to riders with disabilities. PAT's fixed-route bus fares range from \$2.50 for a one zone ride to \$3.75 for travel between two zones. A reduced, half fare is paid by riders with Half Fare ID Cards. Individuals with disabilities who have a Half Fare Card can also bring a personal attendant at no charge.

### ***ACCESS Transportation Systems, Inc.***

PAT sponsors and works closely with Access Transportation Systems, Inc. (ACCESS) to provide coordinated demand responsive transportation throughout Allegheny County. ACCESS, a private, for-profit company, was incorporated in 1979 as part of a national Service and Methods Demonstration project that was designed to test the concept of using a broker to provide demand responsive transportation in a large urban area. The company has since grown to become one of the largest and most highly regarded brokers of demand responsive service in the country. ACCESS was recognized with the United We Ride National Leadership Award in 2005 for its work in coordination of human services transportation.

ACCESS provides demand responsive transportation for the general public, but focuses on providing services for seniors, persons with disabilities, and low-income residents of Allegheny County. Any local, regional, or state agencies can purchase services from ACCESS based on a per trip fare structure for different types of demand responsive transportation services. As of January 2012, 140 different agencies and organizations

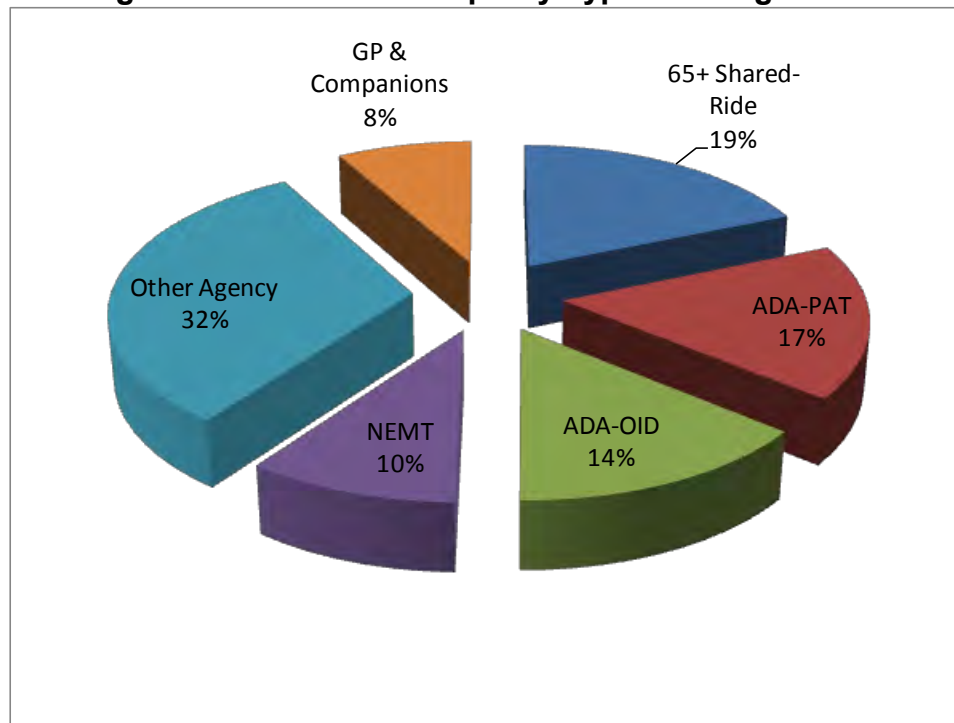
contracted with ACCESS for transportation services. ACCESS provides ADA complementary paratransit service for PAT. Other large contractors include the state Department of Public Welfare (for Non-Emergency Medical Transportation), the state Office of Intellectual Disabilities (for work training and employment transportation), and the state Office of Long-Term Living (for adult day health care and other senior transportation services). Many smaller companies and agencies, including individual assisted living programs, nursing homes, and local and regional senior and disability agencies also purchase transportation through ACCESS.

Pennsylvania is somewhat unique in that it dedicates a large portion of state lottery proceeds for the transportation of persons 65 years and older. State lottery funding is provided to ACCESS through the state Office of Public Transportation. This funding covers 85% of the cost of demand responsive transportation for seniors. Fares and/or local agency funding are used to cover the remaining 15% of the cost per trip.

ACCESS coordinates the provision of about 6,000 rides each weekday, or over 1.7 million one-way trips each year. Table 5-4 and Figure 5-12 show the number of one-way trips provided in FY 2012 (July 1, 2011 through June 2012) by type/funding source. ADA trips funded by PAT (ADA-PAT) accounted for 17% of all trips. Trips by riders who are ADA paratransit eligible, but whose transportation is funded by the Office of Intellectual Disabilities (ADA-OID) accounted for another 14%. Trips for seniors sponsored by the state Shared-Ride lottery program (65+ Shared-Ride) made up 19% of the total. Non-Emergency Medical Transportation (NEMT), paid for by the state Department of Public Welfare, were 10% of the total. Trips sponsored by other human service agencies (Other Agency) were the largest share, making up 32% of the total. And “unaffiliated” trips by general public riders or companions of eligible riders (GP and Companions) were 8% of the total. By coordinating so many types of demand responsive transportation, and utilizing so many sources of funding, PAT only has to fund a relatively small number of ADA paratransit trips with local funding.

**Table 5-4. ACCESS Trips By Type/Funding Source**

	<b>Trips</b>	<b>%</b>
<b>65+ Shared-Ride</b>	330,716	19%
<b>ADA-PAT</b>	304,563	17%
<b>ADA-OID</b>	255,524	14%
<b>NEMT</b>	173,527	10%
<b>Other Agency</b>	561,225	32%
<b>GP &amp; Companions</b>	143,988	8%
<b>TOTAL</b>	<b>1,769,543</b>	<b>100%</b>

**Figure 5-12. ACCESS Trips By Type/Funding Source**

PAT's ADA complementary paratransit service is provided in the required  $\frac{3}{4}$  mile corridors around all fixed routes. The fare for ADA paratransit service is \$3.15 per trip, compared to the fixed-route transit base fare of \$2.50. Until 2012, PAT was able to offer ADA paratransit throughout all of Allegheny County, including areas more than  $\frac{3}{4}$  mile from fixed routes. Due to funding issues in 2012, the service area had to be reduced to regulatory minimums. PAT worked with ACCESS, though, to initiate two new services called Connections and ACCESS Works that continue to provide service beyond the ADA  $\frac{3}{4}$  mile corridors. Connections is funded with New Freedom grant monies, and ACCESS Works is funded with JARC grant monies.

ACCESS is an "administrative transportation broker." This means that it does not operate vehicles, but instead contracts with transportation companies for the delivery of service. Because ACCESS does not operate its own vehicles, it can remain objective and unbiased in the way that it assigns trips to contracted service providers. This is a fundamental principal behind successful administrative brokerages. Experience and general wisdom suggests that if a broker also operates its own vehicles, it could keep and deliver the most lucrative trips itself, and contract with others for less profitable trips. Even if the broker does not operate in this way, there could be the perception that it is assigning trips unfairly.

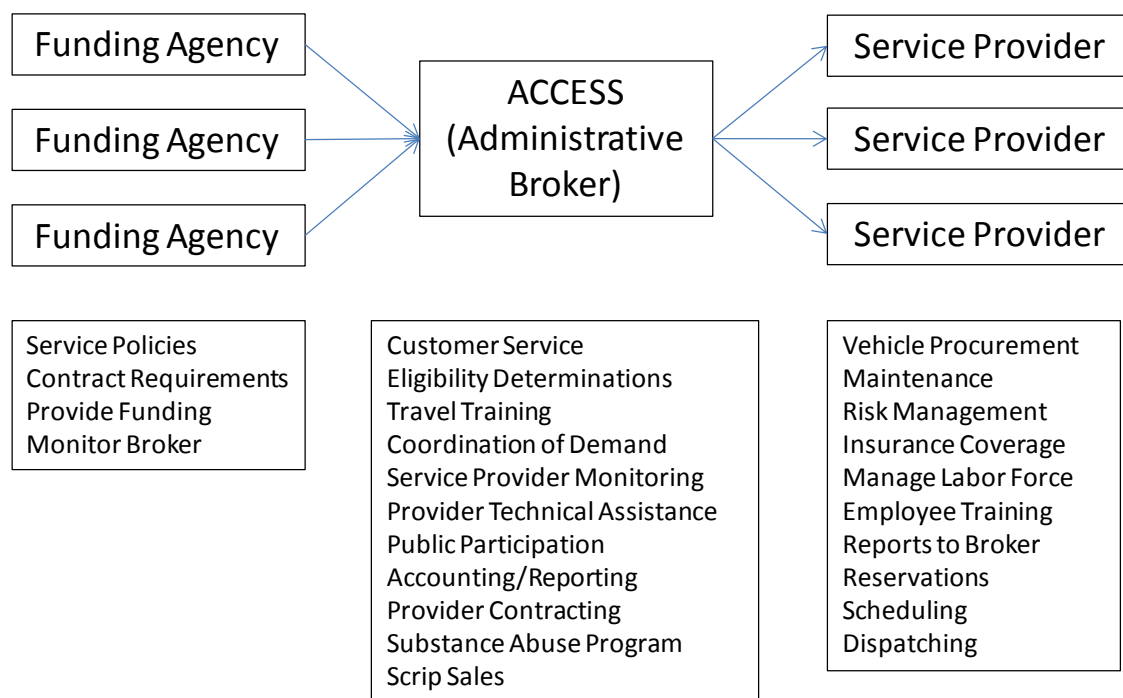
Figure 5-13 illustrates how ACCESS coordinates transportation and the administrative broker design concept. Funding agencies are responsible for setting program policies and requirements. They then define these in contracts with ACCESS. Agencies fund



the services they request from ACCESS and are responsible for monitoring ACCESS' overall performance and contract compliance.

ACCESS, as the administrative broker, procures services through contracts with service providers. ACCESS monitors the performance of the service providers and provides financial and service reports required by each funding agency. ACCESS also handles customer service—rider comments and complaint investigation. It also determines eligibility for services as defined by each funding agency. To the maximum extent appropriate, ACCESS coordinates the transportation demand and develops opportunities for ride-sharing and trip grouping through its assignment of services to the contracted service providers. ACCESS also works with contracted service providers to improve service quality and efficiency as needed. To help make service delivery cost-effective, ACCESS develops collaborative programs where appropriate—such as a combined substance abuse program that all service providers participate in. And as needed and requested by the funding agencies, ACCESS provides other services, such as travel training for riders, the management of scrip programs and sales, and public input and participation.

**Figure 5-13. Illustration of Administrative Broker**



Service providers do reservations, scheduling and dispatching. For programs where riders call in to schedule trips (such as the ADA paratransit and 65+ Shared-Ride services), the area is divided into service zones and riders call the provider assigned to serve the zone in which they want to travel. The service provider for the zone where trips originate is responsible for handling both legs of the trip, and for trips to and from other zones. Service providers also are responsible for managing and training their workforce and maintaining an adequate workforce to meet the demand. In the

ACCESS brokerage model, service providers are also responsible for purchasing and maintaining their own vehicles. Finally, service providers do trip reconciliation and generate reports required by ACCESS.

Service is provided on a shared-ride basis and riders' trips are coordinated and combined whenever appropriate to achieve the lowest possible cost. ACCESS contracts with eight service providers for the delivery of transportation. Six of the eight are locally-owned small businesses. Two are local taxicab companies. Altogether, the eight providers operate a combined fleet of 430 vehicles. The fleet includes a mix of body-on-chassis minibuses, vans and sedans.

ACCESS staff noted that a key to being able to successfully coordinate so many types of trips under so many funding sources is the unification of service policies and performance standards. Even if funding sources do not specifically require it, ACCESS applies very highest standards, typically set by ADA paratransit requirements, to all its demand responsive services. To the extent possible, it also works with funding agencies to standardize key operating policies, such as on-time performance windows, vehicle wait times, and rider assistance policies. This way, service provider contracts can be simplified and all vehicles and drivers can operate in a similar way to maximize ride sharing and grouping.

The ACCESS brokerage is quite efficient and cost-effective. The overall service operates at a 2.61 productivity (trips per vehicle-revenue-hour). Average operating cost per trip was only \$20.76 in 2011 (based on 2011 NTD data). ACCESS administrative costs are only 5.5% of total operating costs. And service quality is quite good—the on-time performance (counting both pickups and drop-offs) for January 2013 was 95.5%.

ACCESS pays its providers by the vehicle-revenue-hour rather than by the trip. This tends to support high quality service since providers are less tempted to overload schedules to increase profits. To ensure that providers do not “pad” their vehicle hours to increase income, ACCESS sets productivity goals for each service provider based on the mix of trips assigned. The productivity standards are based on past operating experience and are designed to require efficiency while still allowing high quality standards to be met. Service providers agree to these productivity goals as part of their contracts and these goals are then used to calculate the number of vehicle-hours required for the number of trips assigned. At the end of each month, service providers are paid for the number of vehicle-revenue-hours operated, but they are then assessed a productivity disincentive that is equal to the cost of the additional hours of service in excess of the number they would have provided if they met their productivity goals.

ACCESS staff noted that another key for keeping costs low is not relying on contract disincentives to ensure service quality. Instead of assessing disincentives for substandard on-time performance, or excessively long ride times, trips are simply reassigned from non-performing to performing providers. If a service provider is not meeting performance standards, trips are reassigned to other providers who are meeting or exceeding standards. This is not just a possibility, but is actively pursued by

ACCESS. As a consequence, providers have a significant incentive to meet service performance standards.

Staff also noted that the administrative broker model requires a strong local service provider network. While ACCESS sets very high standards for service quality and efficiency, its goal is to work cooperatively with service providers to meet these goals. If a service provider is under-performing and losing business as a result, ACCESS will work with the provider to evaluate service delivery issues and to implement solutions to any identified problems. The goal is to develop strong and competent service providers, rather than to cancel contracts or otherwise penalize and hurt these companies.

ACCESS itself is paid on a cost-plus basis. The agency negotiates an operating budget each year. This budget is reviewed with and approved by participating agencies. ACCESS then allocates its operating costs to participating agencies and is paid 1/12 of the agreed upon allocated cost each month.

### ***ADA Paratransit Eligibility Determination Process***

As noted above, one of the services provided by ACCESS, as the administrative broker, is determination of eligibility in accordance with funding agency requirements. This includes ADA paratransit eligibility determinations for PAT's ADA paratransit service. ACCESS also assists the state Department of Public Welfare in determining if Non-Emergency Medical Transportation can be provided by fixed-route transit.

A review of the process for determining ADA paratransit eligibility was conducted in February 2013. The review focused on the use of conditional eligibility and trip-by-trip eligibility determinations.

Individuals with disabilities who are interested in PAT's ADA paratransit service are directed to call ACCESS. When individuals call, ACCESS customer service staff provide information about ADA paratransit and the criteria for eligibility. If callers feel they would qualify for the service, they are sent an application packet. The packet includes a brochure describing ADA paratransit and ADA paratransit eligibility, a cover letter explaining the application process, and an application form.

ACCESS has developed two different application forms. The general form is for individuals with physical, intellectual, psychiatric disabilities, or seizure conditions. A separate form is sent to individuals whose primary disability is visual. The application form for persons with vision disabilities requests information relevant to that type of disability, which is significantly different from issues for other types of disabilities. When individuals first call to inquire about ADA paratransit, customer service staff obtain information about primary disabilities and then sent the appropriate application form.

The general application is 12 pages long. It requests information about types of disabilities or health conditions, mobility aids used, functional abilities to perform tasks required to use fixed-route transit services, and the impacts of weather and physical

barriers on the ability to travel. Included in the application is a release of information form. Applicants are asked to sign this form and to include the name of a professional in the form who can be contacted for further information about the applicant's disability and functional ability. A wide range of professional can be identified, as long as they have access to information about the applicants' disability and can provide information about relevant functional ability. There is no professional verification form that must be signed by a professional, but individuals are encouraged to include some type of verification of disability along with the completed application form.

When application forms are received, they are reviewed by ACCESS staff for completeness. Applications that are missing key information (e.g., not signed or largely incomplete) are returned with instructions on what additional information to provide. If minor information is missing, this is obtained when follow-up contact is made, or during the in-person interviews.

If applications are complete, staff call individuals to set-up interview and assessment appointments. Calls are made no more than one day after completed applications are received and interviews are offered within two weeks. ACCESS staff consider information in the application forms, as well as additional information obtained during the follow-up call to schedule appropriate assessments, which can include a physical assessment and/or a cognitive assessment. ACCESS staff also provides important information about the interviews and assessments, such as letting applicants know that they may be asked to go outdoors and should dress appropriately, and the need to come with the mobility aid or aids typically used when traveling in the community. The need for transportation to and from the interviews is also discussed, and transportation is arranged free of charge on the ADA paratransit service if needed.

All applicants are asked to participate in in-person interviews. Physical and cognitive assessments are conducted as needed. Interviews are conducted by ACCESS staff at the agency's offices in downtown Pittsburgh. ACCESS staff is also trained to administer the Functional Assessment of Cognitive Transportation Skills (FACTS) assessment, which is used as appropriate for applicants with intellectual disabilities (see Figure 5-14).<sup>6</sup>



**Figure 5-14. FACTS Test Being Administered**  
(Photo courtesy of TranSystems Corp.)

<sup>6</sup> The FACTS assessment was developed by Easter Seals Project ACTION and, as of the preparation of this report, was the only tool for specifically assessing the functional abilities of persons to use transit services that has been validated through a rigorous scientific process.

If physical functional assessments are appropriate, they are conducted by physical therapists employed by Easter Seals of Western Pennsylvania. The assessments are performed immediately following the interviews at the same location—the ACCESS offices. Whenever possible, the physical assessments are conducted in the real environment. Before the outdoor portion of the assessment, therapists conduct a brief additional interview, review application information, and conduct Tinetti Balance and Gait tests to decide if going outdoors is appropriate. Therapists then take applicants on a walk in downtown Pittsburgh



**Figure 5-15. Part of Outdoor Physical Functional Assessment** (*photo courtesy of ACCESS Transportation*)

(see Figure 5-15). The walk includes crossing two types of streets—some with controls and some without controls. The walking course also includes curbs, curb ramps, and uneven and broken sidewalks. The course is  $\frac{1}{2}$  mile long and is designed to allow applicants to return to the ACCESS office at several points so that the assessment can be discontinued as appropriate. Physical therapists record observations along the way, such as the time required to travel each 330' segment of the course, any breaks taken, walking speeds when crossing streets, and ability to manage street crossings, curbs, curb ramps and various types of surfaces and terrain. Other observations, such as gait and balance, any shortness of breath, and other signs of pain or distress, are also recorded. At the conclusion of the assessment, therapists summarize their observations on the assessment forms.

Completed assessment forms are then provided to the ACCESS eligibility staff that conducted the initial interviews. This staff considers the information provided in the application form, the interviews, and any functional assessments conducted. If there are still questions about eligibility, this staff will also follow-up with professionals identified by applicants and will request additional information from these professionals.

Applicants with cognitive disabilities are asked, as appropriate, to participate in a cognitive functional assessment. As noted above, ACCESS uses the FACTS assessment tool for applicants with intellectual disabilities. ACCESS also uses the Mini Mental Status Exam (MMSE) for applicants with certain other types of cognitive disabilities. The MMSE is administered by ACCESS staff.

Applicants with low vision, but who are not legally blind, are asked to participate in the physical functional assessment. Their abilities to travel the walking course are noted.

Applicants who are legally blind are not asked to participate in functional assessments. Eligibility decisions for these applicants are made based on information in the application forms, documentation of disability provided by applicants or identified professionals, and follow-up information with professionals as needed.

Similarly, determinations for applicants with psychiatric or seizure disabilities are also based on information from applicants (the application form and interview) together with verification and follow-up information from identified professionals. These applicants are not asked to participate in functional assessments, unless they also have physical or cognitive disabilities.

During the interviews, ACCESS staff provide information about other types of programs and services, as appropriate. Information is provided about accessible fixed-route transit services, the 65+ Shared-Ride program, and other sponsored transportation services. Information obtained as part of the ADA paratransit application process is used to qualify individuals for these other programs when appropriate. Individuals are provided eligibility for multiple programs if they qualify.

Information is also provided about travel training services. ACCESS works with local organizations that provide travel training and makes referrals as appropriate.

Final decisions about eligibility for ADA paratransit service, as well as other available services, is communicated in writing to applicants following the interviews and assessments. Letters are prepared and sent by ACCESS staff. Individuals granted eligibility are also sent appropriate rider information such as rider guides.

ADA paratransit eligibility is typically granted for a period of three years, after which riders must reapply and have their eligibility recertified. A simplified recertification process is used for riders who are unconditionally eligible and whose functional abilities are not likely to improve over time (even with different mobility aids). The simplified recertification process includes a brief application form and does not include additional in-person interviews or functional assessments.

Applicants who are found not eligible, or whose eligibility is limited, are notified of their right to appeal. ACCESS has a five-person appeal panel that includes an Orientation and Mobility (O&M) Specialist, a rehabilitation professional, an Occupational Therapist (OT), a psychologist, and a member of their advisory board who uses both fixed-route transit and ADA paratransit services. When requests for appeals are received, the panel is sent the full eligibility file. After reviewing the file, the panel can vote to overturn the original decision. If the panel unanimously votes to make the person unconditionally eligible, the appellant is notified and there is no need for an appeal hearing. If the panel does not vote unanimously to make the person unconditionally eligible, the appellant is invited to either meet in person with the most appropriate professional (e.g., O&M Specialist for appellants who have vision disabilities, rehabilitation professional or OT for appellants with physical disabilities, etc.), or to send in additional information to be considered by the panel. ACCESS has established a goal of making final appeal



decisions within 30 days of the receipt of requests for appeals. This exceeds the ADA requirements which call for appeals to be decided within 30 days of appeal hearings.

### ***Process Statistics and Outcomes***

As of February 2013, there were 4,397 individuals registered with ACCESS as eligible for PAT ADA paratransit service. In calendar year 2012, ACCESS received 731 application forms for ADA paratransit eligibility. Of these, 173 individuals did not follow through with scheduling in-person interviews—they either cancelled or no-showed interview appointments. A total of 556 individuals participated in interviews and/or assessments and completed the application process. This is a relatively low number of applications per year and total ADA paratransit eligible individuals for a service area population of 1.4 million, and reflects the fact that many people opt to utilize one of the other transportation services coordinated by ACCESS rather than apply for ADA paratransit eligibility. Use of other services, rather than ADA paratransit, is common since many of the other transportation services are free of charge or have fares that are lower than the ADA paratransit fare.

In CY 2012, ADA paratransit eligibility determinations were made for the 556 individuals who completed the application process. Outcomes were:

- 295 fully (unconditionally) eligible (53%)
- 138 conditionally eligible (25%)
- 41 eligible for temporary service (7%)
- 82 not eligible (15%)

ACCESS staff noted that the 15% not eligible rate was higher in CY 2012 than in past years because of significant reductions in the fixed-route transit service in more rural parts of Allegheny County. Many individuals applied in 2012 more because of the lack of any bus service rather than an inability to use fixed-route transit. Prior to the cutbacks in fixed-route transit service, ACCESS staff noted that about 7% of applicants were typically found not eligible.

Thirty-six (36) applicants found not eligible or conditionally eligible in CY 2012 requested appeals. Twenty-nine (29) determinations were upheld by the appeal panel and 7 (19.5%) were changed. The seven determinations that were changed included granting some level of eligibility to individuals initially found not eligible, as well as adding one or more conditions to the eligibility of individuals initially found conditionally eligible.

### **Process Costs**

ACCESS has developed a very cost-effective approach to ADA paratransit eligibility determinations. In keeping with the cooperative working relationship that ACCESS has with disability organizations in the area, Easter Seals of Western Pennsylvania provides two physical therapists for physical functional assessments at cost. Easter Seals bills

ACCESS the actual per hour pay rate for the two therapists. The two therapists work out of the ACCESS office, so Easter Seals does not add any overhead fee.

In CY 2012, the total cost of therapists' time billed by Easter Seals for PAT ADA paratransit eligibility determinations was \$10,489. A total of 369 physical functional assessments were conducted, for an average cost of about \$28.42 per physical functional assessment. ACCESS' direct costs included 1.0 FTEs at \$20 per hour, plus 71% overhead, plus 10% fee (or \$78,249). The total cost for making 556 eligibility determinations for PAT in CY 2012 was therefore \$88,738, for an average of \$159.60 per completed determination.

### ***Conditional and Trip-By-Trip Eligibility***

ACCESS is considered a pioneer in applying conditional and trip-by-trip eligibility. The agency began providing conditional eligibility to riders who could sometimes use fixed-route transit services in 1995. Conditions of eligibility have been applied and trip-by-trip eligibility decisions made since July 1, 2003. ACCESS has applied conditions of eligibility to all trips, not just subscription or frequently made trips since 2003. There is no standard list of conditions that apply to eligibility. The conditions are established based on individual rider abilities.

A significant public input process was undertaken before trip-by-trip eligibility determinations were implemented. This included several large community informational meetings, as well as small group meetings with riders to explain how the process would work. ACCESS also has a regular newsletter. Information about conditional and trip-by-trip eligibility was the focus of several newsletters during the time the process was being discussed.

Initially, some riders were not pleased with the idea of trip eligibility. In the end, though, key advocates in the community, who supported the idea of integrated transportation and maximizing use of the fixed-route transit service, convinced others in the community to support the policy. The community did request that ACCESS not implement trip eligibility until all PAT fixed-route transit services were 100% accessible. This way, trip eligibility would be applied fairly to all riders, regardless of the type of disability. The community also requested that trip eligibility be applied to all trips, rather than just subscription trips or the most frequently made trips—again for fairness reasons. In total, the policy was debated over a two year period, and ACCESS waited until 2003, when all PAT services became fully accessible, to implement the process.

Another key to gaining public support was the introduction of a "convenience fare." Riders argued that even though trips might be able to be made on fixed-route transit, there may be important reasons why they might prefer to make trips by paratransit. They recognized, though, that these would not be ADA eligible trips. So, it was agreed that these trips would be subject to a higher fare. This convenience fare was set with community input at twice the regular ADA paratransit fare (currently \$6.30 rather than \$3.15). ACCESS and PAT agreed to hold the convenience fare at this price subject to



available funding. It was agreed that the fare would be increased if demand for convenience rides was too high and could not be funded. Since its adoption in 2003, riders have been responsible in using the convenience fare option. In FY 2012, a total of 558,332 ADA paratransit eligible trips were provided. Only 32,837 convenience fare rides were requested, about 5.6% of the total ADA plus convenience trips.

From 2003 to 2007, ACCESS implemented trip-by-trip eligibility determinations without any special software or technology. As trips by conditionally eligible riders were requested, the origins, destinations and names of the riders were recorded and added to a list of trips that needed to be reviewed. Customer service staff took one trip at a time, looked up the rider's specific conditions, and conducted a review to determine if the trip requested could be made by fixed-route transit. Until trips were reviewed and decisions about their eligibility made, the trips were considered presumptively eligible. Once trips were reviewed, the decisions about eligibility were recorded for each conditionally eligible rider. If it was found that trips could be made by fixed-route transit, riders were contacted by phone by customer service staff. Detailed instructions for making the trip by fixed-route transit were provided. Applicable bus schedules and instructions were also prepared and mailed to riders. ACCESS also offered riders the option of having a staff person go with them on the first trip. This personal contact was made before trip eligibility decisions started to be made in reservations. This way, riders knew the eligibility of trips even before they called to request rides. As noted above, they could still request rides under the convenience fare option, but they knew in advance which trips qualify as ADA eligible at the lower fare and which required paying the higher convenience fare.

In some cases, the reviews could be conducted by simply looking up readily available information about the trips. For example, if a rider's only condition was that she could not make a trip by fixed-route transit if it involved a transfer, the staff person only needed to consult the PAT trip planner to see if the trip could be made by fixed-route transit without a transfer. Or, if the only condition was that the rider could only walk three blocks to get to or from fixed-route stops, the staff person could again consult the trip planner as well as a computer mapping program to see how far the origin and destination were from stops that would be used to make the trip.

Other reviews took more effort. If the rider's conditions included path-of-travel issues, such as steep terrain, a lack of curb cuts, a lack of sidewalk, or uneven surfaces, the staff person needed to go out on the street and evaluate the path-of-travel to and from stops first-hand.

Weather and time of day conditions were handled in reservations. These included heat and cold, snow and ice, and dusk to dawn conditions. ACCESS provided information about predicted weather to each service provider. Each provider was required to post the predicted weather in their reservations area. Reservationists then considered these predicted conditions when trip requests were received from riders with conditional eligibility. ACCESS worked with riders and its advisory board to establish a policy for handling these types of conditions. Riders with weather and time of day conditions

were asked to call one day in advance to place trip requests. It was agreed that the National Weather Service (NWS) would be used, since it was readily available by phone, online, and on the radio and was updated several times each day. If the NWS predicted a 30% or greater chance that the particular weather condition would exist, the ride was made eligible. If that weather condition did not materialize, the ride was still provided. And if a trip was not approved and the weather turned out to be worse than predicted, riders with weather conditions were allowed to call and request same-day rides. ACCESS staff reported that the NWS proved to be surprisingly reliable and that weather related conditions of eligibility turned out to be some of the easiest to apply. The number of same-day trips that needed to be provided because of incorrect NWS forecasts was very small and very manageable. Same-day trips because of unpredicted snow and ice proved to be easy to accommodate since many other riders tended to cancel trips on those days, creating slack time in the schedules.

Trip requests by riders with “good day/bad day” conditions, meaning their abilities to use fixed-route transit could change each day, were not reviewed. Riders were simply allowed to place trip requests and these requests were booked.

In the initial years of implementation, ACCESS created manual recordkeeping systems to manage trip eligibility information. This included street information binders for various sections of the service area, which were used to record the accessibility of street segments. It also included a catalog of conditionally eligible riders, with decisions about their prior trip requests.

In the first few years of implementation, ACCESS indicated that about 0.5 FTE of customer service staff time was spent reviewing trip eligibility and accompanying riders the first time they used fixed-route transit. Over time, the amount of staff effort required decreased as many of the trips made by conditionally eligible riders were already reviewed. As records of path-of-travel barriers were developed, staff could also consult these records rather than going out to review street segments that had not yet been evaluated. Once the path-of-travel from a rider’s home to the nearest bus stop was reviewed, decisions about future trips that originated at the home only required an evaluation of the path-of-travel from the alighting stop to the destination.

In 2012, few new trips by existing conditional riders had to be reviewed. Most time is spent reviewing trips requested by newly certified conditional riders. ACCESS managers estimated that only about 1.5 hours per day was spent by customer service staff in 2012 to review trip requests from conditionally eligible riders.

While it was possible to do trip-by-trip eligibility with manual records, ACCESS staff indicated that there were some problems. Initially, riders complained that not enough information was provided when trips were determined able to be made by fixed-route transit. This was addressed by stressing the need for better communications about trip decisions. The decentralized service delivery design also presented challenges. With eight different providers and reservations centers, there were inconsistencies in the

application of trip eligibility procedures. ACCESS had to regularly audit trip bookings by conditionally eligible riders to improve consistency.

In 2007, ACCESS developed software to assist with trip-by-trip eligibility determinations. The software was developed with a local information technology company, and also includes reservations, scheduling and dispatch capabilities. The software has been adopted by all of ACCESS's dedicated service providers.

A trip eligibility file is set up for all riders who are conditionally eligible. The file contains detailed information about their conditions of eligibility. It also notes the fixed-route bus stop nearest the home and whether the rider is able to get to that stop—determined through interviews and on-street assessments as needed. Knowing whether riders can get to and from the nearest bus stop is then helpful for doing trip eligibility reviews for any trips that start or end at the home.

The eligibility file also includes the results of trip reviews. Riders indicate in the ADA paratransit application form their three most common trips. These are reviewed as part of the initial eligibility determination and riders are informed in determination letters, as well as through personal phone contacts, whether these trips can be made by fixed-route transit. The results of the review of these three most common trips are also entered into the trip file. As additional trips are requested and reviewed, they are also added to the file. The lower ADA paratransit fare is linked to trips that are determined not possible by fixed-route transit. The higher convenience fare is linked to trips that are determined able to be made by fixed-route transit. A screen print of a sample trip eligibility file is shown as Figure 5-16.

When riders call and request trips, the software system compares the origin and destination of the trip being requested to trips in the rider's eligibility file. If the information in the file indicates that the trip is ADA paratransit eligible, the system populates the fare field on the trip booking screen with the ADA paratransit fare. This lets the reservationist know that the trip is paratransit eligible. The system also tags the trip with the code for why the trip cannot be made by fixed-route transit using standardized conditional trip eligibility codes (e.g., "8 – Route Not Accessible"). If the trip eligibility file indicates that the trip can be made by fixed-route transit, the system enters the convenience fare into the fare field in the trip booking screen, letting the reservationist know that the trip is not ADA paratransit eligible but can still be taken if the rider elects to pay the higher fare. If the trip being requested is not in the trip eligibility file (a new request or a trip that has not yet been evaluated), the system considers the trip presumptively ADA paratransit eligible.

With the new software system, ACCESS handles weather and time of day issues as follows: At the time of trip bookings, the software does not consider weather or time of day issues. Trip requests by riders with these types of conditions are booked only considering other types of possible barriers. One day before the day of service, ACCESS staff reviews all trips that are booked with weather or time of day eligibility

Figure 5-16. Screenprint of Sample ACCESS Trip Eligibility File (screenprint courtesy of ACCESS Transportation)

Summary Information:

Mobility Aids	Accounts	Addresses	Phone Numbers
Walker	GE	1600 Rosedale St Zone 177	ChCell (412) 877-5460
WC-Power	GEc		ChEmerg (412) 628-2587
	GEc		ChHome (412) 829-2371
	GEc		

Created By: ACCESS Created Date: 3/29/2008 Updated By: rlbaich Updated Date: 5/16/2012

**TRIP INQUIRY**

ADDRESSES	MOBILITY	LOCATIONS	NOTES	COND. TRIPS	ACCOUNTS	PHONE #'S	STANDING ORDERS	ELIG. MGMT	MISC	EPURSE	CORRESPONDENCE	OWES TIX	
99 - No bus within 3/4 mile - not feeder candidate								Yes	1600 Rosedale St	177	1032 Broadway St	177	biherman 02/27/2012
0 - General			Home Router P76; / Home Inbound Stop: "GREENSBURG PIKE OPP BOWLING ALLEY" (0.15) / Home Ou...					Yes					ACCESS 04/10/2012
99 - No bus within 3/4 mile - not feeder candidate								Yes	1600 Rosedale St	177	2570 Haymaker Rd	140	biherman 04/17/2012 biherman 02/15/2013
5 - Terrain			Too short to double feed, 5.2 miles. No sidewalks at destination					Yes	1600 Rosedale St	177	2500 Mc Crady Rd	121	biherman 04/19/2012
99 - No bus within 3/4 mile - not feeder candidate								Yes	1600 Rosedale St	177	2380 McGinley Rd	140	biherman 07/26/2012 biherman 02/15/2013
99 - No bus within 3/4 mile - not feeder candidate								Yes	1600 Rosedale St	177	2420 Moss Side Blvd	139	biherman 08/08/2012 biherman 02/15/2013
99 - No bus within 3/4 mile - not feeder candidate								Yes	1600 Rosedale St	177	2580 Haymaker	140	biherman 08/16/2012 biherman 02/15/2013
5 - Terrain			Too short to feed 2.7 miles. berm of road					Yes	1600 Rosedale St	177	1916 Lincoln Hwy	177	biherman 08/29/2012 biherman 02/15/2013
88 - Convenience			Can use bus Feed to Walmart 59/59					Yes	1600 Rosedale St	177	101 6th St	110	biherman 09/27/2012 biherman 02/15/2013
5 - Terrain			Too short to double feed 5.1 miles, berm					Yes	101 Mall Blvd	137	1600 Rosedale St	177	biherman 10/01/2012 biherman 02/15/2013
88 - Convenience			Able to ride bus 61C to McKeesport Transportation Center Feed to destination					No	719 Liberty Ave	110	1600 Rosedale St	177	biherman 11/15/2012 biherman 02/15/2013
5 - Terrain			5.6 miles Too short to dble feed Berm					Yes	1600 Rosedale St	177	699 Rodi Rd	121	jlmcormick 12/06/2012 biherman 02/15/2013
5 - Terrain			WHEN USING WALKER					No					biherman 12/29/2012
5 - Terrain			Too short to double feed-Berm of road 9.2 miles					Yes	1600 Rosedale St	177	250 Aster St	122	biherman 01/08/2013 biherman 02/15/2013

**SAVE CANCEL**

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codes. If the predicted weather or time of day will not prevent travel, riders are contacted and informed the trip can either be taken on fixed-route transit or on paratransit at the convenience fare. ACCESS staff noted that very few calls typically have to be made. Weather and time of day issues are often not the only conditions that affect travel.

ACCESS is considering upgrades to the software system to avoid call-backs, though. In the future, ACCESS plans to have the system link to the National Weather Service so that predicted weather can be considered during the trip booking process. Adding information about hours of dawn and dusk is also being considered so that this issue can be automatically considered.

### ***Using Trip Review Information to Improve Community Accessibility***

ACCESS tracks trips provided to conditionally-eligible riders. There are 12 general categories into which trips by conditionally-eligible riders are placed (see Appendix F). As noted earlier, actual conditions are specific to each individual and are much more detailed than these general categories. For example, trips by individuals who have as one of their conditions of eligibility that they are eligible for ADA paratransit if they must “cross streets that are more than two lanes wide with quickly moving traffic,” or when they must cross “intersections with no traffic controls,” or when they must cross “wide open parking lots with no detectable path” are included under the general category of “Dangerous Traffic.” Similarly, the general category of “Route Not Accessible” includes trips by individuals who use ADA paratransit because of the lack of curb ramps, uneven sidewalks, or lack of sidewalks. And the general category “Difficult Terrain” includes trips provided on ADA paratransit because travel by fixed-route transit was prevented by steep hills. Trips by individuals who have as one of their conditions that they can use ADA paratransit if the “distance to or from the bus stop is more than XX blocks” are also included in the “Difficult Terrain” category.

Trips are categorized based on the primary barrier that prevents use of fixed-route transit. For example, if a rider’s use of fixed-route transit is affected by the lack of sidewalks as well as by hot temperatures, and there are no sidewalks from her origin to the closest bus stops, the trip would be placed under the “Route Not Accessible” category since she would always be prevented from making this trip, regardless of the temperature.

Table 5-5 shows the number of full fare trips provided by ACCESS to conditionally-eligible riders in FY 2012 by trip eligibility category.<sup>7</sup> Also shown are trips provided to riders who live outside the ¾ mile corridors that define the ADA paratransit service area (“Base Plus Rides”) which are counted by ACCESS as “conditional” trips, but are not percentage calculations, as are rides provided to out-of-town visitors, since these are also not rides granted based on conditions of eligibility.

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<sup>7</sup> Trips provided to conditionally-eligible riders at the higher convenience fare are only tracked as “convenience Fare” trips and not also by type of primary barrier.

Table 5-5. Trips Provided to Conditionally-Eligible Riders in FY 2012

Types of Conditions	2011						2012						TOTALS	% of TOTAL
	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun		
Base Plus Rides (1)	1220	1293	1235	1403	1251	1059	1196	1329	1434	1165	1294	1188	15067	
Conditional-Feeder	201	267	217	184	201	205	193	192	212	207	227	199	2505	5.6%
Other Conditional:													0	
01 - Dangerous Traffic	646	670	696	629	636	590	648	700	699	595	658	695	7862	17.6%
02 - Requires Transfer	985	1074	1118	1158	1119	1109	1006	1098	1219	1189	1145	1069	13289	29.8%
03 - Temperature Sensitivity	209	66	32	32	93	548	661	546	159	82	66	126	2620	5.9%
04 - Weakness After Treatment	130	130	122	125	131	147	137	134	116	114	101	110	1497	3.4%
05 - Difficult Terrain	919	1031	1005	1097	1046	1071	994	1075	1172	1202	1283	1195	13090	29.3%
06 - Not Trained To Destination	84	95	88	58	33	26	18	16	10	4	14	18	464	1.0%
07 - Good Day/Bad Day	47	57	53	60	46	56	45	54	55	48	58	40	619	1.4%
08 - Route Not Accessible	73	70	45	70	81	92	50	54	59	58	73	54	779	1.7%
09 - Presumptive Eligibility	78	134	93	81	94	91	91	102	102	46	40	32	984	2.2%
10 - Snow/Ice	0	0	0	0	0	7	192	117	1	1	0	0	318	0.7%
11 - Out of Town Visitor	11	56	2	12	3	6	2	13	0	4	4	0	113	
12 - Dawn-Dusk	9	21	30	49	70	106	112	90	52	30	23	18	610	1.4%
Subtotal-Conditional (Excl. Base Plus and "11")	3381	3615	3499	3543	3550	4048	4147	4178	3856	3576	3688	3556	44637	100.0%
TOTALS	4612	4964	4736	4958	4804	5113	5345	5520	5290	4745	4986	4744	59817	

(1) Trips that are outside of the 3/4 mile corridors that define the ADA paratransit service area

As shown, a high percentage of trips (29.8%) are provided to conditionally-eligible riders who cannot use fixed-route transit because the trips they need to make require transfers. A similarly high percentage of trips (29.3%) are provided because of “Difficult Terrain.” This includes steep hills, of which there are many in Pittsburgh, as well as fixed-route stops/stations that are located beyond the maximum walking distance of riders. The third most common reason that ADA paratransit is required is “Dangerous Traffic,” which includes streets that are wider than riders can manage, or intersections that cannot be safely crossed due to their design or lack of controls.

It is interesting to note that weather conditions, both snow/ice as well as hot or cold temperatures, are not among the most common reasons why trips cannot be made by fixed-route transit in Allegheny County. Weather related issues were the primary reasons for trip eligibility only 6.6% of the time (5.7% for temperatures and 0.7% for snow/ice). While weather certainly is a condition for more than 6.6% of conditionally-eligible riders, other issues such as physical barriers, long walking distances, or street/intersection related issues are the primary barriers to fixed-route transit use.<sup>8</sup>

One of the reasons ACCESS tracks trips provided to conditionally-eligible riders is to identify opportunities to facilitate greater use of fixed-route transit. ACCESS can identify the trips prevented from being made on fixed-route transit due to a lack of intersection controls, or the lack of sidewalks or curb ramps. This information can then be provided to local communities and can be used to advocate for accessibility improvements. Similarly, ACCESS can identify trips that cannot be made because of inaccessible bus stops (included under the “Route Not Accessible” category) and can provide this information to PAT.

### ***Trip-by-Trip Eligibility Review Statistics, Costs, and Savings***

All trips requested by conditionally eligible riders are screened by ACCESS staff using the software system. If trips are determined able to be made by fixed-route transit, riders can choose to still book the trip at the higher convenience fare. If riders elect not to pay the convenience fare, trips are not scheduled on ADA paratransit. Riders then must make the trip by fixed-route transit or by some other means.

ACCESS tracks the number of trips made by conditionally eligible riders at the regular fare (trips determined ADA paratransit eligible) as well as the number of trips taken at the convenience fare (trips determined not ADA paratransit). However, ACCESS does not track the number of trips requested by conditionally eligible riders who decide not to pay the higher fare and therefore do not make the trips by ADA paratransit.

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<sup>8</sup> It should be noted that there was unusually little snow in Pittsburgh during the 2011/2012 winter season.

Table 5-6 shows ADA paratransit trips for FY 2012 by type of rider eligibility. Detail on the number of trips taken by conditionally eligible riders, both at the regular fare and at the convenience fare, is also provided.

**Table 5-6. Paratransit Trips By Rider Eligibility and Fare Type, FY 2012**

<b>Rider Eligibility</b>	<b>One-Way Trips</b>	<b>% of Total</b>
Unconditional	242,630	75.3%
Conditional	77,476	24.0%
<i>Regular Fare</i>	44,639	13.8%
<i>Convenience Fare</i>	32,837	10.2%
Temporary	2,114	0.7%
<b>Totals</b>	<b>322,220</b>	<b>100%</b>

As shown, a total of 77,476 trips were provided to riders who were conditionally eligible for ADA paratransit service. All of these trips were reviewed for eligibility. The reviews found 44,639 trips requested by conditionally-eligible riders were eligible, and these trips were provided at the regular fare. The reviews found that 32,837 trips requested by conditionally-eligible riders could be made by fixed-route transit, so these trips were provided at the higher convenience fare.

The data in Table 5-6 suggests that ACCESS staff used the software system to review at least 77,476 trips requested by conditionally eligible riders in FY 2012. Of these, 32,837 (about 42%) were found able to be made by fixed-route transit but still provided at the higher convenience fare. Not all of these trips required staff review in FY 2012. The large majority had been reviewed by staff in prior years and the software system continued to apply the prior review determinations as trips were requested in FY 2012.

While the data suggests that at least 77,476 trip requests were reviewed for eligibility in FY 2012, this does not represent the total number of trips reviewed. Some trips requested by conditionally-eligible riders were determined able to be made by fixed-route transit and the riders, when apprised of the higher fare, chose not to make the trips by ADA paratransit. These cancelled requests are not tracked by the ACCESS software system.

The 77,476 trips provided to conditionally-eligible riders in FY 2012 also does not reflect the trips that these riders chose to make on fixed-route transit without requesting ADA paratransit. ACCESS staff noted that when some riders are informed about fixed-route transit options, and in some cases accompanied on the first trip, they simply continue to make those trips by fixed-route transit and do not request ADA paratransit.

To estimate the number of trips that were not requested by conditionally-eligible riders and made by fixed-route transit or other modes, the trip-making rates of riders were examined. Table 5-7 shows the number of riders by eligibility type (unconditional, conditional, temporary) as well as the number of trips taken in FY 2012 by riders in each category. The trip-making rates of riders are then calculated and included in the table.



**Table 5-7. Riders and Trips By Eligibility Type, FY 2012**

Eligibility Type	# of Registered Riders	% of Riders	PAT-ADA Trips (FY 2012)	Convenience Trips (FY 2012)	Total Trips (FY 2012)	% of Trips	Tripmaking Rate (trips/pers/yr)
Unconditional	2,748	62.5%	242,630	0	242,630	75.3%	88.3
Conditional	1,407	32.0%	44,639	32,837	77,476	24.0%	55.1
Temporary	242	5.5%	2,114	0	2,114	0.7%	8.7
<b>Totals</b>	<b>4,397</b>	<b>100.0%</b>	<b>289,383</b>	<b>32,837</b>	<b>322,220</b>	<b>100.0%</b>	<b>73.3</b>

*Note: PAT-ADA Conditional Trips in FY 2012 excludes Base Plus Trips and Out of Town Visitors*

As shown, there were 4,397 registered ADA eligible riders in the ACCESS system in early 2013. Unconditionally-eligible riders made up 62.5% of the total, conditionally-eligible riders were 32% of the total, and 5.5% of registered riders had temporary eligibility. Unconditionally-eligible riders took 75.3% of the PAT-ADA paratransit trips provided in FY 2012. On average, these riders made 88.3 trips in FY 2012 on ADA paratransit. Conditionally-eligible riders took 24% of the trips and had an average trip-making rate of 55.1 trips per rider per year. Riders with temporary eligibility took only 0.7% of all ADA paratransit trips, for an average trip-making rate of only 8.7 trips per person per year.

Table 5-8 provides information about the cost of making trip eligibility decisions, and includes estimates of possible savings in FY 2012 as a result of trip-by-trip eligibility screening. First, as noted above, a total of 32,837 trips were determined able to be made by fixed-route transit, but still provided as non-ADA trips at the higher convenience fare. The savings in operating cost for these trips is the difference between the \$4.50 convenience fare and the standard \$2.25 ADA paratransit fare (the fares in FY 2012). For the 32,837 convenience fare trips, the cost savings was \$73,883.

Second, as shown in Table 5-7, riders with conditional eligibility make far fewer trips by ADA paratransit than riders with unconditional eligibility. If it is assumed that the overall trip-making rates of conditionally and unconditionally eligible riders are similar, but that conditionally eligible riders are requesting fewer ADA paratransit trips and making more trips by fixed-route transit or other modes, an additional savings for these other trips on fixed-route transit can be estimated. Applying the trip-making of unconditionally-eligible riders (88.3 trips per person per year) to the number of conditionally-eligible riders (1,407) suggests that conditionally-eligible riders took a total of 124,238 trips in FY 2012, but only 77,476 on ADA paratransit. This suggests that 46,762 trips were made on fixed-route transit or other modes. Assuming that these trips were taken on fixed-route transit, the per trip savings in operating costs would be the difference between the net ADA paratransit per trip operating costs and the net fixed-route transit per trip operating costs. ACCESS's average paratransit operating cost was \$23.90 per trip in FY 2012, and the regular ADA paratransit fare was \$2.25. The net ADA paratransit cost per trip was therefore \$21.65. The average fixed-route transit cost was \$5.41 per trip and the reduced fare for riders with disabilities is \$1.25, for a net cost of \$4.16 per trip. The savings is therefore \$17.49 per trip (\$21.65 - \$4.16). Multiplying this net per trip

savings by the estimated number of other trips taken on fixed-route transit by conditionally eligible riders (46,762) results in an additional estimated operating cost savings of \$817,867 in FY 2012. Together with the \$73,883 savings in cost for trips taken at the convenience fare suggests a total operating cost savings in FY 2012 of \$891,750.

**Table 5-8. Trip Eligibility Estimated Costs and Savings, FY 2012**

# of Convenience Fare Trips	32,837 trips
Convenience Fare Net Operating Cost Savings	\$73,883 (1)
Est. of Other Trips By Fixed-Route Transit	46,762 trips (2)
Operating Cost Savings Per Trip	\$17.49 (3)
Est. Cost Savings for Other Trips By Fixed-Route Transit	\$817,867 (4)
Est. Total Operating Cost Savings	\$891,750 (5)
FY 2012 ACCESS Trip Screening Costs	\$16,965 (6)
Est. Net Operating Cost Savings	\$874,785 (7)

- (1) Difference in FY 2012 regular versus convenience paratransit fare (\$4.50-\$2.25) times number of convenience fare trips
- (2) Difference between total trips by conditionally-eligible riders (assuming the same trip-making rate as unconditionally-eligible riders) and the actual trips taken on ADA paratransit (124,238 – 77,476)
- (3) Difference between net paratransit cost per trip and net fixed-route transit cost per trip:  $((\$23.90 - \$2.25) - (\$5.41 - \$1.25)) = \$17.49$
- (4) \$17.49 times 139,531 trips
- (5) Savings from convenience fare trips plus other trips by fixed-route transit
- (6) 1.5 hours of staff time per day at \$34.80 per hour with overhead, for 325 days per year
- (7) Total estimated operating cost savings per year minus trip screening costs per year

ACCESS staff estimated that about 1.5 hours are spent each day screening trips requested by conditionally eligible riders. The staff doing these screenings is paid \$18.50 per hour. Adding 71% overhead and 10% fee to this hourly rate, the total cost per hour for staff to screen trips is \$34.80. For 1.5 hours per day, 325 days per year, the estimated cost is \$16,965 per year.

ACCESS managers noted that when trip eligibility screening was started back in 2003, it required about four hours of staff time each day. Over time, as the trips of current riders were reviewed and recorded in the software system, less time was required. In 2012, only new trips by current riders or trips by new conditionally-eligible riders had to be reviewed. And, given that many street segments, intersections, and bus stops have already been visited and their accessibility noted, these reviews often can be performed using existing records.

With an estimated operating cost savings of \$891,750 in FY 2012, and a total screening cost of only \$16,965, a net operating cost savings of \$874,785 is estimated. Given that the PAT total operating cost for ADA paratransit service was about \$7.7 million in FY 2012, this represents about a 10% savings in ADA paratransit costs.

## **ADA Paratransit Ridership Trends**

Figure 5-17 and Table 5-9 show ADA paratransit and convenience fare ridership from FY 2001 through FY 2012. Table 5-10 lists significant ADA paratransit service changes throughout this period.

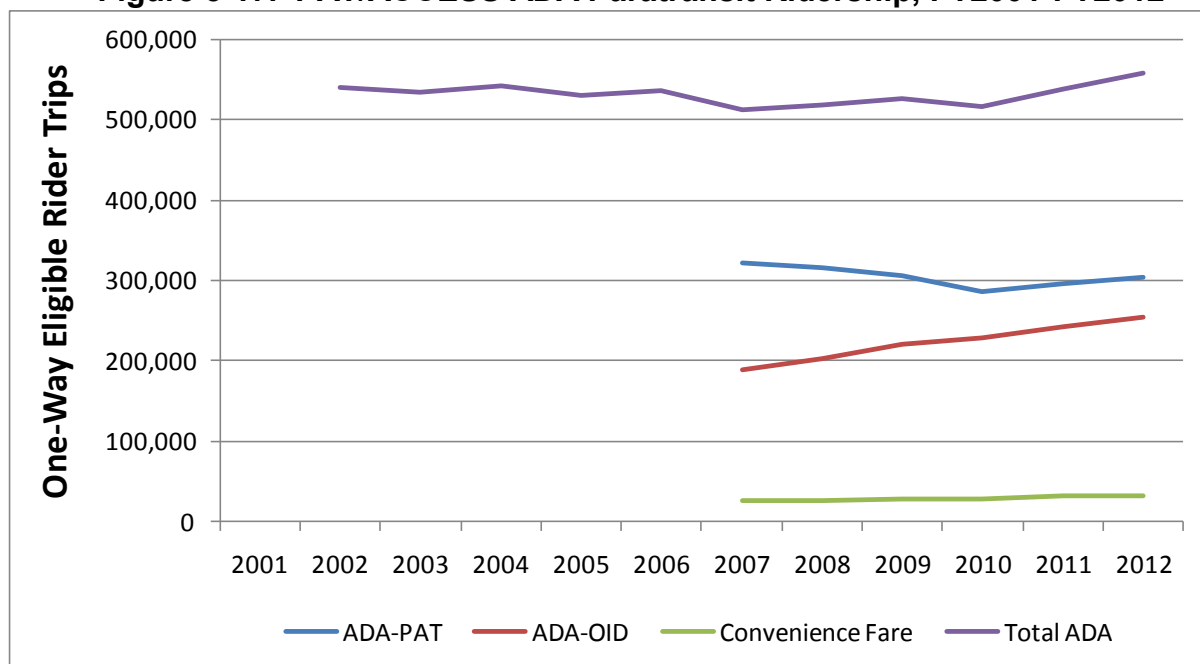
As noted in Table 5-10, few service changes were made from FY 2001 through FY 2012. Trip-by-trip eligibility was introduced in FY 2003. There was a fare increase from \$2.00 to \$2.25 in FY 2008. Also, ACCESS staff noted that on-time performance continually increased from 2001 through 2012. In 2001, about 90% of trips were performed on-time. In 2012, on-time performance was about 96%. There have been other, very recent service changes. The ADA paratransit service area was reduced to the minimum  $\frac{3}{4}$  mile corridor requirement (and the Connection service introduced). And the ADA paratransit fare was increased from \$2.25 to \$3.15. Both of these changes occurred at the start of FY 2013, though, and are not reflected in the ridership through FY 2012.

Also, it should be noted that ACCESS tracked total ADA paratransit ridership through FY 2006. ADA service for PAT was separated out from ADA trips sponsored by OID starting in FY 2007. Convenience fare trips also began to be included in standard reports in FY 2007.

As shown, total ADA paratransit ridership has remained about the same throughout this 12 year period. It has fluctuated by only a few percentage points, both up and down, each year. ADA-PAT ridership, trips supported by the transit agency decreased from 2007 through 2010, from 321,973 in 2007 to 286,878 in 2010. In 2011 and 2012, ADA-PAT ridership increased slightly, but still below 2007 levels.

Most of the increase in ridership in recent years has been in ADA-OID trips: trips to ADA paratransit eligible riders going to Office of Intellectual Disabilities work training programs and to supported and competitive employment.

Most public transit agencies report increases in ADA paratransit ridership over the past decade. Nationally, FTA reports that ADA paratransit ridership increased from about 45 million one-way trips in NTD reporting year 2000 to 75 million trips in reporting year 2008 (a 67% increase). ACCESS's use of conditional and trip-by-trip eligibility appears to have encouraged greater use of fixed-route transit service and less reliance on ADA paratransit service over a similar period of time.

**Figure 5-17. PAT/ACCESS ADA Paratransit Ridership, FY2001-FY2012****Table 5-9. PAT/ACCESS ADA Paratransit Ridership, FY2001-FY2012**

Year	One-Way Eligible Rider Trips				
	ADA-PAT	ADA-OID	Total ADA	Conven. Fare	Total ADA & Conven. Fare
2001					
2002			539,992		539,992
2003			534,055		534,055
2004			541,483		541,483
2005			530,457		530,457
2006			536,041		536,041
2007	321,973	189,959	511,932	26,249	538,181
2008	316,615	202,423	519,038	26,643	545,681
2009	305,238	220,732	525,970	27,794	553,764
2010	286,878	229,329	516,207	28,915	545,122
2011	295,809	242,049	537,858	31,794	569,652
2012	304,563	253,769	558,332	32,486	590,818

**Table 5-10. ADA Paratransit Service Changes, FY 2001 Through FY 2012**

Year	Service Change
2003	Trip-by-trip eligibility started
2008	ADA paratransit fare increase from \$2.00 to \$2.25
2001-2012	Continuous on-time performance improvements, from 90% in 2001 to 96% in 2012

## ***Conclusions and Lessons Learned***

PAT and ACCESS have successfully implemented conditional ADA paratransit eligibility and trip-by-trip determinations. ACCESS staff identified several things that were important to the implementation. These were:

- Extensive discussions with the community to obtain support prior to implementation.
- Adoption of a “convenience fare” that allows riders to still use paratransit at a higher, non-ADA fare when trips are determined able to be made by fixed-route transit.
- Using in-person functional assessments to better identify functional ability and all of the issues (conditions) that affect travel by fixed-route transit.
- Performing functional assessments in the real environment to accurately determine abilities.
- Setting conditions of eligibility that are measurable, so that barriers can be accurately assessed.
- Contacting riders in-person to communicate conditions of eligibility and the results of trip eligibility reviews so they better understand the decisions.
- Considering actual weather conditions rather than granting seasonal eligibility for the entire winter or summer. In FY 2012, only 6.6% of trips on ADA paratransit by conditionally-eligible riders were because of weather related conditions.
- Offering to accompany riders on initial fixed-route transit trips to facilitate a transition from ADA paratransit to fixed-route transit.
- Developing software that can record the results of trip eligibility reviews and automatically apply the results to rider requests so that decisions about trip accessibility do not have to be made by reservationists.



## Section 6. Case Studies of Bus Stop and Pedestrian Infrastructure Improvement Programs

Three full case studies of bus stop and pedestrian infrastructure improvement programs were conducted. These were of: **TriMet** in Portland, OR; **RideOn** in Montgomery County, MD; and **Intercity Transit**, Olympia, WA

Following are the complete case study write-ups. In addition to describing bus stop and pedestrian infrastructure improvement efforts, the TriMet and Intercity Transit case studies also briefly note other related efforts, such as bus accessibility and ADA paratransit eligibility determinations.

### TriMet, Portland, OR: Bus Stop and Pedestrian Infrastructure Improvement Efforts

#### *Introduction*

TriMet initiated a project to improve bus stop and pedestrian infrastructure along a specific corridor in 2009. The project was undertaken in partnership with the Oregon Department of Transportation (ODOT). A total of 17 bus stops and pedestrian paths were improved along Oregon Hwy 8 (Tualatin Valley Highway, commonly referred to as TV Highway) between Beaverton and Forest Grove. This corridor is served by a frequent bus route (Line 57) and is TriMet's eighth-most ridden bus route, with almost 50,000 rides per week. The goal of the 2009 project was to make TV Highway safer and easier to use by pedestrians and bus riders.

In the summer of 2009, transit stops and pedestrian facilities were improved by fixing incomplete, damaged sidewalks and adding new sidewalk sections. In addition, ten new bus shelters were installed, and concrete pads were added at bus stops for better access. Grant funds paid for the majority of these improvements, which totaled \$512,167 (\$417,415 in construction costs and \$94,752 in shelter amenity costs).

TriMet has tracked passenger activity (boardings, deboardings, and lift/ramp deployment) at the stops along this corridor since 2008. TriMet found that lift/ramp boardings increased significantly at many of the stops where improvements were made - nearly doubling in weekday lift/ramp usage across all 17 stops from fall of 2008 to fall of 2009, and continuing to grow in the subsequent years. Average weekday ridership overall also increased at a number of these stops following installation of the improvements.

ADA paratransit ridership within ¼ mile area of each of the 17 improved stops was also analyzed beginning in 2008. The data analysis shows decreased ADA paratransit ridership by persons who are conditionally eligible in the area of the most of the

improved stops (even though ridership by persons who are unconditionally eligible has been increasing).

On November 27, 2012, the research team met with TriMet's Capital Projects Manager, as well as TriMet's LIFT Eligibility & Community Relations Manager. The site visit included field visits to several of the bus stops and pedestrian facilities which were improved as part of the 2009 project, and a tour of the functional ability assessment course used as part of the paratransit eligibility certification process.

### ***Impetus for the Line 57-TV Highway/Forest Grove Pedestrian Improvement Project***

Pedestrian safety and connectivity has historically been a concern along TV Highway. The TV Highway Pedestrian Access Work Group was formed after a 2003 fatal accident involving a pedestrian on the highway. Subsequent accidents along the corridor have prompted ODOT to improve conditions, and TriMet was able to obtain grant funding to cover the cost of improvements near bus stops.

As is typical of many state highways, TV Highway is characterized by relatively fast-moving traffic (40 mph is the average posted speed limit along the stretch served by TriMet with the project area range from 35 to 50 mph) and signalized intersections (and hence signalized pedestrian crossings) spaced relatively far apart. Land uses along the corridor include commercial properties with many driveways traversing existing sidewalks. Adding to these safety concerns is the presence of an active freight rail line that runs along the south side of the corridor. Flanking the corridor are high-density residential areas populated by largely transit-dependent low income populations, including a large Hispanic population.

TriMet's Line 57 operates frequent service along this corridor, between the Beaverton Transit Center to the east and the city of Forest Grove to the west, with the Hillsboro Central/SE 3<sup>rd</sup> Ave Transit Center approximately mid-route. The Beaverton Transit Center (the busiest in TriMet's system) is served by two MAX light rail lines and WES commuter rail as well as multiple bus routes. The high service frequency and ridership (nearly 50,000 passenger trips per week, with rapid growth over recent years) of the Line 57, coupled with the pedestrian safety concerns, made this corridor a natural choice on which to focus efforts to improve bus stops and the pedestrian network. The published route map for this route is shown in Figure 6-1.

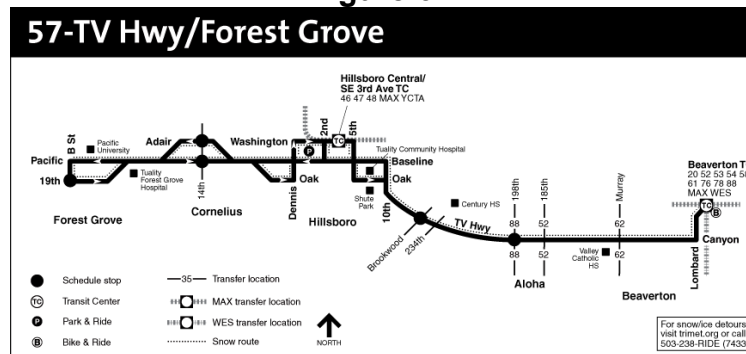
Prior to 2009, as evidenced by the "before" photos provided by TriMet, the sidewalks along the corridor were in very poor condition and often discontinuous.

### ***How the Locations were Selected for Improvements***

The TV Highway Pedestrian Access Work Group evaluated bus stops and pedestrian facilities along the corridor, and determined that 43 highway crossings and 13 bus stops



Figure 6-1



were poor or very poor in terms of safety or accessibility. Locations were prioritized for improvement under the 2009 capital grant project based on criteria that included ridership, condition, and safety.

### Implementation of Improvements

The TV Highway improvements were installed in the summer of 2009. Table 6-1 indicates the location, type, and costs of these improvements. As indicated in the table, the improvements included construction of both sidewalks (in the vicinity of 15 of the bus stops) and shelter pads (at 10 of the bus stops). The total one-time capital investment for this project was \$512,167, including the installation of shelters. This investment resulted in profound improvements at many locations, as illustrated in the following photos.

**Figure 6-2. SW Baseline at Adams - "Before" and "After"**  
(photos courtesy of TriMet)



Table 6-1. Improvement Types and Costs

Loc ID	Intersection	Location	Improvement Type		2009 Improvement Capital Costs		
			Sidewalk	Shelter pad	Construction	Shelter Installation	Total
5599	TV Highway at SW Murray Blvd, W	Beaverton	x		\$ 19,000	\$ 8,480	\$ 27,480
5624	TV Highway at SW 178th, E	Washington Co.		x	\$ 7,380	\$ 6,280	\$ 13,660
7012	185th at TV Highway, N	Washington Co.	x	x	\$ 11,365	\$ 5,315	\$ 16,680
5638	TV Highway at 209th, E	Washington Co.	x	x	\$ 17,350	\$ 6,860	\$ 24,210
10157	TV Highway at SE 44th, E	Hillsboro	x	x	\$ 9,725	\$ 5,315	\$ 15,040
5611	TV Highway at Sunset Esplanade, E	Hillsboro	x	x	\$ 16,170	\$ 7,135	\$ 23,305
5598	TV Highway at Minter Bridge, E	Hillsboro	x	x	\$ 8,300	\$ 9,560	\$ 17,860
4125	SE Oak at NE 9th Ave, E	Hillsboro	x		\$ 23,000	N/A	\$ 23,000
304	SW Baseline at SE 3rd, W	Hillsboro	x		\$ 30,610	N/A	\$ 30,610
280	SW Baseline at SE 2nd, W	Hillsboro	x		\$ 80,360	\$ 7,370	\$ 87,730
259	SW Baseline at Adams, W	Hillsboro	x	x	\$ 28,875	\$ 6,830	\$ 35,705
4119	SE Oak at Winco, E	Hillsboro	x	x	w Armco	\$ 7,130	\$ 7,130
4116	SE Oak at Winco to Armco, E	Hillsboro	x	x	\$ 52,280	\$ 5,315	\$ 57,595
4289	Pacific Ave at Trailer Park, W	Forest Grove	x		\$ 69,430	N/A	\$ 69,430
7041	19th Ave at Cedar St, E	Forest Grove		x	\$ 3,750	\$ 8,067	\$ 11,817
7038	19th Ave at Ash St., E	Forest Grove	x		\$ 13,275	\$ 5,315	\$ 18,590
7046	19th Ave at A St. E	Forest Grove	x		\$ 26,545	\$ 5,780	\$ 32,325
Total for all project improvements			15	10	\$ 417,415	\$ 94,752	\$ 512,167

**Figure 6-3. SE Oak at Winco - "Before" and "After"** (photos courtesy of TriMet)



**Figure 6-4. Pacific Ave at Trailer Park - "Before" and "After"**  
(Photos courtesy of TriMet)





**Figure 6-5. 185th at TV Hwy "Before" and "After"** (photos courtesy of TriMet)



Due to the constraints in right-of-way, particularly on the south side of TV Highway where it paralleled the railway, creative problem-solving was required to maximize use of the available space for accessibility and safety. For example, to install a safe and accessible crosswalk at 178<sup>th</sup>, within the narrow strip of State Highway right-of-way next the rail right-of-way, the sidewalk was lowered to street level at the location of the crosswalk, and a barrier was constructed at the side of the sidewalk/end of the crosswalk closest to the rail line, to prevent pedestrians from falling off the sidewalk into the rail right-of-way. A fence was installed along the railroad to improve safety and deter trespassing across the tracks - a requirement imposed by the railroad (as discussed later in this case study).

**Figure 6-6. TV Hwy at 178th - "Before" and "After"** (photos courtesy of TriMet)



## **Results (Data Analysis)**

### **Overall Fixed-Route Ridership**

Table 6-2 provides average day fixed-route ridership at each of the 17 improvement sites in the Fall of 2008 (prior to the construction of the improvements), 2009 (following completion of the improvements), 2010, and 2011. While individual stop locations showed marked changes following the improvements - some increasing and some decreasing – fixed-route transit ridership across the full 17 set of improvements dropped slightly (3.7%) from 2008 to 2009, but rebounded so that overall, ridership from 2008 to 2011 increase by 0.3%.

It should be noted that frequency of the Line 57 service was somewhat reduced in 2010, the year following the infrastructure improvements. Headways increased from 15 minutes to 17 minutes due to budgetary constraints. Generally speaking, TriMet's experience has shown that adding amenities to bus stops has less of an impact on fixed-route ridership than improving accessibility and service frequencies. A decrease in service frequencies would therefore be expected to result in a corresponding decrease in ridership, at least among choice riders. However, much of the ridership along TV Highway is essentially transit-dependent, and thus reduced frequencies would be less of a disincentive to ridership for this particular route.

### **Lift/Ramp Utilization**

Table 6-3 provides average monthly lift/ramp deployments by stop. Here, the data show a profoundly significant impact on the improvements: lift/ramp utilization at these 17 locations nearly doubled following the improvements (increasing by 95.9% from Fall 2008 to Fall 2009, and continuing to climb, increasing to 111.6% from 2008 to 2011).

The number of lift/ramp deployments increased by 165 trips per month from Fall 2008 to Fall 2009. If this many additional lift/ramp trips are provided each month of the year, the annual additional such trips on fixed-route transit would total 1,980 trips. If one assumes that these additional lift/ramp trips can be attributed to the bus stop and pedestrian improvements, would otherwise have been diverted from ADA paratransit service, at TriMet's FY 2012 operating cost per paratransit ride of \$29.87,<sup>9</sup> TriMet is saving nearly \$60,000 per year accommodating additional lift/ramp-using customers on fixed-route transit as a result of the improvements installed in 2009.

Regardless of overall fixed-route ridership, the experience with the TV Highway project demonstrates that lift deployments do increase following improvements with pedestrian linkages and stop accessibility.

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<sup>9</sup> Source: <http://trimet.org/pdfs/publications/trimetridership.pdf>, as accessed 12/7/12, p. 3, "Operating Cost/Boarding Ride" for LIFT/Cab.

Table 6-2. Fixed-Route Transit Ridership Trends

Loc ID	Intersection	Location	Fall 2008			Fall 2009			Fall 2010			Fall 2011			Total Change,	Total Change,	Percent Change,	Percent Change,
			Ons	Offs	Total	Ons	Offs	Total	Ons	Offs	Total	Ons	Offs	Total	2008 to 2009	2008 to 2011	2008 to 2009	2008 to 2011
5599	TV Highway at SW Murray Blvd, W	Beaverton	123	42	165	112	42	154	125	36	161	128	42	170	-11	5	-6.7%	3.0%
5624	TV Highway at SW 178th, E	Washington Co.	77	60	137	84	58	142	86	50	136	92	59	151	5	14	3.6%	10.2%
7012	185th at TV Highway, N	Washington Co.	25	46	71	53	41	94	99	46	145	113	60	173	23	102	32.4%	143.7%
5638	TV Highway at 209th, E	Washington Co.	37	34	71	44	32	76	48	29	77	46	34	80	5	9	7.0%	12.7%
10157	TV Highway at SE 44th, E	Hillsboro	45	43	88	46	38	84	49	44	93	57	41	98	-4	10	-4.5%	11.4%
5611	TV Highway at Sunset Esplanade, E	Hillsboro	55	84	139	52	76	128	53	71	124	62	67	129	-11	-10	-7.9%	-7.2%
5598	TV Highway at Minter Bridge, E	Hillsboro	69	117	186	82	127	209	84	108	192	78	108	186	23	0	12.4%	0.0%
4125	SE Oak at NE 9th Ave, E	Hillsboro	13	48	61	15	47	62	16	45	61	16	43	59	1	-2	1.6%	-3.3%
304	SW Baseline at SE 3rd, W	Hillsboro	68	79	147	72	108	180	69	73	142	87	67	154	33	7	22.4%	4.8%
280	SW Baseline at SE 2nd, W	Hillsboro	112	174	286	44	98	142	82	135	217	86	126	212	-144	-74	-50.3%	-25.9%
259	SW Baseline at Adams, W	Hillsboro	89	13	102	92	18	110	84	13	97	83	15	98	8	-4	7.8%	-3.9%
4119	SE Oak at Winco, E	Hillsboro	54	36	90	55	37	92	49	37	86	52	38	90	2	0	2.2%	0.0%
4116	SE Oak at Winco to Armco, E	Hillsboro	42	28	70	56	26	82	46	21	67	37	19	56	12	-14	17.1%	-20.0%
4289	Pacific Ave at Trailer Park, W	Forest Grove	11	53	64	13	52	65	8	42	50	8	43	51	1	-13	1.6%	-20.3%
7041	19th Ave at Cedar St, E	Forest Grove	40	0	40	47	1	48	56	1	57	62	1	63	8	23	20.0%	57.5%
7038	19th Ave at Ash St., E	Forest Grove	63	2	65	56	1	57	50	1	51	44	1	45	-8	-20	-12.3%	-30.8%
7046	19th Ave at A St. E	Forest Grove	214	56	270	199	52	251	173	40	213	194	49	243	-19	-27	-7.0%	-10.0%
Total for all project improvements			1,137	915	2,052	1,122	854	1,976	1,177	792	1,969	1,245	813	2,058	-76	6	-3.7%	0.3%

Data are average weekday boardings ("Ons") and de-boardings ("Offs") based on quarterly ridership census.

Notes on timing of events with likely ridership impact:

Bus stop/sidewalk improvements were installed summer 2009.

Fixed route headways slightly increased (frequency slightly reduced) in 2010.

Table 6-3. Fixed-Route Transit Lift/Ramp Usage Trends

Loc ID	Intersection	Location	Monthly FR Lift Usage				Total Change, 2008 to 2009	Total Change, 2008 to 2011	Percent Change, 2008 to 2009	Percent Change, 2008 to 2011
			Fall 2008	Fall 2009	Fall 2010	Fall 2011				
5599	TV Highway at SW Murray Blvd, W	Beaverton	17	12	8	16	-5	-1	-29.4%	-5.9%
5624	TV Highway at SW 178th, E	Washington Co.	4	10	1	2	6	-2	150.0%	-50.0%
7012	185th at TV Highway, N	Washington Co.	4	12	41	14	8	10	200.0%	250.0%
5638	TV Highway at 209th, E	Washington Co.	1	3	4	23	2	22	200.0%	2200.0%
10157	TV Highway at SE 44th, E	Hillsboro	41	118	101	100	77	59	187.8%	143.9%
5611	TV Highway at Sunset Esplanade, E	Hillsboro	6	25	44	50	19	44	316.7%	733.3%
5598	TV Highway at Minter Bridge, E	Hillsboro	33	62	47	32	29	-1	87.9%	-3.0%
4125	SE Oak at NE 9th Ave, E	Hillsboro	3	4	8	13	1	10	33.3%	333.3%
304	SW Baseline at SE 3rd, W	Hillsboro	5	4	7	13	-1	8	-20.0%	160.0%
280	SW Baseline at SE 2nd, W	Hillsboro	6	9	18	30	3	24	50.0%	400.0%
259	SW Baseline at Adams, W	Hillsboro	7	15	16	20	8	13	114.3%	185.7%
4119	SE Oak at Winco, E	Hillsboro	16	19	27	23	3	7	18.8%	43.8%
4116	SE Oak at Winco to Armco, E	Hillsboro	2	9	3	6	7	4	350.0%	200.0%
4289	Pacific Ave at Trailer Park, W	Forest Grove	20	18	10	8	-2	-12	-10.0%	-60.0%
7041	19th Ave at Cedar St, E	Forest Grove	4	4	4	6	0	2	0.0%	50.0%
7038	19th Ave at Ash St., E	Forest Grove	2	4	3	6	2	4	100.0%	200.0%
7046	19th Ave at A St. E	Forest Grove	1	9	1	2	8	1	800.0%	100.0%
Total for all project improvements			172	337	343	364	165	192	95.9%	111.6%

Data are monthly lift/ramp deployments based on quarterly ridership census.

## **ADA Ridership**

Paratransit ridership was also examined to determine if there was a corresponding decrease in paratransit ridership. TriMet's ADA complementary paratransit service is called LIFT. TriMet queried its LIFT ridership records to determine paratransit trips that originated or ended within a given radius; ¼ mile was used as the bus stop catchment area for this analysis. (It should be noted that ¼ mile is a walking range often cited by transit planners as being what the typical transit rider is willing to walk to a bus stop.)

Table 6-4 provides total conditional and temporary paratransit trips in the vicinity of each of the 17 stops, for calendar years 2008 through 2011. This is the group of riders in which a person who can use fixed-route transit if the pedestrian environmental conditions don't prevent him or her from getting to or from the bus stop, and thus this is the group in which the pedestrian improvements are more likely to impact.

Conditional and temporary paratransit ridership: As shown in Table 6-4, changes in conditional and temporary paratransit ridership varied considerably from location to location over the four years. Overall, such ridership near the improved stops dropped 5.4% (by 586 trips) from 2008 to 2009, increased by 11.3% the following year, then decreased by 16.4% in the final year of the analysis, for a net decrease of 11.9% from 2008 to 2011.

Unconditionally eligible riders: The corresponding ridership analysis for unconditionally eligible persons is presented in Table 6-5. This category of ridership experienced an 8.8% increase (5,760 rides) from 2008 to 2009, then decreased in each of the next two years, for a net decrease from 2008 to 2011 of 0.5% across all stop locations.

Aggregate total ADA paratransit ridership: Combining the categories presented in Tables 6-4 and 6-5, Table 6-6 presents an aggregate picture of total paratransit ridership in the vicinity of the 17 bus stops, which increased by 6.8% from 2008 to 2009, increased by 1.0% in 2010, and decreased by 8.4% in 2011, for a net three-year decrease of 2.1%.

In considering the paratransit ridership changes over the course of this timespan, it is important to note that in April 2010, TriMet implemented a new eligibility certification process for LIFT, the agency's ADA complementary paratransit service, and it is possible that the new process has resulted in transitioning some trips along TV Highway from paratransit to fixed-route transit service. Since implementation, all new applicants go through the more rigorous assessment process, and TriMet also began a three-year process of recertifying existing customers under the new application requirements. However, at the present time, TriMet does not administer trip-by-trip eligibility when scheduling paratransit rides; daily trip eligibility is self-determined by customers. Given the time involved in recertifying customers over three years, and the fact that TriMet does not yet administer trip-by-trip eligibility, it is likely that the full impacts on paratransit ridership have not yet been felt.



Table 6-4. Conditional/Temporary Ridership Trends

Loc ID	Intersection	Location	Conditional/Temp Paratransit Ridership				Change in Riderhip				Percent of Change			
			2008	2009	2010	2011	2008 to 2009	2009 to 2010	2010 to 2011	2008 to 2011	2008 to 2009	2009 to 2010	2010 to 2011	2008 to 2011
5599	TV Highway at SW Murray Blvd, W	Beaverton	249	184	156	148	-65	-28	-8	-101	-26.1%	-15.2%	-5.1%	-40.6%
5624	TV Highway at SW 178th, E	Washington Co.	993	778	849	635	-215	71	-214	-358	-21.7%	9.1%	-25.2%	-36.1%
7012	185th at TV Highway, N	Washington Co.	1,700	1,878	1,827	541	178	-51	-1,286	-1,159	10.5%	-2.7%	-70.4%	-68.2%
5638	TV Highway at 209th, E	Washington Co.	646	374	368	145	-272	-6	-223	-501	-42.1%	-1.6%	-60.6%	-77.6%
10157	TV Highway at SE 44th, E	Hillsboro	47	158	653	923	111	495	270	876	236.2%	313.3%	41.3%	1863.8%
5611	TV Highway at Sunset Esplanade, E	Hillsboro	418	586	653	656	168	67	3	238	40.2%	11.4%	0.5%	56.9%
5598	TV Highway at Minter Bridge, E	Hillsboro	285	441	438	316	156	-3	-122	31	54.7%	-0.7%	-27.9%	10.9%
4125	SE Oak at NE 9th Ave, E	Hillsboro	1,823	1,553	1,701	1,751	-270	148	50	-72	-14.8%	9.5%	2.9%	-3.9%
304	SW Baseline at SE 3rd, W	Hillsboro	1,072	1,096	1,274	1,313	24	178	39	241	2.2%	16.2%	3.1%	22.5%
280	SW Baseline at SE 2nd, W	Hillsboro	1,665	1,250	1,420	1,415	-415	170	-5	-250	-24.9%	13.6%	-0.4%	-15.0%
259	SW Baseline at Adams, W	Hillsboro	1,435	1,680	1,766	1,460	245	86	-306	25	17.1%	5.1%	-17.3%	1.7%
4119	SE Oak at Winco, E	Hillsboro	0	0	0	0	0	0	0	0	0.0%	0.0%	0.0%	0.0%
4116	SE Oak at Winco to Armco, E	Hillsboro	0	0	0	0	0	0	0	0	0.0%	0.0%	0.0%	0.0%
4289	Pacific Ave at Trailer Park, W	Forest Grove	299	185	216	209	-114	31	-7	-90	-38.1%	16.8%	-3.2%	-30.1%
7041	19th Ave at Cedar St, E	Forest Grove	174	70	66	41	-104	-4	-25	-133	-59.8%	-5.7%	-37.9%	-76.4%
7038	19th Ave at Ash St., E	Forest Grove	92	65	69	46	-27	4	-23	-46	-29.3%	6.2%	-33.3%	-50.0%
7046	19th Ave at A St. E	Forest Grove	21	35	46	18	14	11	-28	-3	66.7%	31.4%	-60.9%	-14.3%
Total for all project improvements			10,919	10,333	11,502	9,617	-586	1,169	-1,885	-1,302	-5.4%	11.3%	-16.4%	-11.9%

Data are annual paratransit trips beginning or ending within 1/4 mile of each stop.

Included on this sheet trips for riders coded as conditional, temporary, conditional/temporary, and regular with re-registration.

Notes on timing of events with likely ridership impact:

Bus stop/sidewalk improvements were installed summer 2009.

New paratransit certification process and recertification began April 2010.

Table 6-5. Unconditional Paratransit Ridership Trends

Loc ID	Intersection	Location	Unconditional Paratransit Ridership				Total Change				Percent Change			
			2008	2009	2010	2011	2008 to 2009	2009 to 2010	2010 to 2011	2008 to 2011	2008 to 2009	2009 to 2010	2010 to 2011	2008 to 2011
5599	TV Highway at SW Murray Blvd, W	Beaverton	536	442	442	356	-94	0	-86	-180	-17.5%	0.0%	-19.5%	-33.6%
5624	TV Highway at SW 178th, E	Washington Co.	1,041	2,264	2,207	2,020	1,223	-57	-187	979	117.5%	-2.5%	-8.5%	94.0%
7012	185th at TV Highway, N	Washington Co.	3,271	4,655	4,752	4,082	1,384	97	-670	811	42.3%	2.1%	-14.1%	24.8%
5638	TV Highway at 209th, E	Washington Co.	1,520	1,866	2,348	1,968	346	482	-380	448	22.8%	25.8%	-16.2%	29.5%
10157	TV Highway at SE 44th, E	Hillsboro	753	1,193	945	1,021	440	-248	76	268	58.4%	-20.8%	8.0%	35.6%
5611	TV Highway at Sunset Esplanade, E	Hillsboro	2,394	2,296	1,684	1,548	-98	-612	-136	-846	-4.1%	-26.7%	-8.1%	-35.3%
5598	TV Highway at Minter Bridge, E	Hillsboro	2,179	2,019	1,371	1,361	-160	-648	-10	-818	-7.3%	-32.1%	-0.7%	-37.5%
4125	SE Oak at NE 9th Ave, E	Hillsboro	15,152	17,145	16,749	15,618	1,993	-396	-1,131	466	13.2%	-2.3%	-6.8%	3.1%
304	SW Baseline at SE 3rd, W	Hillsboro	2,944	2,678	2,272	2,299	-266	-406	27	-645	-9.0%	-15.2%	1.2%	-21.9%
280	SW Baseline at SE 2nd, W	Hillsboro	12,440	13,010	12,287	12,099	570	-723	-188	-341	4.6%	-5.6%	-1.5%	-2.7%
259	SW Baseline at Adams, W	Hillsboro	12,698	13,518	12,814	12,743	820	-704	-71	45	6.5%	-5.2%	-0.6%	0.4%
4119	SE Oak at Winco, E	Hillsboro	0	0	0	0	0	0	0	0	0.0%	0.0%	0.0%	0.0%
4116	SE Oak at Winco to Armco, E	Hillsboro	0	0	0	0	0	0	0	0	0.0%	0.0%	0.0%	0.0%
4289	Pacific Ave at Trailer Park, W	Forest Grove	1,105	1,162	1,688	1,770	57	526	82	665	5.2%	45.3%	4.9%	60.2%
7041	19th Ave at Cedar St, E	Forest Grove	2,689	3,095	3,460	2,430	406	365	-1,030	-259	15.1%	11.8%	-29.8%	-9.6%
7038	19th Ave at Ash St., E	Forest Grove	4,214	4,053	4,870	3,815	-161	817	-1,055	-399	-3.8%	20.2%	-21.7%	-9.5%
7046	19th Ave at A St. E	Forest Grove	2,507	1,807	2,210	1,996	-700	403	-214	-511	-27.9%	22.3%	-9.7%	-20.4%
Total for all project improvements			65,443	71,203	70,099	65,126	5,760	-1,104	-4,973	-317	8.8%	-1.6%	-7.1%	-0.5%

Data are annual paratransit trips beginning or ending within 1/4 mile of each stop.  
Included on this sheet are trips for riders coded as unconditional.

Notes on timing of events with likely ridership impact:

Bus stop/sidewalk improvements were installed summer 2009.

New paratransit certification process and recertification began April 2010.

Table 6-6. Overall Paratransit Ridership Trends

Loc ID	Intersection	Location	Combined Paratransit Ridership				Total Change				Percent Change			
			2008	2009	2010	2011	2008 to 2009	2009 to 2010	2010 to 2011	2008 to 2011	2008 to 2009	2009 to 2010	2010 to 2011	2008 to 2011
5599	TV Highway at SW Murray Blvd, W	Beaverton	785	626	598	504	-159	-28	-94	-281	-20.3%	-4.5%	-15.7%	-35.8%
5624	TV Highway at SW 178th, E	Washington Co.	2,034	3,042	3,056	2,655	1,008	14	-401	621	49.6%	0.5%	-13.1%	30.5%
7012	185th at TV Highway, N	Washington Co.	4,971	6,533	6,579	4,623	1,562	46	-1,956	-348	31.4%	0.7%	-29.7%	-7.0%
5638	TV Highway at 209th, E	Washington Co.	2,166	2,240	2,716	2,113	74	476	-603	-53	3.4%	21.3%	-22.2%	-2.4%
10157	TV Highway at SE 44th, E	Hillsboro	800	1,351	1,598	1,944	551	247	346	1,144	68.9%	18.3%	21.7%	143.0%
5611	TV Highway at Sunset Esplanade, E	Hillsboro	2,812	2,882	2,337	2,204	70	-545	-133	-608	2.5%	-18.9%	-5.7%	-21.6%
5598	TV Highway at Minter Bridge, E	Hillsboro	2,464	2,460	1,809	1,677	-4	-651	-132	-787	-0.2%	-26.5%	-7.3%	-31.9%
4125	SE Oak at NE 9th Ave, E	Hillsboro	16,975	18,698	18,450	17,369	1,723	-248	-1,081	394	10.2%	-1.3%	-5.9%	2.3%
304	SW Baseline at SE 3rd, W	Hillsboro	4,016	3,774	3,546	3,612	-242	-228	66	-404	-6.0%	-6.0%	1.9%	-10.1%
280	SW Baseline at SE 2nd, W	Hillsboro	14,105	14,260	13,707	13,514	155	-553	-193	-591	1.1%	-3.9%	-1.4%	-4.2%
259	SW Baseline at Adams, W	Hillsboro	14,133	15,198	14,580	14,203	1,065	-618	-377	70	7.5%	-4.1%	-2.6%	0.5%
4119	SE Oak at Winco, E	Hillsboro	0	0	0	0	0	0	0	0	0.0%	0.0%	0.0%	0.0%
4116	SE Oak at Winco to Armco, E	Hillsboro	0	0	0	0	0	0	0	0	0.0%	0.0%	0.0%	0.0%
4289	Pacific Ave at Trailer Park, W	Forest Grove	1,404	1,347	1,904	1,979	-57	557	75	575	-4.1%	41.4%	3.9%	41.0%
7041	19th Ave at Cedar St, E	Forest Grove	2,863	3,165	3,526	2,471	302	361	-1,055	-392	10.5%	11.4%	-29.9%	-13.7%
7038	19th Ave at Ash St., E	Forest Grove	4,306	4,118	4,939	3,861	-188	821	-1,078	-445	-4.4%	19.9%	-21.8%	-10.3%
7046	19th Ave at A St. E	Forest Grove	2,528	1,842	2,256	2,014	-686	414	-242	-514	-27.1%	22.5%	-10.7%	-20.3%
Total for all project improvements			76,362	81,536	81,601	74,743	5,174	65	-6,858	-1,619	6.8%	0.1%	-8.4%	-2.1%

Data are annual paratransit trips beginning or ending within 1/4 mile of each stop.

Included on this sheet trips for riders coded as unconditional, conditional, temporary, conditional/temporary, and regular with re-registration.

Notes on timing of events with likely ridership impact:

Bus stop/sidewalk improvements were installed summer 2009.

New paratransit certification process and recertification began April 2010.

## ***Implementation Issues***

### **Railroad Right-of-Way**

One of the greatest challenges to improving bus stops and pedestrian connections along the south side of TV Hwy is the active freight railroad that runs parallel to the highway for about a 1.5 mile stretch -- in some locations set less than 100 feet to the roadway edge. To install a landing pad deep enough to make lift/ramp deployment viable, it was necessary to extend the pad onto the rail right-of-way at some stops. TriMet garnered support from ODOT Highway and Railroad Divisions to negotiate right of way approvals from the railroad company. Initially the private railroad company was resistant, due to spatial constraints and concerns for the safety of a large concentration of pedestrians adjacent to an active freight corridor, and it took considerable time to convince them to allow the recommended bus stop and pedestrian improvements. In some locations, TriMet mitigated railroad concerns by installation of a tall fence to prevent waiting passengers from standing too close to the rail line.

An as yet unsolved and significant challenge of the railway alignment is the tendency of people living south of the tracks to directly cross the tracks to reach the sidewalk and bus stop, rather than walking the distance to the nearest signalized crossing. Well-worn paths in the grass, leading from bus stops to the neighborhood across the tracks, are indicative that people continue to access bus stops in this hazardous way.

### **Street Crossings**

The relatively high speed limit along TV Highway along with the distance between signalized intersections present the challenge of ensuring safe means of crossing the street, since bus stops are usually placed as pairs along a bi-directional route. At one of the bus stop locations, the 2009 improvements included installation of a crosswalk with a flashing light at an intersection. This crosswalk was not effective in protecting pedestrians from traffic, so ODOT installed a fully signalized intersection. To accommodate the new intersection, TriMet needed to move the bus stop to a near-side location, which added to the costs for this particular site, but the resulting pedestrian environment was much safer.

### **Jurisdictional Partnerships**

TriMet has good working relationships in place, coordinates closely with the 26 jurisdictions it serves, and generally meets with cooperation in installing bus stop and amenity improvements - something that can be a challenge for many transit agencies. As the only public transit provider that serves the tri-county region, TriMet may have had fewer of the challenges typically faced by regional transit providers with service areas that overlap other transit providers. TriMet also has a great deal of authority in determining where bus stops should be placed and what amenities to install.

TriMet has been able to leverage grant resources to improve bus stops and pedestrian amenities with local resources, sometimes provided as in-kind staff support. When feasible, improvements are constructed and installed as part of a larger project such as adjacent land use development or street projects. TriMet participates in the jurisdictional site review process.

### **Community Involvement**

TriMet's Committee on Accessible Transportation (CAT) is a very active, highly organized advisory committee that provides TriMet with feedback and guidance regarding accessibility in all aspects of its services. Established in 1985, CAT's membership is comprised of 15 TriMet customers, including eight who are either seniors and/or people with disabilities, six representatives of seniors and/or people with disabilities, and a member of TriMet's Board. CAT establishes an annual work plan and meets monthly, with a forum for public comment held at each meeting. Each year, the CAT makes a list of recommended accessibility improvements for inclusion in the TriMet budget in the upcoming year. The CAT was very supportive of the 2009 TV Highway project, but was not directly involved in selecting specific locations or designing improvements.

### **Construction**

For pedestrian-oriented sidewalk improvement projects within the City of Portland, TriMet has been able to contract directly with the City to construct the improvements without a need for detailed engineering or design services. In other jurisdictions, such as those in TV Highway project, TriMet contracted with a private firm, but was able to fast-track much of the permitting via in-kind staff support from the jurisdictions which made up part of the local match of the project.

### **Maintenance**

Maintenance of pedestrian infrastructure is usually the responsibility of the jurisdiction or adjacent private property owner. However, in the case of the TV Highway project, TriMet has agreed to maintain some improvements that were constructed along the state highway.

### **Data Availability**

TriMet has technology in place that provides readily available fixed-route transit passenger activity data by stop (passenger boardings and deboardings as well as lift/ramp deployment). Automatic passenger counter (APC) technology provides data electronically, and a system-wide "census" is conducted every three months.

### ***Continuing Challenges in the TV Highway Pedestrian Environment***

There remain gaps in the pedestrian network around these 17 stops, including a short stretch of highway between a bus stop and an auto dealership that would link two busy bus stops. Obstacles were too great to overcome within the project timeline, and this work has been deferred. Additional funding and cooperation from the right of way owners would be needed to complete these segments.

On the positive side, while visiting several of the sites during the case study visit, TriMet staff were pleased to discover that additional connecting sidewalks had been constructed in the vicinity of a project site (presumably by the adjacent property owner, a major supermarket), further enhancing the pedestrian environment.

### ***Relationship to Paratransit Eligibility Determination Process***

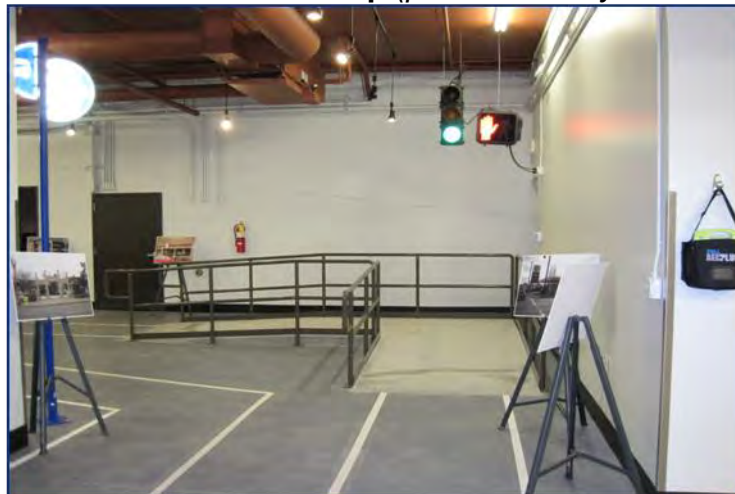
As noted earlier, in April 2010, TriMet implemented a new eligibility certification process for ADA paratransit customers, which now may include an in-person assessment of functional abilities as well as verification from a medical professional. All new applicants go through this in-person evaluation and about 50-60 percent complete the functional assessment. In 2010, TriMet has also begun a three-year process of recertifying existing customers under the new application requirements. Prior to 2010, TriMet relied on a paper self-certification process.

TriMet built a comprehensive testing course to conduct the in-person assessments, which includes Easter Seals Project ACTION's FACTS test and draws from elements in place at established testing sites in other communities. TriMet's course includes replications of various slopes and surfaces likely to be encountered in the pedestrian environment including uneven pavement, gravel, and grass. This way, TriMet LIFT program staff are able to assess specific conditions in the pedestrian network that would prevent a customer from being able to access the fixed-route service. A fixed-route lift and mock-up of the interior of a bus provide a simulated experience of boarding and deboarding a bus. The assessment course also in effect serves as an introductory step to travel training for those individuals who could learn to ride fixed-route transit. The assessment may also include a walk in the neighborhood and actual transit trip using bus and/or light rail.

**Figure 6-7. Part of TriMet LIFT's Assessment Course: simulating various surfaces and slopes in the pedestrian environment** *(photo courtesy of TriMet)*



**Figure 6-8. Part of TriMet LIFT's Assessment Course: simulating signalized crosswalk and curb ramp** *(photo courtesy of TriMet)*



Customers that are certified for conditional eligibility are provided with the locations of bus stops closest to their residence. Although TriMet now certifies for conditional eligibility, conditional eligibility is not yet administered as part of the trip reservations process. Currently, customers self-determine when they are able to take fixed-route.

TriMet was recently awarded a grant to integrate Google map satellite imagery with its online fixed-route trip planner, which once implemented will enable customers to view the walk to and from the transit stops on their trip as well as to check on grade, condition, and other attributes. This will provide customers with a powerful tool for determining whether or not a stop is accessible for them. This project is in the beginning phases of development.

## Low Floor Buses

Since 2004, TriMet has been transitioning its bus fleet with low floor vehicles, further enhancing the accessibility of the service along TV Highway and throughout the region. By 2017, TriMet will have replaced all of the remaining high-floor buses in the fleet (those with steps at the door).

## Related Planning Efforts

TriMet's Transit Improvement Plan is an annually-updated 5-year plan that provides a "road map" for transit improvements in the region, and a framework for TriMet's regional planning partners.

TriMet has an active On-Street Transit Facilities Development program, which funds bus shelter expansions, pavement and ADA Improvements, transit signal priority treatments, bus stop signs and customer information (including real-time information), installation of solar lighting in shelters, and program support/administration. Pavement and ADA Improvements is budgeted for \$90,500 per year under this program, which provides for improvements such as new sidewalks, curb ramps, and landing pads at approximately 30 locations. (*per FY 2011 TIP, p. 22*) The locations selected each year are typically spread throughout the region, based on criteria that include support of frequent service and planned improvements by jurisdictions.

TriMet has developed in-depth, comprehensive guidelines for its bus stops. The *Bus Stops Guidelines* were last revised in 2010. They document the TriMet Bus Stops Program goals, limitations, and priorities. Guidelines are provided for bus stop spacing, placement related to intersections, elements and amenities, on-street customer information, layouts/design of elements, roadway treatments, and pedestrian access. Planning and public involvement are also addressed in the guidelines, including citizen involvement, public notice of impending changes, complaint resolution, development review, and partnerships.

TriMet maintains a detailed inventory of its approximately 6,800<sup>10</sup> bus stops, including amenities installed, history of work orders, ridership data, and other attributes. Each stop is assigned a unique identification number, with its exact location included in a GIS database layer.

In 2002, TriMet and the Portland Regional Metropolitan Service Council (Metro - which serves as the regional MPO) compiled a GIS inventory of sidewalks. The inventory (updated by Metro) has been used to identify gaps in the pedestrian network around transit routes.

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<sup>10</sup> Source: <http://trimet.org/pdfs/publications/factsheet.pdf>, as accessed 12/18/12, p. 3.



Four priority corridors in need of better street crossing facilities near bus stops, including TV Highway, were the focus of a *Pedestrian Connection Analysis Project* study completed in October 2002. This study ranked locations in need of crossing improvements based on a weighted system taking into account the posted speed limit, the distance of each bus stop from the nearest signalized intersection, sight distance, number of travel lanes, street width, average daily traffic volume, recent pedestrian-auto collisions, the observed traffic environment, and the existence and condition of sidewalks and curb cuts.

In 2010, TriMet conducted a *Pedestrian Network Analysis* project around all of its bus stops. The project prioritized areas for improvement and included walkability assessments and recommendations in ten areas of focus. The analysis is now being used to support grant applications for sidewalk, crossing and accessibility improvements on several corridors and with partnership, including financial match, from several jurisdictions in the TriMet District.

## ***Conclusions and Lessons Learned***

- Establish realistic expectations - have a plan but realize that not everything will go according to plan. Anticipate adjustments and refinements in design.
- Involve all stakeholders from the beginning and keep them informed along the way. This will make it easier to get them up to speed on any issues that arise.
- Establish and maintain clear and frequent lines of communications, especially with adjacent businesses during construction phase.
- Where reasonable, bus stops should be accessible and should be located in support of agencies and programs that serve people with disabilities. ADA considerations will be given top priority in the siting and design of new and existing bus stops.
- Transit agencies should advocate strongly the importance of constructing sidewalks to bus stops. Regional planning targets, new or sustained transit service and targeted bus stop investments should be used to encourage those improvements.

## **RideOn, Montgomery County, MD: Bus Stop and Pedestrian Infrastructure Improvement Efforts**

### ***Introduction***

Montgomery County, Maryland is a suburb of Washington, D.C. and the most populous jurisdiction in the state, with a 2010 population of 972,000. The county provides fixed-route bus service, known as RideOn. Service is provided over 80 routes. RideOn ridership in FY 12 was 27.9 M, with almost 89,000 boardings on an average weekday.

Montgomery County is also served by the region's transit system provided by the Washington Metropolitan Area Transit Authority (WMATA). WMATA serves a multi-jurisdictional region stretching 1,500 square miles over two states – Maryland and Virginia – and the District of Columbia. WMATA operates 30 routes inside the county.

There are more than 5,000 bus stops in Montgomery County. This includes 3,732 exclusive RideOn stops, 352 exclusive WMATA stops and 873 shared stops. There are an additional approximate 300 stops of “minor providers” in the county, such as local shuttle programs. Montgomery County takes responsibility for all stops in the county, regardless of transit provider.

Bus shelters in the county are provided through a franchise agreement with Clear Channel, a private media company. Through this agreement, Clear Channel has installed and maintains 500 shelters, of which 400 have advertising panels and 100 are ad-free. At the end of the 15-year agreement, ownership of the shelters will transfer to the county.

ADA paratransit service is provided by WMATA, through a contracted service known as MetroAccess. In the early years of ADA paratransit, Montgomery County provided paratransit service that functioned as ADA paratransit for intra-county ADA demand, with WMATA providing inter-jurisdictional service in the WMATA region. By the early 2000s, WMATA became the sole ADA paratransit provider in the county. Montgomery County continues to provide specialized transportation services, including a subsidized taxi service for lower income seniors and persons with disabilities and prescheduled service for various senior facilities.

### ***Impetus for Bus Stop and Pedestrian Infrastructure Improvements***

Montgomery County was experiencing increasing numbers of pedestrian accidents and fatalities by the year 2000. From 1997 to 1999, the number of pedestrian accidents increased from 369 to 416 and fatalities increased from 11 to 18. To address this, the county formed a Blue Ribbon Panel on Pedestrian and Traffic Safety in June of 2000 to look specifically at pedestrian safety and to make recommendations to reduce pedestrian accidents and create more pedestrian-friendly, walkable communities within

the county. The Panel met and worked together in 2001 and 2002, issuing its report in 2002.

Among other recommendations, the Panel recommended that the county improve the safety of and around bus stops, such as relocating inconveniently placed and mid-block stops closer to intersections to encourage transit-using pedestrians to use crosswalks, and to provide safe crossings at all bus stops.

Following the Panel's report, the county commissioned a project to survey and assess all of the county's bus stops, those of both RideOn and WMATA. Key objectives of the project included:

- Assess the safety and recommend safety improvements at all bus stops in the county,
- Develop a Geographic Information System (GIS) spatial database as a tool to manage transit stop improvements,
- Improve pedestrian safety for all users at bus stops,
- Improve pedestrian accessibility at transit stops,
- Improve comfort, security and user information at bus stops.

The project, conducted over a two-year period from 2003 to 2005, created a comprehensive GIS database of all 5,000+ stops in the county and documented issues and problems with the stops based on the data collection and assessment. The issues and problems included:

- Unsafe pedestrian connections to the bus stops,
- Unsafe bus stop locations,
- Unsafe waiting areas at stops,
- Non-ADA compliant bus stops,
- Damaged or outdated signage, and
- Damaged or vandalized amenities at stops.

The project's pedestrian accessibility assessment focused on two elements – the landing pad and the pedestrian connections. The landing area element documented whether there was a landing pad and, if so, its size relative to ADA requirements. If no pad existed or the pad was not large enough, an assessment was made of whether there was enough right-of-way (ROW) clearance to expand or install a pad.

The pedestrian connections element assessed whether there was a sidewalk leading to the stop and, if so, did it connect to the landing pad. Information about curb-cuts, nearest crossing opportunity, crosswalks, pedestrian barriers and other access features affecting accessibility and safety were also collected and reviewed.

Based on the assessment, the project's final report detailed recommended improvements for the stops to improve safety and accessibility, including their pedestrian infrastructure.

## ***How Locations Were Selected***

The project prioritized the bus stop improvements, categorizing the stops into (1) high risk stops – those that pose immediate safety hazards to pedestrians/riders waiting at the stop or trying to access the stop; (2) moderate risk – potentially hazardous or lacking ADA compliant access; and (3) low risk – those that pose no immediate safety hazards and where improvements would address the comfort and convenience of the stop.

The county secured funding for all the recommended stop improvements, a total of approximately \$9.5 M, and efforts to begin making the improvements began in 2006.

## ***Implementation and Funding***

The county used its in-house engineering staff to design improvements that required engineering analysis and used two private construction contractors to make the improvements. The county also contracted for an individual to oversee and monitor the improvements. Coordination with the state was required for improvements on state highways, and this went smoothly.

Funding for the improvements has come from local county funds. Staff managing the bus stop improvement program has worked closely with other county departments, such as Traffic Engineering, and related county programs, including the Sidewalk Program and Pedestrian Safety Program, to coordinate efforts and maximize use of county resources.

## ***Results***

County efforts since 2006 have resulted in stop and pathway improvements as well as development of an innovative database to manage efforts and monitor progress. Data on pedestrian incidents show improvements.

### **Stop and Pathway Improvements**

A total of 2,510 bus stops have been improved through the end of calendar 2012, an average of 359 per year. The improvements thus far have included construction of 1,583 ADA compliant stops, 2230 ADA compliant pads, 72,414.5 feet (13.7 miles) of sidewalk linking stops to adjacent sidewalks and pathways, 735 intersections with ramps installed, and 61 new medians, providing, for example, pedestrian refuge islands or traffic calming.

The 72,000+ feet of new sidewalk construction accomplished since 2007 does not include additional sidewalk length installed as part of the county's Sidewalk Program. Staff members responsible for bus stop improvements, located in the Passenger Facilities Unit in the county DOT's Transit Services Division, work closely with their

counterparts managing the Sidewalk Program. This allows the bus stop program to leverage funding from the Sidewalk Program, with efforts coordinated to maximize installation of sidewalk improvements at and near bus stops. In FY 12 alone, the Sidewalk Program installed more than 50,000 feet of sidewalk, part of Montgomery County's ongoing efforts to improve pedestrian safety which include safe access to and from bus stops.

Costs for improvements through the bus stop improvement program total \$7,356,879 through the end of calendar year 2012. The average cost per improved stop is \$2,931; see Table 6-7.

**Table 6-7. Bus Stop Improvement Program Progress**

<b>Fiscal Year</b>	<b>Number of Stops</b>	<b>Total Cost</b>	<b>Avg. Cost per Stop</b>	<b>New Sidewalk Length (ft.)</b>	<b>New Pad Area (sq.ft.)</b>	<b>Number of New ADA Ramps</b>
FY07	161	\$682,025	\$4,236	5,811	25,242	84
FY08	482	\$1,712,288	\$3,552	14,588	36,613	229
FY09	634	\$1,269,266	\$2,002	11,768	33,149	242
FY10	392	\$1,221,636	\$3,116	14,275	19,196	193
FY11	368	\$1,083,157	\$2,943	12,031	17,415	220
FY12	392	\$1,156,012	\$2,949	11,621	16,655	135
FY13 partial	81	\$232,495	\$2,870	2,320	3,544	43

Source: Montgomery County Geo-Wiki "Annual BIP Progress," 2-12-13

County staff report that the stop improvement program is about 70% complete, compared to the recommended plan for improvements. Among additional stop improvements that the county has planned are construction projects that require county purchase of ROW from private property owners. Staff has determined that 257 stop locations require ROW acquisition, at an estimated \$15,000 per stop.

### **"Geo-Wiki"**

The county has developed a wiki site that staff has termed a "geo-wiki," in an effort to streamline their process of updating the bus stop database, coordinating improvements, generating and tracking bus stop work orders, surveying new stops, and monitoring bus stop improvement activity.

The geo-wiki site was developed using Media Wiki which is a free server-based software open source wiki package. The level of technical, computer, and networking expertise needed to develop such a site is moderate to high. It took Montgomery County approximately eight to 12 months to plan, develop, and deploy the site. The planning included one to three months of gathering user requirements from county departments that could utilize the information in the bus stop database.

The site is deployed on a cloud hosting service which is costing the county \$40 per month. Because this is web-based and hosted in the cloud through a third party, there were no capital costs in acquiring appropriate hardware such as server and/or disk

space since these were not necessary. Figure 6-9 provides a screen shot of one of the bus stop pages on the geo-wiki site. The top of the page provides a map of the location of the stop and a user can zoom in/out of the map or switch to a satellite view. Below the map are three photos taken of the stop. Clicking on the photo will provide an enlarged view of the photo as well as older photos (if any) of the stop. Below the photos are tasks associated with the stop, and the “task tag list” on the page provides a list of the planned activities/improvements. The bottom portion of the page provides information on the existing amenities and pedestrian access at the stop and any additional information concerning the stop location.

The geo-wiki website allows users with appropriate credentials to add, edit, or delete information in the bus stop database via a web browser. County staff surveying and assessing stops in the field can enter information directly in the database through most Internet-enabled mobile devices. The geo-wiki is interfaced with Google Maps and allows county staff to capture spatial information that will populate in the bus stop database without the need of a GPS enabled device. Additionally, photos that are taken of the stop can be uploaded directly to the database in the field. Since photos and survey and spatial data are entered directly into the database in the field, there is no downloading and uploading of information.

Additionally, the geo-wiki allows county staff to generate bus stop improvement tasks (work orders), assign them to the appropriate personnel, and track the progress and cost of the tasks to completion. Figure 6-10 provides a screen shot of the Pedestrian Access tab in the Survey Form page. The survey form page consists of nine tabs – Overview, Media, Trash Cans, Benches, Signs, Schedules, Shelters, Pedestrian Access, and Comments and Notes – which is used to collect information about the bus stop and have it directly entered in the bus stop database. The following provides a brief description of each of the nine tabs.

- Overview – Collects information on the location of the stop including spatial information (i.e., longitude and latitude) and routes that serve the stop.
- Media – Allows photos of the stop to be uploaded to the bus stop database.
- Trash Can – Collects information on the presence of a trash can.
- Benches – Collects information on the presence of a bench.
- Signs – Collects information on the bus stop pole and sign.
- Schedules – Collects information on the presence of bus schedules at the stop.
- Shelters – Collects information on the presence and condition of the passenger shelter.
- Pedestrian Access – Collects information on the passenger waiting area, sidewalks, and curb ramps.
- Comments and Notes – Additional information worth noting that is not already collected.

Figure 6-9. 'Geo-Wiki' Bus Stop Profile Page

**Bus stop 14514: SB NEW HAMPSHIRE AVE, NS EDNOR RD**





**5**  
on  
0 off

on

off

on

on



### Tasks

Add Task

**Task 456a**  
**Target Date:** 1 January 2007  
**Status:** New  
**Assigned To:** Lee Winestone  
**Program:** Bus Stop Improvement Program  
**Project:** Property Acquisition  
[View full task history for Bus stop 14514](#)

**Task tag list**  

- install sidewalk connector
- install landing pad

0% complete (0 of 2 tasks)

### Amenities

#### Posted information

Route ID	 	Sign	Schedule	Most recent update
Route	Provider	Sign	Schedule	Most recent update

### Pedestrian Access

[Link text=View or edit](#)

#### Landing area

(unknown).

The front landing area size is At least 5'x8' , and is located On-Curb. The surface material is made of Other hard surface, Grass.

The rear landing area is made of Other hard surface, Grass.

#### Sidewalk connections

This sidewalk connects to Trip Generator, Crossing Opportunity, To Landing Pad.

The distance from the bus stop to the intersection is 50'-100'.

The sidewalk is Over 5'wide.

There are curb cuts at All Corners.

### Comments

[[Comment: Property will need to be acquired at this location to complete improvements...]]

Categories: [Bus stops](#) | [Property Acquisitions](#)

**Figure 6-10. Pedestrian Access Tab in the Survey Form Page**

The screenshot shows the 'Pedestrian Access' tab selected in a survey form. The form contains the following fields and options:

- Add access information** (Section Header)
- Landing area size:** At least 5'x8' (dropdown)
- Landing area surface:**
  - ☐ Asphalt
  - ☐ Brick
  - ☐ Concrete
  - ☐ Dirt
  - ☒ Grass
  - ☐ Gravel
  - ☒ Other hard surface
- Landing area slope:** (dropdown)
- Landing pad elevation:** On-Curb (dropdown)
- Green strip width:** (dropdown)
- Rear landing surface:**
  - ☐ Asphalt
  - ☐ Concrete
  - ☐ Dirt
  - ☒ Grass
  - ☐ Gravel
  - ☒ Other hard surface
- Distance to intersection:** 50'-100' (dropdown)
- Sidewalk connection(s):**
  - ☒ Crossing Opportunity
  - ☒ To Landing Pad
  - ☒ Trip Generator
- Sidewalk width:** Over 5' (dropdown)
- Curb cut(s):** All Corners (dropdown)
- Summary:** (text input field)
- ☐ This is a minor edit
- Save page** (button) **Cancel** (button)

## **Ridership Results**

RideOn does not currently collect data on boardings by riders using wheelchairs. Thus, it is not possible to assess any increased use of fixed-route transit service with the accessibility improvements made to bus stops and adjacent pathways. Data related to improvements to pedestrian safety has been tracked and is discussed below.

## **Pedestrian Safety Results**

Pedestrian collisions and fatalities have decreased with improvements provided through the bus stop improvement program as well as concerted county efforts targeting pedestrian safety, including specific improvements for high incidence areas, such as new lighting, flashing beacons, and, in certain areas, fencing with tree planting to prevent unsafe street crossings. The county has also invested in education and enforcement, for example, at school locations with higher numbers of pedestrian

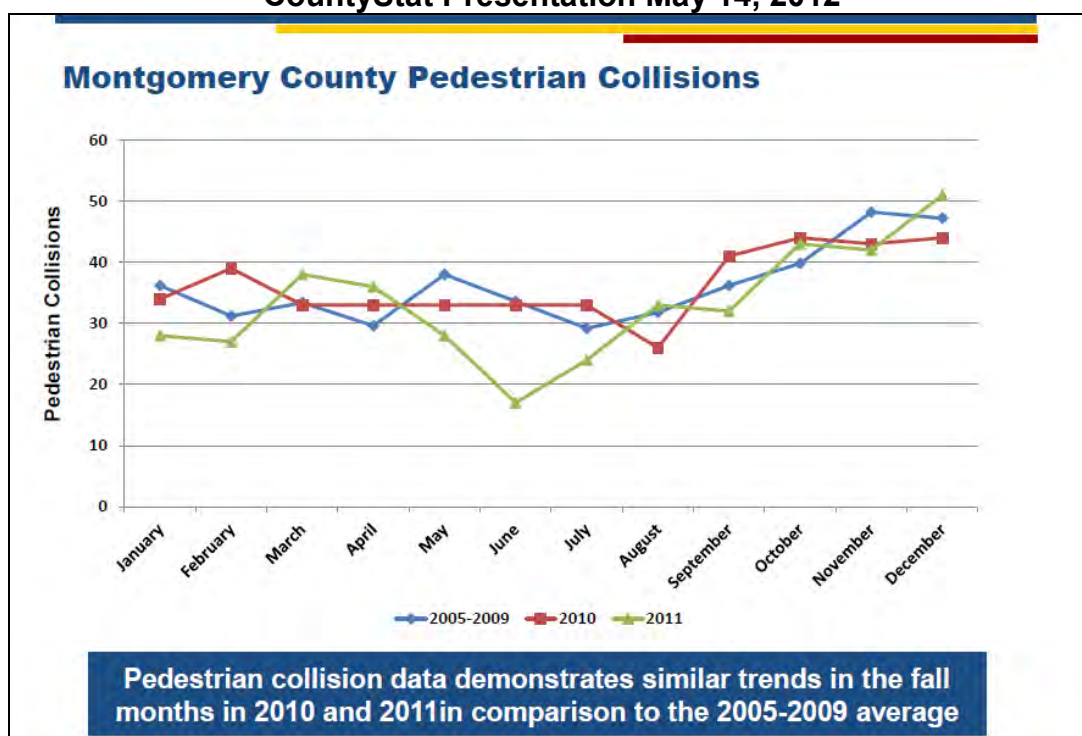


collisions, to improve safety. Analysis of collisions and fatalities has found that pedestrians are at fault in about 40% of the incidents.

According to available data from FY 2011 and compared to data from the Blue Ribbon Panel study in 2000, pedestrian collisions have decreased 4% since 1999 and pedestrian fatalities have decreased 39%. Fortunately, the latter remain relatively rare. Assessing improvements since 2005, the county reports that pedestrian collisions per 100,000 residents have fallen from 46.7 in 2005 to 40.5 in 2011, and the severity of the collisions decreased.<sup>11</sup>

It is important to note that the improvements have been achieved despite an increase in the county's population of 11% since 1999, which in turn has increased traffic on the county's roadways that are part of the Washington, D.C. traffic-congested region. A recent study ranked the D.C. region as the most traffic-congested metropolitan region in the country.<sup>12</sup> Figure 6-11 below depicts trends in pedestrian collisions since 2005.

**Figure 6-11. Excerpt from Pedestrian Safety Initiative Update, CountyStat Presentation May 14, 2012**



<sup>11</sup> Montgomery County, MD "The Paperless Airplane," posted May 2012 "Latest Analysis Shows Executive's Pedestrian Safety Initiative is Working"

<http://www6.montgomerycountymd.gov/apps/News/Blog/PaperlessBlog.asp?blogID=20&blogItemID=1904>

<sup>12</sup> 2012 Urban Mobility Report, Texas A&M Transportation Institute, December 2012.

## ***Related Stop Improvement Efforts in Washington, D.C. Metro Region***

### **WMATA – Regional Bus Stop Improvements and Efforts to Create a Standard Regional Bus Stop Database**

Efforts to improve bus stops and their infrastructure in Montgomery County served, in part, as a catalyst for WMATA to address bus stop improvements for the regional transit system. In 2005, WMATA hired a contractor to assess all Metro bus stops in its region, with the exception of stops in Montgomery County and Fairfax County, as Fairfax as well as Montgomery had just completed county-based bus stop improvement studies that WMATA could build on.

A key objective of the WMATA study was to create a *regional bus stop database*, which would include the stops of WMATA and of all the fixed-route transit services provided by the local jurisdictions in the region. In Maryland, this included RideOn in Montgomery County and The Bus in Prince George's County. In Virginia, this included The Connector in Fairfax County, ART in Arlington County, and DASH in the City of Alexandria. Once created, WMATA planned to update the database for its own stops, and to have the jurisdictions update their stops in the database.

Another objective of the study was to provide WMATA and the jurisdictions a systematic way to assess the accessibility, safety and amenities of each bus stop and plan for any necessary improvements.

Information collected by the contractor for each stop included:

- The geographic location including on-street, cross street, position (nearside, farside, mid-block), and the longitude and latitude coordinates (collected with a GPS-enabled hand-held computer device);
- Pedestrian accessibility, which focused on several elements, including the pedestrian pad, sidewalk connections, and curb ramp connections;
- Safety and security of the stop, which included assessing whether or not there was a traffic control device (traffic light or stop sign at the intersection), a pedestrian crossing signal, and a crosswalk at the stop location. Street lighting was also reviewed at each bus stop.
- Information/ signage, assessing any problems with the stop signage, its location, and the availability of route/schedule information and existence of an information case;
- Amenities, with the assessment noting the existence of a shelter, bench and/or trash receptacle and their condition.

The study, completed in 2007, included an assessment of 9,200 stops including:

- 3,349 stops in D.C.,
- 3,783 stops in Prince George's County,
- 1,065 WMATA stops and 417 local Arlington Transit stops in Arlington County,
- 225 WMATA and 182 local transit stop in the City of Fairfax,

- 99 WMATA and 59 local transit stops in the City of Falls Church, and
- 679 stops in the City of Alexandria (this work built on efforts conducted by the city in 2003 to assess local bus stops).

The study also included the assignment of a regional identification number for the bus stops in Fairfax County and Montgomery County. Such a number was needed for creation of a centralized regional database of bus stops and for Nextbus real time bus arrival information.

For all the stops, the study documented deficiencies and problems. The study found that D.C. has the highest percentage of accessible stops. The jurisdictions that are more suburban, particularly Prince George's County, have more issues with inadequate pedestrian pads and sidewalk connections.

After the study was completed, WMATA convened a regional bus stop database working group with representatives from each of the region's transit agencies, with an objective of reaching agreement about the regional bus stop database structure and its requirements. With agreement, WMATA and the jurisdictions would be able to update their respective bus stop information in a common regional database. Despite concerted efforts, however, agreement was not reached about the database structure among the jurisdictions.

### **WMATA's Continuing Efforts to Develop a Complete Regional Bus Stop Database**

Following the 2005 study, WMATA contracted for another bus stop study, with an objective of incorporating the bus stop data from Montgomery County and from Fairfax County into its regional database, which included bringing in data on both WMATA stops and the local jurisdictional stops. This data migration effort was successful, with information on all the stops from the two counties merged into the regional database. However, since the data collection and assessment studies for the two jurisdictions had somewhat different parameters than the WMATA study, there were missing fields.

In 2011, WMATA's third effort for the regional database involved adding the missing data on bus stops in Montgomery and Fairfax Counties. This most recent study, however, focused only on WMATA stops in the two counties. This meant that only WMATA stops have been updated in the regional database.

With a more complete bus stop database, at least for all the WMATA stops in the region, the transit authority has provided an online version of the database for internal WMATA staff use. For example, staff in the Bus Operations divisions and Planning Department can access the data for their purposes.

Staff of MetroAccess's ADA paratransit eligibility certification office also has access to the database, and there are plans to incorporate, as appropriate, a review of bus stops during the ADA paratransit eligibility certification process for applicants who may be

conditionally eligible. This review would be preliminary as a complete pathway review would also be needed.

### **Current Efforts to Share Data on Regional Bus Stops**

While region-wide agreement on a bus stop database structure was not successful, Montgomery County is working with WMATA to coordinate bus stop identifiers for WMATA stops (both shared with RideOn and exclusive WMATA stops) in the county, which will facilitate faster communication between the two organizations. Specifically, efforts are underway so that the county can access WMATA's bus stop database and link WMATA's stop identifiers to WMATA stops in the county and link that information with stop identifiers in the county's geo-wiki. This will allow the county to expeditiously prepare and transit work orders to WMATA when the county finds that WMATA bus stop signs are damaged or missing.

### **Input from WMATA Riders**

In its efforts to improve accessibility of its fixed-route transit system and its 12,000+ bus stops, WMATA has developed a form for riders to report accessibility problems at its stops; see Figure 6-12. A completed form is sent first to the Office of Bus Planning and a copy is provided to the MetroAccess Office of Eligibility Certification and Outreach. This latter office, which received about 60+ forms in the past year, has used the completed forms as part of its efforts to assess the accessibility of the region's fixed-route transit service. However, since WMATA does not have jurisdiction over its bus stops, the form is forwarded to the appropriate jurisdiction.

Information collected through this form has been used, in part, to determine priorities for stop improvements in D.C. Using grants funds, WMATA has been working with D.C. to identify and make improvements at bus stops which include ensuring ADA accessibility.

## ***Conclusions and Lessons Learned***

Montgomery County initiated an ambitious program of bus stop and adjacent sidewalk improvements in 2006, with a focus on improving safety at and around the stops, improving accessibility to and from the stops, and bringing stops into ADA compliance. The program is approximately 70% completed as of the end of calendar year 2012.

Lessons learned include:

- Management of the bus stop program has greatly benefited from the development and maintenance of a comprehensive database on stop and sidewalk improvements. The database – the “geo-wiki” – is an innovative tool to survey stops, to monitor efforts that improve stops, to manage contractors constructing improvements, and to share progress with other county

Figure 6-12. WMATA's Bus Stop Accessibility Problems Form – Page 1



## Bus Stop Accessibility Problems Form

Fill out applicable information to the best of your ability to assist Metro Office of Bus Planning staff in addressing your concern.

Input Information Below

Contact Information:	
Name of Person Filling Out Form, Address, City, State, Zip Code, Phone Number, E-mail, Agency, Department and/or Office & Title:	
Date Prepared:	
(Metroaccess Use Only) Customer Identification & Anticipated Use	
Metroaccess Customer ID #:	
How often do you use this bus stop? If stop is not accessible, how often do you anticipate using this stop if it became accessible? (Advise in number of times per week)	
Location of the Bus Stop Information:	
What street, state, zip code and D.C. quadrant (if in D.C.) is the bus stop on?	
What is the closest major cross street?	
What bus route(s) or destination(s) does the bus stop serve?	
What is the direction of bus travel on that street? (Northbound, Southbound, Eastbound, Westbound)	
What is the position of the bus stop relative to that cross street? (Before the intersection, After the intersection, Between intersections)	
Alternately, what is the address?	
What is the bus stop number or Regional Stop ID (if available)?	
Landing Area Issues: (An area for a lift/ramp to deploy, when getting on or off the bus)	
Is there a landing area that can accommodate a customer using a wheelchair?	
If so, are there problems with the landing area surface? Please describe the problem(s).	
Describe any obstacles that would limit the mobility of a wheelchair user? (i.e., trash receptacle, newspaper boxes, landscaping, etc.)	

Figure 6-12, con't: WMATA's Bus Stop Accessibility Problems Form – Page 2

<i>Input Information Below</i>	
<b>Bus Stop Signage Information:</b>	
Is the informational signage in a readable font size?	
Is there raised lettering and/or Braille on the sign? <i>(Braille is a reading format for those who are blind or have low vision)</i>	
<b>Pedestrian Issues:</b>	
Are there any potential safety concerns for pedestrians at or near the bus stop? <i>(i.e., lack of cross walk, lack of countdown signal, etc.)</i>	
Is there an audible pedestrian signal? Should an audible pedestrian signal be considered, if one is not provided?	
Is the sidewalk or pathway leading to the bus stop accessible for a person using a wheelchair or mobility device?	
Does the landing area connect to a sidewalk or pathway? If so, is the path clear of obstructions?	
Are there curb ramps at the street corners?	
Is there a tactile warning system (truncated domes) on the curb ramps?	
<b>Bus Bench and/or Shelter Issues:</b>	
Is there a bench or shelter at the bus stop?	
If not, should one be added? If so, a bench and/or a shelter?	
Is there room for a wheelchair user to maneuver into the shelter?	
Is seating available inside the shelter, if one is provided?	

Once this form is completed, please submit with any attachments to:  
 Mr. Bryant McClary, Bus Operations Specialist, Office of Bus Planning  
 Washington Metropolitan Area Transit Authority, 600 Fifth Street, N. W. Washington,  
 D.C. 20001, by email to [bkmccclary@wmata.com](mailto:bkmccclary@wmata.com) or by FAX to (202) 962-1277.

If you have questions, you may contact Mr. McClary at (202) 962-1177  
 or by email to [bkmccclary@wmata.com](mailto:bkmccclary@wmata.com).

**Metro Office of Bus Planning Staff Use Only**

Date Received by BPLN: \_\_\_\_\_  
 Date Forwarded to Jurisdiction: \_\_\_\_\_  
 Which Jurisdiction and Contact: \_\_\_\_\_

Revised: November 5, 2012

departments and specific related entities, such as the shelter franchisee that has access to the database to document needed shelter repairs and completion of repairs.

- When an improvement is needed at a roadway intersection for safer pedestrian accessibility, all four corners of the intersection should be improved if funding permits. This allows pedestrians and bus riders to access nearby activity centers from various directions.
- Construction of improvements can be more cost-effectively completed when working on stretches of continuous roadway. The county plans work orders for the contractors along continuous segments of roadways, to minimize their travel time between stop locations and maximize contractor time and efforts.
- It is very useful to build relationships with local and neighboring jurisdictions as well as intra-jurisdictional departments (e.g., the traffic engineering department) to facilitate implementation of improvements.
- As the transit provider and as the county government, the county has a responsibility for the bus stops and an obligation to meet federal ADA requirements regarding accessibility for persons with disabilities. When working with local jurisdictions within the county, inform the jurisdictions of intentions and plans for stop improvements.
- Planning for sidewalk improvements should investigate whether pedestrians have worn down pathways walking to and from stops, which may provide a template for new sidewalks.
- Be aware of future development projects that can affect an existing non-compliant bus stop, or one that is already compliant. Have the developer, as part of the development or redevelopment project, do the necessary ADA improvements to the bus stop or make sure you still have a compliant stop when the developer's work is done.

## **Intercity Transit: Bus Stop and Pedestrian Infrastructure Improvement Efforts**

### ***Introduction***

Intercity Transit is a municipal corporation that provides public transportation in an area of approximately 94 square miles, including the cities of Olympia, Lacey, Tumwater, and Yelm, in Thurston County, Washington. Olympia, the state capitol, is home to some 46,000 people. Intercity Transit operates 24 fixed routes, ADA complementary paratransit service (called, “Dial-A-Lift”), a commuter vanpool program, and a specialized van program for people seeking employment. In 2011, Intercity Transit system-wide service provided approximately 5.3 million rides. Ridership in general has been increasing – over 40% in the past six years.

Intercity Transit’s fixed-route transit system currently serves 933 bus stops. The agency has an active bus stop improvement program that has focused efforts on improving pedestrian/ADA access, specifically at stops, and also on connecting sidewalks. Intercity Transit’s stop improvement program has included the addition of shelters at some of the stops as well as a built-in display kiosk for route/schedule information and, when funding permits, solar lighting for improved night time safety. The agency has also been active in participating and requesting sidewalk and ADA accessible bus stops as part of the local land-use review and development permitting process.

In 2012, Intercity Transit constructed improvements at 47 bus stops, including accessibility improvements and installation of 28 shelters. Within the City of Olympia 16 bus stops were improved; 14 ADA landing pads were completed in collaboration with the City of Lacey’s roads improvement project, with a couple located in unincorporated areas of Thurston County.

On December 11, 2012, a member of the research team met with Intercity Transit’s Planning Manager, Planning Systems Coordinator, and Dial-A-Lift Manager, as well as a representative of the City of Olympia’s Public Works Department.

### ***Impetus for the Bus Stop Improvement Project***

Intercity Transit has had a bus stop improvement program in place for many years, but relies on regional funding to help accomplish some of the larger stop enhancement projects. In 2005 these efforts added 60 shelters, as well as many benches, information displays, and trash bins throughout the transit system’s service area; additional improvements have been constructed when funding permits. Each improvement involving construction also includes accessibility improvements if needed to come into compliance with ADA requirements for fixed-route transit service.



Intercity Transit has developed *Bus Stop Specification Guidelines* (most recently updated in 2010) which address bus stop spacing, accessibility, stop and shelter design and engineering guidelines. The *Bus Stop Specification Guidelines* are posted on-line and provided to jurisdictions and land use developers.

Within the last five years Intercity Transit's staff has also developed a GIS-based bus stop inventory. The process involved an assessment for accessibility, and all bus stops are listed under one of three categories:

- 1) Accessible – meets all ADA requirements
- 2) Functional – meets minimal ADA requirements (not as easily accessible, but can be accessed by persons with physical disabilities), and
- 3) Not – Does not accommodate person with physical disabilities.

Each stop has also been scored using prioritizing criteria and weighted scoring. Intercity Transit prioritizes shelter installations and other bus stop improvements based on criteria that include passenger volume (boardings and deboardings); service frequency (headways); proximity to major trip generators (including major employers, major retailers, high density residential sites, schools, and major medical, social and recreational facilities); proximity to facilities that serve elderly persons, people with disabilities, and low income individuals; location prominence (high visibility); and other factors such as cost considerations, traffic engineering concerns, and compatibility with surrounding land use.

Stop improvements have also been made in response to requests from customers. Occasionally, stops have been improved or relocated in response to a Dial-A-Lift request (and/or from the agency's Travel Trainer).

When planning to improve a bus stop, Intercity Transit works with each of the jurisdictions that bus stops are located in to see if they would be interested in participating in a larger pedestrian project, such as a pedestrian bulb-out for a stop located near a street corner. The answer is often "yes," with the city able to provide part of the funding through an interagency agreement. In this way, Intercity Transit is able to leverage more resources for improving bus stops.

In 2009, Intercity Transit received approximately \$350,000 in federal Surface Transportation Program (STP) Enhancement grant funding through the Thurston Regional Planning Council (MPO) to purchase shelters and improve bus stops, implemented through 2011.

Another STP Enhancement grant for \$240,000 was received in 2011, which funded the 2012 improvements.

### ***How the Locations were Selected for Improvements***

Most of the stops improved were selected based on their relative prioritization scoring by an internal review committee. The 14 improved stops in Lacey were selected to

coincide with planned road improvements, which enabled Intercity Transit to stretch its improvement resources further by leveraging City sidewalk improvement resources.

### ***Implementation of Improvements***

Intercity Transit contracts out engineering and construction of bus stop improvements, including those which were constructed during the summer and fall 2012. To allow for cost-effective, competitive contracting, at least 15-20 bus stops are listed for the improvement projects for each bidding opportunity.

Before and after photos provide examples of improvements which were installed in 2012.

**Figure 6-13. Before and After Construction of a Curb-Height Concrete Pad, with Ramp to Shoulder** (*photos courtesy of Intercity Transit*)



Figure 6-13: Due to the crown in the center of road with sloping to bus stop, wheelchair users had difficulties boarding a low-floor bus equipped with a ramp rather than a lift. Though the stop was technically ADA compliant, Intercity Transit proceeded with improvements in order to accommodate wheelchair users on low-floor buses. A 6" curbed shelter pad with ramp to the shoulder (on west side of shelter) has made this bus stop more attractive and accessible for users with disabilities. The ramp to the shoulder was needed because there are no sidewalks along this stretch of road.

**Figure 6-14. Before and After Construction of a Curb-Height Concrete Pad Spanning Culvert, with Ramp to Shoulder** (photos courtesy of Intercity Transit)



Figure 6-14: – Improvements constructed at this stop included using a 6" curbed landing pad with a ramp to the shoulder, since there are no sidewalks along this road. The stop was "functional," and now is "accessible."

**Figure 6-15 Before and After Construction of a Curb-Height Concrete Pad Extending from Sidewalk to Shoulder, and Shelter Installation** (photos courtesy of Intercity Transit)



Figure 6-15: Improvements included using a 6" curbed shelter pad and ramps to the sidewalk. The stop was "functional," and now is "accessible."



**Figure 6-16. Before and After Construction of a Curb-Height Concrete Pad, with Ramp to Shoulder, and Shelter Installation** (photos courtesy of Intercity Transit)



Figure 6-16: Improvements included using a 6" curbed shelter pad with a ramp to the shoulder level (no sidewalks along this stretch of road). The stop was "functional," and now is "accessible."

## **Results (Data Analysis)**

### **Overall System-wide Fixed-Route Ridership and Lift/Ramp Utilization Trends**

Intercity Transit compiled total system wheelchair boardings for years 2004 - 2011, as well as total ridership for comparison purposes. These totals are summarized in Table 6-8. Note that the totals for years 2004, 2005 and 2006 are based on hand counts for sample trips. Prior to 2008, this total was not routinely tracked; the staff time investment required to aggregate the 2007 total from primary sources was not feasible for this research study. The research team appreciates Intercity Transit staff's significant time investment to strategic data aggregation efforts to provide this research study with meaningful data.

As shown in the table, lift deployments and total fixed-route transit changes vary in relationship to each other from year to year. Substantially higher percentages of increase shown in 2005 and 2011 could potentially be attributed at least in part to bus stop improvements constructed in 2005 and 2010. Ridership before and after the 2010 improvements will be discussed presently.

**Table 6-8. Intercity Transit Fixed-Route Transit Ridership and Lift Usage Trends**

Data Year	Annual Fixed-Route Ridership		Difference from Previous Total		Percent Change from Previous Total	
	Total unlinked trips	Lift/ramp deployments	Total unlinked trips	Lift/ramp deployments	Total unlinked trips	Lift/ramp deployments
2004	2,759,290	19,315				
2005	2,874,140	26,241	114,850	6,926	4.2%	35.9%
2006	3,241,444	29,173	367,304	2,932	12.8%	11.2%
2007	3,635,842	29,086	394,398	-87	12.2%	-0.3%
2008	4,318,859	34,550	1,077,415	5,377	29.6%	18.5%
2009	4,292,319	34,531	-26,540	-19	-0.6%	-0.1%
2010	4,313,015	38,992	20,696	4,461	0.5%	12.9%
2011	4,505,329	39,923	213,010	931	4.9%	2.4%

Note: 2004-2006 totals are based on hand counts for sample trips

Data source: Intercity Transit

### **ADA Ridership**

Paratransit ridership was also examined to determine if there was a corresponding decrease in paratransit ridership from 2009 to 2011. Intercity Transit's ADA complementary paratransit service is called "Dial-A-Lift." Total boardings on paratransit and fixed-route transit services were obtained for these two years, and the changes in ridership on each were compared (see Table 6-9).

**Table 6-9. Comparison of Fixed-Route Transit and Paratransit Ridership and Operating Costs**

	Unlinked Trips (Boardings)	Total Operating Expenses	Fare Revenue	Total Operating Cost/Trip	Net Operating Cost/Trip
Dial-A-Lift					
2009	148,312	\$5,759,806	\$149,473	\$38.84	\$37.83
2010	152,977	\$5,830,989	\$160,737	\$38.12	\$37.07
2011	149,079	\$6,581,627	\$187,415	\$44.15	\$42.89
Change, 2009-2011	767	\$821,821	\$37,942		
Percent Change	0.5%	14.3%	25.4%		
Fixed-Route Transit					
2009	4,298,328	\$20,829,024	\$2,306,799	\$4.85	\$4.31
2010	4,313,015	\$20,466,991	\$2,414,920	\$4.75	\$4.19
2011	4,505,329	\$22,003,668	\$2,381,145	\$4.88	\$4.36
Change, 2009-2011	207,001	\$1,174,644	\$74,346		
Percent Change	4.8%	5.6%	3.2%		
2011 net savings for each trip shifted to fixed-route transit:					\$38.54

Data source: NTD profiles for Intercity Transit, 2009 - 2011

While fixed-route transit ridership increased by 4.8% from 2009 to 2011, paratransit ridership increased by only 0.5% during this period.

Net operating cost per trip was calculated for both paratransit and fixed-route transit service, by deducting total fare revenues from total operating expenses and dividing by total unlinked trips. In 2011, the average net operating cost for a Dial-A-Lift trip was \$42.89, while fixed-route transit averaged \$4.36 net operating cost per trip. Thus, the net average savings for each trip shifted from paratransit to fixed-route transit was \$38.54.

### **Ridership Changes Following 2010 Bus Stop Improvements**

Intercity Transit compiled wheelchair boardings and total boardings in 2009 and 2011 for each 24 bus stops improved in 2010. These data are detailed in Table 6-10.

The average cost per improvement for this group was \$6,858.60, including construction and amenities such as shelters.

The total annual number of fixed-route transit boardings across these stops increased by 13.6% from 2009 to 2011 - as compared to a 5% increase in fixed-route transit boardings system-wide. Even more striking is that lift deployments at these stops increased by 37% - as compared to 15.6% system-wide.

In 2011, Intercity Transit made 467 more lift deployments at these 24 stops than it made at the same set of stops in 2009, prior to the construction of improvements. If these 467 trips would otherwise have been provided in Dial-A-Lift, Intercity Transit saved \$17,996 providing these trips on fixed-route transit in 2011, based on the 2011 net difference per trip of paratransit as compared to fixed-route transit service.

### ***Bus Stop Accessibility Status***

Of the 933 bus stops, approximately 76% of Intercity Transit's bus stops are now ADA compliant, with 17% meeting minimum requirements and 7% not accessible.

### ***Customer Satisfaction Surveys***

Intercity Transit conducts on-board customer satisfaction surveys every 4 to 5 years, with 2008 being the most recent survey effort. Coming after the initial 2005 set of bus stop improvements, customer responses showed increased satisfaction with bus stops, although this was largely attributed to the presence of additional shelters.

**Table 6-10. Before and After Ridership at Intercity Bus Stops Improved in 2010**

Bus Stop ID#	Total Boardings Per Stop		Lift Deployments Per Stop		2010 Cost of Improvements*
	2009	2011	2009	2011	
2	19,883	30,249	36	156	\$9,446.47
51	3,211	3,065	0	30	\$6,946.00
73	4,762	4,595	86	1	\$6,934.00
79	12,023	13,353	68	127	\$7,196.00
158	2,338	4,018	1	1	\$7,446.00
164	5,578	6,573	35	33	\$6,934.00
235	3,942	3,623	0	5	\$6,934.00
246	4,781	5,418	3	0	\$7,434.00
262	4,629	8,863	30	0	\$7,434.00
269	5,290	6,558	18	49	\$6,484.00
270	5,245	4,253	2	23	\$6,934.00
271	6,346	7,028	16	23	\$7,196.00
324	10,740	11,786	83	144	\$7,196.00
327	40,263	37,544	546	644	\$3,450.00
329	6,346	10,398	80	54	\$7,196.00
339	3,232	5,578	57	47	\$6,934.00
351	4,030	4,292	1	80	\$6,946.00
391	3,185	3,829	48	38	\$6,684.00
438	1,471	1594	17	33	\$6,934.00
484	10,165	10,835	0	128	\$8,446.00
490	12,461	10,943	120	102	\$6,684.00
652	4,059	3,577	10	2	\$6,934.00
707	4,138	4,505	6	10	\$7,434.00
775	667	666	0	0	\$2,450.00
Total	178,785	203,143	1,263	1,730	\$164,606.47
Average Improvement Cost per Bus Stop, 2010					\$6,858.60
<u>Ridership Changes:</u>					
		<u>Total Boardings</u>	<u>Lift Deployments</u>		
Change, 2009-2011		24,358	467		
Percent Change, 2009-2011		13.6%	37.0%		
2011 net savings for each trip shifted to fixed-route transit: (from Table 2)					\$38.54
Cost savings in one year (2011 dollars) for 467 additional fixed-route transit wheelchair deployments (based on 2009 - 2011 totals):					\$17,996

## ***Implementation Issues***

### **Increased Awareness of Accessibility Among Jurisdictional Traffic Engineers**

Intercity Transit staff has noticed a marked increase in understanding of ADA and accessibility for transit riders and pedestrians among the jurisdictional traffic engineers with whom they coordinate with when improving bus stops.

The Planning Systems Coordinator maintains liaisons in traffic, public works, and community planning, and engineering plans for bus stop changes and improvements are sent to the appropriate jurisdiction for comment.

Intercity Transit has an active working relationship with all the jurisdictions in its service area. Intercity Transit also provides review and comments on land use and proposed development plans, as well as on changes to city code that would impact bus stops.

If bus stop improvements are proposed for installation on private property, Intercity Transit works with the property owner to develop a permit agreement.

### **Internal Coordination**

The Systems Planning Coordinator chairs an internal committee that meets weekly to review proposed land use and development plans regarding their impact on transit stops, and to discuss bus stop issues that have arisen in the preceding week. Operations, facilities, and planning are represented on this committee.

Drivers are also included in the bus stop feedback loop through discussions as part of a weekly drivers' committee meeting.

### **Community Involvement**

Intercity Transit solicits community input on bus stop improvement plans through the ADA Task Force of its Citizen Advisory Committee. The 20 Citizen Advisory Committee members include senior citizens, youth, people with disabilities, college students, business owners, social service agency representatives, neighborhood associations, the medical community, environmentalists and bicyclists.

### **Maintenance**

Intercity Transit's Facilities Department maintains amenities at bus stops, including trash removal. The jurisdictions maintain the sidewalks.

The Planning Systems Coordinator maintains Intercity Transit's bus stop database, updating whenever improvements are made and amenities are installed, as well as for service changes applicable to each stop.



### **Data Availability**

Intercity Transit's electronic fareboxes track boardings and deboardings by stop. The driver must manually push a button to record each use of the lift/ramp.

### **Availability of Bus Stop Accessibility Information**

The Planning Systems Coordinator can provide information on bus stop accessibility in response to customer requests. At this time, such information is not directly available to customer service telephone staff or through the Intercity Transit's online trip planning system, which is administered by Google. However, this is on the agency's potential list for future developments.

### **Relationship to Low Floor Bus Fleet**

Intercity Transit's fixed-route bus fleet now consists of 100% low-floor vehicles, which require a 6" curb in order for the wheelchair ramp to be deployed. This presents a challenge outside of the urban areas, where sidewalks are often missing. In such areas, Intercity Transit introduced a new application in 2012, a 6' curbed landing and/or shelter pad at the bus stop with a ramp to the shoulder level.

### ***Related Planning Efforts and Improvement Initiatives***

The City of Olympia has a progressive sidewalk improvement program supported by an active Bicycle & Pedestrian Advisory Committee (BPAC). The BPAC organized a massive volunteer effort and compiled an inventory of sidewalks on major streets, identifying 84 miles of missing sidewalks on streets classified as arterials, major collectors, and neighborhood collectors. Missing sidewalks were prioritized using a BPAC-developed scoring system that takes into account street characteristics and proximity to certain trip generators, including public parks, schools, public buildings, places of worship, shopping, and senior/community centers. The prioritized list was published in the 2003 Sidewalk Program, which has provided the City with a plan to improve sidewalks on major streets. When requested, local access streets may also be eligible for City-funded sidewalks following review against criteria that include traffic conditions, connectivity with arterials and transit, proximity to schools, parks, senior center/housing or place of worship, safety, and lack of alternate route. Efforts are focused on improving one side of the street, allowing the City to spread sidewalk resources along more streets.

The City of Olympia has two ongoing sources of funding for sidewalk construction. The largest source is Olympia's private utility tax that provides for approximately \$1 million per year for sidewalks under the Parks and Pathways funding measure, approved by voters in 2004. Sidewalk construction is also partly funded under Olympia's Capital Improvement Program Fund (which annually dedicated \$175,000 to sidewalk construction until 2009, when this funding was reduced).

Olympia also has an active pedestrian crossing improvement program. The City's Capital Facilities Plan designates crossing projects on a six-year planning horizon, updated annually, typically funded at \$30,000 or \$50,000 per year on alternating years. The types of pedestrian improvements that are constructed under this program include bulb-out sidewalks, lighting systems, crossing islands, signage and striping. Requests to install a marked crosswalk are first evaluated for pedestrian counts. Next, the City uses the Federal Highway Administration's assessment tool, The Safety Aspects of Marked and Unmarked Crosswalks at Uncontrolled Locations, to categorize and prioritize intersections for crosswalk needs. Intersections are also categorized as to where crosswalks are likely to have the greatest benefit, including high-density corridors, unsignalized intersections, arterials and major collectors, and downtown Olympia.

The City strives to install bulb-outs at all downtown intersections where feasible, a sidewalk design that is also often preferred by Intercity Transit for its bus stops.

The City was able to install 14 audible pedestrian signals in downtown Olympia, funded by a Community Development Block Grant of \$85,000.

Olympia is also a pioneer in installing pavement lighting in crosswalks, but found this system to be expensive to maintain and repair. Side-mounted rectangular flashing beacons are now the preferred approach.

To underscore the need for safe crosswalks near bus stops, both the City's representative and Intercity Transit's Planning Manager indicated that they have encountered individuals who, rather than get off the bus across the street from their destination and risk crossing at an unsignalized intersection, choose to ride the bus route to the end of the line, turn around, and then deboard on the correct side of the street.

For the past year, the City has been working with the Safe Routes to School program. Intercity Transit's Planning Manager is promoting the concept of safe walks to bus stops for inclusion in the City's Comprehensive Plan.

All of these programs and improvements have benefited all pedestrians, but have facilitated independent travel on fixed-route transit by persons with disabilities in particular.

### ***Support at the Highest Level of the Transit Organization***

At the policy level, the Intercity Transit Authority Board of Directors is very supportive of efforts to make transit stops accessible. This is a topic that is discussed at the Board level a couple times a year, and is an item for which the agency typically pursues grant funding to make this type of capital project actually affordable to a small transit system.

Intercity Transit has well-defined agency Vision and Mission statements that are supportive of improvement efforts, recognizing that “a ride on a bus starts before you get on it.” Therefore, investing in passenger amenities, which help improve a customer’s experience, is part of what Intercity Transit provides to the communities they serve. In addition to improving service comfort and accessibility, the agency also makes safety improvements for customers as well as for the bus drivers that may serve that stop. This includes constructing, where possible, curb-high stops and landing pads to accommodate Intercity Transit’s fleet of low-floor buses, which goes a long way in improving the ease of getting on and off a bus.

### ***Strategic Approach to Applying for Grant Funding***

Intercity Transit goes into each grant cycle application process having laid the groundwork of assessing bus stop improvement needs. This includes locations identified thorough an in-house process for identifying the stop locations and what improvement are initially needed. These locations could also come from suggestions from bus operators and/or from the public.

### ***Conclusions and Lessons Learned***

- Recognition at the policy level that the customer’s transit experience begins before they get on the bus is very important to garnering support for making bus stop improvements. Having the transit agency’s top leadership on board is essential.
- Going into the grant cycle application process with a game plan in mind - with improvement needs identified and prioritized through a systematic process - is important for successfully obtaining funding, especially when it comes to using taxpayers money. The intent of pursuing improvements needs to have a basis and criteria for why each stop has been chosen.
- Addressing the need for graffiti-prevention on new concrete pads is strongly recommended at the pre-bid meeting with construction contractors, as well as being written into the contract.
- Using a curbed landing/shelter pad, where there is no sidewalk available, is best done with two accessible ramps on either side of the pad. This will prevent erosion on the side without a ramp and decreases safety concerns of having a 6” curb suddenly appear in front of pedestrians, bike riders, and at times, vehicles.



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## **Appendix A. Copy of Task 3 Interview Guide**



### **Task 3 Interview Guide, TCRP B-40**

INTERVIEW GOAL: To find out if the individual has used the fixed route system (also referred to as fixed route service) currently or in the past, and what is important in allowing them to use the fixed route system, rather than other modes including ADA paratransit. How do various factors affect his or her decisions?

TO THE INTERVIEWER: It is not necessary to stick rigidly to the Interview Guide; it is only a guide about what information we are seeking. You can ask follow-up questions and other additional questions. If you are in doubt about how much detail to record, please err on the side of recording more detail than less. Each interview will be unique. For example, some questions mention the train, because some interviews will be conducted with people who live in locales where there is train service. If you know in advance, or if you find out during the interview, that there is no train service in the locale of this particular interviewee, you can stop mentioning the train as an option.

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Lower Case = Suggested language for the interviewer to use

UPPER CASE = Instructions to the interviewer

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Thank you very much for your time today. As you know, this interview is part of research by the Transportation Research Board to promote the use of fixed route transit by people with disabilities. (EXPLAIN "FIXED ROUTE" TO BE SURE THERE IS A CORRECT UNDERSTANDING OF THIS TERM. MENTION THE NAME OF THE LOCAL FIXED ROUTE SERVICE OR REFER TO IT AS **"THE BUS SERVICE THAT OPERATES ON SET SCHEDULES WITH SET STOPS"**). We are interviewing 30 people in various locations across the US. The information you give us will be strictly confidential. We will not share your name with anyone.

IF THE INTERVIEW IS BEING RECORDED, INFORM THE INDIVIDUAL AND REQUEST HIS OR HER CONSENT.

1. CONFIRM NAME, ORGANIZATION AND TITLE IF APPROPRIATE, LOCATION, CONTACT INFORMATION

2. What public transit services are available in your community, including services for people with disabilities?
3. Do you use a wheelchair or a scooter, another mobility device such as a walker or cane, a service animal, or other aid when you leave your home? (RECORD ALL MOBILITY DEVICES AND AIDS USED)
4. Do you currently use fixed route public transit, either the bus and/or the train? Have you done so in the past? How long ago?

OPTIONS FOR HOW LONG AGO:      6 MONTHS      1 YEAR      2 YEARS  
3 YEARS      5 YEARS      OTHER TIME PERIOD: \_\_\_\_\_

5. If yes, how frequently do you (or did you) use fixed route service?

OPTIONS FOR HOW FREQUENTLY:      DAILY      SEVERAL TIMES A WEEK  
ABOUT ONCE A WEEK      SEVERAL TIMES A MONTH  
ABOUT ONCE A MONTH      SEVERAL TIMES A YEAR  
OTHER FREQUENCY: \_\_\_\_\_



6. Do you currently use ADA paratransit? (EXPLAIN "ADA PARATRANSIT" TO BE SURE THERE IS A CORRECT UNDERSTANDING OF THE TERM) Have you done so in the past? How long ago?

OPTIONS FOR HOW LONG AGO:      6 MONTHS      1 YEAR      2 YEARS

3 YEARS      5 YEARS      OTHER TIME PERIOD: \_\_\_\_\_

7. If yes, how frequently do you (or did you) use ADA paratransit service?

OPTIONS FOR HOW FREQUENTLY:      DAILY      SEVERAL TIMES A WEEK  
ABOUT ONCE A WEEK      SEVERAL TIMES A MONTH

ABOUT ONCE A MONTH      SEVERAL TIMES A YEAR

OTHER FREQUENCY: \_\_\_\_\_

8. What other modes of transportation do you use? (such as private auto, private taxi, or non-ADA paratransit such as a senior van service or Medicaid transportation) Have you used them in the past? How long ago?

OPTIONS FOR HOW LONG AGO:      6 MONTHS      1 YEAR      2 YEARS

3 YEARS      5 YEARS      OTHER TIME PERIOD: \_\_\_\_\_

9. If yes, how frequently do you (or did you) use other modes of transportation, such as a private auto, private taxi, or non-ADA paratransit such as a senior van service or Medicaid transportation?

OPTIONS FOR HOW FREQUENTLY: DAILY SEVERAL TIMES A WEEK  
ABOUT ONCE A WEEK SEVERAL TIMES A MONTH

ABOUT ONCE A MONTH SEVERAL TIMES A YEAR

OTHER FREQUENCY: \_\_\_\_\_

10. TYPES OF TRIPS

- a. What type of trips have you made using the fixed route service?

OPTIONS FOR TYPES OF TRIPS CAN INCLUDE,  
BUT ARE NOT LIMITED TO:

WORK

SCHOOL

MEDICAL

SHOPPING

SOCIAL / RECREATIONAL

PERSONAL BUSINESS

OTHER TYPES—FILL THESE IN:

- b. Why do you (or did you) use fixed route service, rather than other types of transportation, for this/these types of trips?

- c. What type of trips have you made using ADA paratransit?

OPTIONS FOR TYPES OF TRIPS CAN INCLUDE,  
BUT ARE NOT LIMITED TO:

WORK

SCHOOL

MEDICAL

SHOPPING

SOCIAL / RECREATIONAL

PERSONAL BUSINESS

OTHER TYPES—FILL THESE IN:

- d. Why do you (or did you) use ADA paratransit service, rather than other types of transportation, for this/these types of trips?

- e. What type of trips have you made using other modes of transportation, such as a private car, a private taxi, or non-ADA paratransit such as a senior van service or Medicaid transportation?

OPTIONS FOR TYPES OF TRIPS CAN INCLUDE,  
BUT ARE NOT LIMITED TO:

WORK

SCHOOL

MEDICAL

SHOPPING

SOCIAL / RECREATIONAL

PERSONAL BUSINESS

OTHER TYPES—FILL THESE IN:

- f. Why do you (or did you) use these types of services, rather than other types of transportation, for this/these trips?

11. WHAT WOULD ENCOURAGE USE OF THE FIXED ROUTE TRANSIT SERVICE

- a. **IF THE PERSON INDICATED THAT THEY DON'T** CURRENTLY USE THE FIXED ROUTE SERVICE, ASK: Would you like to use the fixed route service? (bus and/or train)



12. What are the key factors when you decide whether to use the fixed route service (bus and/or train), ADA paratransit, or another mode such as a private car, a private taxi, or non-ADA paratransit such as a senior van service or Medicaid transportation?

**RECORD THE INDIVIDUAL'S KEY FACTORS. ASK FOLLOW-UP QUESTIONS AS NEEDED TO CLARIFY ANY NEW FACTORS.**

13. Can you help me understand the importance of these factors (THE FACTORS IN QUESTION 12 above) relative to each other? How important is each one, on a scale of 1 to 5, with 1 representing the least importance, and 5 representing the most importance?
14. ALSO TOUCH ON LIKELY FACTORS SUCH AS THE FOLLOWING. Here are factors that have sometimes discouraged some people with disabilities from using the fixed route system. Is this something that would be important to you? How do you rate each factor in importance, on a scale of 1 to 5, with 1 representing the least importance, and 5 representing the most importance?

IF THE PERSON HAS MENTIONED FACTORS OTHER THAN THOSE LISTED BELOW, ADD THEIR FACTORS TO THE LIST AND HAVE THE PERSON RATE THEM AS WELL.

- A. Lack of familiarity with, or experience using, the fixed route system

1      2      3      4      5

- B. Negative past experience(s) using the fixed route system (such as: bus pass by, inadequate or unfriendly driver assistance, poor lift reliability or excessive ramp slope, inadequate securement, lack of effective stop announcements, attitude of driver, attitudes of other riders). INTERVIEWERS SHOULD RECORD THE SPECIFIC NEGATIVE PAST EXPERIENCES MENTIONED.

1      2      3      4      5

- C. Negative perceptions of the accessibility or quality of the service, such as concerns listed in "B" above

1      2      3      4      5

- D. Poor service frequency or availability for the trips needed. WHAT IS MEANT HERE IS SERVICE THAT DOESN'T RUN FREQUENTLY ENOUGH, OR GO WHERE THE RIDER NEEDS IT TO GO.

1      2      3      4      5

- E. Rider's concerns for personal safety

1      2      3      4      5

- F. Parents' and/or caregivers' concerns for rider's personal safety

1      2      3      4      5

G. Distances to bus stops or stations

1      2      3      4      5

H. Barriers or inaccessibility in the pedestrian environment, such as sidewalks, crosswalks, curb ramps, traffic signals, and/or bus stops

1      2      3      4      5

I. Lack of information about potential barriers in unfamiliar locations

1      2      3      4      5

J. IF PERSON USES A MOBILITY DEVICE OR SERVICE ANIMAL, ASK: Problems or concerns about the ability of the fixed route service to accommodate you and **your mobility device or service animal**. By "mobility device," we mean a wheelchair, a walker, a cane, or etc.

1      2      3      4      5

K. Concern that using the fixed route system may negatively impact ADA paratransit eligibility

1      2      3      4      5



L. Cost

1      2      3      4      5

M. Complex or multiple transfers

1      2      3      4      5

N. LIST OTHER FACTORS MENTIONED BY THE INDIVIDUAL BELOW, AND ASK  
THAT SHE/HE RATE THEM FROM 1 TO 5

15. FOR ANY FACTORS THAT ARE RATED 3 OR HIGHER, ASK FOLLOW-UP QUESTIONS TO GET MORE SPECIFIC DETAIL IN ORDER TO CLARIFY THE EXACT ISSUES. FOR EXAMPLE: "I noticed that you rated 'Complex or multiple transfers' as a '4.' Could you tell me a little more about the concerns and issues you have with complex or multiple transfers?"
16. **Is there anything else you'd like us to know about what factors affect your choice to use the fixed route system, ADA paratransit, or another mode of transportation?**

Thank you so very much for your time today!

## **Appendix B. Copy of Task 3 National Survey of People With Disabilities**



# Public Transit Choices by People With Disabilities

**NOTE:** Transit Cooperative Research Project B-40 is closing the primary data collection phase of this survey. You are still encouraged to participate in the survey, as subsequent responses may still inform a future phase of analysis, and will continue to show your interest in improving transportation for people with disabilities.

Please participate in this survey if:

- You are a person with a disability\*

AND

- You live in an area with public transportation service, both fixed route service and ADA complementary paratransit service

**Note:**

*Fixed route service* is bus and/or train service for everyone, with advertised time schedules and established stops/stations.

*ADA complementary paratransit service* is on-request service, usually by van or sedan, for people with disabilities who have qualified as eligible for it.

The goal of this survey is to obtain information on riders' use of fixed route transit and ADA paratransit, and learn what is important to riders in choosing which mode of transportation to use.

This survey is part of a national study called Transit Cooperative Research Project B-40: Strategy Guide to Enable and Promote the Use of Fixed Route Transit by People with Disabilities. The goal of the study is to develop strategies to improve bus and train systems for people with disabilities.

If you're using a screen reader, you may want to navigate by arrow key rather than tab key.

\* You may also participate in this survey on behalf of a family member, client, or other associate with a disability

---

1. Are you completing this survey for yourself or on behalf of a family member, client, or other associate with a disability?

- ☐ For myself
  - ☐ On behalf of a family member, client, or other associate with a disability
-

2. Please indicate the city, state and zipcode where you live.

City

State

Zip Code

---

3. How would you describe the community in which you live?

- ☐ Rural
- ☐ Small Town
- ☐ Small City
- ☐ Suburban
- ☐ Larger City

---

4. Please indicate the disability or disabilities that affect your travel in the community? (Check all that apply)

- ☐ Blindness or vision impairment
- ☐ Mobility disability
- ☐ Intellectual/cognitive disability
- ☐ Psychiatric disability
- ☐ Other (please describe in comment box below)
- ☐ I do not have a disability

---

Comment Box

---

5. Is there a public transit agency in your community that provides both fixed route service and ADA complementary paratransit service?

- ☐ Yes

- ☐ No
  - ☐ Not Sure
- 

**Note:**

*Fixed route service is bus and/or train service for everyone, with advertised time schedules and established stops/stations.*

*ADA complementary paratransit service is on-request service, usually by van or sedan, for people with disabilities who have qualified as eligible for it.*

---

---

6. Please select the statement below that best describes your use of the public transit services in your area.

- ☐ I use the fixed route service, but don't use the ADA paratransit service
  - ☐ I use the ADA paratransit service, but don't use the fixed route service
  - ☐ I use both the fixed route service and the ADA paratransit service
  - ☐ I do not use either the fixed route service or the ADA paratransit service
- 

**Note:**

*Fixed route service is bus and/or train service for everyone, with advertised time schedules and established stops/stations.*

*ADA complementary paratransit service is on-request service, usually by van or sedan, for people with disabilities who have qualified as eligible for it.*

---

7. How often do you use the fixed route service?

- ☐ Almost every day
- ☐ Several times a week
- ☐ About once a week
- ☐ Several times a month
- ☐ About once a month

- ☐ About once a year
  - ☐ Other (please describe in comment box, below)
- 

Comment Box

---

8. What types of trips do you make using the fixed route service? (check all that apply)

- ☐ Work
  - ☐ School
  - ☐ Medical
  - ☐ Shopping
  - ☐ Social/Recreational
  - ☐ Personal Business
  - ☐ Other (please describe in comment box, below)
- 

Comment Box

---

9. What are the main reasons you use fixed route service, rather than other types of transportation, for these trips?

---

10. Would you like to use the fixed route service more often than you use it now?



- ☐ Yes
- ☐ No
- ☐ Not Sure

Comment Box

**11. Below are several factors that sometimes discourage or prevent people with disabilities from using fixed route as often as they would like.**

**On a scale of 1 to 5, with 1 being "not important" and 5 being "very important," please indicate how important these factors are to you when deciding whether to use fixed route service.**

	Not Important 1	2	3	4	Very Important 5
Fixed route service doesn't run often enough	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Fixed route service doesn't run at the hours I need to travel	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Complex or multiple transfers on fixed route service	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Cost of the fixed route service	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I'm not sure how to use the fixed route service	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Negative past experiences using the fixed route service	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Poor fixed route service quality	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Problems with stop announcements	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Concerns for my personal safety when using fixed route service	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Distances to or from stops/stations	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Barriers in the pedestrian environment getting to and from stops/stations	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Lack of information about potential barriers I may encounter getting to/from fixed route stops/stations	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Fixed route service doesn't accommodate my mobility aid as well as I would like	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Poor fixed route driver attitudes or assistance	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Attitudes of other fixed route passengers	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

12. Are there any other factors that are important to you when you consider whether or not to use the fixed route service?

- ☐ Yes (please describe below)
- ☐ No
- ☐ Not Sure

Comment Box

7. How often do you use the ADA paratransit service?

- ☐ Almost every day
- ☐ Several times a week
- ☐ About once a week
- ☐ Several times a month
- ☐ About once a month
- ☐ About once a year
- ☐ Other (please describe in comment box, below)

Comment Box

8. What types of trips do you make using the ADA paratransit service? (check all that apply)

- ☐ Work
  - ☐ School
  - ☐ Medical
  - ☐ Shopping
  - ☐ Social/Recreational
  - ☐ Personal Business
  - ☐ Other (please describe in comment box, below)
- 

Comment Box

9. What are the main reasons you use ADA paratransit, rather than fixed route service, for these types of trips?

10. Would you like to use the fixed route service for some of your trips?

- ☐ Yes
  - ☐ No
  - ☐ Not sure
- 

Comment Box

**11. What keeps you from using fixed route service? Below are several factors that sometimes discourage or prevent people with disabilities from using fixed route as often as they would like.**

**On a scale of 1 to 5, with 1 being "not important" and 5 being "very important," please indicate how important these factors are to you when deciding whether to use fixed route service.**

	Not Important 1	2	3	4	Very Important 5
Fixed route service doesn't run often enough	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Fixed route service doesn't run at the hours I need to travel	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Complex or multiple transfers on fixed route service	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Cost of the fixed route service	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I'm not sure how to use the fixed route service	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Negative past experiences using the fixed route service	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Poor fixed route service quality	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Problems with stop announcements	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Concerns for my personal safety when using fixed route service	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Distances to or from stops/stations	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Barriers in the pedestrian environment getting to and from stops/stations	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Lack of information about potential barriers I may encounter getting to/from fixed route stops/stations	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Fixed route service doesn't accommodate my mobility aid as well as I would like	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Poor fixed route driver attitudes or assistance	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Attitudes of other fixed route passengers	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

**12. Are there any other factors that are important to you when you consider whether or not to use**

the fixed route service?

- ☐ Yes (please describe below)
  - ☐ No
  - ☐ Not sure
- 

Comment Box

7. How often do you use the ADA paratransit service?

- ☐ Almost every day
  - ☐ Several times a week
  - ☐ About once a week
  - ☐ Several times a month
  - ☐ About once a month
  - ☐ About once a year
  - ☐ Other (please describe in comment box, below)
- 

Comment Box

8. What types of trips do you make using the ADA paratransit service? (check all that apply)

- ☐ Work
- ☐ School
- ☐ Medical

- ☐ Shopping
  - ☐ Social/Recreational
  - ☐ Personal Business
  - ☐ Other (please describe in comment box, below)
- 

Comment Box

---

9. Why do you use ADA paratransit service rather than fixed route service for some of your trips?

---

10. How often do you use the fixed route service?

- ☐ Almost every day
  - ☐ Several times a week
  - ☐ About once a week
  - ☐ Several times a month
  - ☐ About once a month
  - ☐ About once a year
  - ☐ Other (please describe in comment box, below)
- 

Comment Box

11. What types of trips do you make using the fixed route service? (check all that apply)

- ☐ Work
- ☐ School
- ☐ Medical
- ☐ Shopping
- ☐ Social/Recreational
- ☐ Personal Business
- ☐ Other (please describe in comment box, below)

---

Comment Box

---

12. Why do you use fixed route service rather than ADA paratransit service for some of your trips?

---

13. Would you like to use the fixed route service more often than you use it now?

- ☐ Yes
- ☐ No
- ☐ Not sure

---

Comment Box

**14. Below are several factors that sometimes discourage or prevent people with disabilities from using fixed route as often as they would like.**

**On a scale of 1 to 5, with 1 being "not important" and 5 being "very important," please indicate how important these factors are to you when deciding whether to use fixed route service.**

	Not Important 1	2	3	4	Very Important 5
Fixed route service doesn't run often enough	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Fixed route service doesn't run at the hours I need to travel	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Complex or multiple transfers on fixed route service	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Cost of the fixed route service	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I'm not sure how to use the fixed route service	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Negative past experiences using the fixed route service	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Poor fixed route service quality	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Problems with stop announcements	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Concerns for my personal safety when using fixed route service	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Distances to or from stops/stations	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Barriers in the pedestrian environment getting to and from stops/stations	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Lack of information about potential barriers I may encounter getting to/from fixed route stops/stations	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Fixed route service doesn't accommodate my mobility aid as well as I would like	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Poor fixed route driver attitudes or assistance	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Attitudes of other fixed route passengers	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

**7. Please describe below the reasons you do not use the fixed route service in your community.**



8. Please describe below the reasons you do not use the ADA paratransit service in your community.

9. Would you like to use the fixed route service?

- ☐ Yes
- ☐ No
- ☐ Not sure

Comment Box

**10. What keeps you from using the fixed route service? Below are several factors that sometimes discourage or prevent people with disabilities from using fixed route as often as they would like.**

**On a scale of 1 to 5, with 1 being "not important" and 5 being "very important," please indicate how important these factors are to you when deciding whether to use fixed route service.**

	Not Important 1	2	3	4	Very Important 5
Fixed route service doesn't run often enough	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Fixed route service doesn't run at the hours I need to travel	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Complex or multiple transfers on fixed route service	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Cost of the fixed route service	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I'm not sure how to use the fixed route service	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Negative past experiences using the fixed route service	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Poor fixed route service quality	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Problems with stop announcements	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Concerns for my personal safety when using fixed route service	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Distances to or from stops/stations	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Barriers in the pedestrian environment getting to and from stops/stations	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Lack of information about potential barriers I may encounter getting to/from fixed route stops/stations	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Fixed route service doesn't accommodate my mobility aid as well as I would like	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Poor fixed route driver attitudes or assistance	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Attitudes of other fixed route passengers	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

This survey is for people who live in areas where there is fixed route transit and ADA paratransit service. If your answer to the previous question, which indicated that these services are not both present in your area, was incorrect, you can click on the 'Back' button below to go back and correct your answer. If your answer was correct, there are no further questions. Thank you. Your participation is greatly appreciated.

## Thank You!

Thank you for completing this survey. Your response is greatly appreciated.

## **Appendix C. Comments From Task 3 Survey Respondents**



Following are selected comments from people with disabilities who completed the Task 3 survey.

## ***Frequency of Use***

### **Respondents Who Use Only ADA Paratransit**

#### **Selected responses to “How often do you use the ADA paratransit service?”**

- At \$4.00 per round trip (there and back) I use it sparingly since I'm on a very, very low government regulated income
- Hard to get a reservation
- Due to budget cuts the paratransit services are very limited. I do still have them for now.
- It stays so busy doing non-emergency medical transport, it is very difficult to get on the schedule for work or recreational activities.

### **Respondents Who Use Both the Fixed-Route Transit System and ADA Paratransit**

#### **Selected responses to “How often do you use the ADA paratransit service?” as well as “How often do you use the fixed-route transit service?”**

Comments that mentioned factors that steer them towards using ADA paratransit, but which could be improved and possibly change the individual's mode choice:

- As needed, I just got a power wheelchair. Waiting until late spring, to get lessons on how to ride bus and subway. Only twice, I had bad experiences. I am scared of wide space getting on subway train. Plus, I think a boy was going to hit me. Because I hit his heel.
- Lots of our Bus Stops & access to & from them are not accessible.
- I use paratransit only to keep it active. Because of the inaccessibility of fixed-route transit in my area, I don't go a lot of places unless I must.
- Many bus stops are not accessible so I use paratransit in many cases. Sometimes I need to go to destinations only once or twice a year that would require extensive orientation.

Comments about on-time performance on ADA paratransit, as well as praise for this system, including:

- As a blind person I must say, transportation is the most valuable thing we have to substitute for the absence of our sight. It gives us the freedom to move about independently and enables us to be individuals just like everyone else. If this is taken away from us, it will be devastation for the blind happen to be in a category of their own when it comes to trying to live independently. It is the most valuable asset we count on to allow us a next to normal independence.
- I use paratransit as a last resort because I have found that I can't count on getting to destination on time. Also find customer service to generally be quite

rude. Have given up on filing complaints as nothing changes. Wish it were more dependable as cabs pose a significant financial burden.

- Paratransit is unreliable, late, 30-minute windows, with many delays.
- Rarely, as the service is unreliable, often-times hours early or hours late and the vehicles they use exacerbate my sensory processing disorder and impair my ability to function
- The paratransit service in my county is quite unreliable. Sometimes drivers arrive within the 30-minute window, but frequently are late when picking me up (I've waited for over an hour for pick up). Also, I've heard that some workers who use it are frequently late for work because the paratransit has to pick up several people within the same time frame and workers can't guarantee that they will arrive to work on time, or be picked up to go home on time.
- He only uses fixed-route transit service when accompanied by an aide or parent.
- I always try to use fixed-route transit first. When I feel it is not going to be safe, I will then do the ADA. If I am feeling well and I have the time and the route is ok for me to handle with my mobility skills, I will always use fixed-route transit. Otherwise, I like knowing that ADA is available.
- I am an independent traveler with good mobility and orientation skills. Whenever possible I use fixed-route buses. However, due to environmental barriers such as large streets, hard to navigate neighborhood sidewalks, large open spaces with no landmarks, etc. the convenience of paratransit services allows me to travel to my destination safely and securely.
- I can, and would rather, scoot to where I need to go.
- I use paratransit very rarely. I sit on two ... Transit Boards and my community Paratransit Board. I try to promote the use of mass transit whenever possible.
- I use the fixed-route transit service to go home from work if a family member is unable to pick me up
- I use the fixed-route transit system as often as I possibly can to take care of my moving about the city. I prefer it to PT hugely, but still, there are times when I must use the paratransit system.
- I use the fixed-route transit system when I know I can safely get on and off the bus; where I know I can get to my destination safely.
- It varies greatly. I might not take a bus at all in the winter or one ride per month. When the weather is better, I can wait 45 minutes or an hour for the bus and not suffer from the cold. There are practically no bus shelters on my bus lines. It also depends on where I have to go. And on the reliability of the buses.
- I have had a number of bad experiences. Injuries on and waiting for the bus from seizures. People take my purse and leave you for dead. I took fixed-route transit home from a doctor appointment, only to wake in the trauma room of the same hospital I left earlier. Drivers have no education regarding conditions like this.
- If I am already at work, I can walk across the street, and get on fixed-route transit to several of my favorite destinations.
- I'll use it for short distance trips when it's safe for me to travel.
- I'm an avid and staunch believer in public transit

- In July 2010 the system developed a commuter route that runs twice in the morning and twice in the evening. I currently use this service to get to and from work. Once the company I work for relocates to ... County in June I will have no choice but to use this route in the morning connecting with ADA service in ... County, and then using ADA services from both Counties to get home. I essentially only have one schedule option - miss the bus and don't work that day.
- In nice weather.
- Because I am beginning to travel and anticipate traveling in other cities and states - I need to understand [the fixed] route service to get around.
- Not often at all.
- Not unless ADA transit does not pick me up. And I need to get home.
- On very limited occasions when I decide to make last minute trips.
- Paratransit is prohibitively expensive to use to and from work. It would cost 5 k per year to travel to and from my job every day, and I only take home 20k. I support a family of 3, so I take a paratransit van to the nearest bus stop in the morning followed by 2 buses to get to work in the mornings. This takes an hour and a half to travel 6 miles. It saves me 2k a year, but is exhausting. I'm forced to choose between the so-called convenience of a van ride, or groceries for my family.
- This allows me to leave whenever I want and not have to schedule my ride in advance.
- Twice a week with supervision
- Use fixed-route bus and train to complement paratransit services. Allows for more mobility around the area and less time in vehicles.
- Used to use it weekly, but the company changed the routes, eliminating my ability to get to a fixed-route transit location to get on the bus
- When both my medical condition and also the weather allows I may take fixed-route transit several times a day. Other times I may take fixed-route transit several times a month.
- When I need to go to a place without planning it.
- When I'm without my personal vehicle
- When the weather allows I can ride my power chair to work.
- When working, I was using it daily. If employed again where I can travel via public transportation, I will gladly use it every day.

Comments that suggest if certain conditions change, it could affect their mode choice to use fixed-route transit more:

- I ride fixed-route buses when I am accompanied by my husband. I am totally blind. He is visually impaired and knows our city much better than I do.
- I would use it more if the bus stop at my employer's location was equipped with a crossing signal to enable safe crossing of the busy street
- Sometimes I get so disgusted with the lack of training of the drivers on the lifts, the time-consuming problems and uncertainty of getting on and off the lift because the drivers don't know what to do, and the long waits between buses

that I decide it is easier to take paratransit. That's saying something when paratransit is more reliable (in general) than the fixed-route transit system!

- When need to use it, much to my dismay, the ... does not update the captioning or the audible announcements on the fixed buses. For example, in ... we have a place called the loop. The bus announcements and the captioning do not make the announcement that this is the loop. Another example is, we used to have Caldur Plaza in (city name), which does not exist anymore. The captioning and bus announcement still announces "Caldur Plaza" when it in fact does not exist anymore and in its place is a Walmart.
- I cannot use fixed-route transit service when there is snow on the ground: the areas near the bus stops are generally not cleared well enough for the bus to stop near the sidewalk and put down the ramp.

Other interesting comments by respondents who used both modes of service:

- I do not like paratransit but must use it during winter months but do not use it in warm weather unless it is absolutely necessary.
- I only use ADA paratransit service when the weather is inclement and/or it is not easy for me to get to my destination using the fixed-route system.
- I use fixed-route transit if it is somewhere I have been to before and am familiar with locating the stop and building. I use paratransit if I am unsure of where the bus stop is from the building or am not sure of where I will be dropped off in relation to the building.
- I use paratransit in the wintertime.
- I use Paratransit whenever there isn't an easy way to get to the destination on public transportation.
- I use the ADA paratransit service during the winter when the snowfall makes it impossible to find landmarks to know where I am when walking to the bus stop. I also use it when traveling to an unfamiliar location.
- It depends on the route if I can take fixed-route transit to the location, to save my money. If don't have fixed-route transit to drop off, then take ADA but the problem is, need to make reservation two weeks in advance.

### **Respondents Who Use Only the Fixed-Route Transit Service**

#### **Selected responses to "How often do you use the fixed-route transit service?"**

- A few times a year when there is an event downtown with parking issues
- Commute to work, meetings, etc.
- I am on SSD and cannot afford public transit except for emergencies
- I avoid public transit due to the time commitment to do so. I would much rather pay someone to take me. My husband and I offer rides to those who may be attending some of the same events as we are. We also offer rides to friends and neighbors in need.
- I can't really use it much because I have too much anxiety about not being able to see the number on the bus or know when to get off.



- I don't use Paratransit because they say I don't qualify, even though I meet [the] guidelines, but because I have a mobility device and a fixed-route bus stop near my home, they say I don't qualify.
- I go to a sheltered workshop ... every day
- I hate it. They strap you down. [Another city's] light rail fills me with jealousy.
- I have a lift-equipped van which I use all of the time. When it is not working or I can't operate it I use public transit.
- I have my own vehicle. It is less painful to drive than feel the constant stop/start of the bus.
- I ride [the subway] a couple times a month from May through September (warm months). I ride the bus once a year.
- I use it every day, multiple times a day both for personal and work reasons.
- I use it to go everywhere.
- I use it when I can afford to.
- I would not be able to attend school currently without the bus service.
- I would use it more if it offered more times and stops.
- The route between the bus stop in my residential neighborhood and my house had no curb cuts, until recently. I may use the bus more often now.

Comments that praised or criticized the fixed-route transit and/or the ADA paratransit service:

- It is a good service
- I use the fixed-route transit service even though holding onto a strap or a pole is very painful and I usually cannot get a seat (my disability is invisible), because the paratransit service is terrible! I am a social worker and have witnessed my clients suffering due to late rides leaving people with disabilities standing outside in very hot or very cold weather for long periods of time, rude drivers, and outright fraud (claiming to have picked up clients when they have not been picked up). Many of my clients cite problems with [paratransit] as the largest source of stress in their lives.
- Long delays. Will suspend person if they have more than eight call offs with less than 24-hour notice, even if they are ill.
- [Our] buses are all accessible. Although there is a series of buses with a newer design that is convenient. These are preferable because the bus kneels and then drops a ramp (I don't get lifted - I like this and feel more in control and secure). Then I back in to an area behind the bus driver with a big pad. It uses a physics principle and my scooter's breaks to ensure I don't move and therefore I do not have to get all anchored in. This means I have more freedom and do not feel like a special case - I can also exit the bus without assistance.
- [Fixed-route transit is] more reliable than paratransit

Comments suggesting that a change in the conditions of transportation could result in more fixed-route transit use:

- I drive an adaptive vehicle but would use fixed-route transit service more if it had greater accessibility.

- I would use it more if the sidewalks and pedestrian routes were more accessible
- Used to use it and need a refresher on how to use it

## ***Types of Trips***

### **Respondents Who Use Only ADA Paratransit**

#### **Selected responses to “What are the main reasons you use ADA paratransit, rather than fixed-route transit service, for these types of trips?”**

Comments that gave disability-related reasons that appear to preclude use of the fixed-route transit system:

- Because I get confused about the routes and I talk to strangers
- Being developmentally delayed the fixed-route transit service is too complex for use
- Client cannot safely navigate community - walking to bus stops, knowing where to get off bus, etc.
- I am blind and also use a wheelchair and am not able to get to the bus stop.
- My consumer cannot comprehend bus schedules to the degree necessary for safe transportation and he has behavioral issues that prevent this as well.
- Physical disability makes it dangerous to ride regular service (need to get to seat before bus moves)

Comments that underscored the positives of ADA paratransit:

- Door to door service
- Direct Trip (otherwise it would be 3 buses)
- More convenient
- Time spent on the bus would take about 1.5 hours each way to get to my job location.

Comments that suggested certain aspects of the fixed-route transit system that could possibly be changed:

- Bad bus scheduling; lack of bus service in my area; lack of accessible schedules; lack of accessibility of bus stops.
- Because I'm not familiar with the fixed bus routes
- I like the ADA paratransit service because my city does not do an excellent job of sidewalk upkeep; in just the block across the street is one crack so high I can't pop a wheelie to get over it so must use the driveways and the road if I'm out “walking.” The fixed-route transit stops are 2-3 blocks away so I'm scared of tiring or being stranded in a sidewalk crack I can't get out of by myself.
- I only use the paratransit system because the ... bus drove right past me once & he saw me waiting for the bus, so I know it was because he did not want to deal with having to tether my wheelchair down. SAD Day.

- I have a fixed-route transit stop near me, but my health is different every day. One day I can walk far, no problem, and other days I can only make it to the curb.
- It is more difficult as a blind person to make the bus connections. I would have to knock on the doors of the buses to ask what bus number they are when they are at the hub.
- Need paratransit for scooter
- No good bus stops
- No sidewalks, no audible signals on busy intersections, no announcement of stops on buses, drivers talking on phones and not noticing pedestrians.
- The general public has stated to me that I don't have the right to use the public transportation because my wheelchair takes away several seats that they pay to have the right to sit in.
- Sometimes if we are shopping, we will forgo paratransit and take the bus home. Other riders make it hard, by staring and saying things like "Isn't that what paratransit is for," and if an alarm goes off other riders look like they are ready to climb out a window. The drivers do not help for the most part: They make comments under their breath like "now I am going to be real late" or "Now I get no break at all," making you feel like a pariah. Other riders act like you are contagious, or simply not wanted on the bus. On paratransit at least the other riders will say Hi and the driver does not act put out because your power chair has to be strapped down.
- Bus drivers inconsistent in getting to curbs, using the lift; seem to be bothered by doing out-of-the-norm duties, such as assisting disabled people

### **Respondents Who Use Both the Fixed-Route Transit System and ADA Paratransit**

**Selected responses to "What types of trips do you make using the ADA paratransit service?" followed by "What types of trips do you make using the fixed-route transit service?"**

Common reasons for using ADA paratransit included:

- I use ADA paratransit when there are barriers to using fixed-route transit such as no accessible path of travel.
- I use paratransit to destinations where there's inaccessible stops

Common reasons for using fixed-route transit included:

- During warm seasonable weather.
- Emergency trips to hospital
- Everywhere I go during warm weather when possible.
- I take the Commuter Rail to and from my parents' home, only because Paratransit cannot get me there.
- I use it for something fun to do with my daughter, sometimes.
- I use it mostly to go back and forth from the mechanic when my wheelchair accessible van is being repaired

- I use this with the assistance of a job coach—a person who is paid to care for me during the day.
- I will sometimes use one method to get somewhere and another to get home.
- If there is a mix up at van service and only thing to do is get a bus ride.
- My husband and I do shopping, go out to eat, and take care of personal errands downtown on fixed-route transit buses.
- Social and recreational activities when I am traveling with a group of individuals.

### **Respondents Who Use Only the Fixed-Route Transit Service**

#### **Selected responses to “What types of trips do you make using the fixed-route transit service?”:**

- I drive for most transportation primarily because the bus stops aren't on accessible routes from my home, my daughter's school, errands, etc.
- I have used the fixed-route transit system to participate in a Blues Challenge event. Riding the bus and playing the Blues go together.
- I use city bus and commuter train on the weekends when my boyfriend is unable to drive me.
- I would like to use it for other things as well so I could be more independent and not have to rely so much on others, if the bus ran more frequently and had more stops
- Leisure, shopping, you name it, political activism, civic participation; I am basically 100% transit dependent.

### ***Reasons for Choice of Transit Mode***

#### **Respondents Who Use Only ADA Paratransit**

#### **Selected responses to “What are the main reasons you use ADA paratransit, rather than fixed-route transit service, for these types of trips?”**

- It is cheap in price for a ride. I do everything slowly because of ataxia and the paratransit drivers are very good about helping me when I am real slow.
- Clients are not able to use the fixed-route transit system on their own.
- Dirt roads without sidewalks to get to the bus system. Climate, too cold to wait outside or to travel to the nearest bus stop
- Accessibility, there is no fixed-route transit service within my immediate area. Flexibility, ADA [paratransit] offers more flexibility in terms of time
- Because I get confused about the routes and I talk to strangers.
- Because of a neurological condition and fatigue, I often have poor control of my power wheelchair.
- Because of my disability with vision, cognition and mobility using a fixed-route bus system is very difficult. I am unable to stand for long periods of time when the bus is moving. There is also difficulty with cane placement in the bus systems and other passengers getting around the cane (four prong). I also have difficulty

with getting on or off the bus due to not being able to visually see and calculate depth.

- Because of my vision and hearing impairments, I get disorientated at times. I also have a difficult time understanding the drivers of the fixed services routes.
- Because the bus stop is not in a good location for me to use it. The bus stop is near a very busy highway and there are no sidewalks around there. Also, the residents of the town do not want a fixed-route train station in their neighborhood.
- Being developmentally delayed the fixed-route transit service is too complex for use.
- Broken hip, arthritis, and back
- Bus pickup point is farther away than I can walk.
- Cannot complete the transfers using the bus. Safety issues are a concern. Pickup is at residential location and drop off is at residential location. No walking or waiting at the bus stop
- Cannot get to fixed-route transit service due to environmental barriers.
- Can't use fixed-route transit. Hills are too steep to negotiate with a manual chair.
- Cognitive limitations and inappropriate behaviors make riding unaccompanied on a public bus (fixed-route transit) potentially dangerous. Also, potential issues with crossing busy streets, following directions, etc.
- Difficulty walking to the bus stops.
- Direct Trip (otherwise it would be 3 buses)
- Disability in my neck keeps me from turning it left and right to look for on-coming traffic crossing a street
- Disability too severe to manage inclement weather and uneven terrain. Cold weather and rain affects my muscles. My power chair cannot maneuver in snow and rain mechanically.
- Easier to use curb to curb service, more familiar with it, and big bus gets too crowded.
- Fixed-route transit is too far to roll in a manual wheelchair. Also have very bad sense of direction.
- Fixed-route transit service doesn't meet my work schedule and fixed-route transit is too far from residence
- Fixed-route transit service goes only from my home to a bus mall, very impractical and much more time consuming, plus not safe to wait at a bus mall due to shady characters.
- Fixed transit does not offer nearby service nor times that are compatible with my job.
- Help with packages, trained drivers
- I am unable to cross large busy streets (I have had cane instruction, but still it is not safe). I am totally blind when it is dark out (either cloudy, dusk, dawn). I have also been dropped at the wrong stop and was unable to identify where I was.
- I cannot manage the bus alone. Also I cannot cross streets alone safely. Also I have had two accidents trying to use the bus. My leg is still injured from flying across the bus several years ago.

- I cannot walk well enough to use the fixed-route transit service anymore. Because I am blind, I can't use the wheelchair without assistance; so the paratransit system affords me maximum independence.
- My trips have to be carefully timed as my oxygen that I carry will only last a fixed amount of time--if I would miss a bus, the extra time could cause me to run out of oxygen.
- I have a fixed-route transit stop near me, but my health is different every day. One day I can walk far no problem, and other days I can only make it to the curb.
- I may get lost
- I use the ADA paratransit to go to school because it's safer.
- Judgment issues—what to do if the bus broke down, dealing with strangers, etc., advent of absence seizures that occur without person's awareness
- Lack of sidewalks where I live, and poor schedule for the fixed-route bus in my area. I travel with a cane and without sidewalks on busy streets, I am not safe walking along the side of the road or crossing streets.
- Paratransit will get me directly to the site to which I am travelling. When I've tried to take fixed (for instance, to work), I've gotten disoriented and / or lost when walking from the stop to the site or the transfer point and inevitably end up late.
- The convenience of door to door service and being able to schedule times which are convenient to me.
- The main reason is that fixed-route transit has such a poor schedule that I would have to leave 2.5 hours before I was due at work and even then I would be half an hour late. It would be necessary for me to make 3 transfers to do this and it would involve walking several blocks, which I cannot do.
- Too weak to ride on fixed (drastic turns, putting on brakes frequently and hard), also do not have reach to push call buttons.

Comments that suggested that if certain conditions were changed, the individual could use the fixed-route transit service.

- Bad bus scheduling; lack of accessible schedules; lack of accessibility of bus stops.
- Sidewalks are not always shoveled during winter
- The bus service is often overcrowded and other customers do not give up their seats for the disabled or elderly. Bus attendants do not enforce this policy either.
- Sidewalks are often of poor quality and/or do not have curb cuts
- I need a reliable wheelchair lift.
- Here there are not very many shelters and when I lived elsewhere I used solely the bus because I could sit while waiting or be sheltered. Here that is not an option so I couldn't use it.
- Need a lift
- Sidewalks are scarce, snow is on sidewalks, either no lighted intersections, no discernible curb, signals are too short to cross safely

Comments that offered praise for or complaints about transit service:

- The bus does not service the areas where I need to go. Moreover, since I am using the service for work, it is necessary for me to be at my destination punctually and predictably.
- (Most of the time) More reliable than buses
- Because I like the door-to-door services and because of the time they go by my home, either too early or too late.
- Being confined to a wheelchair and not being able to drive, this service makes me feel that I'm a part of the community. Thank goodness this service exists!
- Freedom and independence
- Too far to get to the bus stop & times of classes. ADA Paratransit mostly gets me there in time for classes
- Visalia has a monopoly. VCC-DAR is the sole ADA paratransit. I would love to be pickup by family or friend
- Para enables me to retain my independence for many of my daily needs. Independence is very important to me along with the assurance of being safe in my travels. At \$4.00 per trip it is cost effective compared to taking a cab. Yes many times you ride for up to 2 hours but where else could you receive this type of service, retain your independence, and be safe in your travels.

Comments that suggested ADA issues:

- I can be assured that they have a wheelchair ramp. Not all standard buses in fixed-route transit do.
- It is more difficult as a blind person to make the bus connections; I would have to knock on the doors of the buses to ask what bus number they are when they are at the hub.
- My wife is unable to get in and out of her wheelchair, so must use a service that takes her in her wheelchair, thus we use the wheelchair van service.
- Need paratransit for scooter
- No sidewalks, no audible signals on busy intersections, no announcement of stops on buses, increased traffic, drivers talking on phones and not noticing pedestrians
- The city is not pedestrian friendly. Most blind people use paratransit here. The transit drivers are not helpful with information and leaving one off at the right place.
- The general public has stated to me that I don't have the right to use the public transportation because my wheelchair takes away several seats that they pay to have the right to sit in and I don't have that same right.
- There are no Braille or accessible schedules or maps and O&M training for fixed-route transit service is unavailable.

### **Respondents Who Use Both the Fixed-Route Transit System and ADA Paratransit**

**Selected responses to “Why do you use ADA paratransit service rather than fixed-route transit service for some of your trips?”:**

- Lack of ADA stop accessibility. Stop not accessible/safe for wheelchairs: concrete steps, hilly, grassy, muddy, rocky, etc.
- Problem of bus drivers who exude resentment and anger about wheelchair passengers. Also, inaccessibility of subway system, which I would love to be able to use.
- Area where there are no accessible subway stations
- Fixed-route transit service—passengers are not prepared or educated many times when traveling with a guide dog. Fixed-route service by train—there is sometimes the dilemma of who should have certain seats, me with my guide dog or the woman with her kids, the person who brings his/her bike on the train; where do I and my guide dog go; seniors versus me with the guide dog.
- Barriers such as no accessible path of travel (I have a head injury and I use a wheel chair).
- Because of lack of usable sidewalks, difficulty in locating and identifying bus stops, unhelpful bus drivers, and obstacles along pathways.
- All the sidewalks do not have curb cuts.
- Fixed-route transit drivers are not well trained in WC anchoring, disability issues, and Service Dog regulations
- Because, not all public transportation fixed bus route services are equipped with stop announcements and captioning for the hard of hearing and deaf. Also, not all streets are safe enough for me to cross independently. They do not have universally designed audible/vibrating signaling devices, such as I was able to get accomplished around my home area and some other places.
- Depending on fixed-route transit, I sometimes can't find the bus stop because there is only a sign. Also, some routes have barriers (no sidewalks) that are dangerous to access.
- I cannot navigate the train system that is not ADA compliant. The train system is fickle in terms of accessibility. Sometimes there are no working elevators and no transit clerks in the station booths. I do not feel safe on some narrow platforms. There is not really a designated place on the trains for wheelchair placement. There are huge, un-navigable gaps between the platform and the train. The conductor is not always aware of your presence due to the lack of designated entry and exit places on the platform.
- Fixed-route transit can't get me there. Example, no sidewalks
- I fatigue easily and cannot wait for several buses, even though I have a power chair. Some individuals believe one should only use fixed-route transit when you have a power chair. More training is needed for these individuals.
- I use a wheelchair, not all subway stations are accessible, sometimes the elevator does not work on one end of trip; the gap between the train and the platform poses a hindrance in getting off the train. Bus drivers are reluctant to use the lift, they make excuses, passengers become disgruntled because of the time required to secure the wheelchair and if the driver picks up 2 wheelchair passengers.
- I use ADA paratransit service rather than fixed-route transit much of the time because fixed-route transit service simply does not accommodate all of my impairments. Buses are the most difficult to use due to weather-related path of



travel issues during winter months as well as driver and passenger hostility related to delays caused by lengthy wheelchair securement process and passenger unwillingness to move from wheelchair securement area.

- Lack of sidewalks.
- Lots of our Bus Stops & access to & from them are not accessible.
- Mobility issues - some bus steps are too high for me.
- Lack of audible pedestrian signals.
- Not all street crossings are universally designed and by that I mean they do not have audible/vibrating pedestrian signals, of which I managed to get done up in some areas in... but, much to my dismay, it is not being done in towns like ... . The audible stop announcements and the captioning on the buses and trains do not always work well, if at all. Also, much to my dismay, as the Commuter Rail system is part of the ..., some of the newer fleets of trains have stop announcements, but do not have captioning for a deaf person to be able to read.
- Often drivers don't call out stops, and/or they forget to let me off at my requested stop.
- Routes to and from bus stops are difficult to navigate. Stops can be hard to find. Drivers often fail to inform me of my stop.
- Some bus stops are inaccessible
- There are locations that do not have safe paths of travel from the bus stop to the final destination.
- My local shopping center is not accessible on the bus, because buses can't pull in that area.
- The money is hard to use
- The route to the main line bus is not accessible. I only use it when the ADA Paratransit can't take me.
- There are no curb cuts in my neighborhood.
- There are very few accessible sidewalks or bus stops. I'm often traveling the streets in my wheelchair due to lack of accessible sidewalks
- To avoid any unforeseen issues such as broken elevators
- Quality of sidewalks between bus stop and destination. No traffic signals or Audio Pedestrian Traffic signals to aid me in crossing busy streets and intersections. No sidewalks along busy streets.
- Unable to get to many stops. Provider unable and unwilling to provide such information. Provider not able to give accurate directions
- Wheelchair accessibility
- When I know I MUST be somewhere. The lifts on fixed-route transit vehicles function less reliably than ADA paratransit. That is not to say ADA doesn't have these problems, however, I encounter them less frequently

Comments that offered praise for ADA paratransit:

- I use the ADA paratransit when I can plan at least 24 hours in advance as required, and ... I must absolutely be somewhere at a specific time.
- It's faster because with fixed-route transit, it can take me about a full hour to get to my destination whereas the ADA paratransit will take about 15 to 30 min.

- Paratransit enables consumers with significant disabilities to be part of the community and have independence in their lives.
- Safety and timeliness
- Shorter wait time
- Some of the buses do not go where I need to go, and paratransit goes almost anywhere I want or need to go.
- Some trips may require several transfers if using fixed-route transit service, and take a longer time than if using ADA paratransit service, which helps me as far as not getting tired too quickly.
- Terrific
- Time constraints due to long bus routes and multiple transfers
- Time frames, smaller groups and more personalized assistance.
- To be on time for appointments when the city bus fixed routes will not permit timely arrival or access to return home safely.
- To make sure I get to work safely and on time, especially in bad weather
- Travel time is substantially less than fixed-route transit
- When it is important to be served door to door as in my work. I can't get from the nearest fixed-route transit station to my job. "Door to door" service lets me work.

Comments about why they use paratransit for some trips, or offered reasons that represent the views of many others, including:

- Distance. Travel time would take too long and include too many transfers, which would prove to be exhausting.
- Actually, I use a feeder ride and the bus almost every day. I have been considered capable of riding the bus. I can't walk up the hill to my home. Our paratransit service provides a ride ... to the bus. This works out nicely for me and it allows me a great deal of flexibility with my chores.
- As a visually impaired person, there are some streets that just aren't safe to cross. The traffic is terrible and people don't adhere to the signs and lights. I am an excellent traveler, but one has to be so careful. Whenever I am out and about with my white cane and power chair, it takes all the concentration I have to come and go successfully. I always do my best, when choosing a place to live, to specifically consider what is around me regarding transportation, accessible streets, and other safety factors.
- As noted above, there are places that technically are in the area where fixed-route transit service goes but, in real life, the distance to them from the nearest fixed-route transit stop is several miles or getting usable directions to them from the stop is virtually impossible. I do my best to stick with fixed-route transit service, thereby trying to leave the paratransit more available to those who need it more than I do.
- At times, I require more assistance getting to and from my destination than the bus operator can provide.
- Bad weather, snow blocking sidewalks to bus stops
- Because of the Snow, Ice and Freezing Cold in the winter.

- Because the fixed is too far away and doesn't go close enough to the Dialysis Center
- Because they are more personal and they do door to door service.
- Can't get to bus stop (pain); destination is too far to walk to.
- Cognitive impairment - Client cannot ride public transportation or go more than one block from house or he is out of comfort zone and may get lost or have a panic attack.
- Due to cognitive issues, I cannot ride the bus by myself.
- Due to intellectual disability, visual impairment and uncontrolled seizures, I cannot take fixed-route transportation on my own.
- In addition, fixed-route transit is less accommodating of cognitive-related/mental health impairments such as disorientation and temporary memory loss.
- I use it at night. I use it when it will take more than one bus to get somewhere. I use it when I will have to cross really busy streets. I use it when I don't know the area where I am going.
- I use paratransit service for longer trips mainly.
- Buses don't go to some places I need to go. I also use paratransit when I'm going to a place where I don't know the area or a place I'll only be going once.
- I use the ADA paratransit because the bus stop for fixed-route transit is too far from my house. There are some sidewalks that are not cemented and are not safe for wheelchairs or not easily accessible on route to the bus stop. Driving my wheelchair is too close to traffic.
- I used to take the bus to work, although there was an intersection that was hard for me to cross. I would take the bus out of my way and cross at a different intersection and catch the bus, however, the bus route was changed so I can't do that anymore. I take Paratransit in the morning to a pharmacy (I start work very early in the morning and the area where I wait for the bus is well lit) and the bus takes me to work. I don't have difficulty with the intersection in the afternoon, so I can take the bus all the way home.
- If I don't know the area
- If it's in an area where I have to make lots of transfers.
- If the outside temperature runs near 80 degrees I go completely blind. I use paratransit at those times. I also use paratransit if the number of buses and changes are too complicated or leave me at risk of being in neighborhoods without curb cuts or access.
- It depends on, can fixed-route transit get me near my destination. If fixed-route transit doesn't drop me near my destination, I'll use paratransit. Bad weather (thunder, lightning, ice and snow will prevent me from using public transportation). Wheelchairs aren't made for severe weather, especially motorized wheelchairs.
- It is far more convenient: allowing me to go door to door without having to transfer. I don't have to memorize complex routes that I would need in order to transfer stops on the fixed-route transit system. Sometimes, the fixed-route transit system doesn't travel on weekends to places I need to go, whereas paratransit does.

- Partly because of the balance issues from the Neuropathy, and because we live in a mobile home park with about two years of construction going on outside the park, making it unsafe to walk with a white cane or a guide dog.
- Poor decision making and poor stranger awareness
- Some days are better than others.
- The destinations are beyond the bus line or involve dangerous intersections or parking areas to deal with as a blind person.
- The route to reach the fixed-route bus stop is too steep and hazardous for my wheelchair.
- When the weather is inclement and when it would not be easy for me to get to my destination

**Selected responses to “Why do you use fixed-route transit service rather than ADA paratransit service for some of your trips?”:**

- 24 hour availability
- The main reason I use fixed-route transit service rather than paratransit is the freedom to leave when I want (and therefore do what I want if it's social and recreational or shopping). If I go to the doctor or shopping or to a movie and/or out to eat, or to a street fair or music festival, I want the freedom to change my mind, stay longer, or if I'm at a meeting or a doctor's appt. or court, I can't leave early when my ride comes, though I don't always know when I will be finished. I feel like Cinderella trying to get her coach before it turns into a pumpkin when I take paratransit. Lots of times with paratransit, I end up being generous with the time I'll be somewhere and then have to kill up to 3 hours to wait for my ride when I could be doing something more productive or fun. Sometimes I take paratransit TO somewhere and the bus home.
- Less restrictions, and can be spur of the moment
- On time, less wait, less expensive if out with my kids to take the bus
- A person is not held to a schedule when traveling a fixed route. I can come and go as I please. Riding mass transit gets me into the mainstream.
- ADA service is more convenient and safer.
- It depends on the weather. I love to walk and catch a bus with my guide dog when the weather is beautiful and sunny.
- As long as my son does not have to transfer buses, he can handle the regular transit fairly well.
- I only use fixed-route transit for short and uncomplicated trips.
- Because I am conditional with paratransit.
- Because I can, and feel that I should not take up space on the paratransit if I can safely travel another way.
- Because I can, and I don't like to feel different than “regular” people
- Because I know within five minutes of when I will be picked up or dropped off. If I use the paratransit, my pick-up and drop-off times are unpredictable every day.
- Because it is more reliable on staying on schedule
- Because of financial issues.

- Because fixed-route transit, in these cases, goes close to where I need to go and I can go during daylight and good weather. I only go to familiar places on the fixed-route buses.
- Both have their own advantages and disadvantages. I use fixed-route transit more because I don't like the time delays I have experienced in paratransit.
- Cannot afford to wait to go or return home; might run out of oxygen. Which I use on a continuous basis daily.
- Ease of access and speedier.
- Easier to get to sporting events downtown than enduring circuitous routing and unknown arrival times of paratransit.
- Emergencies are hard to plan 24 hours in advance, and I'm denied service if weather conditions don't comply with my use restrictions.
- Environmentally sound choice. More spontaneous...less expense to society.
- Faster and more effective compared to paratransit service. I reach to my destination much faster this way too.
- Finances, same day travel, flexible hours, can go multiple places, familiar with places I regularly go.
- Fixed-route transit is generally much faster and more comfortable than paratransit, and also cheaper.
- Fixed-route transit is more reliable. I know the buses will arrive more or less on time (if I miss a connection, my trip is delayed). Also, I don't have to schedule my trip in advance. I can just go. With paratransit, I have to schedule my trip 24 hours in advance.
- I avoid fixed-route transit!
- I can be spontaneous unlike the paratransit where I have to give them exact times of my arrival and departure at least 24 hours in advance. Also, fixed-route transit is often more reliable to get you where you are going on time where the paratransit gets you there too early or too late. Also I tend to ride less time with fixed-route transit than the paratransit.
- I can use the fixed bus routes most of the time without any problems independently.
- I live very close to the subway, and also my job is very close to the subway. Plus, I have worked on this route with a mobility instructor.
- I much prefer fixed-route transit service; it is almost always faster, and it gives me much more independence.
- I think it's important to develop my ability to use fixed-route transportation; helps me to feel more independent; less hassle, no need to make a reservation.
- I use the bus for trips that are nearby and do not require one or more transfers
- I use fixed-route transit only when desperate for a ride to and from somewhere. The fixed routes do not come close to my home.
- If I am able to safely use fixed-route transit service, I prefer it because: 1. the schedule is more under my control 2. I don't need to schedule it in advance 3. I don't want to waste the resource unnecessarily
- If I have no pain, energy level is good and familiar with area I use it.
- It goes where I need to go faster

- It is faster, cheaper, and more reliable.
- It is handy. I don't have to schedule it. Here, anyway, it's cheaper--and I pay full fare. I hope I also help incrementally to leave the paratransit service available for people who have more trouble than I have with fixed-route transit service or can't use it at all.
- It is my right to use public transportation, I like being independent, and there is a stigma associated with using paratransit.
- It's cheaper and sometimes nearly as convenient.
- It's cheaper or free, it's more convenient, it's a shorter or simpler trip to take. It keeps my cane training & navigating skills in check. If weather is good & it's safe to travel to my destination as a blind person, then I will use some fixed routes, but not all. It's often hard to travel via fixed-route transit during peak periods as people constantly push or step on my cane when I'm trying to find the door or a seat.
- Last-minute trips
- Less expensive, less time consuming, feel a responsibility to ADA funding source to use fixed-route transit when possible.
- More reliable and no waiting for late paratransit.
- Paratransit is only available to me in the winter months.
- Some days are better than others, disability wise.
- When the weather is nicer, it's much easier and faster, and cheaper. I don't need to plan ahead or pre-schedule a ride. I just go to the bus stop and hope the bus driver sees me, and stops.

Comments that reflected conditions that could be impacted by transit agency or other changes:

- I use fixed-route transit when my children are home from school, they help me on the bus since the ramp is steep for me to do on my own.
- The problem is that many of the bus stops & access to & from them are not accessible to me. The other problem is that the ADA call outs [announcements] are not always made & if they are they are made at a volume that I cannot hear.
- It is easier to load and unload on a paratransit bus.

Comments that reflected ADA issues with paratransit:

- When I can take the fixed-route transit service, it is more convenient, I can trust the bus to show up, and I can manage to get home without fear of being left stranded without a ride. The paratransit in ... has been more trouble than it is worth for over thirty years. People have developed "learned helplessness" with respect to the system, having learned it does no good to complain; it just gets worse. I stopped using them for anything other than a desperate need for a ride over fifteen years ago. The last time I did need to get to a doctor's appointment, they never showed up. When I called, they informed me that that van would not be able to get to me for another half hour. I was already late and past my pick-up time; past my doctor's scheduled appointment. This has happened, coincidentally, when the same person, (person's name), schedules my ride

appointments. Numerous letters to city council and to the managing company result in nothing!

- Cannot qualify for the ADA service because I don't have a physical disability, only a cognitive disability
- Sometimes, has better shocks and hurts less
- I have to call 15 days before using the service. Sometimes they don't pick me up!!
- Because you have to schedule your trip 5 days in advance.
- I use fixed-route transit over the ADA paratransit because you can be sure what time it will arrive. Fixed-route transit is cheaper than ADA paratransit. On fixed-route transit you can come and go as you need, and go to as many stops as you need in a day. With ADA paratransit you only can have three stops a day.
- If it's not bad weather & safe to travel, if the distance isn't too long. I also use it to keep up my cane traveling skills & when I need to go somewhere on short notice.
- Our paratransit service gives priority to the daycare clients.
- Paratransit is totally unreliable—I have had to wait 3 hours for a ramp taxi on many occasions, rude dispatch staff, incompetent drivers who have caused me bodily injury by not tying my chair down properly. Ramp taxis have made me very late for important family functions, like my engagement photos and my son's birthday party.
- Paratransit unreliable time-wise, rides too long. Accurate arrival times unavailable. Provider falsifies federal data.
- The paratransit system is NOT reliable AT ALL! The fixed-route buses do not leave people stranded. You know when they're coming.
- The paratransit system is unreliable. Lateness is my main complaint. As a rider you have no choice but to wait well outside of the one half hour window on most, if not all of your scheduled trips. One is exposed to the elements, dark of night, isolated waiting areas, no ability to use a bathroom if need be, etc. The system in place which allows the operators to contact the driver is flawed. The drivers and the dispatchers often give false and erroneous information after long wait times on hold over the phone. We are not allowed to seek alternative shelter locations as we wait. This is especially problematic if our pick-up location has closed for the day. These issues are systemic and daily. They are stress inducing and prohibitive. The vehicles themselves have poor suspension systems, and one feels every bump on the road. Cheaply designed and unsafe.
- To schedule the paratransit pick-up in our community, three day's notice is required, then the rider must confirm 24 hours prior to pick-up. Therefore in emergency situations, I use fixed-route transit.
- Where it exists it is 100% more reliable. The ADA service is a mess. Trips are mis-scheduled, often causing riders to be unable to get to their destinations or to be late.
- You have to set up a van ride 2 days prior so if you have to go out the same day, you must take a bus.

## **Respondents Who Use Only the Fixed-Route Transit Service**

### **Selected responses to “What are the main reasons you use fixed-route transit service, rather than other types of transportation, for these trips?”:**

- Able to use fixed-route transit, do not qualify or need other types of transportation.
- Accessibility
- Application for paratransit not approved; fixed-route transit service is generally convenient
- As a blind person, I am given a free system-wide pass by my transit agency. I would not want to have to deal with the inconvenience of paratransit and feel much more independent being able to go where I want, when I want. Also I like trains. :)
- Availability of bus routes that service the places I need to go, convenience
- Because I do not have a car
- Because I don't drive and use a power chair
- Best way to get around.
- Car2Go & Zip Car not accessible, price, parking
- Cheapest ... good way to get my special needs teens used to riding the bus because a lot of them will have to do it on their own some day.
- Convenience and low cost and I get to maintain my independence without having to negotiate rides from friends and co-workers.
- Convenience of not needing to make a reservation
- Convenience, lowering carbon emissions
- Cost
- 1. Ease of use not restricted to limited time and calling ahead. 2. Creates positive view of self. 3. Cuts down on personal and public costs for my community and myself.
- Fixed-route transit has more reliable schedules. Using transit, instead of passenger vehicle, means I can stay seated in my wheelchair and do not have to transfer between my chair and vehicle.
- Fixed-route service allows me independence, allows me to do the tasks associated with running a district-wide assistive technology program in an urban environment, and is much more affordable than taking taxicabs. It's also more reliable than paratransit service, for what it's worth.
- I am on SSDI and I cannot afford the cab's service but once every 3-4 months, and I am not married so I have no husband to drive me. I quit using the ADA transport because I did not like hearing, “you look too young to use this” because nobody can see I have low vision and multiple sclerosis
- I believe in independent travel and not to abuse systems that are designed for people who are in need of services and not just looking for a cheap door-to-door service.
- I can be independent without relying on family or friends to drive me and I can use the same transportation that people without disabilities use.



- I cannot drive so I don't use a car. I am not eligible for, or in need of, paratransit service.
- I cannot drive. I want to participate in the public services offered to everyone, not just people with disabilities. Fixed-route buses are more convenient than special services just for people with disabilities.
- I don't qualify for ADA paratransit services.
- I enjoy the lower price of fixed-route transit, and frankly I need the exercise involved in getting to the pickup point.
- I take fixed-route transit service when it's available as it's the most socially responsible thing to do rather than taking ADA service.
- I use fixed routes because it is timely and reliable.
- I would like to use the bus so I don't pay for gas or for parking - and to save energy.
- It is the most convenient. Paratransit requires planning in advance and I don't always plan trips in advance.
- Many reasons. Because of the nature of my disability I can't drive, so I use public transit instead. Also as an environmental rights activist it is important to me that as many people use public transit and alternative transportation as possible in an effort to reduce the effect of cars on the planet.
- My car is usually in the shop
- No car, unemployed
- No other option.
- Parking costs are prohibitive for my measly income. Convenience and less stressful. Easier.
- Use it because I am able to go on line and see how to get to where I am going. I try to limit how much I need to communicate on the bus with drivers as it is hard with all the noise and them having to look forward so I can't read their lips.

Responses that lodged complaints or extended praise to fixed-route transit or paratransit service(s):

- Paratransit where I live is a JOKE so I refuse to use such system.
- ADA paratransit is extremely time consuming and I could not fulfill my obligations if I had to rely on it. It is late, and drivers are of questionable nature
- Because I find fixed-route transit pretty reliable and never felt the need for [paratransit] van
- Because my disability impairs my ability to drive, and [our paratransit] services are completely unworkable. They are frequently late, rude drivers, and involve extremely long rides.
- Bus schedules are more frequent and don't like waiting on paratransit, which is usually late.
- Fixed-route transit service gives me a timetable that I can count on most of the time. The other form of transportation has no time, has to be booked ahead of time and doesn't adhere to any schedule. The biggest complaint is that it is always late.

- I do not like our city's Paratransit service. They are either late, rude, and I doubt they ever received any training of how to work with people with physical disabilities.
- I don't like to plan life 24 hours in advance. Also, paratransit doesn't have an efficient dispatch process so they are quite unreliable when you need to be somewhere.
- Paratransit is also notoriously unreliable and I don't think it is a good option for working people.
- It is the least expensive. Paratransit is too much money and the scheduling is too challenging
- I've moved several times (to different cities/states) and haven't re-registered for paratransit services. The buses generally have audio and visual announcements of stops, which makes them easier to use than they used to be, and from where I live, there are a lot of fixed-route buses or trains that go where I need, so having the paratransit service hasn't seemed as critical.
- Paratransit is notoriously unreliable in this city.
- The ADA transportation left me stranded once and didn't come get me for three hours. When I complained I was told that I should be glad that they came and got me.
- The service specifically for people with disabilities is atrocious in its pick-up/drop-off schedule, either arriving way too early or way too late. As a result, some drivers get annoyed when the person they're picking up isn't ready and they drive off.

Comments that raised questions about the ADA:

- Able to know the route times and prefer to be able to go when I need without planning three days ahead
- Stupid ADA rules won't allow me to use Paratransit, even though I'm in a WHEELCHAIR!!

### **Respondents Who Use Neither the Fixed-Route Transit Service Nor ADA Paratransit**

**Selected responses to “Please describe below the reasons you do not use the fixed-route transit service in your community.”:**

- 1. There is very limited service in the area I currently live in. 2. Transit service in the region can require multiple transfers, long distances between stops (and no seating at stops) and is often limited in service hours. It is far too tiring. 3. Limited seating available for people with disabilities, especially with recent increases in transit use overall. 4. Cannot climb bus steps, and even with a lift there is often no place to sit. I cannot stand without severe pain. Bus drivers in the area also frequently leave before all riders are seated, causing falls.
- Able to drive, have a car
- Access to bus stops and ability to get on and off a bus.

- I have severe PTSD and find fixed-route transit overwhelming with drunk or addicted riders, also those with severe mental illnesses that cause them to behave in ways that are frightening.
- Basically it is unreliable for many other people with disabilities - but more importantly - I have my own vehicle
- Because it doesn't take me to where I need to go
- Because on my side of town, the bus service was discontinued 10 years ago. And even though new housing for low-income people has been built, bus service has not been put back into place as promised.
- Bus stop is too far from my home, too many transfers/too much waiting time to get to my destinations.
- Can still drive a car but will use it at some point.
- Currently rely up family members for transportation.
- Fixed-route transit is underfunded and it takes too long to get from one place to another.
- I am fortunate to have a van that allows for me to drive with hand controls.
- I do not use the fixed-route transit service because the nearest stop to my home is far away and on a very heavy traffic road. I do not feel safe catching a bus at this stop and it is simply more convenient for me to hire a driver.
- I use agency vehicle and do not care for riding the bus
- I use ITN [Independent Transportation Network®—senior transportation] because I need a more personalized service because I have gotten more physically frail and more blind.
- Inadequate and confusing.
- It doesn't run in the hours that would actually be useful.
- It is a mile walk down hill and back up hill to the stop.
- It is far too far away from some of the places I go.
- It is just too much trouble to get into, fastened, unfastened and out of the buses and trains.
- My daughter does not use either, because she is 14 and I have concerns that she will leave the pick-up area if not picked up right on time. She uses the school bus and I transport her at this time.
- My wife and I are a three-vehicle, two-driver family. All of our vehicles are equipped with hand controls.
- No bus shelters--too cold/wet--affects arthritis
- No money
- Not accessible. Stops too far from my home.
- Poor decision making and poor stranger awareness

Comments that suggested that if conditions changed, there could be more use of the fixed-route transit system:

- Architectural barriers between my house and the nearest bus stop (no complete streets, including lack of accessible pedestrian walkways and curb ramps).
- Rude drivers.
- Because there are NO accommodations for individuals who have MCS.

- I am afraid I will get lost and the routes and the different buses confuse me.
- There are no sidewalks on the route to the stop. Also I cannot get the scooter on all forms of transit at all times of day.
- People seem rude to wait for me to board OR lift is broken.
- Poor training of drivers with dealing with disabled and using equipment
- Stops are not accessible (no pavement, no ramps, nearly all are onto grass), no sidewalk to nearest stop and the road isn't safe
- The bus is never on time and is extremely unsafe - also the chair lifts never work
- Primarily because the sidewalks do not offer a safe and reliable path of travel.
- You must travel [to the bus stop] down a busy road with no shoulder or sidewalk. Access to the bus stop is not safe.
- The fixed-route transit service most of the time have their ramps broken and they do not have a fixed time schedule, sometimes they come and sometimes not.

Comments that suggested issues with the ADA:

- Cannot climb bus steps. Bus drivers in the area also frequently leave before all riders are seated, causing falls.
- Access to bus stops.
- Difficulty with stairs
- Difficulty managing stairs on buses. Frequently escalator access to underground [trains] is broken or just not available.
- Have had difficulty in the past with the wheelchair not being tied down appropriately.
- I do not use the fixed-route transit service because I am unable to see the number on the bus and am unable to see where and when my stop is to exit the bus. I have had some difficulty asking people who are waiting for the bus for assistance, since the times I have asked people have not been helpful or told me the wrong number on the bus and I had to make my way home by foot because I didn't know where the next bus stop was. It was a very frightening and humiliating experience and I stopped going places because after that experience, I would ask the bus driver what number bus, and because I do not use a cane and my visual disability was not at first apparent, they would often say, it is posted. I would then have to explain that I was visually impaired; by this time I would be holding up people who were trying to get on the bus.
- Drivers will often say bus accessibility is not working
- When I have tried the transit system in the past, I did not find it user-friendly. Drivers did not know how to tie down the chair or the lift had problems.
- I have found regular bus service in the past to be much more time consuming, especially when the lifts didn't work.

Comments that logged praise or complaints for the fixed-route transit service or ADA paratransit:

- I had bad experiences on the bus and stopped using it. Then I learned about ADA paratransit and it has been a blessing for the few times I need to use the service a month.

- No bus stop close to my house. I let paratransit expire because poor service
- [Fixed-route transit is] not easy to access. [ADA paratransit] is hard to get scheduled.
- In other areas where I travel, I do use public transportation, and I have been successful on good weather days. This is because these other areas have much, much better paths of travel -- I am not forced into the street, I do not encounter vending machines or phone poles or store displays or garbage cans etc. There is a much greater awareness and much more enforcement -- consistent curb cuts, more gentle grades, more time to cross the street, routes posted at lower level instead of too high to read, and so on.
- Public transit service is pathetically underfunded and extremely challenging to use for everyone! Routes are poorly placed and do not allow for any efficiency in travel. The bus fleet is tiny compared to our city's needs.

**Selected responses to “Please describe below the reasons you do not use the ADA paratransit service in your community.”:**

- “I do not qualify.” That's the answer I was given.
- ADA paratransit has a bad reputation regarding being on time, appropriately securing wheelchairs, and rude drivers.
- Always booked
- I have a car
- Can still get around on my own or have someone run me around
- Cannot afford it.
- Concerns that my daughter would leave the pickup area if not supervised.
- Don't want people fussing over me. I still like doing things myself.
- Family drives me in personal vehicle
- Haven't needed it yet.
- I am still able to drive and have a wheelchair accessible minivan. Generally, you have to have a large window of time to make an appointment for a pickup. I do have a rider card so that I can use the system if I am no longer able to drive, or if I need to use paratransit systems in other areas.
- I am sure we have this service, but I enjoy driving my car. I don't have that many years left so at 76 I want to be able to do these things.
- I can't afford the extra costs.
- I don't use the paratransit service because I don't qualify for it. The paratransit service is for people that would not be able to navigate traditional fixed-route transit (i.e., intellectual disabilities, blindness). All of the city's fixed-route buses are accessible, so I can use the fixed-route buses if I need to.
- I hate big government and believe we all should be self sufficient as possible. The global warming crap is just alarmist lies and public transit is neither safe nor convenient, and is not cost effective either.
- I have an ILS instructor who attends all my doctor's appointments to help me understand the doctors' directives.

- I have my own adapted van and I am able to drive. I have used the paratransit only a handful of times when my van was out of commission and I needed to get to work.
- I have my own ramp van.
- I haven't had the need, and don't know much about these services.
- I use to use it, but my disability has progressed, I've gotten weaker, and now cannot physically tolerate the bumpy rides in the large vans.
- In process of applying, although we are told they are very inflexible, and if you miss the ride once, you are banned.
- It is hard to always be sure of my schedule, for instance knowing when I am coming and going is not always possible.
- My wife and I are a three-vehicle, two driver family. All of our vehicles are equipped with hand controls
- [Our] paratransit operates only within the mirrored route
- No money
- Not comfortable
- Others need it more than I do
- Paratransit here is completely overwhelmed, underfunded and inadequate to meet the needs.
- Paratransit vans do not have head rests (as do all personal vehicles, by law), which prevent the multiple whiplash type motions of starting & stopping along the route, from jerking one's head backward multiple times per ride. Even minor whiplash occurrences can cause serious brain and neck injuries among disabled populations. It appears that disabilities involving the neck & shoulders are largely ignored by transportation planners. I use a scooter to accommodate my muscle disorder, but need to transfer to a regular seat on the paratransit vehicle for better stabilization than the scooter provides. Armrests are also vital to help me stabilize my body against the sloshing back and forth, and jerky motions of the vehicle.
- They say I'm not able to use it because I'm only autistic.
- Time limited due to portable oxygen (Can't take the risk of riding on the bus for an hour when it's only fifteen minute drive)
- Too restrictive and segregated

Comments that offered complaints about ADA paratransit:

- Extremely undependable and terrible customer service
- Extremely unreliable.
- Because they do not come at the time I need them. I cannot be late for work and they never come on time for me to go to work or go to doctors appointments
- Dependability
- I am a provider for persons with disabilities and having an ADA paratransit service in the community helps our consumers to get access to our agency for help
- I'm not using a service that hires incompetent drivers that think they're driving for Domino's Pizza

- It is totally impossible to get! The applications are more than I can comprehend and grueling with so many pages to complete.
- Never on time for pickup or drop-off, or ride doesn't show at all
- Inefficiency, stupidity on the part of management and the pain that is caused to me by using the system. I'd rather be totally isolated than be given a choice between damaging my health and getting out of the house. The cost for me as well is prohibitive. The waste in management salaries, the lack of training of drivers, the use of GPS that doesn't work properly are all reasons I will never use this ridiculous waste of taxpayers dollars
- Because there are NO accommodations for individuals who have MCS.

Comments that raised ADA issues:

- Not able to ride with family and friends, except for one adult companion. NOT family friendly! Drivers often have communication problems with the dispatch office and with the administrative office on where to pick up and where to drop off.
- According to the rules of the ... public transit system, I do not qualify for ADA paratransit because I do not live within 5 miles of fixed-route transit.
- I don't qualify for this service. Because, in my area, the ADA paratransit service is for individuals with either mobility impairments or people with developmental disabilities (apparently, it is felt that people with developmental disabilities aren't capable of using fixed-route transit service OR they are not wanted on the fixed-route transit service).
- I am a single parent and I need to have my children travel with me. This does not work on paratransit.
- I am not eligible because there is a fixed-route transit stop near my home.
- I do not use the [local ADA paratransit] service because you need to make appointments with them two weeks in advance and they only drive to medical appointments. They refuse to drive me to the store or library or any social functions that I may want to attend. In addition, it took me two weeks to get someone on the phone to even register for the service.
- I used this service several years ago. The drivers were verbally rude to riders. I was late frequently to doctor appointments.
- It is only available to go to church on Sundays.
- [The fixed-route transit service] is accessible. Don't believe in Paratransit
- Some of our clients have behaviors and are not allowed to ride
- They require 2-week notice.

### ***More Use of Fixed-Route Transit Service***

#### **Respondents Who Use Only ADA Paratransit**

**Selected responses to “Would you like to use the fixed-route transit service for some of your trips?”:**

Responses that reflected a misunderstanding of ADA paratransit:

- I like the door to door service
- It's too much of a hassle, especially in the rain and snow.
- Sometimes, but it should be my choice not of the transportation authority's
- The ADA paratransit gives me the opportunity to have hands on private service.

Comments that expressed thoughts, concerns, and experiences suggesting fixed-route transit use could be possible or that transit agency action could impact the rider's mode choice:

- I am sure with training that I could as I have traveled all over state on ... , ... by myself
- I did try a fixed-route bus but at my stop, there was nothing but deep grass and mud. My wheelchair got stuck in the mud and the driver actually got out of the bus and pushed me & my wheelchair onto the roadside.
- I would need to be trained and help with finding which bus would be the correct one.
- I'm afraid.
- If there were such a thing as crosswalks & sidewalks in this city and if the fixed-route transit system was set up better (if the routes made more sense)
- If things were different, and fixed-route transit was accessible, I would definitely use it.
- It would depend, first of all, on whether or not there was an accessible route to the bus stop. Next it would depend on whether or not the bus could accommodate my scooter. I would be afraid that I would not be able to maneuver my scooter on/off the bus. I also understand that bus drivers in this area do not take very good care to tie down wheelchairs or scooters so traveling on the bus can be dangerous.
- Maybe if it was cheaper, went to my destination, and was made accessible (IE bus number verbalized, stops verbalized)

### **Respondents Who Use Both the Fixed-Route Transit System and ADA Paratransit**

**Selected responses to “Would you like to use the fixed-route transit service more often than you use it now?”:**

- As the fixed-route buses only can carry two wheelchairs at a time, the spots are on a first come first serve basis, so if you wait for a bus to pick you up and the wheelchair spots are already filled up, you must wait another hour for another bus to come by to give you a ride and you will be outside waiting in the sun or rain until the next bus.
- Most of times the access ramps do not work!!
- Elevators need to be more reliable and there needs to be more accessible stations
- Fixed-route transit service is always my preferred method of travel when possible.



- Fixed-route transit service is not as safe for a blind/visually impaired person - being left blocks away from your destination - forced to cross dangerous intersections.....NO NO NO NO NO
- I already am using fixed-route transit for work and other times.
- I am comfortable with the level of usage of fixed-route transit services.
- I believe I am appropriately using public transportation. I would only use it more frequently if I knew how to find bus stops more easily and when I was confident about how to find my final destination from the nearest bus or train station.
- I don't understand how that could be possible
- If fixed-route transit service weren't so far from my home, I'd use it more often. I did in the past, but the bus stop closest to my home has been eliminated. I now find myself stuck at home more often than I'd like, and getting clinically depressed because of being isolated.
- If the hours were longer or on Sunday then I would like to use it more.
- If the schedules were better, more frequent in terms of wait time. In some cities buses come every 10 minutes.
- I'm satisfied with how I use it. It can be dangerous when coming home late at night and those times I prefer finding a ride from a friend.
- In the winter when there's snow, the curb cuts are generally too snowy or slushy for me to go anywhere except around my block. If the curb cuts were cleaned AND the area was cleaned where the bus ramp normally goes, I would use fixed-route public transit more.
- Later on weekdays and routes on weekends.
- Many clients who would like to ride more regularly but no bus service in their area, or too many transfers/too much time to changes buses.
- Possibly but there aren't enough routes or buses and frequency of buses on the routes...
- We need more routes, service hours. It takes too long to be waiting. We are discouraged to use it.
- Where I live the fixed-route transit service is limited, if it expanded then I would probably use it more
- Wish there were options like taxi feeder service to get to fixed-route transit stops that are not accessible, walking wise, from home or work or other locations
- Would like for it to be available after 6 pm everyday so could become involved with social and recreational activities
- Yes, yes, yes! But in reality, as I age, I'm using paratransit more than I ever have. The subways are not accessible at all in my neighborhood, and the ones in other places that are spotty and the elevators are not kept in repair. Then there are the gaps - vertical and horizontal. The [agency] has cut bus service drastically so I feel stranded and so do a lot of other people. I won't go to a baseball game (even though I want to) because it is dangerous to wait at night for the bus in an isolated bus stop, to take the 2nd bus. I feel stuck at home.

Responses that praised the ADA paratransit system:

- I appreciate the ADA paratransit a lot for my commute to college and during the winter months, plus medical appointments. It's a real blessing to have this service. The fixed-route transit service here is not as frequent and spread out compared to the bigger cities
- If we had all we need on fixed routes it would be a possibility. I was raised in ... where fixed routes were my number one choice, but it is never the same. I know I need the ADA [paratransit] frequently enough that if it was to go away I would probably need a psychiatrist for severe depression. It means the world to me. It is freedom to me. It will be devastating for me as well as for other blind people I know, and for other disabled that are not blind of course.

Comments that reflected conditions that could possibly be changed, affecting the person's mode choice:

- If the wheelchair restraint system was more effective I would use fixed transit more often
- I wish there were better sidewalks, and easier street crossings to navigate so I could use fixed-route transit more often in the suburbs.
- I would use it for everything if I could get help learning the routes from the stop to my destination.
- IF ON TIME
- If the lifts worked on public buses as often as say, their brakes ... I'd use the fixed-route transit service far more frequently. "Sorry, the lift isn't working" is a common refrain.
- It is very difficult to use - especially for shopping. Impatient drivers make it hard to get on and off with packages.
- It needs more stops, and to run for longer hours, and we need benches.
- Limited by poor or no sidewalks and bus stops...I risk my life almost every time I leave the house riding in the streets.
- Passengers on fixed-route transit are not self-aware and have accidentally caused harm. Also fixed-route vehicles are difficult to maneuver and often drivers are not properly trained to secure wheelchairs. Risk of harm is high.
- The bus routes are very complicated and some bus shelters do not protect you from weather elements. Also availability of curb cuts to get off bus to destination is questionable.

### **Respondents Who Use Only the Fixed-Route Transit Service**

**Selected responses to "Would you like to use the fixed-route transit service more often than you use it now?":**

- I would use fixed-route transit more often if only it were more extensive and went to more places.
- Can't operate elevator buttons. Must be accompanied.
- Does not run frequently enough or late enough in the evening.
- I already use it extensively - including trips into rural areas using limited fixed-route service. It can't get much more utilized in my case!

- I already use fixed-route transit to its max.
- I need to be able to use the fixed-route transit service in the evening and on Sundays, but it currently doesn't run at those times.
- I would actually prefer door to door service as I don't always hear well and have had some mishaps with getting lost and missing my bus stop plus a few falls have caused me to be more concerned about my ability to safely get from one place to another.
- If anything, I'd like to take it less! But without a personal driver that's not going to happen.
- If it went more places and were more reliable I would use it much more frequently.
- Less time between buses
- Lower costs. When the City of ... raised rates, they assumed the riders would be okay with it. They weren't and as a result, the City saw, and continues to see, a significant drop in ridership. [The City] wants more riders before expanding service, but the riders want expanded service area and times before increasing ridership.
- No, I'd like an on-call limo 24/7 but since that isn't happening I guess I'll keep using fixed-route transit.
- Only if I have to.
- Prefer fixed-route transit over paratransit, however, a lot of people here in wheelchairs do use fixed-route transit and often there are not enough spaces on the bus. Also able-bodied people take baby carriages, grocery trolleys, and the homeless, their belongings that make boarding the bus most difficult.
- Routes are constantly being cut and times that buses run are becoming less accommodating for me and my peers, which severely limits my ability to be in the community more.
- Sure, if I were getting paid handsomely for every ride or needed to get a LOT of reading done.

Responses that offered praise or complaints for the fixed-route transit service or ADA paratransit:

- Local buses are horrible. [Our fixed-route bus service] is unreliable. I love taking [the subway] to work, however.
- ... used to have a very comprehensive bus service, now there are long waiting times, often in unsafe locations.
- [Our local transit agency] needs serious work. I walk, get rides, or take cabs a lot because of their lack of adherence to schedules.
- Our fixed-route transit service is very accommodating - now. I am very concerned that budget cuts will change this though.

Comments that suggested that with changed conditions, they would use the fixed-route transit service more:

- The condition of the bus stop location, lack of accessibility, and the street conditions in the area makes the trip very scary to undertake.

- If I did not have to fight with parents with strollers on the bus. They think they can put their strollers in the wheelchair access spots.
- Buses are not very accommodating to wheelchairs.
- Do not always find it accessible in terms of elevators, escalators; no accessibility at ... rail station
- Do not have a covered bus stop close to my house.
- I find schedules hard to read and the technology that has been implemented is not always accurate or not working. An example would be the new text service for learning arrival times of buses. The process is to text the bus stop number and receive a text back containing arrival times. This is a big help for me. One bus stop that I use regularly had the wrong stop number posted. It took five phone calls over a two-week period to have it corrected. Incidents on the bus regarding my disabilities and using a service dog have created a feeling of the bus being an unsafe environment. If I am not able take a bus I have to walk home.
- I generally use the bus to go to work, school, and occasional recreation; however sometimes there is not an accessible path once I exit the bus or a shelter to wait at on the return route, which is important to me to stay out of the elements.
- I say this because I would take the ... trains more often if more stops were accessible.
- If I knew exactly when the bus would be passing by so I do not have to wait in the rain, snow, or heat too long. Maybe a GPS system on the bus to let central dispatch know of its exact location at any given time. Also, if the bus stops all had an alignment & boarding pad I would not have to stand on wet grass, snow banks, and slopes.
- If the fixed-route transit service was more accessible to me, I would definitely like to use it more often than I currently use it.
- So many bus stops are not accessible and the bus ramps are too steep.
- The subway is so bad, only a few stop accessible. It's come a long way from what it was but it still has a very long way to go. Buses have bad lifts and unsafe straps and worst of all, grumpy bus drivers who are annoyed by wheelchair passengers, and because of the bad lifts, broken straps etc., it takes a while to get on and that annoys the other passengers too. In other cities it's easy to get on and off a bus or subway and there is not a sense that a person with a disability is going to be a pain because the system makes it easy. It can be done but it's not here.
- When drivers use a fixed route here in ..., they do not like to stop for people who obviously need to be picked up. My son uses the bus frequently and they know him but he has had issues with this.

### **Respondents Who Use Neither the Fixed-Route Transit Service Nor ADA Paratransit**

#### **Selected responses to “Would you like to use fixed-route transit service?”:**

- After they get the reliability of connections up to near 100%

- And especially because I could share the ride and companionship of fellow neighbors, the 60-some disabled residents, living here in a disability complex. It's a terribly sad and biased situation, to have neighbors who use motorized wheelchairs to live daily, who are denied access to local transportation, and I continue to be ignored in my efforts to gain them accessibility, to their right to transportation
- Bad experiences in past
- Because it is more affordable
- I loved being able to ride the bus and being independent. I want to have a route I can navigate. The big multi-bus loops may be good for some but not blind folks, we need a path to follow. I just won't ride if I have to get off the bus every day wondering which way to go.
- I usually walk or ride a bike, trying to overcome my disability.
- I wish I felt more comfortable with it for those times when my car has broken down and things like that.
- I would like for my son to be able to use it independently some day.
- I would love to use the fixed-route transit system if it ran more often.
- I would use bus and rapid transit instead of my own vehicle when I am in the city if I was more familiar with the accommodations and how well they work.
- I would use public transportation but with the over-use of fragrance chemicals to include scented laundry soaps, dryer sheets, colognes, perfumes, etc., there is no safe way to use public transit.
- I'd love to use the fixed-route transit service. Since I'm blind, therefore it is illegal for me to drive, and I live below the poverty line (can't afford to pay a personal driver or taxi); having access to public transit is essential.
- If I could get to fixed-route transit without driving, it would be worth taking the bus.
- If more times and routes!
- In addition to the timing/their schedule issue, I often hear that their buses are not well maintained (loose this or that) and seats/floors are sometimes not cleaned up.
- Love good public transportation in other cities like DC and Boston.
- Maybe a small shuttle bus with a schedule to take people to the bus stops. Coordinate with the fixed-route buses.
- More neighborhood routes needed
- No real space for my service dog to go. They don't know or want to deal with this. The bus is shaped so there just isn't even room for him to sit.
- What I want are services that provide low-cost or free car repair in a timely manner for low-income persons with disabilities. The only agency in [my small city] that assists with this is DSS, and they only help people with a child in the home or people who are working.
- When I can't drive any more I will use fixed-route transit service.

Comments that suggested that if conditions were changed, there would be more use of the fixed-route transit system:

- As long as it has a working elevator/ramp/tie downs with a driver who is well trained in the equipment; it would be wonderful if all drivers had disability sensitivity training.
- As long as the situation remains the same without audible signaling for numbers on buses and stops announcements it is not safe for me.
- I do not know the route system and how to transfer from one bus to another.
- I've used that service before, but had safety concerns each time. My power wheelchair wasn't always secured in the bus.
- The buses are not well maintained and I did not enjoy being stranded at bus stops since the lifts were inoperable.
- If buses used ramps that rarely broke down versus lifts that take long and break down often, I'd be more likely to use them.

Comments that raised ADA issues:

- Fixed bus service would have to accommodate my inability to use steps to enter bus. Since I am not in a wheelchair, bus drivers do not lower bus unless asked and then it is not lowered without me being questioned about why I need to have it lowered.
- I haven't used the bus since the new buses were available, but even a very small step up (or off a curb) is more than I can do now.

## ***What Factors Are Most Important***

### **Respondents Who Use Only ADA Paratransit**

**Selected responses to “Are there any other factors that are important to you when you consider whether or not to use the fixed-route transit service?”:**

- Exposure at bus stops to weather
- Exposure to bad weather conditions.
- Finding my way from the bus stop to my ultimate destination, i.e. crossing parking lots, etc.
- Accessibility of public stops and can they be located easily by the visually impaired?
- Fixed-route transit schedules are like translating ancient Greek without knowing ancient Greek. Now what side of the street do I need to be on, the left or right? Mapping out the bus routes is fine, now where are the bus stops? Do I need to stand for a long period, or will I be able to sit? Is the shelter covered or uncovered? What do you mean there's not enough room for my walker; no, I can't fold it up. Well, if you can get two walkers on why not three?
- I am not sure what I would run into when taking the bus.
- I am unable to cross major intersections in a timely manner in order to catch fixed-route transit.
- I do not use fixed-route transit service or, as they refer to it, the line bus service because of safety reasons such as not stopping at a cross walk or at

a light, and I don't know my way from the transfer points to the bus stop, and I won't know what bus I need or if I did, I would not know if I was getting on the right bus because the driver will not announce by the PA system what bus it is.

- I have a minor hearing problem and travel is difficult; worried about other dogs attacking my guide dog; feel unsafe because of attitudes of passengers
- I used to live in ... and used ... system. They had a terrible habit of not making stops, even when they saw a person waiting for the bus. This seemed to occur most prevalently with passengers with disabilities.
- If I am shopping, if I can hold/carry everything, paratransit will assist with packages and strap them down for you, buses don't. Many "accessible" stops require you to drive on grass or rocks, and if you ask the driver to move the bus to a better spot, the entire bus groans. Many times in the past instead of moving the bus, the driver will get out and "show" you how that rock, etc. is NOT a problem, insisting you load there or wait for another bus. Either way you do not win. Most of the time I will do what the driver insists and slide off the side of the ramp, getting the undercarriage of your chair stuck on the lift. Then the driver and usually a couple other passengers will manhandle the power chair, all of them saying under their breath "why didn't you just wait for the next bus;" that next bus is 1/2 hour to 1 hour later. Meanwhile, your body temperature is dropping from all of that cold air being blown directly inside you. As you can tell, I've had a lot of really bad experiences; it is just plain luck to have an uneventful ride.
- If I have a health crisis, the driver of a fixed-route transit service is not equipped to help me. Sometimes I need help getting doors open to get in and out of the buildings I go to and the paratransit driver can get out of the bus and help me get in, whereas a fixed-route transit driver cannot do this.
- Most areas are NOT handicapped accessible. Meaning the sidewalks.
- People will sit by you with a service dog and say YOU NEED to move because they are afraid. Bus drivers will tell you they doubt your animal is a real service dog and say you must make the animal hide under the seat where it can't do its job. One time a bus driver closed my arm in the door and yelled at me for it. And other times they don't even stop. That's why I was glad that here I could ride those vans with properly trained people to help with my disability, but \$2.00 each way is harder to pay than .40 for the bus, disability rate. So I could no longer use it to go everywhere. I had to depend on family and lose a lot of my independence. Plus it caused family problems to have to rely on them all the time. There should be a better solution.
- Safety at bus stops
- Safety getting to and from the bus stop. People have been hit by traffic in that area because there are no sidewalks.
- Schedules are almost unusable online because of poor use of screen reader tools by the city internet planners' inability to understand why the schedules need to be used by blind or visually impaired consumers.
- Securement of chair and me for safety. If securement is done -- will it not damage my chair?

- The schedules last I checked on our fixed-route transit website are not accessible. Therefore, I cannot use those to determine if I could use fixed-route transit service for some things.
- There are different bus companies that operate the buses so it is difficult for me to determine which bus to take.
- There is an element/feeling of independence, self-sufficiency, sense of accomplishment and being in the mainstream that is important to individuals with disabilities.
- Weather is a huge obstacle. Cold, rain and snow are the main weather conditions that prevent me from using a fixed-route transit system.

### **Respondents Who Use Both the Fixed-Route Transit Service and ADA Paratransit**

**Selected responses to “Are there any other factors that are important to you when you consider whether or not to use the fixed-route transit service?”:**

No additional comments selected.

### **Respondents Who Use Only the Fixed-Route Transit Service**

**Selected responses to “Are there any other factors that are important to you when you consider whether or not to use the fixed-route transit service?”:**

- Ability to safely navigate between bus stops and destination due to lack of sidewalks and accessible pedestrian street crossing facilities (“talking ped heads”).
- A safe place to SIT and wait for the bus
- Ability to get a wheelchair spot on the buses - local buses only have 2 spots and often both are full in high ridership areas, making one wait for the next bus, which can be up to an hour.
- Ability to locate transfer points when the stops are not at the same place.
- Availability of bus shelters, ability to get my business done on one ticket, accessibility of sidewalks, time the ride takes, ability to open windows to get fresher air (and escape perfume and cologne)
- Being able to find out what time the next bus comes without having to purchase or borrow (like that will happen) somebody’s cellular phone. [Our transit agency] refuses to make bus stop information, bus detour information, and bus schedule information readily available.
- Better shelters in bad weather, real time announcements if bus is going to be late, and better information if routes have to be changed. I am not always at a computer to look at the specific website for details on route changes.
- Better use of technology - GPS - to limit the amount of stand and wait time. Improve bus stop platforms and snow removal. Improve use of ADA announcement system; keep the internal lights off in the evening hours when the bus is moving so passengers can see landmarks outside instead of their reflections.
- Bus is late too often. Then I don't know if the bus I get on goes to the destination I wish to go. When the bus runs late, the bus driver might take a shortcut and



skip part of the fixed route to catch up time. What if it's the "skipped" part where I need to get off? Or what if I'm waiting for the bus and the bus doesn't come because the driver skipped part of the route?

- Bus ramp too steep when deployed to the street. Many streets are dangerous to travel in for wheelchair users. No sidewalks to many bus stops. If wheelchair positions on bus are occupied or the people in the bus seat in the wheelchair position refuse to move, then it is a long wait until the next bus.
- Buses carry too few wheelchair spaces for level of demand. I often have to let several buses pass because all the wheelchair spaces with tie-downs are occupied. Also, too difficult to board when the bus is full of able-bodied passengers with lots of them standing.
- Buses not stopping for riders, overcrowded, loud noise, people talking and cursing, children getting on the bus being very rude, people not getting up for people with disabilities and small children
- Cleanliness
- Connections with other fixed-route public transit systems needed to reach my destination
- Downtown at night is unsafe; drug use in plain sight at bus benches. Occasional harassing for money.
- Elevator reliability
- Elevators should be working or a back up alternative known by station attendees. Escalators are not suited for everyone.
- Escalators and elevators constantly breaking down and a long unnecessary procedure for taking broken-down subway train out of service.
- Extreme amount of time to go short distances
- He needs to have steps that are not too high or difficult to manage as he enters and exits the bus. Needs hand rails. The bus needs to stop close to the curb so he doesn't have a huge space to step over. These are safety issues for him.
- How long and slow the trip will be. It takes me over an hour to get home from work and it's under 10 miles.
- I am involved with numerous advocacy and disability rights activities, locally, statewide, and regionally. I do not have dependable means to get to many appointments/activities, and experience chronic demoralization, isolation, and frustration. Fixed-route transportation over distances simply doesn't exist, or if it does exist it is inconvenient and limited.
- I do not like that the driver has to do extra work to accommodate me. I wish I could just get on like everybody else
- I need to know when there are service outages/changed routes ASAP
- I really want to emphasize how difficult it is to traverse many neighborhoods with no curb cuts or even sidewalks in a metropolitan area.
- I use a large service dog and have access problems with transit personnel as well as accessing some exits and entrances.
- If the station/stop is crowded and I cannot understand the speech of individuals around me.
- If walking distance to a bus stop is greater than two blocks.

- Inclement weather and/or hazard that might require a route change. I cannot clearly hear the announcements of stops. All public transportation should install induction loops so people who wear hearing aids or have cochlear implants can clearly hear the announcements.
- It is very important that I have access to schedule information by phone.
- Lack of assistance from drivers when needed, not always letting you off at stops after signaling your need to exit, not waiting for passengers to be seated or secured before resuming, driver questioning your disability when it isn't physical
- Lack of curbs cuts, lack of sidewalks, non-wheelchair accessible stops
- Late buses and buses that don't show. Could stand at the bus stop for up to an hour for a 2nd bus. More benches and shelters are needed as well.
- Length of time it will take to make the trip (vs. having someone drive me). Transit not running, scheduled buses not running on time or at all and/or incorrect GPS (NextBus) information.
- The terrible, non-helpful bus drivers. Also, one of the walking routes from our school to the bus stop has no sidewalks, and we have wheelchairs.
- Many times when the bus has one other disabled rider in the wheelchair spots the bus will pass and make me wait for the next bus. This is horribly inconvenient since there is a second spot for me to sit and it's hard to plan when the bus will get you to your destination if the bus arrives, but will not transport you like a non-disabled rider.
- My child accompanies me, and some of the areas have no sidewalks, or no stable ground for us to travel on. The drivers of the autos on the road are just zooming by at a fast pace, and yelling obscenities at us.
- My daily commute involves multiple types of transportation, so it is important that each component fits my needs. I am not shy when it comes to complex routes; I spend roughly two hours each way traveling to and from my place of work. Availability, frequency, and reliability are the factors that matter most to me.
- My disabilities are largely invisible and it's difficult to ask for accommodations from other passengers.
- Need easy-to-find instructions; community organizations for assistance
- Need more flexibility and go further places than just within the city. I.E. Work, jobs, and etc.
- On the older buses I have been stuck on the bus because the lift stopped working. I've also caused the bus to break down because of the lift and inconvenienced all of the other passengers. I don't like doing that. The lift also slows everybody down.
- One of the main issues is the bus company changes the stops a lot, could be due to construction or making a movie. Some folks like my daughter have a difficult time reading the temporary "we moved your stop" sign. Locating the new stop is the hardest.
- One serious factor that is not listed that severely impacts persons who are blind/visually-impaired is the accessibility of transit route information. In our area the transit web site is very difficult to access with adaptive tech and the information line hours are limited. This is a very serious problem.

- Over-crowded buses, drivers pass me up, non-ADA sidewalks, tons of smoking, beggars, homeless crowding some bus stops especially downtown
- Physical infrastructure, for instance the size of the gap between the pavement and the train in [rail] station
- Primarily, there is no adequate communication for deaf and hard-of-hearing folks. Then foremost, the lack of smoke-free transit stops, in spite of local ordinances, triggers migraines and asthmatic attacks.
- Privacy. When I get on the bus, my fixed-route transit provider trains the bus drivers to ask me where I will be getting off the bus. They often yell the information the length of the bus. This makes it unsafe for me, especially at night.
- Reliability of buses, whether they will show up at the scheduled time, is very important here. Also length of trip; more than an hour makes me less likely to take the trip.
- Right now there are only 2 wheelchair accessible spots on fixed-route bus. More and more people using mobility aids are riding fixed-route transit. Friends traveling together can have a difficult time because there isn't enough room on some routes. Incorporate weather extremes and you can really end up on with the short straw.
- Route structure has not adapted to changed centers of population and travel requirements. Need more suburban interconnections to hub and spoke systems
- Routes are frequently being discontinued across the bus system in ... due to budget issues. So far our bus is still available but if it is cut my daughter would have no reliable way to get to work.
- Routes need improving. There are plenty of places that riders and potential riders have expressed the need, but the City of ... refuses to adopt them. The City has been, and continues to be, less than honest, upfront, and open to dialogue on these issues.
- Safety is a priority, and so is knowing where I am going. I often have trouble hearing the stop announcement (if an announcement is even made) and have trouble finding out about how to use my discount when using new transportation. It is often difficult to use the discount pass (person-less ticket booths, lack of staff or staff knowledge).
- Service quits very early around here
- Sometimes even if the fixed-route transit service goes where I need it to, when I need it to, it's very slow.
- The ability to get on and off safely and efficiently. Also the size near the front door and the money box, and the space were the wheelchair sits.
- The bus I choose to take is dependent on how I get into the bus. I hate the lift buses - I always feel like it is possible I will fall off the back end. I prefer ramp buses where I am in control and can drive up the ramp myself. I have chosen my daily fixed route solely on this factor - it may take about 5 minutes longer to get to work - but it is a method I feel more secure with. Just an FYI - the staff and riders are always very accommodating
- The buses have stickers/signs posted that certain seating (where stickers are posted) are for senior citizens and persons with disabilities. It seems like almost every time I get on a bus a young person, usually a high school or college

student, is sitting in one of these marked spots and I ask them to please move their backpack so I can sit down—they get upset (roll their eyes, huff and puff, etc.).

- The drivers need to be trained how to communicate with deaf, hard of hearing, and deaf-blind passengers.
- The local commute train is very difficult to identify which one it is. The only way I know it is the train I want is if it is running on time.
- The ... stations are way too dark for those who are low vision which makes safety an issue. Also I encounter communication issues when I need assistance.
- The need for tie-downs slows the process and makes me reluctant to use the service for shorter trips.
- The short buses need better restraints and seating for wheelchairs. The ones here place the chair directly against the emergency exit in the middle of the aisle with nothing between the user and the front of the bus. It also places the call button out of reach.
- The time of day and how crowded the buses/trains are likely to be. During morning rush hour is the least accessible for many routes, because the cars are often crammed with people who have just applied chemical fragrance products which can give me serious Multiple Chemical Sensitivity (MCS) symptoms and there's often no place to move away from the people wearing the strongest products or wearing clothing that emit chemicals from chemical fragranced fabric softener. Wearing a good respirator can help, but some chemical emissions still gets through and I get really awful attitudes from many passengers when I wear this. I often face this type of access barrier during late afternoon rush hour on public transit.
- The total time required to make a round trip using fixed-route public transportation is often a barrier.
- There is no way to know if the bus will run. I have been “stuck” with no way to get home more than once.
- This is a very rural service and posted stop signs are few and far between in less populated areas. It is possible to flag down the bus, but sometimes it is difficult to find a safe place where the bus can stop.
- Vehicle conditions and availability of easy-to-understand routes.
- Visibility of next stop announcements (or audio alternatives), presence of time indicators to know how long the wait is for the next bus/train. When there are multiple trains on one track (serving multiple destinations), concerns about selecting the correct train. Knowing which specific train is coming next via audio and visual announcement is best.
- Weather, especially the winters.
- When at certain stops which are “Call In” stops, bus does not always pick up passengers after the company is called to let the bus know that a passenger is waiting.
- When the only way to identify the bus is the sign on the top. It is hard to read and I am worried I will miss my bus. Sometimes the bus will announce the information out loud, but often times it does not.

- When using fixed-route transit service with a wheelchair, I am made to feel anxious. This is due to the need for all others to wait and watch as the driver escorts me onto the bus and finds the way to secure the wheelchair, all of which takes time, making other passengers late and/or annoyed. Also, the place for the wheelchair on the bus takes up 3 or 4 seats, which makes others have to stand and gives a large distance between other passengers and myself.
- While buses in ... are accessible, the trains are not. Many stops lack elevators, the ones that do are sometimes broken, and the trains themselves frequently have large gaps or steps to get on and off the train. As a wheelchair user, this is dangerous and horribly inconvenient.
- Yes the attitude of both the drivers and the passengers

**Respondents Who Use Neither the Fixed-Route Transit Service Nor ADA Paratransit**

**Selected responses to “Are there any other factors that are important to you when you consider whether or not to use the fixed-route transit service?”:**

No additional comments selected.



## **Appendix D. Copy of Task 4 National Survey of Transit Agencies**





# Transit Cooperative Research Program (TCRP) Project B-40 Survey

## Strategy Guide to Enable and Promote the Use of Fixed Route Transit By Peop...

This questionnaire is intended to be completed by agencies that operate both fixed route transit and ADA complementary paratransit services. The request is for general information about programs and should take about 30 minutes to complete.

The questionnaire is designed to determine if your transit agency has experience with various types of efforts to encourage and facilitate use of fixed route transit services by persons with disabilities (e.g., fare incentives, trip-by-trip eligibility, travel training, etc.). The questionnaire also asks for general opinions on the effectiveness of each of the efforts you have used. Responses will be aggregated in most cases and not reported by individual transit agency. We may follow-up with systems that indicate that a particular effort has been "very effective" and then identify those systems with successful programs in our final report (with their approval). Opinions about efforts that have not been effective will not be identified by individual transit system.

Note: If you do not complete the questionnaire in one session, you can exit and log in later to complete it using the same computer. Because the questionnaire identifies your transit agency response using your computer's IP Address, it is important that you log back in using the same computer.

The questionnaire asks for a limited amount of data. If you would like to gather this in advance, the data requested includes:

The percent of persons determined conditionally ADA Paratransit Eligible, if applicable

The number of local community bus programs operated or supported, if applicable

The number of flex routes operated or supported, if applicable

The number of standard (non-flex) routes operated or supported, if applicable

### Optional Information:

Number of individuals qualified for fixed route reduced fare or free fare benefit

Number of fixed route reduced fare or free fare trips per year

Number of persons registered as ADA Paratransit Eligible

Number of one-way ADA paratransit trips provided per year

Total service area population (NTD reported)

Thank you for your assistance in providing information about this important issue.

# Transit Cooperative Research Program (TCRP) Project B-40 Survey

## Contact Information

### 1. Contact Information

Name of Transit Agency:

Street Address:

City:

State, Zip Code:

Web Page Address:

Person Completing Survey:

Title:

Phone:

E-mail Address:

# Transit Cooperative Research Program (TCRP) Project B-40 Survey

## Types of Transit Services Provided

2. Please indicate all of the types of public transit services administered and/or operated by your transit agency (check all that apply).

- ☐ Fixed-route bus service
- ☐ Rapid rail and/or light rail service
- ☐ Commuter rail service
- ☐ ADA complementary paratransit service
- ☐ Flex-route (e.g., route deviation) service
- ☐ Other non-ADA demand responsive service (e.g., community Dial-A-Ride)
- ☐ Subsidized taxi service
- ☐ Other (describe):

3. This survey is intended for transit agencies that provided fixed route bus or rail service and also provide (or others provide for them) ADA complementary paratransit service. If your agency does provide these services, please choose continue below. If not, please exit the survey now.

- ☐ Continue
- ☐ Exit

# Transit Cooperative Research Program (TCRP) Project B-40 Survey

## Current Use of Fixed Route Transit by Persons with Disabilities

In your opinion, which of the following statements best describe the current use of fixed route bus and rail services by persons with disabilities in your area?

4. Persons with disabilities use fixed route **rail** services in our area:

- ☐ to a significant degree
- ☐ to some degree
- ☐ only occasionally
- ☐ Not sure
- ☐ Not applicable (we don't provide rail service)

5. Persons with disabilities use fixed route **bus** services in our area:

- ☐ to a significant degree
- ☐ to some degree
- ☐ only occasionally
- ☐ Not sure
- ☐ Not applicable (we don't provide bus service)

# Transit Cooperative Research Program (TCRP) Project B-40 Survey

## ADA Paratransit Eligibility Determination Process

6. Which of the following sources of information do you use to make determinations of ADA paratransit eligibility (check all that apply)?

☐ Paper applications completed by applicants or others on their behalf

☐ Information from professionals familiar with applicants

☐ In-person interviews of **all** applicants

☐ In-person interviews of **some** applicants

☐ In-person functional assessments of **all** applicants

☐ In-person functional assessments of **some** applicants

☐ Other:

7. On a scale of 1-5, with 1 being "not effective" and 5 being "very effective," how effective is your process in accurately and thoroughly identifying the abilities of applicants to use fixed route transit services?

☐ 5- Very Effective

☐ 4

☐ 3

☐ 2

☐ 1- Not Effective

☐ Not sure

☐ Not applicable (We do not make trip-by-trip eligibility decisions in operations)

8. Are some applicants found eligible for only certain trips (aka "conditional" ADA paratransit eligibility)?

☐ Yes

☐ No (*skip to question 12*)

☐ Not sure (*skip to question 12*)

# Transit Cooperative Research Program (TCRP) Project B-40 Survey

## Conditional Eligibility

9. Approximately what percent of persons granted ADA paratransit eligibility receive “conditional” eligibility?

Enter whole number without percent symbol:

10. For riders granted “conditional” ADA paratransit eligibility, do you apply the conditions to trips that they request (i.e., make “trip-by-trip” decisions in operations)?

- ☐ Yes, for many different types of “conditions”
- ☐ Yes, but for only some limited types of “conditions” (e.g., winter/summer eligibility)
- ☐ No (*skip to question 12*)
- ☐ Not sure (*skip to question 12*)

# Transit Cooperative Research Program (TCRP) Project B-40 Survey

## Trip-by-Trip Eligibility

11. On a scale of 1-5, with 1 being "not effective" and 5 being "very effective," how effective has your application of trip-by-trip eligibility been in encouraging the use of fixed route transit services by persons with disabilities?

- ☐ 5- Very Effective
- ☐ 4
- ☐ 3
- ☐ 2
- ☐ 1- Not Effective
- ☐ Not sure
- ☐ Not applicable (We do not use trip-by-trip eligibility)

# Transit Cooperative Research Program (TCRP) Project B-40 Survey

## Fare Incentive Programs

12. Which of the following fare programs do you currently offer for riders with disabilities using your fixed route transit services (check all that apply)?

- ☐ Reduced fare during off-peak hours only
- ☐ Reduced fares during all operating hours
- ☐ Free fare
- ☐ Not sure
- ☐ Other:

13. On a scale of 1-5, with 1 being "not effective" and 5 being "very effective," how effective are these reduced fare programs in encouraging use of fixed route transit by persons with disabilities?

- ☐ 5- Very Effective
- ☐ 4
- ☐ 3
- ☐ 2
- ☐ 1- Not Effective
- ☐ Not sure
- ☐ Not applicable (We don't have a reduced fare program)

14. Did your agency at one time offer free fares to riders with disabilities using the fixed route transit service, but changed the policy and no longer offer free fares?

- ☐ Yes, we did have a free fare policy, but discontinued it
- ☐ No, we never offered free fares for riders with disabilities
- ☐ No, we still offer free fares to riders with disabilities using fixed route transit
- ☐ Not sure



# Transit Cooperative Research Program (TCRP) Project B-40 Survey

## Pedestrian Access to Fixed Route Transit Stops/Stations

15. Does your transit agency currently engage in any of the following efforts to increase accessibility to fixed route bus stops/rail stations for riders with disabilities (check all that apply)?

- ☐ Yes, we have a program to add bus pads and/or accessible connections to existing non-accessible stops
- ☐ Yes, we work with local jurisdictions to construct improvements at bus stops that are not accessible
- ☐ Yes, we have undertaken an inventory of our bus stops and identified those that are not accessible
- ☐ Yes, we have increased accessibility at rail stations beyond the minimum "key" and "new station" requirements
- ☐ Yes, we have undertaken other efforts (please describe in comment box below)
- ☐ No, we meet the ADA requirements for new or altered bus stops/rail stations, but have not made additional efforts (*skip to question 17*)
- ☐ Not sure (*skip to question 17*)

Comment Box

# Transit Cooperative Research Program (TCRP) Project B-40 Survey

## Pedestrian Access to Fixed Route Transit Stops/Stations

16. On a scale of 1-5, with 1 being "not effective" and 5 being "very effective," how effective have your efforts to improve accessibility to bus stops/rail stations been at facilitating greater use of fixed route transit services?

- ☐ 5- Very Effective
- ☐ 4
- ☐ 3
- ☐ 2
- ☐ 1- Not Effective
- ☐ Not sure
- ☐ Not applicable (We have not made any changes to our facilities)

# Transit Cooperative Research Program (TCRP) Project B-40 Survey

## Travel Training

17. Does your transit agency currently provide or support any of the following types of travel training (check all that apply)?

- ☐ Yes, we provide/support one-on-one training in using fixed route transit services
- ☐ Yes, we provide/support group instruction in using fixed route transit services
- ☐ Yes, we support the local school system(s) in training students on the use of public transit services
- ☐ Yes, we have undertaken other efforts (please describe in comment box below)
- ☐ No, we do not currently provide/support travel training programs (*skip to question 19*)
- ☐ Not sure (*skip to question 19*)

Comment Box

# Transit Cooperative Research Program (TCRP) Project B-40 Survey

## Travel Training

18. On a scale of 1-5, with 1 being "not effective" and 5 being "very effective," how effective have your travel training efforts been in promoting and facilitating greater use of fixed route transit services by persons with disabilities?

- ☐ 5- Very Effective
- ☐ 4
- ☐ 3
- ☐ 2
- ☐ 1- Not Effective
- ☐ Not sure
- ☐ Not applicable (We don't have a travel training program)

# Transit Cooperative Research Program (TCRP) Project B-40 Survey

## Marketing/Public Information

19. Does your agency currently engage in any of the following types of marketing/public information efforts to encourage use of fixed route transit services by persons with disabilities (check all that apply)?

- ☐ Yes, we have developed **general** marketing material that includes riders with disabilities to educate the public about the accessibility of our fixed route transit services
- ☐ Yes, we have developed marketing material **specifically targeted** to persons with disabilities to inform them of the accessibility of fixed route transit services
- ☐ Yes, we have developed information that **communicates the benefits** of using fixed route transit services to persons with disabilities
- ☐ Yes, we have developed informational brochures for riders with disabilities that provide detailed information about using accessible fixed route transit services
- ☐ Yes, we have undertaken other efforts (please describe in comment box below)
- ☐ No, we have not developed marketing or public information that addresses fixed route transit system accessibility (*skip to question 21*)
- ☐ Not sure (*skip to question 21*)

Comment Box

# Transit Cooperative Research Program (TCRP) Project B-40 Survey

## Marketing/Public Information

20. On a scale of 1-5, with 1 being "not effective" and 5 being "very effective," how effective have your marketing/public information efforts been in promoting and facilitating use of fixed route transit services by persons with disabilities?

- ☐ 5- Very Effective
- ☐ 4
- ☐ 3
- ☐ 2
- ☐ 1- Not Effective
- ☐ Not sure
- ☐ Not applicable (We have not engaged in a specialized marketing campaign)

# Transit Cooperative Research Program (TCRP) Project B-40 Survey

## Trip Planning Information

21. Does your transit agency (or the regional planning agency you work with) provide online trip planning information?

☐ Yes

☐ No (*skip to question 23*)

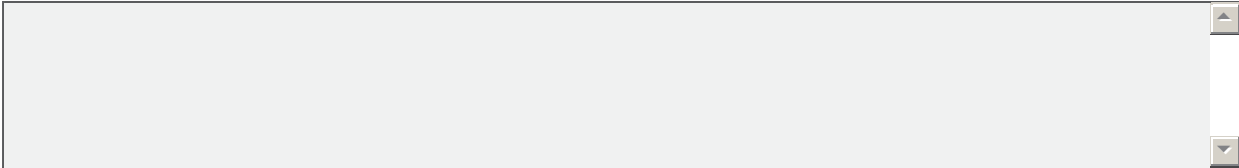
# Transit Cooperative Research Program (TCRP) Project B-40 Survey

## Trip Planning Information

22. Please indicate the service on which your trip planner is built:

- ☐ Google Transit
- ☐ Other (please describe in comment box below)
- ☐ Not sure

Comment Box





# Transit Cooperative Research Program (TCRP) Project B-40 Survey

## Trip Planning Information

23. Does your transit agency provide any of the types of service accessibility information listed below, either online or via telephone?

☐ Yes

☐ No (*skip to question 26*)

24. If yes, please indicate the types of information about service accessibility that you provide and whether this information is provided by phone, online, or both:

	Provided by Phone	Provided Online
Walking distance to/from bus stops/rail stations	<input type="checkbox"/>	<input type="checkbox"/>
Accessibility of pathways to/from bus stops/rail stations	<input type="checkbox"/>	<input type="checkbox"/>
Accessibility of bus stops	<input type="checkbox"/>	<input type="checkbox"/>
Accessibility of rail stations	<input type="checkbox"/>	<input type="checkbox"/>
Elevator/escalator outage information	<input type="checkbox"/>	<input type="checkbox"/>
Other (please describe in comment box below)	<input type="checkbox"/>	<input type="checkbox"/>

Comment Box

# Transit Cooperative Research Program (TCRP) Project B-40 Survey

## Trip Planning Information

25. On a scale of 1-5, with 1 being "not effective" and 5 being "very effective," how effective have your efforts to provide trip planning access information been in facilitating use of fixed route transit by persons with disabilities?

- ☐ 5- Very Effective
- ☐ 4
- ☐ 3
- ☐ 2
- ☐ 1- Not Effective
- ☐ Not sure
- ☐ Not applicable (We do not provide trip planning accessibility information)

# Transit Cooperative Research Program (TCRP) Project B-40 Survey

## Enhanced Employee Training

26. Does your transit agency involve persons with disabilities in training of fixed route transit drivers?

- ☐ Yes
- ☐ No
- ☐ Not sure

27. Has your transit agency recently (since 2005) improved/enhanced the disability awareness, passenger assistance, customer service, or other portions of your fixed route transit employee training to improve the accessibility and usability of the service by riders with disabilities (check all that apply)?

- ☐ Yes, we have improved/enhanced the portions of our fixed route transit employee training
- ☐ No, we have not made any significant changes to our fixed route transit employee training (*skip to question 30*)
- ☐ Not sure (*skip to question 30*)

# Transit Cooperative Research Program (TCRP) Project B-40 Survey

## Enhanced Employee Training

28. Please indicate which portions of your fixed route transit employee training have been improved/enhanced to improve the accessibility and usability of the service by riders with disabilities (check all that apply):

- ☐ Disability awareness
- ☐ Passenger assistance
- ☐ Wheelchair securement
- ☐ Customer service
- ☐ Other:

# Transit Cooperative Research Program (TCRP) Project B-40 Survey

## Enhanced Employee Training

29. On a scale of 1-5, with 1 being "not effective" and 5 being "very effective," how effective has this improved/enhanced employee training been in facilitating and promoting increased use of fixed route transit services by persons with disabilities?

- ☐ 5- Very Effective
- ☐ 4
- ☐ 3
- ☐ 2
- ☐ 1- Not Effective
- ☐ Not sure
- ☐ Not applicable (We have not changed employee training materials)

# Transit Cooperative Research Program (TCRP) Project B-40 Survey

## Fixed Route Transit Service Monitoring

30. Does your transit agency currently use any of the following methods to monitor fixed route transit service delivery to persons with disabilities (check all that apply)?

- ☐ Yes, road supervisors regularly monitor stop announcements, lift/ramp and securement system use, and driver performance
- ☐ Yes, we have a program involving riders with disabilities who report on fixed route transit service accessibility and quality
- ☐ Yes, we use other monitoring efforts (please describe in comment box below)
- ☐ No, we currently do not use this kind of in-service monitoring (*skip to question 32*)
- ☐ Not sure (*skip to question 32*)

Comment Box

# Transit Cooperative Research Program (TCRP) Project B-40 Survey

## Fixed Route Transit Service Monitoring

31. On a scale of 1-5, with 1 being "not effective" and 5 being "very effective," how effective have these monitoring efforts been at ensuring fixed route transit accessibility and use by persons with disabilities?

- ☐ 5- Very Effective
- ☐ 4
- ☐ 3
- ☐ 2
- ☐ 1- Not Effective
- ☐ Not sure
- ☐ Not applicable (We do not monitor fixed route transit service in these ways)

# Transit Cooperative Research Program (TCRP) Project B-40 Survey

## Accommodation of Mobility Aids Used by Riders

32. Has your transit agency undertaken any of the following efforts to better accommodate riders who use mobility devices on fixed route transit services (check all that apply)?

- ☐ Yes, we provide riders with special straps that they can permanently affix to their mobility devices to improve on-board securement
- ☐ Yes, we have worked with riders with disabilities to redesign our securement area and securement systems
- ☐ Yes, we have worked with riders with disabilities to improve the design of our lifts/ramps
- ☐ Yes, we have made other equipment improvements (please describe in comment box below)
- ☐ No, we have not made any specific equipment improvements (*skip to question 34*)
- ☐ Not sure (*skip to question 34*)

Comment Box



# Transit Cooperative Research Program (TCRP) Project B-40 Survey

## Accommodation of Mobility Aids Used by Riders

33. On a scale of 1-5, with 1 being "not effective" and 5 being "very effective," how effective have your efforts to improve vehicle or securement systems been at facilitating greater use of fixed route transit services by persons with disabilities?

- ☐ 5- Very Effective
- ☐ 4
- ☐ 3
- ☐ 2
- ☐ 1- Not Effective
- ☐ Not sure
- ☐ Not applicable (We have not made changes to accessibility equipment)

# Transit Cooperative Research Program (TCRP) Project B-40 Survey

## Paratransit-to-Fixed Route Feeder Service

34. Does your transit agency provide ADA paratransit "feeder" service to fixed route bus stops/rail stations (rather than direct service to the destination) for some trips?

- ☐ Yes, we provide ADA paratransit rides to fixed route bus stops/rail stations rather than the final destination, but only if the riders request it
- ☐ Yes, we determine if ADA paratransit eligible riders can complete trips if we get them to nearby fixed route bus stops/rail stations, and we make the decision to offer this "feeder" service rather than direct service to the destination
- ☐ No, we currently do not provide paratransit-to-fixed-route feeder service (*skip to question 36*)
- ☐ Not sure (*skip to question 36*)

# Transit Cooperative Research Program (TCRP) Project B-40 Survey

## Paratransit-to-Fixed Route Feeder Service

35. On a scale of 1-5, with 1 being "not effective" and 5 being "very effective," how effective has paratransit-to-fixed-route feeder service been in encouraging and facilitating use of the fixed route transit system?

- ☐ 5- Very Effective
- ☐ 4
- ☐ 3
- ☐ 2
- ☐ 1- Not Effective
- ☐ Not sure
- ☐ Not applicable (We do not provide feeder service)

# Transit Cooperative Research Program (TCRP) Project B-40 Survey

## Community Fixed Route Bus Programs

36. Does your transit agency currently provide/support local community bus programs that are designed to better service neighborhoods and reduce walking distances to bus stops/rail stations?

- ☐ Yes, we operate local community bus routes as part of our fixed route transit system
- ☐ Yes, we provide support (e.g., vehicles, operating support) to local communities, which operate the local bus routes
- ☐ No, we currently do not operate or support the operation of local community bus services (*skip to question 40*)
- ☐ Not sure (*skip to question 40*)

# Transit Cooperative Research Program (TCRP) Project B-40 Survey

## Community Fixed Route Bus Programs

37. How many local community bus routes do you operate as part of your fixed route transit system?

38. If you provide support (e.g., vehicles, operating support) to local communities which operate local bus routes, please indicate the number of communities that you support

39. On a scale of 1-5, with 1 being "not effective" and 5 being "very effective," how effective have these local community bus services been in service riders with disabilities who might not otherwise be able to use other fixed route transit services?

- ☐ 5- Very Effective
- ☐ 4
- ☐ 3
- ☐ 2
- ☐ 1- Not Effective
- ☐ Not sure
- ☐ Not applicable (We do not operate or support local community bus services)

# Transit Cooperative Research Program (TCRP) Project B-40 Survey

## General Public Dial-A-Ride Programs

40. Does your transit agency currently provide/support general public dial-a-ride programs (beyond ADA paratransit)?

- ☐ Yes, we operate general public dial-a-ride program(s) in areas not served by fixed route transit and ADA paratransit
- ☐ Yes, we operate general public dial-a-ride program(s) after hours or at times when ADA paratransit service is not provided
- ☐ Yes, we provide support (e.g., vehicles, operating support) to local communities, which operate local general public dial-a-ride services
- ☐ No, we currently do not operate or support the operation of general public dial-a-ride services (beyond ADA paratransit) (*skip to question 43*)
- ☐ Not sure (*skip to question 43*)

# Transit Cooperative Research Program (TCRP) Project B-40 Survey

## General Public Dial-A-Ride Programs

41. How many general public dial-a-ride programs are operated by your agency or by local communities which you support?

42. On a scale of 1-5, with 1 being "not effective" and 5 being "very effective," how effective have these general public dial-a-ride services been in helping to meet the travel needs of persons with disabilities in your area?

- ☐ 5- Very Effective
- ☐ 4
- ☐ 3
- ☐ 2
- ☐ 1- Not Effective
- ☐ Not sure
- ☐ Not applicable (We do not operate or support general public dial-a-ride services)

# Transit Cooperative Research Program (TCRP) Project B-40 Survey

## Flex-Route Services

43. Does your transit agency currently operate or support the operation of any flex-route (e.g., route deviation) services?

- ☐ Yes, some of the routes our transit agency operates incorporate flex-route features
- ☐ Yes, we provide support to local communities, which operate routes that incorporate flex-route features
- ☐ No, we currently do not operate or support the operation of any routes that incorporate flex-route features (*skip to question 47*)
- ☐ Not sure (*skip to question 47*)



# Transit Cooperative Research Program (TCRP) Project B-40 Survey

## Flex-Route Services

44. If you previously indicated that your fixed routes incorporate flex-route features, please indicate the number below

Number of routes that incorporate flex-route features:

Number of standard (non-flex) fixed routes:

45. If you previously indicated that your agency provides support to local communities, which operate routes that incorporate flex-route features, please indicate that number below

Number of communities:

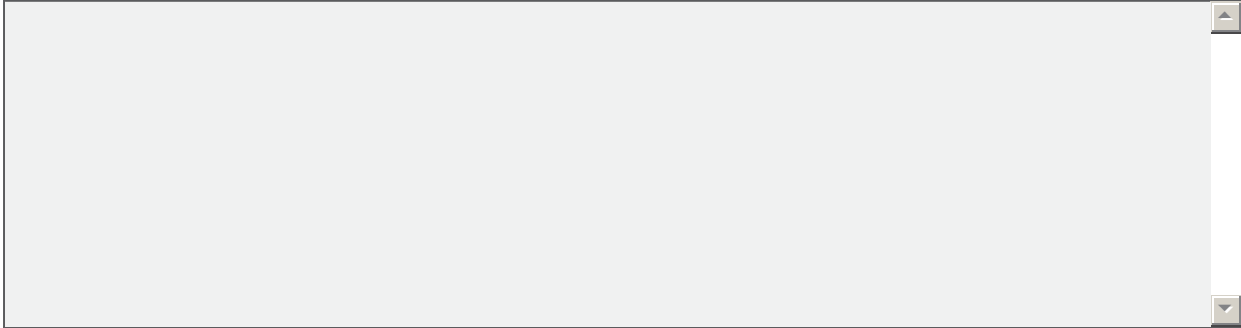
46. On a scale of 1-5, with 1 being "not effective" and 5 being "very effective," how effective have these flex-route services been in helping to meet the travel needs of persons with disabilities?

- ☐ 5- Very Effective
- ☐ 4
- ☐ 3
- ☐ 2
- ☐ 1- Not Effective
- ☐ Not sure
- ☐ Not applicable (We do not operate or support flex-route services)

## Transit Cooperative Research Program (TCRP) Project B-40 Survey

### Other Efforts to Encourage/Facilitate Fixed Route Transit Use

47. Does your transit agency use or support any other efforts that are designed to encourage or facilitate increased use of fixed route transit services by persons with disabilities? If so, please describe.



If you have program descriptions, brochures, or other material that you feel would be helpful to us in understanding successful efforts made by your transit agency to promote or encourage fixed route use by persons with disabilities, please send it to: ***FRusesurvey@gmail.com***

# Transit Cooperative Research Program (TCRP) Project B-40 Survey

## Optional Current Use Statistics

Please provide the following statistics if they are readily available to you.

If you need to gather this information, note that you can exit and re-enter, but ***please use the same computer***

### 48. ADA Paratransit Information

Total number of persons registered as ADA Paratransit Eligible:

Number of one-way ADA paratransit trips provided per year:

Annual reporting period (e.g. FY2011, calendar year 2011, etc.):

### 49. Reduced Fares on Fixed Route Transit

Number of individuals currently qualified based on disability for fixed route transit reduced fare benefit:

Number of reduced fare trips per year on the fixed route transit service by persons with disabilities:

### 50. Free Fares on Fixed Route Transit

Number of individuals currently qualified based on disability for fixed route transit free fare benefit:

Number of free fare trips per year on the fixed route transit service by persons with disabilities:

51. Other readily available data on use of fixed route transit services by persons with disabilities (e.g., lift boardings per month or year on fixed route bus services):

52. Total service area population (NTD reported):

# Transit Cooperative Research Program (TCRP) Project B-40 Survey

THANK YOU FOR COMPLETING THE SURVEY

## **Appendix E: King County Metro's Access Transportation Conditional Eligibility Categories and Codes**



CODE	MEANING	DEFINITION
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## PATHWAY

B1	1 Block	Disability prevents travel of more than 330 ft.
B2	2 Blocks	Disability prevents travel of more than 660 ft.
B3	3 Blocks	Disability prevents travel of more than 990 ft.
CC	Curb cuts	Disability prevents travel when ADA standard sidewalk curb cuts are not present.
INC	Uphill or Downhill Travel	Disability prevents travel on 8% or greater incline/decline.
LBZ	Lift Accessible Bus Zone	Disability prevents the use of a bus zone that is not lift accessible for client to enter/exit bus.
TR	Complex Traffic	Disability prevents travel when 5 streets converge with no audible signals; or a when a high traffic volume intersection with no traffic controls exist, such as a 3-way merging intersection. Generally for people with visual disabilities who are prevented from evaluating the flow of traffic in order to cross the street.
UN	Uneven Surfaces	Disability prevents travel when there is a vertical break in the walking path that is greater than 1 inch. Disability prevents travel on stairs, gravel, grass, dirt, or unpaved pathway.

## NAVIGATIONAL

BX	Bus Transfer	Disability prevents travel when route requires transfer between fixed-route buses. (Examples include people with cognitive disabilities who can only use fixed route for simple one-bus routings; or people with <u>extreme</u> fatigue that prevent them from riding more than one bus.)
NTT	Not Transit Trained	Disability prevents use of the fixed route system to travel successfully to any new destinations without training. Identifies riders who, due to a cognitive or visual disability, are not able to independently ride the bus without training, where there is a reasonable expectation that they can be successfully trained. Riders who indicate that they sometimes ride the bus are given the condition if they are not able to generalize information from the trip(s) they are currently taking and apply that information to bus trips for different destinations or for different routes."

## VARIABLE

LSM	Life-Sustaining Medical	This condition is present when a person receiving life sustaining medical treatment experiences temporary physical weakness caused by the treatment which prevents them from riding the fixed route system.
GBD	Good Day / Bad Day	A variable disability exists which prevents a person from traveling to and from a bus stop when experiencing a bad day due to a condition causing fatigue.

## SEASONAL

CO	Extreme Cold	<p>Disability prevents travel when the daytime high is lower than 40° F.</p> <p>Between November 1 through February 28, when lower temperatures are most likely, Demand Response Trips may be booked up to the full Advanced Reservation period.</p> <p>Between March 1 through October 31, trips may be booked the day before if the daytime high forecast for any area of King County is below 40° F for that day.</p> <p>No subscription service is available unless other pathway conditions apply.</p>
DK	Darkness	<p>Disability prevents travel between sunset and sunrise. Sunrise and sunset times are posted in local papers and the internet.</p> <p>Access will change the hours of darkness monthly, using the longest period of darkness in each month. The sunset time will be rounded down to the nearest 5 minutes and the sunrise time will be rounded up to the nearest 5 minutes.</p> <p>Demand Response Trips may be booked up to the full Advanced Reservation period.</p> <p>Subscription Service will be available when any portion of a trip is within the hours of darkness all year round. The hours between 9 p.m. and 5 a.m. are always in darkness. Each leg of the trip will be treated separately.</p>
HT	Extreme Heat	<p>Disability prevents travel when the daytime high is greater than 85° F.</p> <p>Between July 1 through August 31, when higher temperatures are most likely, Demand Response Trips may be booked up to the full Advanced Reservation Period.</p> <p>September 1 through June 30 trips may be booked the day before if the daytime high forecast for any area of King County is greater than 85° F for that day.</p> <p>No subscription service is available unless other pathway conditions apply.</p>
LT	Extreme Light	<p>Disability prevents travel during periods of bright sunlight. Persons may book Demand Response Trips during daylight hours one day in advance.</p> <p>No subscription service is available unless other pathway conditions apply.</p>
SNI	Snow and/or Ice	<p>Disability prevents travel when snow or ice is on the ground; also applicable when Metro declares a Stage 1 level of response or higher.</p> <p>Demand Response Trips may be booked one day in advance under these conditions, subject to Access Transportation's Adverse Weather Policy.</p> <p>No subscription service is available unless other pathway conditions apply.</p>



## PATHWAY REVIEW

NQ	Not Qualified	Not qualified for a specific trip on ACCESS as determined by a Pathway Review.
BPL	Bus Plus Service	Specific portions of a trip taken on ACCESS and Fixed-Route.

## TRANSIT INSTRUCTION

CBT	Completed Bus Training	Successfully completed Bus Training for a specific trip.
SBT	System Bus Trained	Successfully completed Bus System Training to utilize entire transit system.
LBT	Lift Bus Trained	Participated in Lift Training. Outcome is entered into LBT code description.
BTT	Bus Transit Training	Specific trip denied on ACCESS due to successful completion of Bus Transit Training.

## RIDE HISTORY

PFR	Potential Fixed Route	Indication of past usage of fixed-route
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## **Appendix F: Port Authority of Allegheny County and Access Transportation Systems' Inc. (Pittsburgh, PA) Conditional Eligibility Trip Categories and Codes**



Conditional Categories and Codes	Description/Types of Barriers Preventing Use of Fixed Route Transit
Base Plus Rides	Trips Outside the ¾ mile ADA paratransit service area funded by New Freedoms and JARC. Also called Connections Plus and Access Works Trips.
Feeder Rides	Trips by conditionally eligible riders to fixed route stop or station with part of trip by fixed route transit. Typically by riders prevented from using fixed route by Dangerous Traffic (01), Difficult Terrain (05), or Route Not Accessible (08) types of barriers.
Other Conditional Rides:	
01 – Dangerous Traffic	Trips by riders who cannot cross wide or busy street Trips by riders who cannot cross wide open parking lots Trips by riders who cannot navigate certain types of intersections (such as uncontrolled, offset crossings, etc.)
02 – Requires Transfer	Trips by riders who cannot navigate fixed route transit when transfers are required
03 – Temperature Sensitivity	Trips by riders who are prevented from using fixed route transit in very hot or cold temperatures. Appropriate temperatures vary by rider, but below 40 <sup>0</sup> F is often used as a measure of “too cold” and above 80 <sup>0</sup> F is often used as a measure of “too hot”
04 – Weakness After Treatment	Trips by riders who are affected by dialysis, radiation, or chemotherapy treatments.
05 – Difficult Terrain	Trips by riders who are prevented from using fixed route due to steep hills, or walking distances to or from stops/stations that are further than they can manage.
06 – Not Trained to Destination	Trips by riders who can use fixed route transit with training, who have not been trained for these trips
07 – Good Day/Bad Day	Trips by riders whose functional abilities vary by day due to the variable nature of their disabilities
08 – Route Not Accessible	Trips by riders who are prevented from using fixed route transit because of a lack of curb ramps, lack of sidewalks, or uneven or broken sidewalks
09 – Presumptive Eligibility	Granted to riders if trips requested have not yet been reviewed
10 – Snow/Ice	Trips by riders prevented from using fixed route transit because of the presence of snow or ice.
11 – Out of Town Visitor	Trips provided to visitors from out-of-town who have ADA eligibility granted by another transit system or have a disability that prevents use of fixed route transit
12 – Dawn-Dusk	Trips by riders who are prevented from using fixed route transit in times of low light

