

## **MaineDOT Complete Streets Policy**

The Maine Department of Transportation (MaineDOT) has a long history of providing for the needs of all modes of travel in the planning, programming, design, rehabilitation, maintenance, and construction of the state's transportation system. In partnership with municipalities, Metropolitan Planning Organizations, Regional Planning Organizations, Federal Highway Administration and other federal agencies, MaineDOT develops and implements a safe, comprehensive transportation system that balances the needs of all users.

By a letter dated May 24<sup>th</sup>, 2013, the Joint Standing Committee on Transportation specifically requested that MaineDOT formalize its current practices and policies into a Complete Streets policy, and to post all relevant and related policies on one section of the MaineDOT website. To that end, MaineDOT and its partners reviewed applicable state laws and policies (consistent with the goals of the Maine Sensible Transportation Policy Act and associated Rules (23 M.R.S. § 73 et al), federal laws and policies related to bicycle transportation and pedestrian walkways (23 US Code § 217 (g)), as well as federal laws and policies related to civil rights and other non-discrimination requirements, that either recommend or require that transportation agencies consider bicycle and pedestrian access needs as part of all transportation improvement plans and projects. MaineDOT and its partners developed this policy which incorporates current policies, best practices, as well as applicable state and federal requirements.

### **Policy Statement**

The intent of this formalized policy (and related policies) is to help ensure that all users of Maine's transportation system—our customers—including bicyclists, pedestrians, people of all ages and abilities, transit users, and motor vehicle users, have safe and efficient access to the transportation system.

MaineDOT strongly supports a multimodal transportation system, and recognizes that pedestrian and bicycle infrastructure such as sidewalks, bicycle lanes, separated facilities, transit stops, ADA-accessible routes, and travel lanes are important elements of the transportation system. Such a multimodal system is crucial to the safety and economic vibrancy of businesses, villages, downtowns, neighborhoods, and rural areas.

Addressing the needs of bicyclists, motorists, pedestrians, and transit users early in the system planning process is cost-effective, efficient, and critical to the development of a balanced and safe transportation system.

MaineDOT and its project partners must consider the needs of all users when planning and developing projects. Implementation of this policy shall apply to relevant projects funded partially or in full through MaineDOT, including Metropolitan Planning Organization and Local Project Administration Program projects. This policy applies regardless of the reason the project was initiated.

This policy applies to relevant new construction, rehabilitation and reconstruction projects, including but not limited to bridge, highway, intersection, safety, multimodal, transit, rail, lane and shoulder widths/markings during repaving, developer-initiated projects, and new-capacity corridor projects.

Each relevant project undertaken or supported by MaineDOT will include an analysis and documentation of how consideration of all users (including motorists,, transit riders, bicyclists, and pedestrians of all abilities) of the transportation system will have safe access to the completed project where warranted and feasible. (see "Project Relevance and Feasibility" below)

A project meets the intent of this policy when the project includes proposed safe accommodations for all users, or project documentation outlines the reasoning for not providing specific accommodations. Statements pertaining to how pedestrians of all abilities and bicyclists will have safe access to the completed project will be included in all appropriate project related documentation, including the scoping and preliminary design reports. Safe and efficient mobility for motor vehicles is an important element of this policy; this policy is intended to help ensure that our streets are built to provide safe and efficient mobility for all users.

### **Project Relevance and Feasibility**

A project is relevant if the type of project includes an opportunity to include safe accommodation as part of the project, including additional shoulder width through restriping, additional pavement for paved shoulders, crossing improvements, and/or a sidewalk or separated facility.

System preservation projects, which include repaving, are projects intended to address maintenance of the existing system and do not typically provide an opportunity to increase roadway width, add sidewalks, or otherwise add additional assets to the transportation system. These projects may offer the opportunity to improve conditions with signage, restriping, reducing travel lane widths, or other non-widening options. System preservation projects should not decrease the safety for any road users.

Specific accommodations including sidewalks are not warranted or feasible in some locations. The reasoning for a decision to not include a specific accommodation(s) can include:

- Where the project exists in an area where scarcity of population indicate the absence of a need for specific facilities currently or in the future. For pedestrian improvements, these are typically outside of Qualifying Pedestrian Areas as determined by MaineDOT as described in the Local Cost Sharing Policy and the Definitions section below.
- Where there are engineering, financial, or environmental constraints as approved by a Program Manager, and if necessary approved by a Bureau Director.
- Where pedestrians or bicyclists are prohibited.

If specific accommodations have been determined to be not warranted or feasible, the reasoning for such decisions will be included in appropriate project related documentation, including scoping and preliminary design reports.

**Providing Safe Access Options**

Safe access options are varied and determined on a case by case basis, and accommodation options may include but are not limited to:

- providing paved shoulders for bicyclists and pedestrians of all abilities outside of village and business areas;
- providing paved shoulders or bike lanes, separated facilities, sidewalks, and safe crossing and intersection improvements in village or business areas;
- providing traffic calming, signage, and proper maintenance of facilities.

MaineDOT’s Local Cost Sharing Policy includes local match requirements for new sidewalks where warranted, and for community interest elements including lighting, park benches, landscaping, trees, etc. that MaineDOT determines is an eligible component of the project. As outlined in the Local Cost Sharing Policy, sidewalks requested outside of Qualifying Pedestrian Areas (determined on a project by project basis in coordination with the MaineDOT Bicycle and Pedestrian Coordinator), will be considered a local interest element.

**Example Project Type and Potential Solution Matrix**

This is a sample list and is not meant to be exclusive

<b>Type of Work (SCOPE)</b>	<b>Relevant to Complete Streets Policy</b>	<b>Potential Bicycle and Pedestrian Access Options where warranted</b>
Highway or Bridge New Construction or Reconstruction	Yes	Paved Shoulders, Bike Lanes, Sidewalks, Separated Facilities, Crossing Improvements, Pavement Markings, Signage, ADA access improvements.
Bridge Preservation including painting, deck replacement, etc.	Limited	No opportunity exists to widen bridge for additional shoulders and/or sidewalk, however restriping is a possibility
Preservation Paving including Light Capital Paving	Limited ( <i>No opportunity for increased width for new sidewalks and/or shoulders</i> )	Potential ADA improvements (See ADA Compliance Policy). Potential restriping of travel widths, number of

		lanes, pavement markings, and shoulder widths if community requests or if MaineDOT initiates.
New Signal or Signal Modification	Yes	Potential ADA improvements (See ADA Compliance Policy). Pedestrian Crossing Improvements. Consider signal detection of bicycles and consider associated pavement markings.
Lighting	No	These projects typically improve the quality of the community environment by reducing light where not wanted, and reducing interference with the night sky.
Striping	Limited	Potential travel lane and shoulder width adjustments, or other pavement markings, if community requests or MaineDOT initiates.
Pavement Maintenance Activities	No	These projects typically improve the overall safety for all road users, but do not provide an opportunity to add additional width or restripe the roadway.

### Continued Implementation

Collaboration throughout MaineDOT and its transportation partners is essential for the implementation of this policy. Implementation of this policy includes developing and updating relevant design and policy manuals, guidance and training necessary to ensure that individuals involved in planning, scope development, design, project development, and building the improvements have the tools, knowledge, and direction necessary to successfully implement this policy.

The Maine Bicycle and Pedestrian Council (MBPC) will serve as the appointed group that will review and recommend relevant policy changes to MaineDOT. The MaineDOT Complete Streets Policy Committee will meet regularly to review relevant policies, and to consider MBPC policy recommendations and propose changes to relevant policies through the Engineering Council.

**Related Policies, Laws, Rules, Guides and Training Programs:**

This policy statement and relevant internal guidelines and policies are available on the MaineDOT website for easy access and improved understanding by our customers and partners throughout the state.

The most updated policies, laws, rules, and training programs at MaineDOT that relate (including but not limited to those listed below) shall be maintained in the Complete Streets Policy section of the website. All policies will be continuously updated when necessary to further implement the goals of this policy.

- Department of Justice ADA Standards for Accessible Design
- Traffic Permit Approval Processes
- Entrance Permit Policies and Procedures
- MaineDOT ADA Compliance Policy
- MaineDOT Bridge Design Guide
- MaineDOT Design Exception Processes
- MaineDOT Guidelines on Crosswalks
- MaineDOT Guidelines for the Use of Traffic Calming Devices
- MaineDOT Highway Design Guide
- MaineDOT Local Cost-Sharing Policy
- MaineDOT Local Project Administration Manual/Trainings
- MaineDOT Practical Design Guidance
- MaineDOT Public Involvement Plan
- MaineDOT Shoulder Surface-Type Policy
- Maine's Strategic Highway Safety Plan
- Manual on Uniform Traffic Control Devices (MUTCD)
- Municipal Comprehensive Planning Requirements
- Sensible Transportation Policy Act and Rule
- Traffic Movement Policies and Procedures

**Project Basic Implementation Checklist (not all-inclusive)**

All phases of project planning, scoping, public participation and design:

1. Determine options for how bicyclists, pedestrians, transit, and motor vehicles including trucks will have safe and efficient access to project area when project is finished.
2. Determine whether a paved shoulder is needed and how wide it will be.
3. Determine whether a sidewalk is needed and proposed beginning and end points to ensure connectivity. (consult Bicycle and Pedestrian Program Manager for assistance if needed)
4. Determine whether a separated bike and pedestrian facility is needed.
5. Determine whether a pedestrian crossing improvement is needed at intersections and mid-block locations.
6. Determine appropriate travel lane widths.
7. Determine number of lanes required for current and projected traffic movements.

8. Determine whether a corner radius can or should be reduced to reduce pedestrian crossing time and distance, which can also benefit motor vehicles by reducing the pedestrian phase requirements for the intersection.
9. In all project related documents, including Preliminary Design Reports (use Projex for non-PDR projects), outline suggested access options for all modes including motor vehicles, bicyclists, and pedestrians.
10. Outline reasoning and appropriate approvals as listed in Policy for not including a preferred solution if solution is infeasible.
11. At initial public meetings, be prepared to include a description of how bicyclists and pedestrians of all ages and abilities are intended to use the project when completed.
12. Contact the MaineDOT Bicycle and Pedestrian Program Manager for assistance on the appropriate solution for bicyclists and pedestrians, and for which local bike and pedestrian plans or groups may be available for project consultation and/or communication.

## Definitions

**ADA:** The American with Disabilities Act, 42 U.S.C § 12101, et. seq.

**Qualifying Pedestrian Area:** An area that MaineDOT determines will have substantive pedestrian activity or use during the expected life-cycle of the project. In making this determination, MaineDOT will be guided by the existing, planned, or forecasted sidewalks and/or pedestrian generators (including neighborhoods, businesses, government buildings, village areas, schools, recreational facilities, etc.), directly adjacent or within reasonable walking distance. Other factors include whether the existing or future pedestrian activity is consistent with the municipal transportation plan, comprehensive plans, capital plans, zoning, and/or other longer-term planning and investment (including actual documented funding implementation) documents that have been adopted by the legislative body of the municipality.



Date: 6/18/14

**David Bernhardt**

**Commissioner**

## Equity in Transportation for People with Disabilities

### Why Equity in Transportation Matters

Congress is currently debating reauthorization of the surface transportation bill, with heated debate over spending amounts and policy needs. As the nation considers its transportation policy for the 21<sup>st</sup> century, it is crucial to consider the needs of *all* individuals living in the United States, especially those who have traditionally been left behind.

Transportation and mobility play key roles in the struggle for civil rights and equal opportunity in the disability community. Affordable and reliable transportation allows people with disabilities access to important opportunities in education, employment, health care, housing, and community life. Because our nation's investments in transportation infrastructure have disproportionately favored cars and highways, those who cannot afford cars or do not drive cars often lack viable transportation options. People with disabilities—particularly in rural areas—need accessible, affordable transportation options that bring employment, health care, education, housing, and community life within reach.

Of the nearly 2 million people with disabilities who never leave their homes, 560,000 never leave home because of transportation difficulties.

Unfortunately, adults with disabilities are twice as likely as those without disabilities to have inadequate transportation (31 percent vs. 13 percent).<sup>1</sup> Of the nearly 2 million people with disabilities who never leave their homes, 560,000 never leave home because of transportation difficulties.<sup>2</sup> Leaving people out has real costs to the nation. Keeping people with disabilities at home keeps them out of jobs, away from shopping, and out of community life, and it prevents them from making valuable contributions to our society as individuals, as workers, as consumers, and as taxpayers.

### Transportation and The Americans with Disabilities Act

The Americans with Disabilities Act of 1990 (ADA) is the landmark civil rights law that addresses the rights of people with disabilities. Title II of the ADA prohibits discrimination on the basis of disability in public transportation services, such as city buses and public rail (subways, commuter trains, etc.). Under the ADA; all new vehicles used in public transit must be accessible; key existing rail stations and all new rail stations and facilities must be accessible; and transit operators must provide paratransit (on-demand, door-to-door) services for those who cannot use available mass transit.

### Surface Transportation Legislation

The current legislation that authorizes all highway and transit funding is the 2005 Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU). SAFETEA-LU authorized \$286.5 billion to fund the nation's transportation network through 2009. It authorizes funds for highways and highway safety and transit programs, including paratransit and grant programs related to transportation for people with disabilities. The bill originally expired on September 30, 2009, and has been extended a number of times as Congress seeks a long-term funding solution for the nation's transportation infrastructure and considers reauthorization legislation.

### Accessibility

Twenty years after passage of the ADA, transportation choices for people with disabilities are still limited. The ADA has led to major improvements in transit systems across the United States. However, there are persistent gaps in compliance that continue to create significant barriers for people with disabilities. In addition, because the ADA only addresses public transportation, few transportation options exist for people with disabilities where no public transportation is available. In some areas, such as in rural communities, insufficient funding has left people with disabilities with little or no transportation options. In urban areas, where individuals often rely on accessible taxis, a lack of requirements has meant very uneven progress.

### 1. *Fixed Route Public Transit*

Under the ADA, services for people with disabilities on public buses and rail systems have expanded significantly. However, there are still several important issues that need to be addressed.

Bus services have improved significantly under the ADA. Universal design features such as low-floor buses with ramps, larger destination signs, floor markings, additional grab bars, audible stop announcements, and monitors that show upcoming stops have greatly enhanced accessibility. However, many transit agencies still fail to comply with the ADA requirement to announce bus stops, which greatly affects individuals with visual and cognitive disabilities. Some rely on automatic stop announcement systems, which often are problematic. Additionally, problems persist with the maintenance of accessibility equipment such as lifts, and with securing mobility equipment such as wheelchairs and scooters. In some cases, drivers do not stop for people with disabilities. Drivers need more training on securing equipment, calling out stops, and following procedures regarding passengers with disabilities.

Over-the-road buses—large buses elevated over a luggage compartment, which are often used for tours and travel—can also be problematic for people with disabilities. These types of buses frequently pick up passengers at curb stops rather than at stations. Although large companies generally tend to comply with accessibility requirements, smaller companies often ignore them.

Train travel has also improved, yet still imposes certain obstacles. With regard to previously existing rail systems, the ADA only requires that key stations be made accessible. Key stations include transfer rail stations, major interchange points, stations where passenger boardings exceed average boardings, and stations serving major activity centers. In cities that have subways, commuter rails, or other systems built before the ADA took effect, including some large East Coast systems such as Boston and New York, there are few accessible stations. Requiring only key stations to be made accessible, rather than incrementally making *all* existing rail stations accessible, has led to gaps in accessibility. Furthermore, it is difficult to agree on a “key” station. *Any* station is *key* to those who use it.

A significant barrier on some rail systems is a lack of elevators or the failure to maintain elevators in working order and to inform riders when they are out of service. Issues with platform accessibility also continue to deter individuals using mobility assistive devices from accessing rail systems. Overly wide gaps between the train and

the platform can be problematic. While newer systems have been built with minimal gaps, older systems have larger gaps that can make transportation prohibitive. Stop announcements for people with visual or cognitive disabilities are often unreliable, when agencies fail to test systems regularly, monitor them closely, and make changes necessary to ensure that they function properly.

When people with disabilities cannot access a station or bus stop, they may be forced to go out of their way to find one that is accessible, and in some cases, this may make travel prohibitive.

Some of the biggest issues with ADA compliance involve Amtrak, the government-owned passenger train company that provides inter-city service across the U.S. Under the ADA, Amtrak was supposed to have been 100 percent ADA compliant (i.e. accessible) within 20 years of passage of the ADA, or by July 2010. However, only about 20 percent of its stations are compliant. In the past 20 years, Congress has severely underfunded Amtrak, which has done little to improve accessibility. Furthermore, Amtrak has found that it does not actually own many of its stations, so it must rely on other entities to make them accessible, which often does not happen. Several court cases have addressed the various issues that people with disabilities face with accessibility at Amtrak stations and on its trains.<sup>3</sup>

Paratransit service is crucial for those individuals who rely on it to get around. Failure of paratransit to show up or to provide effective service not only causes frustration but can also cause missed health appointments and employment problems for those who need to get to work.

### 2. *Paratransit*

One of the biggest changes under the ADA is the requirement to provide paratransit services in areas where mass transit is available to provide people with disabilities who could not use mass transit with another alternative. Paratransit is an alternate mode of transportation, most often provided by minibuses, which provides door-to-door shared rides upon request by eligible users. Paratransit use has soared in the past 20 years, along with its costs. However, users in many cities experience significant problems with their paratransit systems, including problems with service quality and capacity limitations. Specific

problems include: restrictive eligibility criteria; unfair trip denials; tardiness or failure to show; slow service en route; inefficient and unfriendly telephone reservation systems; inaccurate information; failure to respond to complaints; lack of training for drivers; drivers' lack of respect for users; and punitive cancellation policies.

Paratransit service is crucial for those individuals who rely on it to get around. Failure of paratransit to show up or to provide effective service not only causes frustration but can also cause missed health appointments and employment problems for those who need to get to work.

Fixed-route public transit is the goal of the ADA for those who are able to use it. Paratransit was envisioned only for those people with disabilities who are unable to use mass transit systems, not for those who merely choose paratransit. Several methods have been used to encourage use of fixed route systems, rather than paratransit, when possible. In addition, in the context of limited federal funding, agencies have had to find ways to control the soaring costs of paratransit. These include removing barriers to fixed transit (for instance, adding curb cuts to make streets more accessible); making fixed-route service more ADA compliant; implementing fare incentive programs on fixed-route transit; ensuring more accurate eligibility determinations; and adding disincentives such as charging premium fares for special services. Some agencies have also offered travel training to teach individuals with disabilities to use fixed route systems and to transition riders from paratransit to fixed routes. Sometimes the biggest impediment to greater use of mass transit by an individual with a disability is fear or inexperience. Increased training, including in-school training for students with disabilities, could greatly reduce reliance on paratransit by individuals who are otherwise able to use mass transit.

### **3. *Private Transportation - Accessible Taxis***

Private transportation is an important alternative that should be considered to increase access for people with disabilities. A pressing issue in the disability community is the dearth of accessible taxis. Taxis are an important mode of transportation for people with disabilities. Many people with disabilities who cannot drive or afford a car utilize taxi services. Taxis can provide greater flexibility and independence than relying on public transportation systems, especially for those for whom mass transit is either unavailable or inaccessible.

Moreover, taxis can provide a cost-effective alternative to paratransit service. Public transit operators could save money by employing taxi services for people with disabilities, and taxi fare is less expensive than providing

paratransit. Furthermore, health care-related travel could be provided more cheaply and effectively by accessible taxis than by privately operated ambulettes or public paratransit systems. This ultimately is a savings not only to transit but to taxpayers as well.

However, only a very small percentage of taxis nationwide are accessible, and people with disabilities still face an enormous amount of discrimination from taxi services. Some cities have accessible taxi programs. Chicago's program has been a model due to effective enforcement. Other cities such as Boston, Las Vegas, San Francisco, Seattle, and Portland also have made progress. The ADA requires accessibility only in van-style taxis, not for sedan-style taxis. However, when local governments regulate taxis, they must be careful not to discriminate against people with disabilities in violation of the ADA.

In New York City, a recent landmark court case ruled that the New York Taxi and Limousine Commission's (TLC) operation of an inaccessible taxi fleet illegally discriminated against people with disabilities.<sup>4</sup> The availability of accessible taxis has long been an issue in New York City, the country's most populous city. Taxis there are regulated by the city and only those that receive medallions from the TLC can provide "street hail" service. Despite the ADA's prohibitions on discrimination by public entities in the provision of public services, the TLC has not required accessibility in taxis, and historically less than 2 percent of New York City taxis have been accessible. In 2011 several disability groups joined together to sue the TLC, charging it with "failing to provide yellow taxis that men, women and children who use wheelchairs are able to access." The court agreed that the TLC's policies resulted in discrimination against people with disabilities and that the city must provide "meaningful access" to wheelchair users.

### **4. *Compliance Assessments***

Lack of enforcement is one of the biggest obstacles to realizing the goals of the ADA. There are no "ADA police," so transit operators can often shirk responsibilities without repercussions. ADA enforcement is complaint-driven, which is burdensome for people with disabilities, especially in remote rural communities. In 1998, the Federal Transit Administration (FTA) began conducting assessments in cities where the FTA had concerns about ADA compliance. These compliance assessments led to positive results. In a number of cities where assessments occurred, people with disabilities reported significant service improvements. However, in recent years the FTA has stopped doing assessments. To ensure vigorous oversight and compliance with ADA transportation requirements, the FTA must reinstate its compliance assessments.

## **Livable Communities—Safe and Accessible Rights-of-Way**

Safe and accessible rights-of-way are essential elements of community life. Rights-of-way include streets, sidewalks, crosswalks, curb ramps, crossing signals, street parking, and other public infrastructure, and are crucial to viable transportation for people with disabilities. The lack of enforceable standards under the ADA remains a problem, and people with disabilities in communities across the country continue to face barriers such as inaccessible bus stops, intersections without curb ramps, street crossings and pedestrian signals that are not audible to individuals with visual disabilities, and barriers such as telephone poles blocking sidewalks. If people with disabilities cannot even get down their streets, they will be unable to connect to other forms of transportation. Congress is currently considering “complete streets” legislation that would address the issue of public rights-of-way and make streets safe and accessible to everyone.

## **Transportation in Rural Areas**

Rural communities face even greater barriers to accessible transportation. A significant lack of funding to rural communities means that public transit in general, let alone accessible transportation, is often in very short supply. At least 12 million individuals living in rural communities, or 41 percent of the rural population, live in counties with no public transportation.<sup>5</sup> Rural residents with disabilities and those who serve them report that the lack of transportation is one of their most significant and persistent problems.<sup>6</sup> Minimal or nonexistent transit services in rural areas severely curtail the mobility of people with disabilities and keep them from jobs, medical appointments, community life, and independence.

At least twelve million individuals living in rural communities, or 41 percent of the rural population, live in counties with no public transportation.

## **Local Transportation Programs**

There are several federally funded programs focused on transportation for people with disabilities that have been useful, especially in rural communities. The Transportation for the Elderly and People with Disabilities Program (also known as Section 5310) provides funding to states to assist private nonprofit groups in providing transportation for the elderly and persons with disabilities when the public

transportation service provided is unavailable, insufficient, or inappropriate to meet their needs.

The Job Access Reverse Commute (JARC) Program (Section 5316) provides transportation to and from jobs for low-income individuals and individuals who receive government assistance. Although it is not specifically geared to people with disabilities, the government has awarded JARC money to programs that serve the disability community.

The New Freedom formula grant program (Section 5317) supports new public transportation services and alternatives beyond those required by the ADA to assist individuals with disabilities with their transportation needs. Some models that have been successful under the New Freedom Program include mobility management and voucher programs.

Mobility management programs use all types of transportation to meet the transportation needs of individuals with disabilities utilizing a comprehensive and holistic approach. They take into account a rider’s age, income level, and accessibility needs to determine the best transportation options—from carpools, vouchers, intercity and local buses, rail, vanpools, and personal vehicles, to walking and biking. Under these programs, individuals in community organizations are trained as mobility managers to coordinate transportation for people with disabilities.

Vouchers are tickets or coupons that eligible riders can use as full or partial payment to participating transportation providers, including taxis, human services transportation providers, and even family members, neighbors, and friends who provide transportation to individuals with disabilities. The voucher system allows customers to choose transportation services that match their needs, from the type of vehicle, to the time and day of travel, to the type of service; and allows service providers such as taxis to increase their ridership.

Several programs have been successfully implemented in rural areas around the country. Innovative private and public programs can offer important transportation alternatives to people with disabilities. However, more funding and better coordination are required. Different programs with different eligibility requirements often lead to overlapping or inefficient services that could be coordinated to be much more cost effective and usable.

## Conclusion

Equity in transportation is an important civil rights issue. It is critical to the independence of people with disabilities and their ability to contribute economically, socially, and politically. The ADA prohibits discrimination based on disability and requires accessibility in public transportation. In the past two decades since passage of the ADA, some progress has been made; however transportation options for people with disabilities remain unacceptably limited. More efforts must be made to ensure that people with disabilities have access to affordable and reliable transportation. We therefore make the following recommendations.

## RECOMMENDATIONS

The disability and broader civil rights community must continue to work together for a transportation system that meets the needs of ALL individuals in the United States. As Congress considers legislation related to transportation, it should keep in mind the following recommendations:

### Funding

- Dedicated funding for public transit is critical—most federal funding currently favors cars and highways, missing a whole segment of the nation.
- Funding should support the state of good repair—letting our infrastructure fall apart impedes the mobility of millions of people in the U.S.
- Funding should allow for operating assistance in addition to capital expenses to assist in paying the operating and administration costs of providing transit service.

### Programs

- The Transportation for the Elderly and People with Disabilities Program (Section 5310), the New Freedom Program (Section 5317), and the Job Access Reverse Commute Program (JARC) (Section 5316) are critical in providing transportation options for people with disabilities.
- Adequate funding must be provided for transportation programs and for innovative private and public sector models.
- Programs need greater coordination to be effective. If consolidated, they should allow for coordination and give transportation providers the flexibility they need to serve all groups.
- In consolidating programs, it is imperative to ensure that funds continue to go specifically to programs that benefit people with disabilities, and are not diverted to larger entities or used for other purposes.

## Livability Provisions

- Complete streets provisions—which ensure that the entire roadway is designed with all users in mind—are important in making streets and public rights-of-way safe and accessible for everyone, including people with disabilities.
- All modes of transportation should be accessible to all people at all times—systems designed to meet the needs of people with disabilities will meet the needs of everyone.

## Enforcement

- Vigorous oversight and compliance with ADA requirements is crucial. The FTA should reinstate its compliance assessments to hold transit agencies accountable.
- Policies should be implemented that support the availability of accessible taxis, buses, trains, and other transportation.
- Taxis should be made accessible and considered as cost-effective alternatives to paratransit.
- Amtrak must be funded to improve station accessibility and held accountable for achieving full accessibility.

## Endnotes

1. CDC Promoting the Health of People with Disabilities, Department of Health and Human Services, at <http://www.cdc.gov/ncbddd/disabilityandhealth/pdf/AboutDHProgram508.pdf>.
2. “Opportunities for Creating Livable Communities,” Mia R. Oberlink, April 2008 at [http://assets.aarp.org/rgcenter/il/2008\\_02\\_communities.pdf](http://assets.aarp.org/rgcenter/il/2008_02_communities.pdf).
3. National Council on Disability, *The Current State of Transportation for People with Disabilities in the United States*, June 13, 2005, available at <http://www.ncd.gov/publications/2005/06132005>.
4. *Noel v. New York City Taxi and Limousine Commission*, U.S. District Court, for the Southern District of New York, decided December 23, 2011.
5. Rural Disability and Rehabilitation Research Progress Report, May 2007 at <http://rtc.ruralinstitute.umn.edu/Trn/Partners.htm>.
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# **Putting Transit to Work in Main Street America**

How Smaller Cities and Rural Places  
Are Using Transit and Mobility Investments  
to Strengthen Their Economies  
and Communities

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## Introduction

Public transportation plays a critical and expanding role in rural America. Just as it does in urban environments, public transportation in small towns and rural areas provides mobility choices and promotes sustainable economies. Across the country, small towns and rural communities are developing partnerships to build intermodal transit centers, creating circulator buses to catalyze private investments in their downtowns, and improving connections between people and jobs. Small towns are using public transportation investments to help address the challenges of limited resources, populations both shrinking and growing older, industrial decline, and the loss of farmland. Through strong partnerships and creative funding mechanisms, rural America is creating stronger and healthier communities through transit<sup>1</sup> investments. Connie Garber, a passionate advocate of rural services and transportation director at York County Community Action Corporation in Maine, sums up the motivation of rural transportation leaders: “We all are headed for the same goal: a more robust economy that helps all of the people in the communities we serve.”

In this report, the researchers have explored how smaller cities, towns, and rural places are integrating transit into their communities. This report seeks to elevate the emerging best practices in smaller cities and rural places where transit investments are helping to set the stage for a robust future. This report is intended to help local planners, elected leaders, and policymakers understand the strategies, partnerships, resources, and plans being enacted in comparable communities across the country.

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<sup>1</sup> The words “public transportation” and “transit” are used interchangeably throughout this report.

**Key research questions include:**

- What types of transit investments are smaller communities making?
- What impact has transit had on the economy and quality of life of those smaller communities?
- Has transit affected the historic character that exists in many of America's small towns, or has it been integrated seamlessly into the community?
- Can a modest or incremental approach to transit investment yield results, or do only large-scale, urban-style systems yield benefits?
- How do different players influence the process?
- What is the role of the federal government in small-town transit projects?

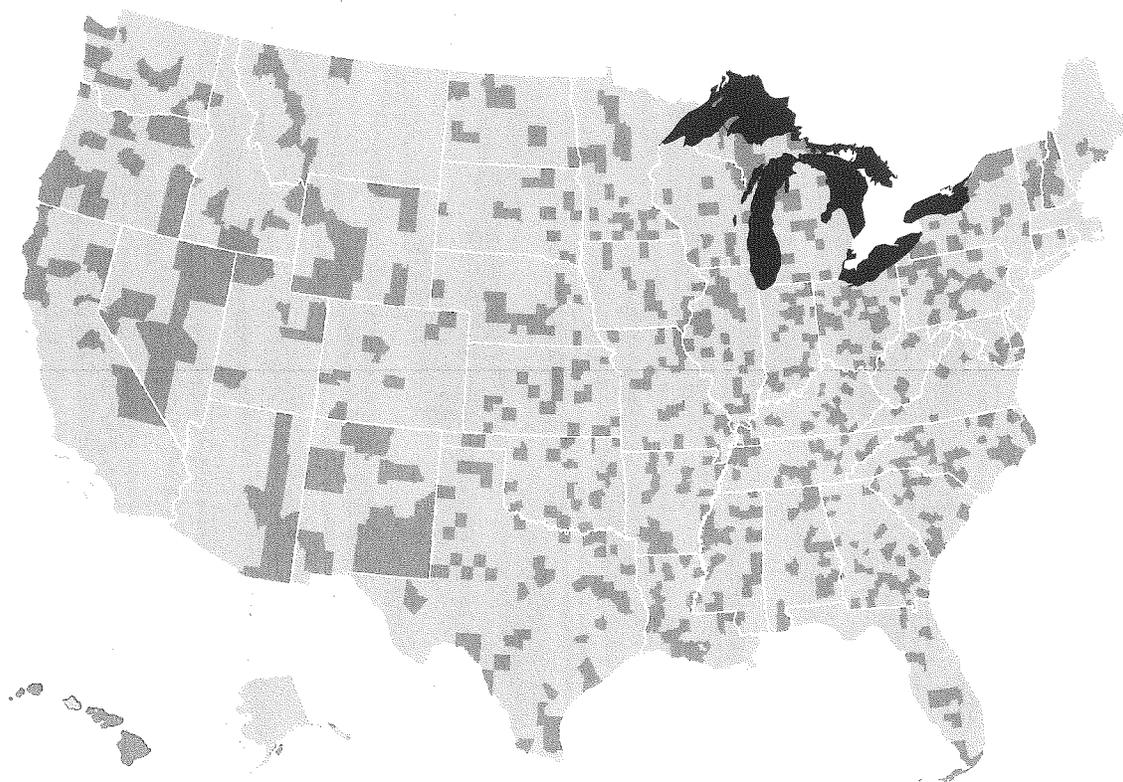
When examining transportation investments in small towns and rural places, it is important to keep in mind the unique mobility challenges such areas face. Many rural places have long distances between destinations, and small-town residents often must travel a long way to reach specialized services or venues in larger towns and cities. The rural population in America is older than in urban areas, and older Americans experience more mobility challenges as their ability to drive decreases. As intercity bus and rail access has declined over the last several decades, small towns and rural places have become increasingly isolated from larger population centers.<sup>2</sup> The cost of transportation for Americans living in such communities is high, and household budgets are tied to the cost of gasoline for the family car, the primary – and in many cases only – means of getting around.

These factors suggest that small towns and rural areas would benefit from transportation alternatives. But it is also clear that transit in these communities cannot look like the transit systems of larger cities. Historic low-density land-use patterns in rural areas make designing and operating transit service more challenging. Local resources to support transit planning and service are limited, and small-town residents may feel that while transit can be wonderful in a big city, it just isn't something that would fit in with their lifestyle.

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<sup>2</sup> Rural Access to Intercity Transportation Has Declined. (2011). Research and Innovative Technology Administration, Bureau of Transportation Statistics. Retrieved December 2011 from <http://bit.ly/wc9xxf>

**Map 1: Micropolitan statistical areas**



**Dark gray areas represent micropolitan statistical areas, which contain an urban core of at least 10,000 (but less than 50,000) population.**

### Definition of “Small Towns and Rural Areas”

This report focuses on smaller cities, towns, and rural places – loosely defined as places with populations of 50,000 or less. But rather than using strict population thresholds to select case studies, the researchers looked for places with small-town character, a rural environment, and relatively small transit systems. These areas are referred to as micropolitan areas.

The “rural” moniker itself has several different definitions. For purposes of this report, the word “rural” includes basic rural, developed rural, and urban boundary rural.<sup>3</sup> The character and needs of smaller cities and towns will be defined in part by their proximity to the nearest major metropolitan area, historic and current economic drivers, and population characteristics. They might be transitioning single-industry communities, where the local economy hinges upon the strength of one industry. They might be agricultural communities that rely on their ability to produce and transport crops, or bedroom communities located on the exurbs of the nearest metropolitan area. In other words, these places are very diverse and each needs tailored solutions to its planning, mobility, and economic development challenges.

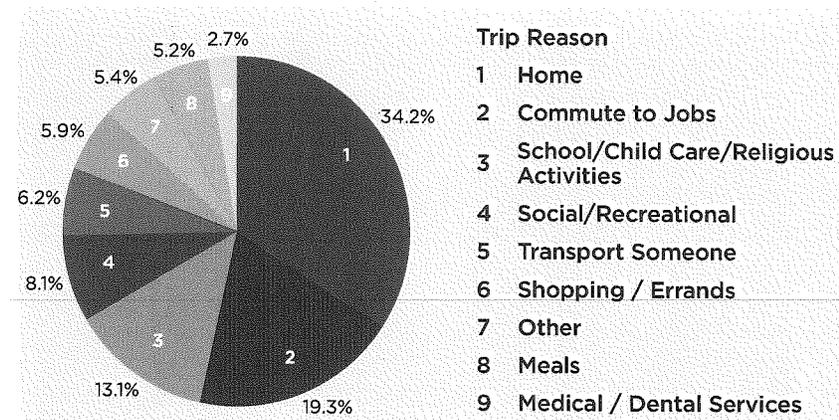
<sup>3</sup> Our Rural Transportation System. US Department of Transportation, Federal Highway Administration Retrieved March 2012 <http://bit.ly/HsQVsl>

## A Quick Snapshot of Rural America

Approximately 71 million Americans live in rural areas.<sup>4</sup> Compared to urban areas, rural areas are less ethnically diverse, older, and have higher rates of home-ownership and vehicle ownership.<sup>5</sup>

Today's rural residents are more likely to engage in a wide variety of non-farming and manufacturing activities, requiring them to drive more than in previous generations, and to cover greater distances than their urban counterparts. Compared to urban areas, rural areas in general also lack transportation options, requiring rural residents to depend more on their cars.

**Figure 1: Rural Transit Riders**



Source: Small Urban & Rural Transit Center, 2011

**Table 1: Rural Transit Systems Nationwide**

	2007	2008	2009
<b>Total</b>	<b>1,293</b>	<b>1,358</b>	<b>1,358</b>
<b>Type Service Offered</b>			
<b>Total Fixed Route</b>	<b>453</b>	<b>440</b>	<b>429</b>
Traditional Fixed Route	206	225	243
Deviated Fixed Route	319	287	278
Both	72	72	92
<b>Demand Response</b>	<b>1,085</b>	<b>1,149</b>	<b>1,169</b>
<b>Demand Response &amp; Fixed Route</b>	<b>239</b>	<b>228</b>	<b>235</b>
<b>Van Pool</b>	<b>8</b>	<b>16</b>	<b>14</b>
<b>Other Or Not Specified</b>	<b>25</b>	<b>40</b>	<b>22</b>

Source: Small Urban & Rural Transit Center, 2011

Still, more than 1.6 million rural households do not own cars (especially in the South, Appalachia, Southwest and Alaska).<sup>6</sup> Nearly 40 percent of the country's transit-dependent population – primarily senior citizens, persons with disabilities and low-income individuals – live in rural areas.<sup>7</sup> Approximately 14 percent of residents in rural areas are 65 or older, higher than in urban areas (12.5 percent). About 13 percent of rural residents have a disability (9.7 million residents), and 12.3 percent are living below the poverty line (9.1 million residents).<sup>8</sup> Public transportation is increasingly being used in small towns and rural areas to address the unique mobility challenges of the transit-dependent population in these areas.

<sup>4</sup> Based on US Census, which defines rural as less than 50,000.

<sup>5</sup> Rural Transit Factbook 2011. (2011). Small Urban & Rural Transit Center. Retrieved February 2012 from <http://bit.ly/HpMoFm>

<sup>6</sup> Rural Transportation: Setting the Context. (2009). Welfare Peer Technical Assistance Network: TANF Resources and Information. Retrieved January 2012 from <http://bit.ly/HsLavg>

<sup>7</sup> Rural Transportation. (2010). Community Transportation Association of America. Retrieved January 2012 from <http://bit.ly/HsLgDO>

<sup>8</sup> American Community Survey, 2010 U.S. Census. (2010). U.S. Census Bureau. Retrieved February 2012 from <http://www.census.gov/acs/www/>

As of 2000, 62 percent of rural transportation users were female, 31 percent were seniors, and 23 percent were disabled, according to the U.S. Department of Agriculture.<sup>9</sup>

## Demand Response and Other Services

Rural areas often depend heavily on demand-response, vanpool, taxi, and paratransit services. Although this report does not focus extensively on those services, they are often the lifeline of rural transit systems, and complement the larger economic development projects discussed in the case studies.

Demand-response vehicles provide specialized services, especially to meet the needs in low- or no-transportation service areas. Demand-response vehicles generally do not operate on a fixed route or schedule, but respond to requests to transport passengers to specific destinations. Demand-response is a flexible routing service that can increase efficiency of providing transit services in rural areas. As of 2009, there were 1,358 transit systems in rural areas.<sup>10</sup> Eighty-six percent of these systems provide demand response service, and 31 percent provide fixed-route service, as shown in Table 1.

## Findings

Despite the challenges associated with providing transit service in rural areas, many smaller communities view transit as an essential component in enhancing mobility. The research shows that transit solutions for smaller cities and rural places must take into consideration local and regional factors such as population density, distance to urban areas, the employment market, demographics, and other factors. Research also shows that rural transit providers must be extremely flexible in providing services.

The case studies helped to inform the following findings:

### ***1. Smaller communities are making a wide variety of transit investments.***

Investments by smaller communities in a variety of projects are improving connectivity and strengthening their economies. Small towns and rural areas are:

- Implementing and improving bus and circulator routes that link residents to services, tourists to local attractions, and workers to employment.

*“When you can get people to work you are directly affecting the economy and reducing need for government services by having reliable transportation,” Jim Moulton, Addison County Transit Resources, Vermont.*

<sup>9</sup> Rural Transportation: Setting the Context. (2009). Welfare Peer Technical Assistance Network: TANF Resources and Information. Retrieved January 2012 from <http://bit.ly/HsLavg>

<sup>10</sup> Rural Transit Factbook 2011. (2011). Small Urban & Rural Transit Center. Retrieved February 2012 from <http://bit.ly/HpMoFm>

- Creating transit hubs to bring together regional transit services, making them more convenient and easier to access.
- Using creative funding strategies to invest in projects that help to catalyze private investment in Main Street areas.
- Using intermodal facilities to reclaim their downtowns and attract businesses and diverse workforces.
- Engaging in partnerships with a range of stakeholders, such as universities, for-profit and nonprofit companies, chambers of commerce, ferry companies, private developers, human service agencies, councils of governments, and economic development offices.
- Piecing together funding such as Medicaid to connect residents to non-emergency medical care, which can reduce ambulance trips, allow for preventive care and save governments' money in the future.
- Collaborating on projects that reduce traffic congestion and increase ridership.
- Linking transit investments around local destinations that can generate revenue such as local vineyards.
- Building on traditional fixed-route, demand response, and paratransit services by making incremental changes that complement the larger transportation network.

Small towns are also coordinating transit investments with services for seniors, low-income families, workers, and people with disabilities. For example, in Choctaw Nation, the transit agency implemented improvements to their bus fleet specifically to provide better access to medical services.

## ***2. Transit has had a positive impact on both the economy and the quality of life in smaller communities.***

The case studies make clear that public transportation investments are making a difference by stimulating local economies and enhancing the quality of life for residents. Several small towns have seen increased ridership, revitalized downtowns, new businesses, additional employment opportunities, increased tourism, and improved access to community services.<sup>11</sup> In Kent, OH, for example, a multimodal center is generating 266 construction jobs and will add 700 full-time jobs upon completion. The Kent Central Gateway project and the connected private development project are expected to create \$105 million in public and private development and \$5.8 million in tax revenue annually.

The case studies also demonstrate that as much as there is an economic benefit from transit investments, there is a “human” benefit as well. The smaller population served in rural areas allows for a personal relationship between provider and transit rider. That relationship helps to improve the overall experience for transit users. In addition, the mobility that rural transit services provide contributes to an improved quality of life for transit

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<sup>11</sup> Within the case studies, figures have been included to note the economic and job creation impacts as a result of a specific project or investment, to the extent such information is available. However, many rural agencies and human services organizations have limited resources to track the overall economic impacts of their services. When specific data is unavailable, the researchers have relied on qualitative assessments to determine impact.

users. As Jim Moulton, Director of Addison County Transit Resources (ACTR) in Vermont put it: “Transportation is most often overlooked as having an effect, but when people have a feeling of self-worth from being able to get to their jobs, they are much happier.”

***3. Improved transit service can be integrated into a community without adversely affecting its small-town or rural character.***

Investments of the type described in this report complement and strengthen the existing highway and transit networks without undermining the lifestyle that residents want to preserve. For example, in Monterey, CA, transit planners created a trolley that fit with the local historic character of the city to improve connections to tourist destinations.

The fact that small-town residents believe transit improvements can fit within their lifestyle is demonstrated most clearly by the strong community support these projects receive. In many cases, the success or failure of the project depends upon the level of community support. In Bozeman, MT, the local bus system was spearheaded by two community groups that stepped forward to fill a gap in the existing transit system.

***4. Incremental or small-scale improvements in transit service can yield significant benefits.***

A transit project does not need to be of any particular size or cost in order to have a positive impact; it needs only to be “right-sized” for the community making the investment. For example, a package of small-scale improvements to sidewalks, transit stops, vehicles, or other low-cost interventions can significantly improve access to and usage of an existing transit system. Choctaw Nation Tribal Transit took an incremental approach to upgrading buses, and eventually phased out buses that were not compliant with the Americans with Disabilities Act.

***5. Successful projects require coordination among multiple partners.***

As in larger cities, myriad actors are involved in implementing transit solutions in small cities and rural places. These may include:

- Cities and counties
- Transit agencies
- Regional planning bodies (MPOs, RPOs and tribal planning agencies)
- States (including state DOTs, which control federal transit funds in rural areas)
- Nonprofits and universities

**Metropolitan Planning Organization (MPO)** – Federally mandated transportation policy-making body responsible for long range transportation planning. Required in urbanized areas with a population over 50,000.

**Rural Planning Organization (RPO)** – Organizations in rural areas informally responsible for transportation and regional planning. They are not federally mandated, but some states require them, for example Tennessee.

**Tribal Planning Agencies** – Foster wide range strategic planning in tribal areas.

- Local employers or business groups
- Community stakeholders

In rural areas, with their smaller and more isolated population, transit planning, implementation, and advocacy takes on a personal focus, where the needs of individual residents may drive the process. As a result, a wide variety of advocates for public transit exist in rural America, such as the individual, tribal organizations, church groups, local officials, health personnel, schools, and social workers.

Human services organizations play a much larger role in connecting residents to transportation services than in urban areas. For example, Area Agencies on Aging advocate as well as provide elderly residents with transportation services. Many agencies, such as Prairie Hills Transit in South Dakota, were started in order to meet a human service need such as feeding the elderly or connecting people to medical services. In many cases, these services develop into a larger and more robust transit system that benefits all residents.

Volunteers are also major actors in implementing transit service in rural areas, which can provide fiscal benefits for local communities. In Maine, for example, volunteer drivers provided over \$16 million worth of time in 2011.<sup>12</sup>

**6. The federal government is an essential partner in small-town transit projects and can be the catalyst that leads to successful completion of a project.**

The federal government has long provided critical funding for transit projects in smaller towns and rural places, and in recent years has offered a number of new grant programs that have significantly benefited these communities. In many of the case

**Table 2: Rural Transit Funding Sources**

	2007	2008	2009	Change 08-09
<b>Capital Funding</b>				
Federal	107,251,562	128,118,103	159,346,173	24%
State	23,808,314	27,314,677	40,565,774	49%
Local	37,886,750	32,184,429	30,115,042	-6%
<b>Operating</b>				
Federal Assistance	257,175,509	293,033,494	339,038,870	16%
State Assistance	192,751,020	193,599,123	213,787,126	10%
Local Assistance	298,126,617	275,787,715	296,125,982	7%
Fare Revenues	76,323,783	85,652,440	97,376,190	14%
Contract Revenues	193,893,072	214,445,705	198,061,533	-8%
<b>Total Expenses</b>	<b>1,003,846,706</b>	<b>1,063,216,122</b>	<b>1,153,041,709</b>	<b>8%</b>

Source: Small Urban and Rural Transit Center, 2011

studies, the federal government provides the largest share of the total project costs, making federal funding a catalyst to project development. In 2009, the federal government appropriated more than \$498 million to rural public transportation agencies in capital and operating expenses, as shown in Table 3. TIGER, American Reinvestment and Recovery

<sup>12</sup> Connie Garber. Phone interview. February 2012.

Act (ARRA), CMAQ, and other federal formula and discretionary funds identified in this report total more than \$87.9 million.

Federal funds also play a role in providing services for the elderly, low-income, and disabled population. Funds for elderly transportation services, for example, can come from the Federal Transit Administration's Section 5310, 5311, or New Freedom programs. Funds can also come from Medicaid non-emergency funds or the Job Access and Reverse Commute (JARC) program, which are essential in connecting low-income residents to jobs and services. Medicaid non-emergency transportation has become a key element in many rural transit systems' funding streams. Programs like Medicaid and Medicare benefit from rural transportation systems that connect their clients to such care as dialysis, chemother-

**Table 3: Selected Federal Funding Sources for Rural Transit**

PROGRAM TITLE	BRIEF DESCRIPTION
<b>FORMULA GRANTS</b>	
Congestion Mitigation and Air Quality (CMAQ)	Funds projects that reduce congestion and improve air quality. Projects can include bicycle, pedestrian and transit facilities.
Formula Grants for other than Urbanized Areas (49 U.S.C. § 5311)	Provides capital and operating assistance grants to States to support public transportation in rural areas with population of less than 50,000. Also includes funding for Tribal Transit.
Rural Transit Assistance Program (49 U.S.C. §5311 (b) (3))	Training, technical assistance, research, and related support services in rural areas.
Transportation for Elderly Persons and Persons with Disabilities (49 U.S.C. § 5310)	Formula funding to States to assist private nonprofit groups in meeting transportation needs of the elderly and persons with disabilities.
Job Access and Reverse Commute Program (49 U.S.C. § 5316)	Funding to address transportation challenges faced by welfare recipients and low-income persons seeking to obtain and maintain employment.
New Freedom Program (49 U.S.C. § 5317)	Formula grant that provides tools and resources to reduce barriers to transportation services and expand the transportation mobility options available to people with disabilities.
Medicaid Non-Emergency Transportation	Provides funds for Medicaid recipients to obtain transportation to and from medical providers for non-emergency services.
<b>COMPETITIVE GRANTS</b>	
Bus and Bus Facilities (49 U.S.C. § 5309)	Funds new and replacement buses and facilities. Includes bus livability and state of good repair funds.
Transportation Investments Generating Economic Recovery (TIGER)	Fosters innovative, multimodal and multi-jurisdictional transportation projects that promise significant economic and environmental benefits to an entire metropolitan area, a region, or the nation.
Major Capital Investments (New Starts and Small Starts)	Funds new or extensions to existing fixed guideway and bus rapid transit systems.
Veterans Transportation and Community Living Initiative Grant Program	Inter-departmental initiative to improve transportation options and mobility for America's veterans, service members, and their families.
Public Transportation on Indian Reservations (49 U.S.C. § 5311 (C))	Direct funding to federally recognized tribes for the purpose of supporting tribal public transportation in rural areas.
American Reinvestment and Recovery Act (ARRA)	Stimulus or recovery funds appropriated in 2009. Funding was geared toward job preservation and creation, infrastructure investment and other uses.

apy, and routine checkups. Federally funded transportation vouchers (from Section 5310) also subsidize portions of transit services from either public or private entities like taxi companies.<sup>13</sup> In Monterey, California, the local taxi system would not be affordable to many local senior citizens had it not been for the federal support.

Although the federal government plays a large role in jumpstarting the projects, partnerships are a key element in successful implementation of transit projects. Especially in this constrained fiscal climate, transit investments often require piecing together funding from many sources. None of the large-scale economic development projects discussed in this report would have been feasible without federal funding; however, they would also not have been possible without matching funds from state, regional, local, private, or philanthropic sources.

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<sup>13</sup> Transportation: The Silent Need, Results of a National Survey of Area Agencies on Aging. (2010) National Center on Senior Transportation. Retrieved March 2012 from <http://bit.ly/HsMePH>

## Overview of the Case Studies

The communities chosen as case studies for this report represent only a sample of the types of communities and investment types underway in America today. The case studies are divided into sections based on the type of transit improvements being made:

1. Improved Local/Regional Bus Networks
2. Circulator Systems
3. Intermodal Transit Centers
4. Intercity Transit/Rail Improvements

**Table 4: Case Study Transit Systems**

LOCATION	AGENCY / TYPE	POP.*	PROJECT	FUNDING SOURCE
<b>IMPROVED BUS NETWORK</b>				
Addison County, VT	Addison County Transit Resources	37,000	Increased shuttle bus routes	Federal, State, Philanthropic
Allendale County, SC	Lower Savannah Council of Governments	11,200	Coordinated regional bus network	Federal, State, Regional, Philanthropic
Choctaw Nation (Oklahoma)	Choctaw Nation Tribal Transit	84,670	ADA-accessible bus upgrades	Federal (Bus Livability Grant and stimulus funds)
<b>CIRCULATOR</b>				
Bozeman, MT	Human Resource Development Council	40,000	Bus Circulator	Federal, University, County, Philanthropic
Sanford, ME	York County Community Action Corporation	20,800	Trolley Bus Circulator	Federal, Business, Local
Monterey, CA	Monterey-Salinas Transit	28,000	Trolley Bus Circulator	Federal, City, Transit Agency, Monterey Bay Aquarium, Regional
<b>INTERMODAL TRANSIT CENTERS</b>				
Kent, OH	Portage Area Regional Transportation Authority	30,000	Multimodal Transit Center	Federal (TIGER), Transit Agency, City, University
Spearfish, SD	Prairie Hills Transit	10,400	Transit Facility	Federal (ARRA), land contributed by the City
<b>INTERCITY TRANSIT/RAIL IMPROVEMENTS</b>				
Fitchburg, MA	Montachusett Regional Transit Authority	40,000	Commuter rail line extension	Federal (TIGER), Regional, Local

\* Population rounded

## Improved Local/Regional Bus Networks

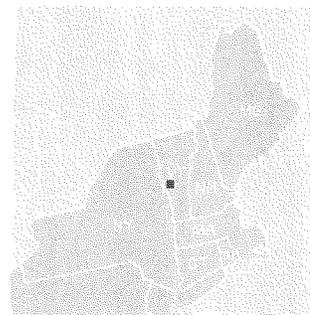
The foundation for smaller communities' transit systems is local and regional bus networks. Within these networks, rural and small city transportation is often based on serving trip generators - colleges/universities, major employers (such as industrial plants), medical centers, retail centers, or tourist destinations. Buses provide key connections between major health care, commercial, and educational opportunities. As the cost of gasoline has risen and families' budgets have tightened, demand for more and better bus service is high all across the country, in both urban and rural areas. Smaller cities are looking for cost-effective solutions to meet this demand. Their funding constraints require creative solutions to enhance bus service in a way that will fit their community's character and meet residents' needs.

Bus network enhancements can incorporate a variety of different kinds of investment. For example, investments that will increase service and headways<sup>14</sup> along a corridor can improve mobility and also enhance economic viability in struggling areas. Americans with Disabilities Act (ADA) upgrades, special signage or vehicle branding, landscaping, intersection improvements or other low-cost changes to a bus system can also increase ridership. By focusing these improvements on just one or a few routes, communities can lay the foundation for a more walkable, economically viable corridor along a main street or connect an underutilized section of town, focusing growth in those areas and creating better access to jobs and opportunity. These types of improvements can be implemented incrementally as funding becomes available.

Even for relatively small-scale investments, partnerships can be key to getting a project off the ground. Cities in smaller regions are becoming increasingly creative in how they fund bus network expansions or improvements, often by piecing together many funding sources or by forging public-private or cross-agency partnerships.

### ***Connecting Workers to Jobs: Addison County, Vermont***

Addison County Transit Resources (ACTR) in Vermont became an emergency commuter lifeline when the bridge over Lake Champlain closed, cutting off a major connection between New York and Vermont. ACTR partnered with local businesses to develop a ferry and shuttle service to bring New York residents to their jobs in Vermont.



Middlebury, VT, is a city of less than 9,000 people 2½ hours north of Albany, NY. Addison County Transit Resources is a non-profit organization that serves the county's 37,000 residents, who are spread over 77,000 square miles. Approximately 73 percent of ACTR's riders are transit dependent.<sup>15</sup> The

<sup>14</sup> "Headway" refers to the frequency of service on a particular route.

<sup>15</sup> Jim Moulton. Phone interview. February 2012.

county population is also growing older. In 2000, 15 percent of Addison County's population was aged 60 or older; by 2010 that number was 20 percent.<sup>16</sup>

ACTR runs both fixed route bus service and also demand-response service with a fleet of 16 buses. The bulk of ACTR's funding comes from federal and state resources, but it also relies on support and investments from the business community, philanthropic organizations, towns, and individuals. ACTR operates six bus routes with 17 professional drivers, seven days a week, although week-end service is limited. ACTR's demand-re-

ACTR has also secured federal and local funds to create a Green Transit Center. They hope to use cost savings from creating a green and energy efficient building to reduce operating costs. ACTR estimates a cost saving of \$50,000 annually through the new transit facility.

sponse service relies on a bank of 40 volunteer drivers, using their own cars, who provide critical transportation services for elderly and disabled residents who need assistance getting to medical appointments or buying food. The service is also integral to responding to needs of the vulnerable population in Addison County. "Public transit has an amazing impact in rural communities. Whenever we put new or expanded service on the road, people ride. They ride because it's useful to them...they need it," said Jim Moulton, Director of ACTR.

In 2009, ACTR took on a new challenge: emergency commuter service. In late October, the Champlain bridge between New York and Vermont was declared unusable. The abrupt closure of the bridge affected roughly 4,000 daily commuters who lived in New York and worked in Vermont. With the nearest crossing almost 60 miles north or south of the bridge, workers who were accustomed to commuting 30 minutes each way suddenly had a 2½-hour one-way commute. Workers were faced with potentially being cut off from their families or cut off from their jobs since a five-hour round-trip commute was unsustainable. Employers shared those concerns, as they needed their employees in order to stay in business.

Through the initial organization of the Addison County Chamber of Commerce, the community called upon ACTR for assistance. ACTR partnered with the Basin Harbor Club and Marina to create a shuttle bus and pedestrian ferry system to transport passengers across Lake Champlain. When passengers reached the docks in Vermont, free ACTR shuttle buses transported commuters to nearby towns for work. If necessary, workers could also connect to regular ACTR buses.<sup>17</sup> The emergency commuter service was available on a scheduled basis during the morning and afternoon rush hours.

ACTR also partnered with two established car-ferry services that were now overloaded with demand. Dozens of displaced workers began riding these ferries as pedestrians

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<sup>16</sup> Ibid.

<sup>17</sup> Bridge Update: Pedestrian ferry to take commuters between Basin Harbor and New York. (2009). Addison County Independent. Retrieved February 2012 from <http://bit.ly/HsO3vO>

and ACTR met them with dial-a-ride services to get them to their jobs. Adam Wright, parts manager at G. Stone Motors in Middlebury said at the time: "This is working really well for us. I come over from Mineville (NY), the other two guys are from Moriah and Ticonderoga (NY) ... I am glad this got going. It has saved a lot of hassle and I get home in time to see my kids."<sup>18</sup>



Photo by Caleb Kenna

**BF Goodrich employees boarding an ACTR bus for the commute home to New York via the ferry.**

Funding for the emergency ferry, bus, and demand-response services was provided by the federal and state agencies. While these emergency commuter services were extremely successful, they were also designed to be temporary. After about five months, the New York and Vermont departments of transportation collaborated to provide funding to build docks and provide 24-hour car-ferry service. "People don't often think about public transit as part of the emergency response system; but we were a part of the response team ... that was involved in getting people to work," Moulton said.

Besides being there when emergencies arise, ACTR provides a growing service throughout the Addison County region. Over the past decade, ACTR launched a series of fixed-route shuttles emanating from the center of Middlebury and traveling to neighboring cities, including Vermont's two largest communities - Burlington to the north and Rutland to the south. As a result of these bus shuttles and other service improvements, ACTR experienced a record-breaking 22 percent gain in ridership in 2011, bringing the total system ridership to 156,000 annual trips. The shuttle bus system alone experienced a 34.5 percent ridership boost and is on track for another 20 percent increase in 2012, demonstrating its continuing importance in the economic development of this rural area.

<sup>18</sup> As told to Jim Moulton. Email Correspondence with Moulton. April 2012.

### ***Increasing Mobility by Coordinating Services: Allendale County, South Carolina***

Allendale County, South Carolina is home to a population of 11,211, and struggles with a substandard school system, little industry, high unemployment, and a high poverty rate. Per capita income in Allendale County was the lowest in South Carolina at the time of the 2000 Census and the rate of poverty for families in Allendale County, 28.4 percent, was the highest in the state. Community leaders in Allendale County and members of the Lower Savannah Council of Governments (LSCOG) determined that a lack of transportation was a major contributor to the issues facing Allendale residents.



County leaders met with LSCOG over a 9 month-period in 2003 to create solutions for the lack of transportation options. While there were a wide variety of human service transportation providers in the six-county region that includes Allendale, those services were targeted to specific types of individuals (e.g., disabled), did not serve the public at large, and did not generally coordinate with each other. As a result, Allendale County and LSCOG decided to conduct a demonstration project to better coordinate existing service provided by these agencies. According to Lynnda Bassham, LSCOG Human Services Director, Allendale's Regional Transit Authority agreed to station a "mobility manager" in Allendale to implement this project. The mobility manager would match residents with available seats on existing vehicles operated by agencies in the region, depending on the destination of the resident. For passengers who needed to reach destinations that were not along a scheduled route, participating agencies would transport them on their demand-response vehicles, agreeing on a common per passenger mile rate for transporting the general public on these seats.<sup>19</sup> The mobility manager would also handle billing and ticketing operations for passengers and participating agencies in the project.



After conducting test runs in May 2004 to ensure the system would be effective, state and community leaders launched an official kick-off event in July 2004 for a new public transit system called the Allendale County Scooter. Although the Scooter was billed as a new system, it used existing transit vehicles and routes already es-

Lower Savannah Council of Governments (LSCOG) photo

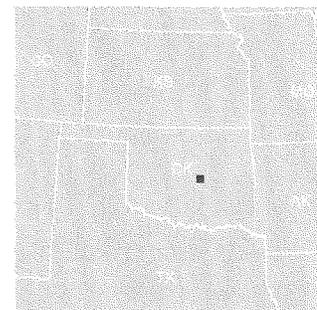
<sup>19</sup> Lynnda Bassham. Phone interview. April 2012

established in the county; the “new” aspect of the project was its more efficient use of those vehicles to transport more people. This facet made the project unique, as no new vehicles needed to be purchased to provide improved transit services. Funding for the project came from sources such as South Carolina University Transportation Center, Sisters of Charity, Allendale County, Allendale Alive, a non-profit rural development organization, the South Carolina Department of Transportation, and the LSCOG. LSCOG also coordinated FTA Section 5310 Elderly and Disabled program funds with providers including aging services, the disability board, the rural health center, and the Medicaid transit providers. Whereas previously all of those providers operated their services separately, often with excess capacity on their vehicles, under the new system those seats would be in use by residents who otherwise might have no means of accessing employment, educational opportunities, or medical services.

In August 2004, the service provided 113 passenger trips with a total of 3,569 miles traveled, and by April 2005 there were 871 passenger trips with 12,728 miles traveled.<sup>20</sup> About 44 percent of passengers used the system to get to work daily in Allendale, Barnwell, Hampton, Williston, and Aiken, SC with 27 percent utilizing the Scooter for access to medical facilities. The Scooter proved to be such a success that the LSCOG was requested by Bamberg County, South Carolina to help them establish a similar system, known today as the Bamberg Handy Ride. Ultimately, a regional network of coordinating transportation providers is being built in order to create capacity to meet current and future needs that will support South Carolina’s Lower Savannah. However, even with the success of the system, various challenges exist, such as how to meet higher demand for later night and weekend transportation, how to secure additional funding, and how to find more public transit or human service agencies with which to coordinate additional trips.

***Providing Accessibility For Everyone: Choctaw Nation***

In rural Oklahoma, the Choctaw Nation used federal funds to replace its small bus fleet with ADA-accessible vehicles, a move that allowed the agency to significantly improve its service and increase residents’ access to health care.



Choctaw Nation is a non-reservation tribe that provides transportation services for residents of a 10½-county area of southeast Oklahoma, where many members of the tribe live. The central goal of the transit system is to provide tribal members with trips to and from non-emergency medical appointments. These trips ensure that individuals with medical conditions can be treated without having to wait until their condition requires more costly emergency transportation and hospitalization.

Choctaw Transit began service in 2007, after the tribe realized that many citizens who

<sup>20</sup> What is the Allendale County Scooter? Lowcountry Regional Transportation Authority. Retrieved April 2012 from <http://bit.ly/KE4Ebl>



Choctaw Nation Tribal Transit photo

Keith Lindly, driver with Choctaw Nation, welcomes riders.

lacked transportation were not fully benefiting from health care, food assistance, and job development programs available to them. The Tribal Council used funding support from FTA's Tribal Transit program to develop transit operations. Choctaw Transit now has 14 drivers, half of whom answer demand-response calls and half of whom run the fixed-routes that operate across the Nation to a central location daily. Choctaw Transit carries more than 500 riders each

month. Transit services are not limited to those going to medical appointments; the service is also available to the general public for trips that correspond with scheduled medical transportation routes.<sup>21</sup>

The initial bus network increased access to services, but not all of the buses were wheelchair-accessible. As a result, buses had to be swapped or trips delayed for riders in wheelchairs. With a 2010 contribution of \$480,374 from the American Reinvestment and Recovery Act (ARRA) and a \$132,000 grant from the FTA Bus Livability program in 2011, the tribe made critical system improvements and bus upgrades. "These new buses are absolutely allowing us to increase our efficiency and our ridership, and to serve people who have no other way to get around," said Johnny James, Director of Choctaw Nation Transit. "The vision is for this to allow us to provide more fixed-route service and become a more established presence in the community."<sup>22</sup>

**Table 5: National Percentage of Rural Vehicles that are ADA Accessible**

	2007	2008	2009
<b>TOTAL (Percentage)</b>	73	77	77
<b>Bus</b>	88	92	92
<b>Van</b>	59	59	63
<b>Minivan</b>	50	57	56
<b>Automobiles</b>	3	3	4
<b>School Bus</b>	62	36	22
<b>Over-the-road bus</b>	77	64	79
<b>Sports utility vehicle</b>	50	59	12

Source: Small Urban & Rural Transit Center, 2011.

<sup>21</sup> Sampson, Rich. (2009). Growing with Pride, Hope and Success. Community Transportation. Retrieved February 2012 from <http://bit.ly/HsOlmy>

<sup>22</sup> Johnny James. Phone interview. November 2011.

According to Jana Boykin, a former dispatcher and now Assistant Director of Choctaw Nation Transit, the federal funding to buy more ADA-accessible vehicles has certainly helped, but finding additional funding to hire more drivers has also posed a problem. This is a common dilemma. It can be a challenge to find sufficient funding for both transit equipment and operating expenses.

Despite this challenge, the availability of more ADA-accessible vehicles and increases in bus routes has had a profound impact on Choctaw Nation. Once constrained to utilizing smaller clinics in the 10½ counties of the Choctaw Nation, residents can now be transported to specialty clinics located hours away in Oklahoma City, Tulsa, and Fort Smith, AR, if special care is needed.

Overall, the improved bus system and vehicle upgrades have benefited the Choctaw Nation in both personal and economic terms, as more residents have access to medical facilities, promoting a healthier population and reducing the high travel costs associated with receiving specialized medical care.

## Circulator Systems

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A circulator system is a transit line that connects downtown destinations and helps foster reinvestment and vitality in the city center. Circulators can be buses, streetcars or rubber-tire trolley lines that operate in a closed loop. Depending on local needs, a circulator may operate over a variety of distances, although the recommended distance is 3 miles or less.<sup>23</sup> A circulator line often runs on a more frequent schedule than other transit lines and may have a distinct branding – such as a special name or unique vehicles – to set it apart and to ensure that it is memorable and recognizable to users.

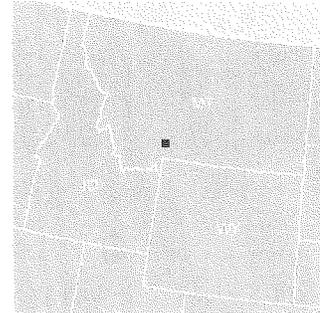
Circulators are becoming common in large and midsized cities such as Washington, DC, and Charlottesville, VA, and are increasing in smaller communities as well. Circulators can be a critical element in strengthening a historic downtown. Circulators are most often found in towns where there are concentrated trip generators located just a few miles apart such as a university or a large tourism market. Reliable circulator systems linked to transit-supportive land uses can create a positive loop of ridership for the transit agency and economic benefits for the community.

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<sup>23</sup> What is an Urban Circulator System? Federal Transit Administration. Retrieved January 2012 from [www.fta.dot.gov](http://www.fta.dot.gov)

***Supporting Residents and a University Through Community Involvement:  
Bozeman, Montana***

Bozeman, Montana, the county seat of Gallatin County, is home to just about 40,000 residents and is also the location of Montana State University - Bozeman. The town is a national and international recreation destination for skiers to three major ski areas and visitors to Yellowstone National Park, located immediately to the south. Although home to a university, Bozeman had a very limited transit system to serve the University students, but not other members of the community. A local transit task force was appointed but they were unable to reach agreement on a solution that would serve various community members. As a result, the local nonprofit Human Resource Development Council (HRDC) and the Associated Students of Montana State University (ASMSU) stepped forward and spearheaded an initiative utilizing existing resources to develop a transit system to support the community.



Utilizing work from the College of Engineering at MSU, which developed the concept for a circulator, and the existing HRDC/Galavan “door to door” transportation service for seniors and people with disabilities, work began to implement a public fixed route system to support the city’s residents, students and tourists. Active planning of the lines began in 2001 that laid the foundation for the new public bus system and supplied the ridership projections and route information needed to request Federal support for the system<sup>24</sup>



Human Resource Development Council photo

In 2006, the ASMSU and HRDC introduced the Streamline, a bus service with four distinctively branded circulator routes that originate downtown and serve key city destinations. When Streamline was first introduced, Streamline predicted only about 200 rides per day. Lee Hazelbaker, Program Director of

<sup>24</sup> Kack, David. Planning and Implementing a Public Transport System in Bozeman, presentation at the Headwaters Recycle conference in 2008. Retrieved November 2011 from <http://bit.ly/HsPM4w>

Streamline, said initially, the company had to overcome the “nobody-will-ride” syndrome from pessimistic residents and city leaders. However, Streamline averages about 800 rides per day and has even recorded 1,300 rides in a single day.<sup>25</sup> Streamline has proven to be “very successful and the system itself has far exceeded its expectations,” according to Hazelbaker. All four lines operate within an area that is roughly 4 square miles. One of the routes brings commuters into the Montana State University (MSU) Campus, where students make up approximately 45 percent of the riders, and faculty and staff make up approximately 10 percent.<sup>26</sup> The remaining 45 percent of riders can be attributed to residents and tourists in the area.

The year service was launched, Streamline ridership was 90,000, 22 percent higher than projections.<sup>27</sup> By 2011, ridership had more than doubled to 242,700 trips and Streamline transit has plans for five more potential circulator routes in the future.<sup>28</sup> The future route will continue to focus on attracting more riders and making it more convenient for people to use. Streamline service is also coordinated closely with Gallatin County, which operates a paratransit service in the broader county area.

**Table 6: HRDC Annual Funding (includes circulators, demand response)**

FTA Section 5311	\$ 548,000
Local Match	\$380,000
Montana State University	\$ 90,000
City of Bozeman	\$ 60,000
Gallatin County	\$ 40,000
United Way	\$ 28,000
Belgrade County	\$ 8,000
Other (Contracts for Service)	\$ 154,000

Source: Kack, Headwaters Recycle Conference

Similar to other bus systems, various funding sources are pieced together to create the circulator. Streamline has received federal funds through the state of Montana, Montana State University, the Associated Students of Montana State University and the local non-profit Human Resources Development Council, which administers the service in partnership with the Associated Students of Montana State University, the United Way, Gallatin County and the city of Belgrade. According to Jeff Rupp, CEO of HRDC, “the success of Streamline can be attributed to community participation; the work of the community was the key instrument in establishing transit service in Bozeman.”

25 Lee Hazelbaker. Phone Interview. March 2012

26 Streamline makes pitch for funding from City of Bozeman. (August 2012). Bozeman Daily Chronicle. Retrieved January 2012 from <http://bit.ly/HsPXwy>

27 Streamline Bus. Retrieved November 2011 from [www.streamlinebus.com](http://www.streamlinebus.com)

28 Ballard, Lisa. “Southwest Montana Transit Status,” presentation at the Headwaters Recycle conference in 2008.

**Linking People to Opportunity: York County, Maine**

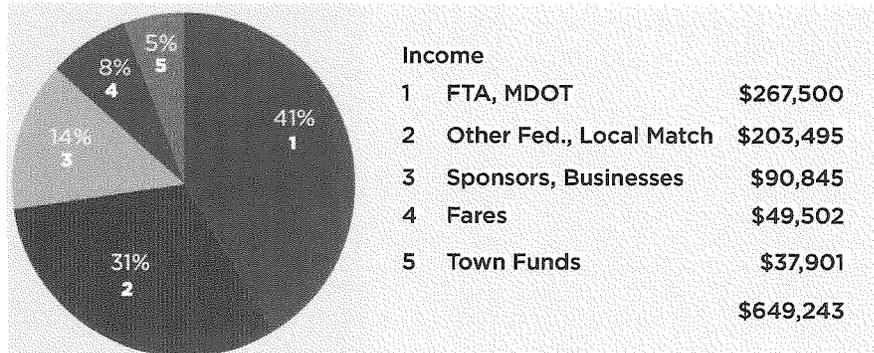
Along the scenic coast of Maine, the classic geographical disconnect between workers and jobs prompted York County to create a trolley service not only to provide access for workers, but also to connect residents and tourists to recreational facilities.



York County Community Action Corporation (YCCAC) is a non-profit human services agency. The county, one of the oldest in the United States, is on the southern end of Maine and is home to approximately 197,000 residents. The county is dotted with small towns, widely separated from each other, many of which do not have a grocery store, bank, or other basic services. YCCAC delivers a range of social services and assistance. Using federal funding, it provides the region’s transportation services and operates a fleet of vehicles – trolley, demand-response, and fixed-route deviation.<sup>29</sup> YCCAC also relies on a large volunteer driver system to fill gaps in service. In 2011, more than 100 people provided \$4.2 million worth of time for 115,000 one-way trips.<sup>30</sup>

Tourism is a major driver for the local economy. During summer months, tourists flock to

**Figure 2: Shoreline Explorer Funding**



Income	Amount
1 FTA, MDOT	\$267,500
2 Other Fed., Local Match	\$203,495
3 Sponsors, Businesses	\$90,845
4 Fares	\$49,502
5 Town Funds	\$37,901
<b>Total</b>	<b>\$649,243</b>

Source: Shoreline Explorer Annual Report <http://bit.ly/HsQAGq>

York County coastal communities. Businesses need seasonal workers for low- and mid-skill-level jobs, such as chamber maids, fast food servers, and outdoor recreation and amusement park workers. However, it was difficult to attract the

number of workers needed.

Seventeen miles inland is the town of Sanford. Over the last few decades the loss of manufacturing jobs and other layoffs has led to a high percentage of unemployment and underemployment.

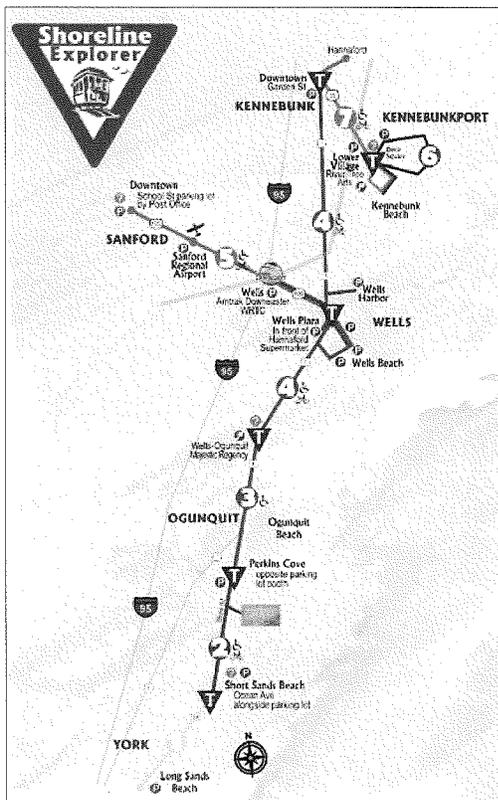
The YCCAC, in collaboration with the chambers of commerce and other stakeholders, set out to create a transportation option that would help residents get to work and connect the various communities together. Their goal was not only to increase access to jobs for local employees, but also to contribute to the economic viability of local businesses.

<sup>29</sup> Transit service that operates along a fixed path at generally fixed times, but may deviate from the route to collect or drop off passengers who have requested deviation.

<sup>30</sup> Connie Garber. Phone interview. February 2012



York County Community Action Corp. photos



They focused on creating mobility for three target groups: tourists, workers, and local residents with children, who needed a way to go shopping, visit the beach, or go to the museum. YCCAC partnered with three for-profit trolley companies to create a shuttle that would connect people from inland to the coastal areas, and connect the coastal communities to each other. Using federal CMAQ and 5311 funds, and state, local, and private funds, they created the Shoreline Explorer trolley service. The Shoreline Explorer received the FTA Administrator's Award for creating this unique collaboration among public and private trolley and bus service.

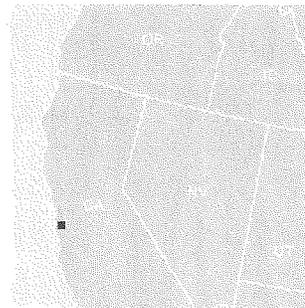
"Rural transportation is about giving people greater independence to access a better life," says Connie Garber, YCCAC Transportation Director. The Shoreline Explorer trolley is allowing people to do just that. Business owners Jason and Lee Talevi said, "From our perspective as seasonal business owners, the trolley is a fabulous amenity, a much

needed resource and really an icon for the 'friendliest town in Maine'.<sup>31</sup>"

31 York County Community Action Corporation. Retrieved from <http://bit.ly/HsQAGq>

### ***Serving Tourists While Maintaining Historic Character: Monterey, California***

Monterey, CA, is a town of 28,000 people on the Pacific Coast of Central California, approximately 115 miles south of San Francisco and 350 miles north of Los Angeles. Monterey is home to the world-renowned Monterey Bay Aquarium and prides itself on its small-town, historic character, which is integral to Monterey's local economy and helps to attract thousands of tourists each year.



The local transit agency, Monterey-Salinas Transit (MST), serves about one-fifth of the coast of California, roughly equaling the size of two New England states. The system primarily serves individuals in the agricultural sector (farmers and ranchers), families of military personnel, tourists going to the Monterey Bay Aquarium and the Pebble Beach Resorts, as well as senior citizens and California State University, Monterey Bay, students.

In 2003, MST decided that in order to grow its service while maintaining the historic character of the region it served, it should switch from buses to a trolley service for the main tourist destinations. Four trolleys were purchased. Monterey covered 20 percent of the costs (\$325,000), while federal grants covered the remaining 80 percent.

The new "MST Trolley" runs a short route originating from the transit plaza downtown and connecting destinations along the popular lighthouse district to the aquarium. The trolley is free to ride and runs on 10-minute headways. MST runs similar trolley circulators in the nearby cities of Pacific Grove, Salinas, and Carmel. After switching from a regular bus system to the specially branded, historic trolleys, ridership rose from 100,000 in 2003 to

**MST-Military Bus Program:** MST has made improvements to better serve Fort Hunter Liggett, an Army training center, by offering 15 bus routes to the communities close to the base. These transportation routes help to improve access to housing choices for military families beyond the space-constrained base. Since its inception in 2009, ridership in the MST-Military bus partnership has increased from 5,000 to 42,000 riders per month.<sup>1</sup> The bus routes serve Fort Hunter Liggett and the nearby Presidio Army Garrison and Naval Postgraduate School, all funded entirely by the Department of the Army Mass Transit Benefit Program and the Department of the Navy Transportation Incentive Program. According to the Army Garrison newsletter, the program has helped to remove 700 cars daily from the local road, thus resulting in less congestion and vehicle emissions and added approximately \$6 million in revenues to the local economy.<sup>2</sup>

<sup>1</sup> Community Newsletter, Volume 1, Issue 1. (January 2012). US Army Garrison, Presidio of Monterey. Retrieved April 2012 from <http://bit.ly/lvMw7u>

<sup>2</sup> Ibid.

185,000 in 2005, an 85 percent increase.<sup>32</sup> In 2011, MST provided 4.5 million passenger trips throughout the Monterey Bay region, an increase of 120,000 from 2010.

MST focuses on integrating creative partnerships in its transit model. For example, MST and two Monterey County educational institutions devised a creative partnership to cut traffic congestion and increase public transportation access throughout the region. The Otter ID free ride program, launched by the CSU campus, allows students, faculty, and staff to access all MST buses at no cost.

Later in 2012, MST will debut its new Bus Rapid Transit (BRT) line, which will cut commute times along the Lighthouse-Fremont corridor while serving as

MST has also created several programs geared towards senior citizens and persons with disabilities, using support from federal New Freedom grants. MST has implemented new Senior Shuttle routes as the demand for shopping and medical facility access without transfers has increased. A volunteer corps known as the MST Navigators, lead travel training sessions and ride Senior Shuttle routes, available to help carry packages and provide training for passengers using wheelchairs and scooters.

a moving museum honoring the world's longest-running jazz festival. The new BRT line, named JAZZ, is expected to cut travel times between the Monterey Bay Aquarium and Sand City Station (about 1.6 miles outside of Monterey) by 25 percent.

"We are making transit fun and attractive, and including an impressive educational component at the same time," says MST General Manager Carl Sedoryk.



Fred Hsu / Wikimedia Commons

Through a partnership with the Monterey Jazz Festival, stops along the JAZZ route will highlight history, performers and cultural contributions and will even include downloadable music for smart phones. FTA provided \$2.7 million in Small Starts program funds for the JAZZ line and another \$1.9 million in state transportation bonds also supports the project.

32 Carl Sedoryk, Phone interview. February 2012.

Since federal grants require a local match that is often difficult to find in local agency budgets, MST has used public-private partnerships to fund routes to key destinations. For example, the Carmel Valley Grapevine Express transports people from downtown Monterey to Carmel Valley Village, a popular destination for wine tasting.<sup>33</sup> It is funded in part by the Monterey County Business Council and the County Office of Economic Development. The fact that businesses are willing to put their own dollars into the transit service demonstrates the value that they expect to receive from improved access to their facilities.

## Intermodal Transit Centers and Transit Hubs

Rural areas primarily depend on intercity bus services such as Greyhound or local or regional intercity bus providers to connect them with major cities and other regional destinations. In recent years intercity bus service has declined due to lack of funding, competition from low-cost commercial airfares, and restructuring of bus transportation networks.<sup>34</sup> Amtrak is generally the only rail service in communities with populations less than 50,000. As a result, rural residents are increasingly seeking alternatives to automobile travel.

Intermodal transit centers and transit hubs are increasingly being pursued by small cities and towns because they can serve three key purposes:

- Promote regionalization by improving connectivity of the transportation network to make transfers easier and more convenient for riders.
- Serve as a central public investment that can support revitalization of a downtown, in some cases helping to kick-start private investment in these areas.
- Provide needed amenities, including child care centers and retail in a central location.

The fact that intermodal centers are shared facilities can help to lower costs while contributing to higher quality.

Unique partnerships are sometimes required to link public transit, intercity buses, passenger rail, high-speed rail, commercial air, and bike/pedestrian facilities. For example, Trinidad, CO, a town of 9,077 people, is developing a transportation center that will have space for passengers to comfortably transfer between Amtrak, intercity buses, and local transit services. The project is being advanced through a unique inter-governmental partnership, where the center will be owned by the city and operated by the South Central Council of Governments.

Transit hubs also provide a central focal point for economic activities and can be an anchor for various types of development - notably transit-oriented development (TOD).

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<sup>33</sup> Harvath, Hunter. Innovative Partnerships that Work, presentation, Monterey-Salinas Transit, 2008. California Transit Association.

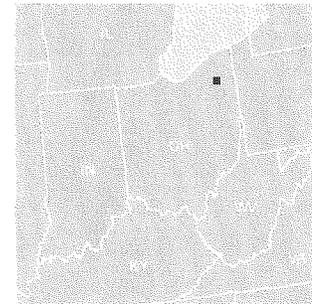
<sup>34</sup> Our Rural Transportation System. US Department of Transportation, Federal Highway Administration Retrieved March 2012 <http://www.fhwa.dot.gov/planning/rural/planningfortrans/2ourrts.html>

Transit hubs, such as the one in Meridian, MS, a community of 40,000, can help spur economic development in declining downtowns. Reconnecting America President and CEO John Robert Smith, the former Mayor of Meridian, says the development of the South's first multimodal station was at the heart of the effort to create a downtown for which the community could be proud. Meridian's Union Station, a revitalized historic building, now serves more than 300,000 people each year and was the catalyst for \$135 million in private investment in the downtown area. The Union Station project serves as a model for the use of small intermodal stations as redevelopment drivers.

Both the U.S. Department of Transportation's TIGER grant program and the FTA's Bus Livability program have supported a number of transit hub and intermodal facility projects in recent years. However, as illustrated in the case studies, these projects cannot rely solely on federal contributions. Significant effort and financial equity must exist on the local and regional level in order to bring these projects to completion.

### ***Using a Transit Center to Strengthen a Downtown: Kent, Ohio***

Kent is a city of just under 30,000 in Northeastern Ohio. Like many small towns and rural areas, Kent has struggled to retain young people, who prefer to move to major metro areas after graduation from the local university. As a result, Kent's workforce became less diverse and resilient. In an attempt to proactively address this issue, the city sent a survey to Kent State University students in 2008, asking them what it would take to persuade them to stay after graduation and work in Portage County. Many said that they wanted to live near a thriving downtown with cultural attractions, gathering places, walkable streets, and interesting neighborhoods.



This survey helped move along a proposed transit center concept, led by the Portage Area Regional Transportation Authority (PARTA). The city hoped that a new transit center would enhance multimodal transportation use and catalyze economic development in the downtown, creating an attractive area for businesses and residents. The project was intended to create a "vital civic space that will contribute to the health, safety, and sustainability of the Kent community."<sup>35</sup> The city and transit agency are working proactively with private developers to realize this vision.

PARTA received a \$20 million grant from USDOT's TIGER program to build the Kent Central Gateway multimodal transit center, with an additional \$4 million from the city of Kent. The proposed transit center will be a 325,000 square-foot mixed-use, intermodal transfer station. It will include a bus transfer area, parking, 18,000 square feet of retail and commercial space, plazas, and secure bicycle parking. The transit center is expected to create

<sup>35</sup> PARTA breaks ground on transit center: Kent facility cited as an example of the region roaring back. Kent Central Gateway. (2011). Retrieved February 2012 from <http://www.kentcentralgateway.com/>

266 construction jobs and 700 full-time jobs upon completion.<sup>36</sup>

The public investment in the transit center and a nearby relocated county courthouse are expected to stimulate activity in the area and encourage more life on the streets, making the area more attractive for private investment. The city of Kent, PARTA, and Kent State University have partnered with private developers to revitalize the area surrounding the Kent Central Gateway multimodal facility. The development plan includes more than 250,000 square-feet of mixed-use space, a hotel, and a conference center. The Kent Central Gateway is considered a significant amenity to the private development and will help reduce the traffic impact of the new project. The Gateway and the connected private development project are projected to generate \$105 million in public and private development and \$5.8 million in annual tax revenue.<sup>37</sup>

### ***Turning a Transit Agency Building into a Community Hub: Spearfish, South Dakota***

Prairie Hills Transit (PHT) began with a 1979 green cargo van, a handful of passionate community activists, and a need to serve elderly residents through a Senior Meals program. The agency has steadily grown to more 36 vehicles, 50 employees, and a new transit facility that accommodates a community child care center.



Prairie Hills Transit is based in Spearfish, a rural city in western South Dakota with a population of 10,400, and serves 15 communities spread over 12,000 square miles, an area seven times larger than Rhode Island.<sup>38</sup> The transit agency is among the top 10 employers in Spearfish, where most residents either work in the health care or forestry industry. The city has safe communities, affordable housing, and is in close proximity to a major medical facility, shopping areas, and grocery stores. Still, many students, low-income workers, older residents, and people with disabilities depend on the reliability of PHT, and the system has come to be well-trusted in the community.

By 2002, PHT began plans for a multimodal facility that would provide for more efficient operation and maintenance of its vehicles, and allow for better connection between PHT and the local Jefferson Intercity Bus Lines.

At the same time, the agency needed to hire additional staff. But PHT faced a challenge in recruiting qualified candidates: the lack of child care in the community. As a result, the agency included a child care center in the plans for the new transit facility. The child care center not only helped attract a more diverse set of job applicants, but also filled a need

<sup>36</sup> PARTA breaks ground on transit center: Kent facility cited as an example of the region roaring back. Kent Central Gateway. (2011). Retrieved February 2012 from <http://www.kentcentralgateway.com/>

<sup>37</sup> Ibid.

<sup>38</sup> Prairie Hills Transit. Retrieved February 2012 from [www.prairiehillstransit.com](http://www.prairiehillstransit.com)

in the community at large.

Using \$1.5 million from the American Recovery and Reinvestment Act, approximately \$500,000 from FTA's Bus and Bus Facilities program, a technical assistance grant from Community Transportation Association of America, and land contributed by the city of Spearfish, the city was able to complete the project.<sup>39</sup> The facility provides offices and garage space for PHT, a ticketing site for Jefferson Inter-city Bus Lines, and a child care facility



**Prairie Hills Transit began with a 1979 green cargo van and today has grown to more than 36 modern vehicles.**

Prairie Hills Transit photos



that can be used by PHT employees and the general public. There is enough room to generate revenue by storing and repairing vehicles for other local organizations.<sup>40</sup> PHT was also able to provide jobs at the new facility: a part-time mechanic, a full time child care manager, four part-time child care providers, two part-time dispatchers and a full time mobility manager. The facility was built in an emerging area within the city, and is anticipated to catalyze other redevelopment projects.

PHT is a vital part of life in Spearfish, not only because of the mobility it provides, but because it recognized that it could help meet other community needs as well. Barb Cline, the executive director of PHT, explained the transit agency's rationale: "We are not a social service organization, but everyone has that thought [in the back of their heads] of 'what do we do for our residents and how can we help them?' "

<sup>39</sup> Barb Cline. Phone Interview. February 2012.

<sup>40</sup> Coming Soon: Regional Intermodal Facility. Prairie Hills Transit. Retrieved February 2012 from [www.prairiehillstransit.com](http://www.prairiehillstransit.com)

## Intercity Transit/Rail Improvements

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Intercity transit connections support both small towns and the major urban areas they connect. The smaller city gains by connecting people to jobs and by making work trips to the city practical. From the urban center's perspective, the improved connection to the smaller town opens opportunities to take advantage of the lower cost of living. A smaller city within a two-hour drive of a large metropolitan area also is attractive to people who prefer a smaller-town environment, but still want occasional access to the primary city.

Providing an alternative to the long automobile commute is one way a small town can enhance the benefits that accrue from proximity to larger urban centers. For this reason, cities across the country are working to make intercity bus and rail a viable and attractive alternative for commuters and visitors.

### ***Bringing Economic Vitality with the Reverse Commute: Fitchburg, Massachusetts***

Fitchburg, MA, is a city of about 40,000 residents approximately 50 miles west of Boston. Fitchburg was once a paper mill town, but new industries are expanding in and around Fitchburg, particularly in the health care, chemical, and technology sectors. The town is a bedroom community with many families commuting to Boston and Nashua, NH, for work. Fitchburg is home to Fitchburg State University, which enrolls 7,000 students, and is also a recreational and historical destination with ski resorts and apple orchards that attract tourists from the Boston metropolitan region.

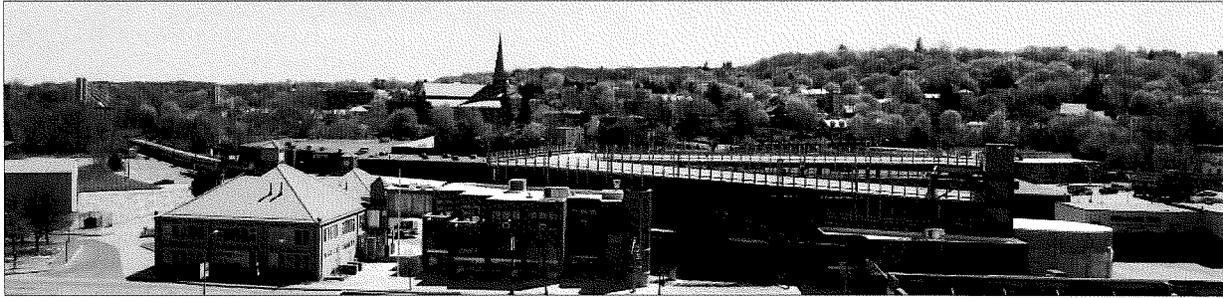


The area is served by the Montachusett Regional Transit Authority (MART), which is responsible for fixed-route bus services and an extensive regional van service. The commuter rail, operated by the Massachusetts Bay Transportation Authority (MBTA), connects with the MART bus and van services at several stations within the MART service area. The commuter line serves as an alternative to automobile travel to Boston, not only for work, but also for various commercial and recreational purposes.

The commuter line has had a direct impact on local industries, which are now beginning to flourish in the Fitchburg/Leominster urbanized area. The commuter rail service brings in an expert labor force that is not readily available in Fitchburg, tapping into the intellectual pool from the Boston area. Residents along the commuter rail corridor can easily work with or attend Fitchburg State University or work at various health care and high-tech industries such as Bristol Myers and IBM.<sup>41</sup> The commuter line allows employees who prefer to live in Metro Boston to commute rather than relocate. For others, the availability of low-cost housing and a better living environment in Fitchburg attracts those whose job opportunities lie along the Boston commuter rail corridor.

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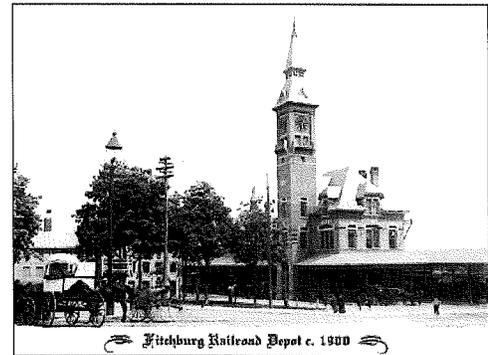
<sup>41</sup> Mohammed Khan. Email Correspondence. April 2012.



Montachusett Regional Transit Authority photos

**Fitchburg commuter rail station today and in 1900.**

As a result of the commuter rail, Fitchburg is also now more accessible as a recreational destination. “Attracting tourists was not the intention of the rail; it became a byproduct of creating the commuter service to Boston,” said Mohammed Khan, Administrator of MART. The majority of recreational commuters use the MBTA promotion of Ski Massachusetts Program, where an individual from Metro Boston can bring their ski gear on the train to Fitchburg and a local bus service connects them to Mount Wachusett Ski Area (approximately 5 miles from the Fitchburg Station).<sup>42</sup>



Within the last few years, MART and MBTA have led an effort to improve the line in order to relieve traffic congestion on the main highway connecting Fitchburg to Boston, improve air quality and to reduce the costs and associated fees of bringing a car to Boston.

In 2010, MART received a \$59 million TIGER grant to extend and make improvements to the commuter rail line. The project extends service west of Fitchburg an additional 4.5 miles to Wachusett station. Federal funds will support the construction of a new station there. The Wachusett station will be in close proximity of the main highway, Routes 2 and 31 interchange, which will make it easier for motorists to switch to transit.<sup>43</sup> Wachusett Station, when completed by the end of 2013, will be the sixth station within the MART area. This region provides approximately 25 percent to 35 percent of the commuter rail riders along the line, which has 17 stations including the five currently located in the MART area. (The remaining stations are in the MBTA district.)<sup>44</sup> The reverse commute demand is growing and with the improvement of the extension to Wachusett station, MBTA will likely increase service to meet the demand. The project is expected to create 306 construction jobs in the short term and 855 new permanent jobs.<sup>45</sup>

Approximately 10,000 people commute each day on the Fitchburg line. With the improve-

42 Mohammed Khan. Personal Interview. April 2012

43 The Wachusett Station Extension. (2012). Montachusett Regional Authority. Retrieved April 2012 <http://www.mrta.us/CapitalProjects.html>

44 Mohammed Khan. Personal Interview. April 2012

45 Fed Stimulus Boosts New Bedford, Revere, Fitchburg Line. (February 17, 2010). Massachusetts Department of Transportation. Retrieved April 2012 from [www.transportation.blog.state.ma.us](http://www.transportation.blog.state.ma.us)

ments, ridership is expected to increase by 5 percent to 7 percent on an annual basis. Khan said, “The commuter rail offers a lifeline of opportunity for the area and is a welcome substitution for driving to Boston.” The rail line has helped to strengthen the local Fitchburg economy, bringing back life to an area that was once cut off from the metropolitan area. And though some may think commuter rail promotes sprawl, Khan said: “It’s not sprawl; I call it rejuvenating communities.”

**Spotlight: Taos, New Mexico**

In many instances, intercity rail offers the opportunity for people to connect to small towns, once only accessible by long distance drives. When the Rail Runner Express in New Mexico implemented the extension of the commuter rail line to Santa Fe, it impacted many towns. The Town of Taos seized the opportunity presented to them with the new Santa Fe stops to better connect with regional opportunities. Taos has



Joseph C. Yaroch / Wikimedia Commons

a population of nearly 6,000 residents, yet more than 100,000 people visit each year.<sup>1</sup> It relies on year-round tourism, which makes up 75 percent of their local economy.<sup>2</sup> From the Santa Fe station, the Taos Express (a weekend shuttle) takes people, mostly tourists, from the station directly into Taos. Visitors can then get to Taos Ski Valley or visit Taos Pueblo, the only living Native American community listed as a World Heritage site.

The Taos Express serves both visitors as well as local residents. Shortly after creating the service, Taos officials realized that local residents were also using the shuttle to connect to other areas, including Albuquerque for leisure. Taos heavily relies on Section 5311 funding and when opportunities arise, they also apply for Section 5309 funds. They receive funding for their local match through a local tax. Delilah Garcia, Transportation Superintendent for the Town of Taos stated, “We have definitely benefited from the Rail Runner coming to Santa Fe; it gives people additional transportation options and gives us the opportunity to bring visitors and tourists into our town.”

<sup>1</sup> Delilah Garcia. Phone Interview. May 2012.

<sup>2</sup> Ibid.

## **Conclusion**

Increasingly, small communities are investing in transit as a way to address the unique mobility challenges that stem from large geographic distances, an aging population, and limited financial resources. Bus system improvements, downtown circulators, intermodal transit centers, and increased intercity travel options are all solutions being employed by communities that want to remain attractive places to live and work.

As the examples cited in this report demonstrate, transit investment can make a big difference in smaller communities. Made incrementally as funding becomes available, actions as simple as branding and signage changes or improved bus shelters can be the first step toward providing a desirable, reliable alternative to car travel. These transit investments provide numerous benefits for local communities and residents by stimulating activity along central transit corridors; helping connect people, jobs, and essential services; and by reducing long-term health care costs by improving access to medical centers. In the current tough economic climate, however, these projects must rely on a variety of funding sources. It is particularly important for those with responsibility for transportation and those with responsibility for land use to be coordinating their efforts to ensure that the transit investment can be integrated into the future vision for the community.

The federal government is an essential partner in the efforts of local officials to improve their economies, their citizens' mobility, and their overall quality of life. For this reason, it is important that federal policymakers as well as local officials understand the role that transit investments play in rural areas. While more research is needed to better quantify the impacts of transit on rural economies and residents, the cross-section of examples included in this study should help to inform the ongoing federal transportation discussion as well as provide guidance for other communities dealing with the same challenges.

## Appendix

### Methodology

The researchers reviewed online sources and conducted phone interviews to answer the research questions identified above. Research was conducted between October 2011 and May 2012. An expert panel reviewed an early draft of the report. The information presented in the case studies may have changed after the agencies were interviewed.

#### List of agencies interviewed

- Addison County Transit Resources
- Choctaw Nation Tribal Transit
- Human Resource Development Council
- Lower Savannah Council of Governments
- Montachusett Regional Transit Authority
- Monterey-Salinas Transit
- Prairie Hills Transit
- Stark Area Regional Transit Authority
- Streamline Bus
- Town of Taos
- York County Community Action Corporation

### Rural Resources

*A link shortener (bit.ly) has been used where needed to make URLs manageable*

- Center for Rural Strategies - <http://www.ruralstrategies.org/>
- Community Transportation Association of America (CTAA) - <http://www.ctaa.org>
- EPA, Putting Smart Growth to Work in Rural Communities - <http://bit.ly/HrSly7>
- Exploring the Role of Regional Transportation Projects as Rural Economy Drivers - <http://bit.ly/HjFRDQ>
- National Association of Development Organizations (NADO) - <http://ruraltransportation.org>
- Reconnecting America, Featured Topic web page on Livability in Smaller Cities - <http://bit.ly/HSvRex>
- Rural Policy Research Institute (RUPRI) - <http://www.rupri.org>
- Reauthorization of Surface Transportation Act - <http://bit.ly/Hh2sGs>
- Transportation for America: Livability Case Studies in Small Cities and Rural places - <http://bit.ly/18JmW5>
- Transportation for America: Principles for Improving Transportation Options in Rural and Small Town Communities - <http://bit.ly/Hj5629>
- Small Urban & Rural Transit Center, Rural Transit Fact Book 2011 - <http://bit.ly/HpMoFm>
- Rural Transportation.org - <http://bit.ly/HgSEB0>
- Intermodal Surface Public Transportation Hubs - <http://bit.ly/Hh39j3>
- USDA Economic Research Service - <http://www.ers.usda.gov/>
- Western Transportation Institute - <http://www.westerntransportationinstitute.org>

NCBI Bookshelf. A service of the National Library of Medicine, National Institutes of Health.

Institute of Medicine (US) Committee on Disability in America; Field MJ, Jette AM, editors. *The Future of Disability in America*. Washington (DC): National Academies Press (US); 2007.

## G Transportation Patterns and Problems of People with Disabilities

*Sandra Rosenbloom* \*

### INTRODUCTION

Transportation is an extremely important policy issue for those with disabilities. People with disabilities have consistently described how transportation barriers affect their lives in important ways. Over the last two decades the National Organization on Disability (NOD) has sponsored three successive Harris polls with people with disabilities, and respondents in each survey have reported that transportation issues are a crucial concern. In the last survey, undertaken in 2004, just under a third of those with disabilities reported that inadequate transportation was a problem for them; of those individuals, over half said it was a *major* problem. The more severe the disability of the respondent was, the more serious were the reported transportation problems (National Organization on Disability-Harris Interactive, 2004).

However, the policy debates over the local transportation needs of these travelers often revolve around dichotomies that may be misleading—arguing over the role of buses compared with the role of paratransit, for example. Moreover, these debates often focus on some topics at the expense of other equally important issues. For example, there is a legitimate concern about ensuring that people with disabilities receive the services mandated by the 1990 Americans with Disabilities Act (ADA), but most of the transportation needs of these travelers are not addressed at all by the ADA. Colored by this perspective, many policy analyses ignore the fact that most travelers with disabilities, as is true for travelers in the world at large, make the majority of their trips in private vehicles and rely heavily on walking to facilitate their use of all modes of travel. A narrow policy focus tends to limit discussions of the barriers to both auto use and pedestrian travel while slighting the connection between transportation programs and other important policy initiatives, from land use planning to human and medical service delivery.

To expand traditional discussions, this paper makes a clear distinction between the kinds of transport services and facilities that are required by regulations or law and those that are required to address the far larger mobility needs of most people with disabilities. This paper not only highlights the value of understanding and enforcing the ADA (and related legislation) but also indicates when and why policy discussions must go beyond a focus on the ADA to address the full spectrum of the needs of travelers with disabilities. The paper also suggests that providing effective mobility options for those with disabilities requires attention to a variety of interrelated policy areas and service delivery models: from how, when, and where medical services are provided to the places where people are able to live.

This paper addresses local ground transportation; beyond its scope are issues of air, sea, and intercity travel for people with disabilities. It has three major sections. The following section gives an overview of the travel patterns of people with disabilities, highlighting the problems that they face with various modes of travel and the crucial role of both walking and private vehicles in their mobility—whether or not they drive. The next major section, the third in this paper, examines the community transportation resources provided to travelers with disabilities by public transportation systems, other public and nonprofit agencies, and the private sector. The final section suggests that more and better accessible transportation is a necessary but not a sufficient resource for overcoming the multiple barriers faced by most people with disabilities. Addressing the transportation needs of such travelers requires active cooperation between transportation planners and those in a number of other policy and program arenas. Relevant personnel range from educators to medical personnel, from employment counselors to urban designers, and from housing remodelers to land use planners.

### THE TRAVEL PATTERNS OF PEOPLE WITH DISABILITIES

In 2000 just over 8 percent of those ages 5 to 20 years, 19.2 percent of those ages 21 to 64 years, and 41.9 percent of those ages 65 years and over reported some level of disability (U.S. Census Bureau, 2002). As is well known, the older people are, the more likely they are to report a disability and the more severe it is likely to be; for example, 40 percent of those ages 65 to 69 with a disability reported that their disability was severe, whereas over 60 percent of those ages 80 and over who reported a disability reported that their disability was severe (U.S. Census Bureau, 2005).

Unfortunately, knowing that a person has a disability, even if it is severe, does not tell us whether that person faces significant mobility constraints. As a result, it is difficult to clearly link disability rates to specific mobility problems. For example, a significant number of people with disabilities so serious that they cannot walk far or use public transit can and do drive (Rosenbloom, 1982; OECD, 2001). On the other hand, some people have such severe disabilities that they cannot leave their houses without substantial assistance, which may mean that their transportation concerns are secondary to the other barriers they face.

Moreover, barriers to mobility have complicated causes. The 2004 NOD-Harris Interactive poll found that almost two-thirds of all the people with disabilities who reported major transportation problems had annual incomes below \$35,000. For those with higher incomes, reported transportation problems dropped markedly, as did the differences in transportation problems between those with and without disabilities (National Organization on Disability-Harris Interactive, 2004 [computed from Table 6c]). Earlier work found the same patterns; both the U.S. Congressional Budget Office (U.S. CBO, 1979) and the U.S. Senate Select Committee on Aging (1970) concluded that almost all transportation problems among the elderly or those of any age with disabilities were related to income alone; reported transportation problems dropped drastically with rising income, even controlling for age, physical disability, and health status. Of course, income may well be related to the severity of personal disability but probably not in a linear fashion.

Overall, we have limited information on the travel patterns of people with disabilities. The data that we do have tend *not* to differentiate travel by the degree of severity of a person's disability, household income, driver's license possession, car ownership, and other significant variables that might affect mobility—such as sex and age. However, two major studies give us some background information: a 1994 disability supplement to the annual National Health Interview Survey (NHIS) and a 2002 congressionally mandated study undertaken by the Bureau of Transportation Statistics of the U.S. Department of Transportation. In addition, we have some useful data on the patterns of older drivers facing declining driving skills because of increasing illness or disability. These studies are discussed below.

### Overall Travel Patterns

To develop policy-relevant data on disability, in 1994 four federal agencies jointly undertook a supplemental survey (NHIS-D) to the annual NHIS (NCHS, undated). Phase II of that supplement dealt with transportation (and other) concerns.<sup>1</sup> The NHIS-D asked detailed questions about the transportation needs and barriers among people with self-reported disabilities and impairments (U.S. National Center for Health Statistics, undated). The NHIS-D data show that 19 percent of adults under age 65 had problems in “getting around outside ... home due to [their] impairment or health problem.” The single most frequently cited reason was *difficulty in walking*; over 75 percent of those who said that they had difficulties getting around reported walking problems. The respondents were also questioned about other possible reasons for their difficulties in getting around (multiple responses were sought and permitted), but none was nearly as important: 13 percent reported *vision problems* and 10 percent reported *cognitive or mental problems*.

Two-thirds of NHIS-D respondents under age 65 who reported the existence of one or more disabling conditions drove a car every day or occasionally. Among the 29 percent who reported *never* driving, roughly 45 percent said that they did not drive because of their impairment or health problem. Among those who did drive, even if infrequently, less than 2 percent said that they needed or used a special vehicle or special equipment on their car to allow them to do so.

The dependency on the car may be related to the low level of public transit available to respondents (although cause and effect may be difficult to determine). Roughly a third of NHIS-D respondents said that there was no public

transportation available in their area. But even among the majority who did report having transit, most said that they did not use it—although their health or disability was *not* the reason for nonuse. Over three-fourths of those who had public transit in their area said that they had not used it all during the past 12 months; only 6 percent reported using a regular bus, 1.3 percent a subway, and 0.9 percent an accessible bus at least once in the previous week. Only 16 percent of those respondents who had not used available public transit reported that their failure to do so was related to their impairment or health problem.

Among those who ever used public transit, even if rarely, only 13 percent reported difficulty in doing so. Among the small number of those respondents who either had difficulty in using transit or could not use it because of their disability or health condition, the single most frequently cited problem was *difficulty in walking*. The second most frequently cited problem was *needing help from another person* (multiple responses were sought).

Roughly the same number of respondents reported the availability of other transportation alternatives—and they made slightly more use of them. Almost two-thirds of NHIS-D respondents reported that there were special bus, taxi, or van services for people with disabilities available in their area. The respondents most frequently mentioned services provided by the public transit authority but also identified programs offered by other governmental and private entities. Among those who did have such services in their area, only 10 percent reported using any of them at all in the last 12 months; only 1.2 percent had used such services at least once in the previous week. In fact, the respondents mentioned that they were almost twice as likely to use a regular taxi for which they had to pay full fare as a subsidized or special transportation option. Among the 90 percent who had not used special services, over 9 out of 10 explained that they had either not needed or not wanted to use the services. Although multiple responses were sought, few respondents gave additional reasons for their nonuse of specialized transport services.

In 2002 the U.S. Bureau of Transportation Statistics (BTS) undertook a congressionally mandated comparative study of the travel patterns of people of various ages with and without disabilities; BTS interviewed 5,019 people, of whom 2,321 reported having disabilities ranging from mild to severe.<sup>2</sup> The study found that people with disabilities traveled less and reported more mobility problems than those without disabilities. But some disabilities were so severe that people were unable or unwilling to leave their houses; almost 2 million people, or roughly 4 percent of those with a self-reported disability, were homebound—including 9 percent of those ages 65 and over. Although over two-thirds of those under age 65 left their homes almost daily, 7 percent of those under age 25, 15 percent of those ages 25 to 64, and over 25 percent of those ages 65 and over left their homes only once or twice a week (Sweeny, 2004, Table A1).

On the other hand, the BTS study found that among those with disabilities of any severity, over 70 percent of those ages 25 to 64 and roughly 60 percent of those age 65 and over were currently drivers (Sweeny, 2004, Table A8) (driving status was attributed to those who reported driving; it was *not* based on licensing status). Only 13 percent of people with disabilities lived in a household without a car, and over 20 percent lived in a household with three or more cars (U.S. BTS, 2003a, Table 35). Table G-1 clearly indicates how dependent travelers of all ages were on a car, van, or truck, although the data do not indicate the frequency of use or the percentage of all trips taken by any travel mode. Over three-fourths of all travelers under age 65 and almost that share of those ages 65 and over rode in a car at least once in a month as either a driver or a passenger. Among those ages 25 to 64, over two-thirds drove a car at least once during that month.

Conversely, no more than one in five individuals ages 25 to 64 used general public transportation (public bus, subway, light rail, or commuter rail) and only 8 percent of those over age 65 did. The figures were far lower for specialized and ADA paratransit use; no more than 10 percent of any cohort of people with disabilities used these modes in a month. On the other hand, walking was a major mode for travelers with self-reported disabilities of all ages. (If a traveler using a wheelchair traveled somewhere without using another mode [i.e., not in a bus, car, train, etc.] the trip was categorized as a walking trip.)

Auto use, often as the driver, was even higher for medical trips among all travelers with disabilities. Among those ages 25 to 64, for example, almost 9 out of 10 travelers reported using a personal vehicle to travel to the doctor and drove

that vehicle almost 70 percent of the time. Less than 2 percent reported using ADA or other specialized paratransit to travel to a doctor, and no more than 4 percent took a public bus (Sweeny, 2004, Table A12). Dependence on a private vehicle was even higher among people with disabilities who were employed; over 80 percent used a private vehicle to commute, driving the vehicle in which they were riding roughly half the time. No one under age 25 and only 2 percent of those ages 25 to 64 used ADA or specialized paratransit services for their work trips; only 7 percent of those under age 25 and less than 6 percent of those ages 25 to 64 used public transport (Sweeny, 2004, Table A11). Table G-2 shows that being a driver did not fully explain the reliance on a private vehicle by people with disabilities. While drivers with disabilities were more reliant on the car than nondrivers, the dependency on the private vehicle by nondrivers is clear. These data were not published by age, and as in Table G-1, they do not indicate the percentage of trips taken by each mode or the frequency of modal use. Several patterns are obvious nonetheless. Almost every current driver drove at least once during the previous month. Moreover, drivers were substantially more likely to be either a driver or a passenger in a personal vehicle than to use buses, paratransit, or taxis.

Many drivers, however, did report that they also used a variety of public transit modes, although nondrivers were more likely to report using buses, specialized paratransit modes, and other alternatives. At the same time, nondrivers with disabilities were remarkably reliant on the car—and even more so if we add taxi use to the mix. Over 86 percent of nondrivers were passengers in a car, 16 percent rode in a car- or vanpool, and almost 22 percent used a regular taxi during the previous month. In contrast, less than 13 percent of nondrivers used ADA paratransit services and under 7 percent used other community paratransit services in that month.

The BTS also asked if respondents with disabilities needed help with or had trouble getting needed transportation. Roughly 9 percent of those under age 25, 14 percent of those ages 25 to 64, and 32 percent of those ages 65 and over answered yes. The most frequent reasons for those troubles were *having no car*, *having no or limited transportation*, and *having no one on whom to depend* (multiple responses were permitted). Roughly 14 percent of those ages 25 to 64 and 7 percent of those ages 65 and over said that they *didn't want to ask for help*; a somewhat smaller percentage reported that their *equipment doesn't fit transportation* (unspecified) or *disability makes it hard to use* (unspecified). Far fewer of those who said that they needed help reported any difficulties with bus or taxi service or fear of crime; 8 percent said that costs (unspecified) were too high (Sweeny, 2004, Table A7).

Overall, these studies show that people with disabilities do face important travel barriers, but not necessarily those on which the policy debates have most centered. Roughly one-third of people with disabilities have no public transportation or other transportation available to them, so the accessibility of those services is beside the point. At the same time, the rate of use of these modes is not high among those people who do have such services in their areas, and only a small percentage mention their disability or health status as the reason for nonuse. In fact, most travelers with self-reported disabilities either drive themselves or take the majority of their travel in private cars. The most significant transportation problems mentioned (either overall or for the nonuse of public transit) are barriers in the pedestrian environment, which far outnumber reported problems with transit or paratransit modes (although they may well explain the lower rates of use of those modes).

### **Driving and the Aging of Society**

The data presented above make it clear how reliant people with disabilities of all ages are on the private car. However, we also know that older people in every industrial country have become increasingly more dependent on the private car to maintain their mobility (ECMT, 1999; OECD, 2001; Rosenbloom and Stähl, 2003; Gagliardi et al., 2005). Older people make the majority of their trips in a car, and the vast majority of older people are licensed to drive; in fact, within two decades older drivers will constitute one in four drivers on U.S. highways (and will constitute substantially more drivers in states like Florida and Arizona) (Stutts, 2005; Herbel et al., 2006). Linked to this increased “automobility” is the growth of almost every indicator of travel among the elderly: trips made, miles traveled, and time spent in a vehicle (Hu and Reuscher, 2004), coupled with a dramatic decrease in the use of public transit. For example, the share of all trips taken by older people using public transit fell by half between 1995 and 2001 (Rosenbloom, 2004).

With the increasing number of older drivers, however, comes a growing concern with both safety and the mobility losses that will accompany driving cessation. Older drivers below age 80 have fewer crashes per capita than those ages 18 to 25 years; moreover, the per-capita crash rates among drivers over age 65 have dropped substantially over the last few decades (Evans, 1991; IIHS, 2000; Li et al., 2003; Dellinger et al., 2004; Stutts, 2005). However, many driving skills do diminish, on average, with age. Per exposure (miles driven), older drivers tend to have higher crash rates than middle-aged people (but they have crash rates roughly comparable to those of young drivers) (Ranney and Pulling, 1990; Evans, 1988; Johnson, 2003; O'Neil and Dobbs, 2004). In short, many of the rapidly increasing number of older people who have long relied on driving to meet their needs may face serious mobility problems as they age and experience increasing disability (Rosenbloom, 2006a).

It is important to note that a major reason for the lower per-capita crash rates among the younger cohorts of older people is that they simply drive less and less often in situations that they find risky. Many studies show that long before retirement people begin to self-regulate, that is, make changes in their travel patterns to accommodate a loss of driving skills or to react to problematic driving situations (De Raedt and Ponjaert-Kristoffersen, 2000; Lyman et al., 2001; West et al., 2003; Henderson, 2004; McKnight, 2003). As a 5-year longitudinal study of older drivers in Britain found,

reduced driving is related to changes in health but the immediate factor in instigating these reductions is a decline in confidence in driving competence. That is, older drivers monitor their performance and react appropriately when they feel that their performance is becoming adversely affected by poor health, or for other reasons (Rabbitt et al., 2002, p. 1).

Moreover, Table G-3 shows that drivers with disabilities, regardless of age, impose more limitations on their driving than do those without disabilities. Among those with disabilities roughly two-thirds drive less in bad weather and less than they used to; over half avoid rush hour driving, busy roads and intersections, and night driving. Over a third avoid long distance driving, freeways, and unfamiliar places, roughly a fourth drive slower than the speed limit, and more than one in ten avoid left-turns.

Unfortunately, these kinds of self-regulatory behaviors, while perhaps increasing safety, may have significant impacts on mobility. Not all trips that have been postponed can be rescheduled; not all trips originally scheduled during peak hours or in the evening can be made at other times; not all routes avoided have alternative paths to the same locations. In short, the destinations to which it is easy to travel may not be good substitutes for those to which it is difficult or dangerous to travel (Rosenbloom, 2001; Rosenbloom, 2006a). Moreover, having the ability to choose to travel to more potential destinations generally signals greater mobility—and the reverse results in lower mobility. Thus older people and those with disabilities can suffer important reductions in mobility and access even if they continue to drive. While driving cessation may be the final blow for these travelers, they may have been losing mobility and independence for some time, and these losses should be recognized in policy discussions (Rosenbloom, 2001; Rosenbloom, 2006a; Rosenbloom and Winsten-Bartlett, 2002).

There is substantial evidence that the final loss of the ability to drive has a significant emotional component, above and beyond mobility losses. A 2003 study for the Department for Transport of the United Kingdom noted, "The main implications of no longer having access to a car are reductions in the choice of destinations, flexibility, and spontaneity of travel and *the psychological impact associated with the loss of independence*" (U.K. Department for Transport, 2003, p. 4, emphasis added).

Indeed, driving cessation, particularly among men, has been linked to serious depression and even suicide (Marottoli et al., 2000; Fonda et al., 2001; Johnson, 2003; Ragland et al., 2005). Thus it is easy to understand why many older drivers resist total driving cessation for as long as possible (Shope, 2003).

At the same time, cause and effect are very difficult to untangle. It is not clear whether the disabilities that contribute to driving reduction or cessation also reduce the ability or desire to travel outside the home. The loss of independence

may be multidimensional, and the actual ability to drive may not be the only issue to be addressed. In addition, the disabilities of older people (or of those who are younger) may have different implications for their use of different travel modes. For example, fairly old NHIS data showed that almost 40 percent of people of any age who were too disabled to use public transport actually drove a car (Rosenbloom, 1982); this percentage has likely increased over the last 25 years. In the 1994 NHIS-D, 50 percent more people reported that their impairments created difficulties in walking than reported that their impairments created problems in driving. A major European study commented,

Older people who suffer from limitations related to health must often cease walking or using public transport before they are forced to cease driving. Approximately one-third of women over 80 years of age cannot use walking as a means of transport, but many with a license can still drive (OECD, 2001, p. 128).

It is for these reasons that policy analysts have suggested a variety of ways to enhance the driving of older people facing increasing disabilities. These include improving the roadway network in ways that respond to the special constraints of older drivers, developing aftermarket devices that can be installed on private vehicles to make driving easier (e.g., larger mirrors and swing-out seats), improving the vehicle itself (e.g., through the use of cruise control devices that help prevent rear-end collisions and lane drifting), providing appropriate driver reeducation and retraining programs, and developing car-sharing programs that allow older drivers and those with disabilities to give up their cars while still being able to drive occasionally (Staplin et al., 2001; Rosenbloom, 2005; Stutts, 2005; Herbel et al., 2006). In addition, there are similar vehicle options that make it easier for people with disabilities to ride as passengers in private vehicles (e.g., passenger-side swing-out seats, racks for wheelchairs and other mobility devices), and private vehicles accessible to those who cannot transfer from their wheelchairs). These policy options are central to all discussions of the mobility needs of people with disabilities, those both younger and older than age 65.

## COMMUNITY TRANSPORTATION RESOURCES

This section has three subsections that describe the community transportation resources that exist or that should exist:

- The accessible transportation services and facilities that are or that should be provided by public transit operators
- Those that are or that should be provided by an array of public and private nonprofit organizations
- Those that are or that should be provided by the private sector in ordinary market interactions (e.g., on-street taxis and airport shuttles)

The discussions below have a dual focus: first, the obligations of these providers under ADA, and second, the much larger arena in which these operators could be providing services to enhance the mobility of those with disabilities.

### Public Transportation Agencies

When the ADA was signed into law in July of 1990, it gave people with disabilities many of the same kind of rights that the Civil Rights Act of 1964 earlier gave to people of color.<sup>3</sup> Title II of the ADA specifically outlaws discrimination on the basis of disability in services, programs, and activities provided by public entities, including local transit operators. Public transit services owned or operated by a public entity (or provided under contract to a public entity by a private operator) must be accessible to individuals with disabilities, including those who use common wheelchairs, as the statute and regulations define accessibility for each mode. Transit operators are also required to ensure that both the pretravel and en route information provided by the system are available in a variety of accessible formats.

The ADA has clearly changed the landscape of public transit; as a national disability organization recently noted:

As a consistent theme in most transit systems across the United States, the Americans with Disabilities Act of

1990 (ADA) has spawned great improvements.... As a result of the ADA, the past decade has brought about real improvements in access to transportation for people with disabilities, and access to public transportation has improved significantly since implementation of the ADA transportation provisions (NCD, 2005, pp. 13, 20).

There are many public transit modes: buses and trolley buses, heavy and light rail services, commuter rail, ferry boats, vanpools, and carpools. Each of these modes poses unique access and mobility problems for people with disabilities; there are ADA requirements for each mode, but there is also the potential for many modes to provide more mobility to people with disabilities than that mandated by the law. Of course, the significant cost implications cannot be ignored; as the National Council on Disability (NCD) notes (NCD, 2005), public transit is substantially underfunded in this country, and ADA mandates do not come with any additional funding so there is even less money for additional or nonmandated services. Yet the potential remains high for public transit to make a bigger and better contribution to the mobility of people with disabilities.

### **Heavy, Commuter, and Light Rail Systems**

The ADA requires heavy and light rail systems to make some or all of their vehicles, stations, and transfer points fully accessible to people with disabilities. New systems must be fully accessible, as must be new purchases or new improvements on older systems (although there are some exceptions even on new systems). However, older systems are required to rebuild or retrofit only what are defined as *key stations* (for example, those with the most traffic or serving major activity centers). Moreover, older rail systems are required to make only a subset of their existing vehicles accessible to people with disabilities, although all new cars must be accessible. As with other travel modes, operators are required to provide accessible communications in many formats, including individual-stop announcements.

Today there are only 685 of these *key stations* in the United States; this number represents a fraction of the total number of rail stations in older systems. Disability advocates had hoped that the ADA regulations would require a larger number (or all) stations in older systems to be made accessible, but the costs were so high that the number of key stations was a political compromise (NCD, 2005). Clearly, then, the key station requirement, even if it is fully met, does not address the significant rail restrictions facing many travelers with disabilities in older systems, who can enter and exit the system only at a limited number of stations, not necessarily at their preferred origins and destinations; some trips cannot be made at all. As the National Council on Disability has noted, “train travel has improved greatly for people with disabilities, but the ADA’s limited key station requirement has meant that some of the large, old East Coast rail systems in particular, have few accessible stations” (NCD, 2005, p. 14).

Key stations were to be accessible by 1993, but the deadlines have been extended by the U.S. Department of Transportation to 2013 for commuter rail and to 2023 for rapid and light rail systems. However, the Federal Transit Administration (FTA) recently reported that “only” 96 key stations (14 percent) in 11 systems still fail to meet accessibility standards (NCD, 2005). Disability advocates, however, do not necessarily agree with the FTA assessment of how well some of those key stations actually meet the ADA requirements.

Continuing to meet ADA standards, even in newer rail systems, is an additional compliance problem; accessibility features—from way-finding devices for those with visual impairments to the mechanisms used to ensure level access into rail cars—require substantial maintenance. For example, over time, the horizontal and/or vertical gaps between the station/stop platform and the floor of the rail vehicle can become too great to allow level entry by a variety of travelers with disabilities without additional devices (such as manual or automated gap fillers, which themselves must be maintained and used properly). If these devices are not properly maintained, they cease to facilitate access by those with disabilities.

Finally, when new heavy or light rail systems or additional rail services are inaugurated, the transit system may decrease or reroute bus services to encourage rail ridership, often requiring modal transfers on trips people previously took without having to transfer. While some of these rerouted buses or the new rail services themselves may provide

more or better service for people with disabilities, there is substantial evidence that such changes may in fact harm a large number of disadvantaged travelers from poor or minority communities who are more dependent on bus services. These situations have been the subject of many lawsuits across the United States (Rosenbloom, 1991; Rosenbloom, 2006b; Lee, 1997; Mann, 1997; TCRP, 1998c; Sanchez et al., 2003). To the extent that travelers with disabilities are members of such disadvantaged communities, they may, too, suffer mobility losses when bus services are reconfigured as rail services are expanded.

### Buses

The ADA required public transit operators to purchase only accessible buses after August 1990; as a result over time all fleets should become totally accessible. Most accessible buses in the United States today are regular coaches which offer access by (1) lowering (kneeling) the entrance side of the bus by several inches so that those with difficulty with stairs will have a shorter first step up into the vehicle (particularly if they are boarding from a curb) and (2) providing mechanical lifts at an entrance to the bus for those who cannot climb stairs (including but not limited to those in wheelchairs). However, in 2002 the FTA announced that only 88 percent of all buses met the mandate; thus it is possible that today 5 to 10 percent of all buses in the United States are still not ADA accessible.

The more important ADA compliance issues today, however, are probably the maintenance and operation of accessible buses in service and the training given drivers to operate key accessibility devices. For much of the first decade after the passage of the ADA, the accessibility features of U.S. buses were still subject to substantial malfunctions. That often meant that travelers with handicaps were left waiting at a stop—or perhaps worse, stranded on a deployed lift that could be neither raised nor lowered. Even when a bus started the day with a functioning lift, however, lift problems could occur while the bus was in service.

There is substantial evidence that some drivers were afraid of disabling the bus once it was in service and so refused to cycle the lift at a stop. Or drivers who did not know how to cycle the lift refused to do so, telling a passenger waiting at a stop that the lift was not functional. Still other drivers were afraid that taking time to board a passenger with a disability would cause them to run behind schedule—although this rarely happens with well-maintained equipment, trained and experienced drivers (and/or passengers), and the use of proper scheduling algorithms (Rosenbloom, 1994; TCRP, 1998a). Other drivers would not “kneel” the bus unless a passenger knew to ask (even if system policy required kneeling at all stops). A substantial number would not allow travelers not using wheelchairs to board using the lift. In addition, driver failure to call out stops, as required by the law for travelers with visual impairments, has been a long-term compliance issue.

Many of these problems have lessened over time because of a combination of better equipment, improved maintenance, appropriate and timely driver training, and more serious management surveillance and response. However, passengers with disabilities have reported these same problems fairly recently in a number of systems, including Bi-State Transit (St. Louis), the Detroit Department of Transportation, MARTA (Atlanta), and the MBTA in Boston (NCD, 2005). Moreover, many systems have a significant number of very old buses with very old lift and securement systems that can no longer be repaired and that need to be replaced if the bus is kept in service.

The securement systems aboard buses also pose compliance problems (Zaworski and Hunter-Zaworski, 2006). The ADA requires that each vehicle have a minimum of two wheelchair securement areas and that these systems must accommodate “common wheelchairs.” The regulations also require that drivers be trained to proficiency in the use of these devices. However, there are a variety of user, maintenance, and training problems with these systems. First, securement systems have traditionally had serious operational and maintenance issues; moreover, many drivers do not really know how to work them properly (TCRP, 2003d). While both the technology and driver training have improved over time, these issues remain a concern in many bus systems.

Second, an increasing number of people use very customized wheelchairs that can test securement systems (Zaworski and Hunter-Zaworski, 2006). However, some systems have improved securement use even with unusual wheelchairs through the purchase of improved equipment and better driver training and surveillance. The Phoenix, Arizona, transit

system has developed “kits” that wheelchair users can carry with them that show where on their chairs securement devices can be attached and/or that provide ways to appropriately extend the straps that are part of on-board securement systems. In addition, it is generally believed that the FTA has ruled that wheelchair securement is not mandatory if the user chooses to remain unsecured.

However, there are a host of ways in which bus systems could provide better mobility options for travelers with disabilities that go beyond the ADA mandates. Many of those have been identified and evaluated in a series of reports from the Transit Cooperative Research Program (TCRP). First is the need for a very different accessible bus (de Boer, 2004). The United States began requiring bus accessibility before the vehicle technology had advanced sufficiently (although it can be argued that the technology would not have improved in the absence of the ADA). While lowering the first step onto the bus (kneeling) can help some travelers and the lift can work well for those in wheelchairs (and perhaps others), neither option accommodates the full range of people with disabilities or their mobility devices (TCRP, 1994 TCRP, 1998a).

In most circumstances, low-floor buses, widely available in Europe, would offer better access for many people and mobility aids, as well as for travelers with strollers, baby carriages, suitcases, or bulky packages (Aurbach, 2001; ECMT, 1999). From a curb, entry into a low-floor bus is almost level; even if the traveler enters the bus from the street, the first step onto the flat floor of the bus is (1) the only step required of the traveler and (2) much shorter than the first step on traditional coaches. Manual or powered ramps are available for those who cannot handle the much smaller horizontal and vertical gaps (TCRP, 1994 TCRP, 1998b). However, low-floor buses have not been widely adopted in the United States. A 2002 TCRP study found that less than 9 percent of the U.S. bus fleet was composed of low-floor buses with ramps in 2002; while there are anecdotal accounts of widespread low-floor bus purchases, the TCRP study did not find a high level of low-floor bus purchases.

Second, studies of older people and those with disabilities strongly suggest the need to improve *traditional* transit services in several important ways (TCRP, 1997a,b, 1998b,c, 1999a,b, 2002a,b, 2003b; Rosenbloom, 2004). The majority of older people and some of those with disabilities want to travel at different times than most commuters; they need expanded routes and service hours, better schedule adherence, and improved and appropriate assistance from drivers. Some bus operators in the United States and abroad have increased ridership by operating smaller buses, allowing passengers to be closer to the driver, which often reduces the anxiety or fear felt by travelers with disabilities (TCRP, 1999b, 2002b). Some transit systems have been successful in replacing traditional bus routes with more carefully targeted community or neighborhood services whose schedules and routes are more focused on the specific needs of older travelers, even if they run only a few days a week (TCRP, 1997a, 1998c).

In addition, many studies show that almost all travelers seek better information on their travel options, both before they leave home and while they are en route (especially at transfer points) (TCRP, 1999a). Studies also show that many older people and those with disabilities who have never used a bus can benefit significantly from different kinds of transit familiarization and training sessions. In fact, several TCRP studies have shown significant and *continuing* transit ridership among older people and those with disabilities who were provided with targeted training—in some cases even if they were or had been drivers (TCRP, 1998c, 2002a). Finally, many people report being fearful about public transit use. For example, older people and those with disabilities have anxiety not only about crime but also about harassment. People also worry about falling while getting on or off a transit vehicle or while maneuvering to their seat when a bus is in motion. Transit operators need to address all these issues to provide meaningful service to a variety of travelers.

Third, several studies suggest that transit operators should consider providing a range of nontraditional services, from flexible routes and route deviation service to the kinds of service routes adopted successfully in Scandinavian countries and replicated to some degree in many Canadian and a few U.S. cities (TCRP, 2003c, 2004a,b; Rosenbloom, 2004 Rosenbloom, 2005; see Higgins and Cherrington [2005] for a more pessimistic assessment). Flexibly routed services are not without problems. Bus systems are not generally required to provide complementary paratransit parallel to flexibly routed services. Thus, it is possible for transit systems to use route deviation or flexible services to

reduce their paratransit obligations, which might negatively affect those travelers with disabilities who could not use those flexible services. Overall, however, there is evidence that these kinds of services could provide some travelers with disabilities with better mobility options than they currently have (Rosenbloom, 1994; Rosenbloom, 1995; TCRP, 2004b).

### Complementary Paratransit Services

The ADA requires public transit systems to also provide *complementary paratransit*—that is, special, demand-responsive transportation services—for people who are unable to board even an accessible bus or who do not have an accessible path to an accessible bus. Paratransit services are not required for those unable to access or use available rail services. Complementary paratransit services were clearly meant to provide only a safety net while transit systems became more accessible. However, many people have come to look upon them as a major transportation option; this is unfortunate, because these services are unlikely to be a significant part of the transportation resources of anybody except those with extremely serious disabilities. For those travelers, complementary paratransit services are a lifeline. However, ADA-required complementary paratransit services will play little role in the mobility patterns of the majority of travelers with disabilities because of the ways in which they are provided.

Transit operators must provide complementary paratransit services to eligible users in at least a 3/4-mile corridor paralleling their existing bus routes and during at least the same hours of service that those bus routes operate. Users may only be charged a fare equivalent to double the regular bus fare; and their requests for next-day services must be accommodated—which, depending on the hours of service, can be as little as 12 hours in advance. Systems are allowed but not required to provide same-day service; users must be allowed but are not required to request service 7 days in advance. Transit systems may not impose any restrictions on the type of trip taken. Most importantly, eligible travelers cannot be refused service on the basis of budget restrictions—that is, systems are not allowed to have capacity constraints, even if the costs of meeting the ADA standards are extremely high. The paratransit system may negotiate with riders, asking them to move their trips either an hour early or an hour later than their desired time of travel; otherwise, the system must provide all trips requested by eligible travelers within that time window.

Transit systems meet these mandates in a variety of ways, which often reflect the way they provided services before passage of the ADA, their experiences with the private paratransit providers in their service areas, and the outcomes of actual or threatened legal challenges. With respect to the last point, almost every major metropolitan transit operator has been sued by disability advocates and aggrieved riders over system failure to meet the ADA paratransit requirements. The transit systems of some cities, like that of Boston (MBTA), provide all paratransit services in their own vehicles with their own drivers or in dedicated contractor vehicles because of difficulties in the past with contract providers or regular taxi services. The Chicago Transit Authority provides some ADA paratransit services in system-owned vehicles, while some trips are served by contract providers and others by regular taxis called directly by users. The transit system of Austin, Texas (Capital Metro) provides some services in system-owned vehicles, usually to passengers who need accessible vehicles, and contracts with other private providers or taxi operators to serve passengers who can ride in sedans.

Almost every system has found the complementary ADA paratransit requirements to be extremely costly because (1) they involve high ongoing operating costs and (2) there are limited opportunities for economies of scale. Paratransit tends to be expensive because it is difficult to group trips efficiently without making passengers ride or wait too long, miss their appointments, etc. The larger and lower density the paratransit service area is, the more difficult it is to carry many passengers in a vehicle per hour or mile of service; this substantially raises the cost of each trip provided. Moreover, passengers with serious disabilities tend to take longer to board and deboard, which also lowers productivity. As a result of these service features, the average one-way paratransit trip cost in the 50 largest U.S. transit agencies was \$29.28 (calculated from unpublished data in FTA's 2004 National Transit Database). In other words, taking the average eligible traveler with disabilities to and from one doctor's visit would cost almost \$60.

Table G-4 describes the 2004 cost and ridership data for 10 representative cities in the United States;<sup>4</sup> it shows that

average trip costs are generally high. Indeed, total paratransit service expenses are a significant component of total transit system operating costs, even though paratransit riders are a small percentage of the total system ridership. Individual system costs for a one-way ADA-required paratransit trip ranged from a high of \$47 in Cleveland, Ohio, to a low of \$14 in Birmingham, Alabama; the average cost per one-way trip in the 10 cities was \$30.81. Paratransit *riders* accounted for a low of 0.1 percent of the total system ridership in Atlanta to a high of 4.1 percent in Birmingham. However, paratransit service *costs* accounted for approximately 4 percent of total system operating costs in Chicago but over 17 percent of total system operating costs in Austin and Tucson, Arizona. For the 10 systems, the average percentage of total operating costs incurred to provide paratransit service was 9.2 percent for an average of 2 percent of the total system ridership. Even Birmingham, which had the lowest unit cost in the table, spent over 11 percent of its annual operating budget for the 4 percent of its ridership who used paratransit services.

Because of these costs many transit operators failed to even come close to meeting the ADA standards for at least a decade; for example, they routinely refused service for eligible travelers who called for next-day service and often gave preference to riders who made frequent recurrent trips (because they could be prescheduled). Although service has improved in most systems, sometimes as the result of lawsuits, a BTS study (U.S. BTS, 2003b) found that 53 percent of travelers with disabilities reported experiencing significant problems with ADA-required paratransit services, including the failure of the vehicle to show up during the permissible pickup window or even to show up at all. Over 40 percent reported the same problems for their return trips. About 6 percent said that service was not available when it was needed, and 4 percent said that they could not get through to make a reservation on the telephone.

Ironically, after 1990 many transit systems *initially* provided complementary paratransit service to travelers throughout their service area at a low fare because, prior to the implementation of ADA, they had been required to provide some paratransit services to the elderly and those with disabilities as a condition of federal funding. In general, most systems had previously provided fairly low levels of paratransit service; but at the same time, they tended not to be very strict about limiting eligibility and served a large area, often where they had no bus services at all (Rosenbloom, 1994). After the passage of the ADA, many systems kept those system parameters, for both practical and political reasons, in essence controlling costs by not meeting mandated service levels for those who were eligible for services under ADA.

However, as more systems have been required to actually provide ADA-mandated levels of service, the high costs have forced many systems to raise fares to the maximum allowed, restrict services to the minimum required, and adhere to very strict rider eligibility guidelines (TCRP, 1998a). As systems have cut paratransit coverage to the minimum, they have excluded a very large number of people with disabilities because so few live within or can travel to the minimum 3/4-mile corridors along an existing transit route to receive ADA-mandated paratransit service (Bogren, 1998; Rosenbloom, 2005).

Transit systems have also cut paratransit costs by implementing very strict, and even onerous, certification processes to determine paratransit eligibility for those who do live near (or can travel to) areas where bus services (and, thus, complementary paratransit) services are provided. A recent report by the National Center for Transit Research concludes that exceeding the minimum ADA requirements substantially increases ridership and, thus, costs (Thole and Harvey, 2005). While the report does not actually urge systems to cut service, raise fares, or increase the difficulty of becoming eligible for service, it makes clear the cost savings that will result from doing so. The report describes a number of transit systems that have managed to reduce their total paratransit ridership by instituting multistage and difficult eligibility procedures, raising fares to the maximum allowed, or cutting service quality (e.g., not allowing same-day service).

King County (Seattle, Washington), for example, changed its eligibility process to require a preapplication process and a telephone interview follow-up for all applicants. The county also substantially increased the number of applicants who were required to report in person for a functional evaluation at a medical center under contract to the transit operator (rather than accepting an evaluation from the rider's own doctor). As a result of these changes, the monthly rate of certification of new riders as eligible fell by half and the process removed the eligibility of 3,200 existing riders

(Thole and Harvey, 2005). The NCD (2005) also describes a number of (different) systems that have undertaken restrictive actions and similar sharp reductions in the number of new or existing riders certified or recertified as eligible for paratransit service.

Clearly, these practices may result in decisions that discriminate against people genuinely eligible for paratransit services; the NCD has expressed concerns over this possibility (NCD, 2005). However, it is likely that a far larger number of potentially eligible travelers are simply discouraged from pursuing the complicated process at all; this problem is far more difficult to address. Moreover, many of those who are discouraged from applying for fear of being refused as well as those actually refused (re)certification may sometimes have serious disabilities but they just do not meet the strict requirements of the ADA for paratransit services. In short, the vast number of people with disabilities are already excluded from these services, many without being able to meet their mobility needs using public transit as it is currently delivered.

At the same time, the enormity of expanding paratransit service to provide rides to the vast number of people with disabilities is shown in Table G-5, which ultimately provides a very conservative estimate of the cost of expanding services to meet the needs of a wider range of people with disabilities. Table G-5 illustrates the costs of responding to the needs of people age 15 years and older with a severe disability in the major city served by each transit agency. The calculation assumes that only people with a severe disability are eligible for paratransit services under ADA. Indeed, some people with severe disabilities (as defined by the U.S. Census Bureau) may not meet the ADA criteria, while others with less serious disabilities may, but this is generally a reasonable and conservative estimate.

The calculations are conservative in another way; all of the agencies shown in Table G-5 serve a geographic area larger than the major city; these estimates, however, include only those who live in that large city. Matching the actual service area of each transit agency to census tracts to calculate the "real" number of potential riders is a task far beyond this paper, but doing so would simultaneously substantially increase the number of potential riders *and* significantly lower the average number of rides provided to all those aged 15 years and over with severe disabilities. In addition severe disabilities numbers were calculated using national rates by age but not by sex or race or ethnicity, which could well vary markedly by city. As a result these figures are only a gross, but conservative, calculation.

Table G-5 shows that only 1 of the 10 systems (that in Tampa, Florida) provides even one round trip *a year* to everyone with a severe disability in the large city in the center of its service area. The rest of the systems provide even less service to those with disabilities. In reality, most ADA-required complementary paratransit systems provide many trips to a few frequent riders, while they fail to serve the vast number of potentially eligible people or even those who have been certified as eligible. (Several studies have found that many people who become registered for the service never or rarely use it, probably because of its inherent limitations.) Building on these data, we can calculate that providing each person with a severe disability in the central city of each of the listed transit agency's service areas with one round trip per month would be staggeringly expensive. The Los Angeles regional transit operator, for example, currently spends over \$68 million per year to provide ADA-mandated (and related) paratransit services; were it to offer only one round trip per month to everyone in the City of Los Angeles aged 15 years and over with a severe disability, the yearly cost would be \$331 million or almost five times its current expenditures. If Los Angeles regional transit operator were to offer those travelers four round trips per month, the cost would be \$1.3 billion annually.

These figures illustrate a number of points. First, they explain why so many local transit systems have failed to meet ADA complementary paratransit requirements and why, once they are forced to do so, they become extremely restrictive in their service parameters and eligibility. The figures also indicate how unlikely it is that most transit systems will expand their paratransit services beyond the minimum, even as the population of travelers with disabilities climbs, unless additional funding becomes available. Second, these figures suggest that policy makers must consider more cost-effective transportation measures for those who can use them, such as improving public transit services in the ways suggested above, while facilitating car use by those who do not live in areas where transit services can reasonably be provided. Third, these cost data also indicate the need to augment and strengthen the services of the other community transport providers that, by leveraging the resources of volunteers, can often provide less expensive

(but still not cheap) paratransit services to many people with disabilities who are not eligible for ADA-mandated complementary paratransit services for a variety of reasons.

## **Other Community Providers and Obligations**

### **Social and Human Service Agencies**

Public transit systems are not the only agencies that provide transportation services to those with disabilities. A vast array of public and nonprofit human, medical, and social service agencies provide transportation to people who use their programs or qualify for their services; the U.S. General Accounting Office (Siggerud, 2003; U.S. GAO, 2004) has identified 70 to 80 federal programs that allow state and local grantees to use grant funds for transportation services, most of which are provided to disadvantaged people (but not necessarily those with disabilities). For example, the Job Access and Reverse Commute Program of the U.S. Department of Transportation has funded over 200 state and local recipients to provide transportation for disadvantaged people, including those with disabilities, to access job and job training sites. The Administration on Aging, as another example, allows its program funds to be used to provide transportation services to older people. These social and human service agencies also have responsibilities under the ADA; they are not required to buy or own accessible vehicles, as long as their system, "when viewed in its entirety," provides the same level of service to those needing accessible vehicles as to its more general riders.

The Beverly Foundation annually undertakes a study of how what they call Supplemental Transportation Programs (STPs) for the elderly are organized, managed, and financed across the United States; they have identified many exemplary service models. These range from transportation services that are provided entirely by volunteers in their own cars to systems that use paid drivers in system-owned vehicles, some of which are accessible to travelers using wheelchairs (The Beverly Foundation and the Community Transportation Association of America, 2005). In 2001 the Foundation designated 11 programs as Senior Transportation Action Response (STAR) award winners (Beverly Foundation, AAA Foundation for Traffic Safety, 2001).

However, the Beverly Foundation report shows that even exemplary systems vary widely in terms of the number of clients served, the accessibility of their vehicles, and overall costs. At one end of the spectrum, a STAR system on a Native American reservation (San Felipe, New Mexico) provided 34,000 one-way trips to 90 people at an average cost of 57 cents per one-way trip; it had no vehicles accessible to individuals with disabilities. At the other end of the spectrum, a system in Portland, Oregon (Ride Connections), provided almost 200,000 one-way trips to 7,000 people at an average cost of over \$28 for each trip; it had some vehicles accessible to individuals with disabilities. If weighted by the number of trips made, the average exemplary STP cost was \$20.31 per one-way trip (in 2002 dollars) because larger STP systems with more riders had much higher costs.

In fact, three of the STAR systems had costs roughly comparable to those of public transit operators, although they were generally operating with many volunteers, sometimes using their volunteers' cars. Gold Country Telecare (Grass Valley, California), Ride Connections (Portland, Oregon), and the Independent Transportation Network (ITN) (Westbrook, Maine) had average one-way trip costs that exceeded \$27, even though all three (and particularly ITN) used some volunteer drivers. Of course, a number of variables may drive up costs; these providers serve large, low-density, or rural areas, which might mean that they must provide long and costly trips to distant medical and other facilities. The Gold County, California, system provided additional escort services, although the other two systems mentioned above did not. Ride Connection provided some services accessible to individuals with disabilities, which are generally more expensive. These systems may also face unique local or management challenges that may increase their expenditures.

However, while these systems are exemplary in their approaches to offering valuable mobility services for their older clients, it is clear that most of these 11 systems provide service to a small number of travelers. Moreover, the larger the system is, the higher the average costs are; many of the larger STAR systems had average costs equal to or only

slightly less than those of large public transit agencies, even though all but one system used at least some volunteer drivers. These findings are consistent with those of other studies of social service agency transportation services (Siggerud, 2003; TCRP, 2004c). Moreover, a few of the 11 STAR systems do not appear to be in conformity with *their* obligations under ADA to provide the same level of transportation service to those needing accessible vehicles as they do to their more general riders. These data suggest, first, that even exemplary community services with substantial volunteer support can be expensive and, second, that it will require a very large number of such systems to meet the mobility needs of a growing population of disadvantaged travelers, particularly those with disabilities who need accessible vehicles.

Because these community-based transportation providers are so important to so many travelers—and have the potential to be even more important in the future—analysts have suggested a number of ways in which local communities might increase their number and effectiveness, reduce their costs, and ensure that they are able to offer services to those needing accessible vehicles. These suggestions include providing appropriate training to staff or volunteers in a variety of functional areas, from dispatching to dealing with the needs of travelers with significant disabilities. In addition, analysts have suggested ways to achieve cost savings through, for example, group purchase of insurance, vehicles, vehicle maintenance services, driver and dispatcher training, and computer dispatching programs (Ritter et al., 2002; Rosenbloom, 2005; The Beverly Foundation and the Community Transportation Association of America, 2005).

One approach to improving the delivery and lowering the cost of community-based transport services is *coordination* by encouraging or requiring active cooperation in some or all aspects of service delivery between and among the many transport providers in a community or region. Many small community transportation operators limit their services to a small number of agency clients, often restricting travel by trip purpose (medical or agency-related trips only), which results in the inefficient use of vehicles (and other facilities). This can clearly lead to high costs and, particularly in urban areas, substantial duplication and redundancies in service delivery (Siggerud, 2003; U.S. GAO, 2004). The conventional wisdom (Coordinating Council on Access and Mobility, 2000; Siggerud, 2003; U.S. GAO, 2004; TCRP, 2004c,d) is that community providers that are unwilling to cooperate with other providers in some or all aspects of transportation service delivery do so because they

- believe that their funding sources forbid them from cooperating with other providers;
- cannot figure out how to meet their financial and other reporting requirements if they provide services in different ways;
- do not understand their own cost and service patterns well enough to see how coordinating with other community providers could save them money or increase the quantity or quality of service that they provide to their clients;
- do not know about the coordination opportunities available in the community;
- do not have the skills or experience to attempt greater cooperation in service delivery or other operational areas; or
- want to “protect their turf.”

Over the last 20 years there have been formal and informal efforts at both the national and the state levels to overcome these barriers through greater coordination among the federal agencies that fund transportation services, better information and training on a variety of the issues raised above, and the promotion of both voluntary and mandatory coordination programs. In the last few years there has been a flurry of executive and legislative activity at the national level. On February 1, 2001, President George W. Bush announced the New Freedom Initiative, designed to promote the full participation of people with disabilities in all areas of American life, including transportation. As part of its response, the U.S. Department of Transportation created an interagency working group to coordinate the many federal

programs that fund transportation services for people with disabilities, produce a resource guide describing those programs, and develop examples of best practices in transportation service delivery that allow people with disabilities to get to work and job training.

In 2004 Presidential Executive Order 13330, the Coordination of Human Service Programs, created an independent interdepartmental Council on Access and Mobility to help reduce duplication among federally funded community transportation providers; increase the efficiency of their services; and expand the transportation access of a variety of disadvantaged travelers, including older people and those with disabilities. In 2006, the Safe, Accountable, Flexible, Efficient Transportation Equity Act (PL 109-59) went further and required local areas receiving funds for certain programs targeted at older people, those with disabilities, and poor people to prepare a plan for coordinating public transit and human service transportation in the area. Initial plans are required by 2007.

State and federal coordination efforts over the last three decades have helped many local providers to become more efficient and effective (TCRP, 2003a). Yet some analysts have noted that not all agencies that fail to coordinate with others are doing so for unacceptable reasons, and this may be most true for those providing service to travelers with disabilities. Some clients who need transportation may need more than just a ride (TCRP, 1997b, 2004c); many social agencies worry that without extra services some clients may choose not to travel or to use agency services at all (Rosenbloom and Warren, 1981; Rosenbloom, 1981). For example, some clients may need to be reminded several times of their appointments, helped with getting dressed or getting ready, encouraged to go to appointments or social events, etc.; without such additional assistance, they may miss or cancel their trips (McCray, 1998; Burke et al., 2004). Yet most organizations whose primary business is transportation are often unwilling or are unable to provide these additional services, at least without additional compensation (Carrasco, 2001; Griffin and Priddy, 2005).

In addition, not all areas have enough services to make major coordination efforts worthwhile; this may be particularly true in rural areas. Some analysts have noted how difficult it is to set up and maintain effective coordinated programs without continuing financial assistance and leadership—as well as mandates—from regional or state agencies. The benefits of coordination are often diffused and are accompanied by some additional costs to the agencies involved, even if these additional costs occur only initially (Schlossberg, 2003; Schlossberg, 2004). In short, while transportation coordination is clearly one way to help some community transport providers to become more efficient, it is not a panacea. Moreover, there are clearly instances in which coordination may lead to less mobility for travelers with disabilities.

#### **Local Governments and the Pedestrian Environment**

Most of the studies and surveys reported on in previous sections highlighted (1) the importance of walking to most travelers with disabilities and (2) how many barriers to mobility were created by problems in the pedestrian environment. However, improvements to pedestrian accessibility have lagged behind improvements to the rest of the transportation network, in part because no enforceable regulations for making the pedestrian (or public right-of-way) system accessible to travelers with either physical or visual impairments, or both, have been issued (although the U.S. Access Board has developed draft guidelines and has been working to improve industry standards for pedestrian facilities).

Most pedestrian facilities are built and maintained by local governments (or are required of developers in new areas by city or county subdivision ordinances). *If* these jurisdictions provide curb ramps, sidewalks, and/or bus stops, these elements must comply with the ADA. However, cities are not required to provide these pedestrian elements at any specific location if they do not exist. However, the ADA does require cities to undertake a program of providing access in their existing pedestrian facilities over time. Since almost 16 years have passed since the ADA requirements went into effect, many cities should have brought almost their entire pedestrian environments into compliance with the ADA.

Unfortunately, without enforceable standards, many communities have done the minimum. For example, they may provide some curb ramps and require all commercial and new residential developments to provide accessible

sidewalks, but they rarely plan to substantially improve their existing sidewalks and bus stops if they can be viewed as accessible (and, arguably, in some cases, when they are not accessible). Moreover, many cities have been lax at properly maintaining the accessibility of the sidewalks and bus stops that do exist (repairing broken pavement or removing weeds and debris) or retrofitting built-up areas without sidewalks. They tend to be especially negligent about providing improvements critical to independent mobility by those with visual impairments, such as audible pedestrian signals at stoplights and detectable warnings at curb ramps.

However, in early 2004, the 9th Circuit Court of Appeals overturned a lower court ruling that allowed the city of Sacramento, California, to argue that people with disabilities could use special paratransit services if they lacked accessible sidewalks to bus or tram stops. In *Bardenet al. v. Sacramento* (01-15744, DC No. CV 99-0497 MLS) the court ordered the city to address pedestrian barriers noting:

[The ADA] reveals a general concern for the accessibility of public sidewalks, as well as a recognition that sidewalks fall within the ADA's coverage, and [the curb ramp requirement] would be meaningless if the sidewalks between the curb ramps were inaccessible.... Title II's prohibition of discrimination in the provision of public services applies to the maintenance of public sidewalks.

The court mandated a fairly draconian remedy, ordering Sacramento to spend a fifth of its annual transportation fund budget for up to 30 years to meet the accessibility needs of pedestrians. The U.S. Supreme Court refused to hear the city's appeal from the 9th Circuit; unless the Supreme Court accepts an appeal from another lower court and upholds the same standard, it is not clear how far-reaching this judicial decision will be.

In any case, the reality is that in many cities today people with disabilities lack an accessible route to an accessible transit facility. Because this situation has substantial mobility implications, several recent studies have suggested how communities can address deficiencies in their pedestrian networks to provide greater mobility for older people and those with disabilities, and these suggestions go beyond specific physical improvements. These suggestions begin, of course, by stressing the need to develop and maintain accessible pedestrian paths that link residential areas to one another and to commercial centers, as well as the need to provide access to transit facilities.

However, these studies and reports also stress enforcement, ensuring that cars are not parked in bus stops or on sidewalks and are not jutting out of driveways; using traffic-calming devices to lower traffic speeds and increase street attractiveness; and making both active and passive personal security efforts, that is, using police patrols (active) and design changes, enhanced lighting, and surveillance cameras (passive) to control on-street crime and harassment of pedestrians. Some studies have stressed the importance of using subdivision regulations and building codes to ensure the presence of accessible sidewalks in all *new* residential developments as well as commercial developments, while others have been concerned with *retrofitting existing* neighborhoods with accessible sidewalks and intersections, since so many older people are aging in place in older neighborhoods. (Rosenbloom and Stähl, 2003; NCD, 2004; Kocera et al., 2005; Kihl et al., 2005; AARP, 2006; Herbel et al., 2006; Rosenbloom, 2005; Kochera and Bright, 2005–2006).

### **The Private Transportation Sector**

Title III of the ADA has the same effect on private transportation providers (except airlines) that Title II has on public entities (airline access is covered under the 1986 Air Carriers Access Act, although the accessibility requirements are different). Title III does not require private providers, such as hotel and airport shuttle services, to purchase accessible transport vehicles, as long as they provide an equivalent level of service to those with disabilities as they provide to the general public. The extent to which these private providers have met their ADA mandates is open to debate; many had to be sued, sometimes several times, before they found ways to provide equivalent levels of service and/or bought at least some accessible vehicles.

The ADA also does not require private taxi operators to own or operate accessible taxis for ordinary on-street taxi service, as long as their vehicles carry less than eight passengers or are purchased used. However, taxi operators may

not otherwise discriminate against those with disabilities—such as by charging additional fees for storing wheelchairs or refusing to carry service animals. Most cities regulate taxi services in their jurisdictions; under pressure from advocacy groups, many now require local taxi companies to own and operate a certain number of accessible taxis in ordinary private-pay street operations so that people with disabilities who cannot ride in regular sedans can simply call a taxi like everyone else. Most accessible taxis are aftermarket conversions of ordinary vans; as such, they can cost from \$5,000 to \$15,000 more than the sedans usually used as taxis. Some cities provide vehicles or other incentives to taxi companies or individual drivers to buy and operate accessible taxis.

However, the extent to which even taxis bought with public subsidies are actually available to people with disabilities for regular on-street or phone service is open to question. First, accessible taxi service can rarely be better than the ordinary service onto which it is added, and taxi services are poor in many communities. Second, in some cities with accessible vehicles, most are kept busy under contract to the ADA paratransit system. Third, in some cities accessible taxis have been found sitting at the airport and refusing requests for service from people with disabilities not at the airport because those taxis will often be called to the front of the taxi line, perhaps for a traveler with a disability but, more likely, for large groups traveling together or skiers or golfers with bulky equipment. Finally, most experts agree that providing taxi services to people who need special vehicles is generally less lucrative than providing ordinary services—*independent of the cost of the vehicle*—so some taxi drivers avoid passengers with disabilities even if they are operating an accessible taxi. In addition, passengers traveling with service animals often report that they are refused service (see a lengthy discussion of these issues in the report by NCD [2005]).

#### TRANSPORTATION AS PART OF A PACKAGE OF SOLUTIONS

The sections above have focused on ADA mandates in a variety of local transportation modes and the potential of these transportation modes to provide mobility for travelers with disabilities that is more frequent or better than that required by the ADA. This section focuses on the crucial nexus of direct transportation provision and a variety of other delivery systems for people with disabilities, highlighting the importance of seeing transportation services as inextricably linked to decisions made about many interrelated services and facilities—from how, where, and when medical services are provided to the strategies adopted by job training agencies.

Perhaps the most intractable issue in current debates is the tendency of those in every other substantive field from education to employment or from recreation to health care to assume that transportation deficiencies account for all or most of the underutilization of public and private services considered essential to the well-being of those with disabilities (see, for example, the work of Kenyon et al. [2003] and Lucas [2004]). In fact, substantial research shows that most people with disabilities face multiple barriers to both their mobility and their ability to get an education or a job or to access a range of public and private services from grocery stores to medical facilities. The causes of and solutions to these problems are complex; policy analysts must understand and address them in sophisticated ways that extend beyond public transit networks and, indeed, beyond transportation systems alone.

Of course, transportation problems are an important barrier to the mobility and access of those with disabilities. As the National Council on Disability has remarked,

Some people who are willing and able to work cannot do so because of inadequate transportation. Others cannot shop, socialize, enjoy recreational or spiritual activities, or even leave their homes. And some individuals with disabilities who need medical services must live in institutions due solely to the lack of safe, reliable transportation to needed medical services (NCD, 2005, p. 13).

It is unlikely, however, that transportation is the only problem or barrier facing most people with disabilities. For example, a lack of accessible transportation may create barriers to employment; but the failure to obtain a meaningful job may also be the result of inadequate education and training, lack of experience, discrimination in the job market, or inadequate knowledge by employers about the kinds of reasonable accommodations that potential workers with disabilities require. Therefore, transportation services must be viewed and provided only as part of a package of

supportive services and policies.

In the same vein, people with disabilities who lack accessible transportation may be unable to seek medical care in a timely way. Substantial research shows, however, that the “underutilization” of many kinds of medical and social services has a complicated variety of interrelated causes. Income and having health insurance (or Medicaid) are significant factors in service utilization; a 1996 study that used data from the 1987 Medical Expenditure Survey found that health status and having Medicaid benefits or private insurance were the most significant predictors of *home* health care (Kim, 1996). A 1997 study that used data from three national data sets on aging found that whether and how much older people used physicians and hospital services were consistently related to both their health status and having insurance (Miller et al., 1997).

A persistent research finding is that medical utilization rates differ significantly by race and ethnicity and that these differences are often independent of income or the availability of health insurance (Barnard and Pettigrew, 2003; Herbert et al., 2005; Jang et al., 2005; Welch et al., 2005). Roetzheim et al. (1999) attempted to explain the racial differences in the stage of the cancer when people were first diagnosed; the researchers found that neither insurance coverage nor socioeconomic status explained these racial differences. White-Means (1995) found that older African Americans were less likely to use emergency medical services than older white individuals with similar medical conditions and that these differences could not be explained by income or health status. White-Means (2000) also found clear racial differences in medical service utilization rates of people with disabilities that were not explained by socioeconomic variables. Wallace and colleagues (1998) observed that the “persistent effects of race/ethnicity [in medical service utilization] could be the result of culture, class, and/or discrimination.” This suggests that the cost of medical services and the way in which they are both delivered and perceived by the intended recipients are as crucial as the lack of transportation resources in the failure to use medical services.

Other studies show that older people underutilize a range of services targeted to them for reasons ranging from a feeling that the services cannot really help to a concern about service costs, even when those costs are substantially subsidized (Takahashi and Smutny, 2001; Ku, 2005; Ness et al., 2005). There is even evidence that many people resist using special paratransit services because they fear being stigmatized or they do not believe that the services can or do meet their needs (Żakowska and Monterde, 2003; U.K. Department for Transport, Mobility and Social Inclusion Unit, 2006).

These findings still hold even when people *say* that transportation barriers prevent them from using medical or other services. Evashwick et al. (1984) concluded that when older people reported transportation difficulties, they were really reporting functional problems and not barriers to medical use. Rosenbloom (1978) suggested that older people reporting transportation barriers as the reason for the underutilization of medical services were using that reason to represent a bundle of problems, including an unwillingness to leave home, frustration with declining motor and other skills, an inability to pay for services, and unhappiness with the actual services offered, in addition to difficulty in accessing or obtaining transportation.

These observations are supported by early studies conducted for the U.S. Department of Transportation; when communities provided new medical and other transport services targeted at older people, ridership was almost entirely by people already making medical trips, presumably using a more problematic travel mode. That is, most new transport service users simply switched from whatever travel option that they had previously used to the new system, while very few of the people thought to be underutilizing services began to do so when they were provided with new transport options (Spear et al., 1978; Edelstein, 1979).

These findings may be linked to evidence that social and human service agencies must often provide more than just transportation to get their clients to leave home or use agency services (Burke et al., 2004). For example, McCray (1998) describes a special transport service in Detroit, Michigan, developed in response to the assumption that low-income pregnant women did not seek prenatal care because they lacked transportation. However, to actually get the intended riders to use the service, the female driver was required to offer incentives for the women to keep medical

appointments, maintain records on the women's pregnancies, and offer prenatal and spousal abuse counseling on the bus.

Clearly, transportation difficulties add to the other burdens that many people with disabilities face, and they may be a significant component of these problems; but unless we understand their relationship to personal, community, and service delivery constraints, we are unlikely to address the mobility problems that these travelers face. The lack of appropriate and accessible transportation interacts with a range of personal and societal barriers to reduce a person's ability or willingness to leave home for a job, education, medical treatment, or socializing.

## SUMMARY AND CONCLUSIONS

Research clearly shows that travelers with disabilities face multiple barriers in every mode of travel, although we lack good data by severity of impairment, income, automobile ownership, and a range of socioeconomic characteristics. People with disabilities travel less and report more mobility problems than those without disabilities; moreover, almost 2 million Americans report themselves to be homebound. At the same time, the barriers that these travelers face are not necessarily the ones that have gained the most traction in policy debates, particularly debates that center on ADA modal mandates. For example, one-third of people with disabilities have no public transit or ADA-mandated paratransit available to them. The other two-thirds—who have access to these services—rarely use them and generally do not blame their nonuse on their disability. In addition, the travel mode that created the largest barriers for people with disabilities was walking, a mode necessary for the successful use of all other modes, as well as personal mobility.

In contrast, most travelers with disabilities said that they used a car for most of their trips, the majority as the driver of that car. That finding may not be surprising, since (1) many people unable to walk or use public transit can and do drive, and (2) the car provides greater convenience and flexibility than other modes for those with disabilities, as well as the general public (and, arguably, more so for those with disabilities). The dependence on the car was especially striking among older people; this is cause for alarm, given that many (but certainly not all) older drivers will be unable to continue to safely drive as they age because of increasing impairments and/or disabilities. Many older people have long depended on the car to maintain their lifestyles and may face serious mobility problems if and when they must stop driving. For that reason many studies have suggested policies and programs to enhance the driving skills of older drivers as well as making the driving task more manageable (through vehicle and highway modifications, for example).

People with disabilities have three sources of community-based transport: accessible transit and paratransit services provided by public transit agencies, those provided by myriad social and human service agency providers as well as municipal organizations, and those provided by the private sector. Each of these sets of services faces important ADA accessibility mandates, which are being met to greater or less degrees. However, each mode also has the potential to provide additional mobility and access for travelers with disabilities if additional funding can be found.

While access and mobility on all these modes have increased substantially since the 1990 passage of the ADA, each mode has ADA compliance problems and poses other barriers for travelers with disabilities. Not all key stations on urban rail systems are yet accessible; even if they were, key stations are only a fraction of all stations in most urban rail systems. Almost all buses are accessible, but barriers to their use are posed by driver training and surveillance problems, as well as maintenance issues.

Complementary paratransit services are closer to meeting their mandates than they were in the past, but as costs have risen with compliance, many systems have reduced service to the minimum, raised fares to the maximum, and instituted rigorous certification processes that may have denied eligibility to people genuinely eligible while creating a chilling effect on others. Perhaps more important, the overwhelming majority of people with disabilities cannot use complementary paratransit services for a variety of reasons. This is in sharp contrast to a commonly held belief that such services are or could be an important part of the mobility of these travelers. The reality is that many people with disabilities who cannot use public transit will also be unable to use paratransit services.

Many regions host a wide variety of community-based transportation systems that provide an irreplaceable lifeline to the travelers with disabilities who can use them. However, while these systems all provide an invaluable service, many (certainly the larger) of these systems do so at costs not much cheaper than those charged by ADA paratransit providers, even though they use volunteer resources. More importantly, many provide limited services to a very small number of clients, often only for specific trip purposes. Moreover, some of the smaller community-based providers do not appear to be in conformity with their own ADA obligations to provide an equivalent level of service to travelers needing accessible vehicles. Overall, research suggests that we need to find ways to help some of these providers lower their costs and increase their effectiveness while expanding the number of community-based providers to meet the mobility needs of a growing population of disadvantaged travelers.

Significant improvements in the pedestrian network are also required because pedestrian barriers are the most frequently barriers cited by travelers with disabilities. All evidence suggests that ADA compliance with pedestrian (public right-of-way) systems may be low because we lack enforceable regulations in this area; as a result many people with disabilities lack an accessible route to an accessible bus stop. Research suggests the need to develop and maintain accessible and fully lit pedestrian paths while promoting greater enforcement of parking, safety, and security strategies.

Private transportation providers—including taxis and airport shuttles—have ADA mandates as well. Some evidence suggests, however, that these providers must be forced or given incentives to meet those mandates or to provide the levels of accessible services that are possible. While operators are not generally required to purchase and operate accessible taxis, many do so because of local regulations or local subsidies (or both). However, it is not clear that accessible taxis are providing the level of service for travelers with disabilities that they might.

Finally, all evidence suggests that transportation is a necessary but not a sufficient condition for the full access and mobility of travelers with disabilities. Transportation planners must work in cooperation with both the public and the private sectors and with professionals in a variety of disciplines and service delivery systems (doctors and medical facilities; educators and training facilities; employment counselors and job search programs; and a wide variety of human, medical, and social service agencies and providers) to address the access and mobility needs of a range of travelers with disabilities.

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## Footnotes

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- 1 All data were calculated for this article from Section B, *Transportation*, of the 1994 Disability Phase II Adult Public Use File available on the website of the Centers for Disease Control and Prevention; the website also explains all sampling procedures, data handling, and variance estimation strategies. See [http://wonder.cdc.gov/wonder/sci\\_data/surveys/nhis/type\\_txt/dfs94-b.htm](http://wonder.cdc.gov/wonder/sci_data/surveys/nhis/type_txt/dfs94-b.htm).
- 2 The BTS study was undertaken by use of the computer-assisted telephone interviewing technique between July and September 2002. Survey weights were developed to reduce several sources of bias (nonresponse, no telephone in the household, etc). Full details on the weighting and variance estimation procedures are available in U.S. BTS (2003b).

- 3 The ADA information summarized in this section comes largely from materials supplied on the website of the U.S. Access Board:  
<http://www.access-board.gov>.
- 4 Some of these systems may be providing non-ADA paratransit services or may be allowing non-ADA-eligible riders (such as the elderly) to use their ADA-required services. The National Transit Database does not make this clear.

## Tables

TABLE G-1 Travel Modes Used in the Past Month by People with Disabilities

Mode	Percentage of People		
	Under 25	25-64	65+
Personal vehicle (driver)	49.1	68.6	55.6
Personal vehicle (passenger)	89.6	77.5	70.5
Carpool, vanpool	28.7	8.8	3.6
Public bus	20.9	12.8	5.8
ADA paratransit	3.7	5.3	7.2
Other specialized services	2.6	4.0	2.9
Private or chartered bus	6.3	3.9	4.7
School bus	24.6	1.9	0.0
Subway/light rail/commuter rail	9.5	7.1	2.0
Taxicab	8.6	12.4	8.2
Electric wheelchair, scooter, golf cart	2.0	0.8	1.0
Bike	48.0	15.9	3.7
Walk	56.0	47.9	37.7
Other transportation	12.0	5.4	2.8

NOTE: Multiple responses were permitted; the sample sizes were very small.

SOURCE: Table A9, Sweeny (2004).

**TABLE G-2 Transportation Mode Used by Drivers and Nondrivers with Disabilities in the Past Month**

Mode	Percentage of People	
	Current Drivers	Nondrivers
Personal vehicle (driver)	96.9	
Personal vehicle (passenger)	71.2	86.0
Carpool, vanpool	6.5	16.3
Public transit or city bus	5.0	26.0
Curb-to-curb ADA paratransit	2.0	12.6
Other specialized paratransit services	1.9	6.8
Private or chartered bus	3.2	5.8
School bus	2.6	3.4
Subway/light rail/commuter rail	4.0	10.6
Taxicab	5.8	21.9
Electric wheelchair, scooter, golf cart	5.3	6.9
Bike or pedal cycle	14.2	14.2
Walk, manual wheelchair, or scooter on sidewalks, crosswalks, intersections	48.2	40.2
Other	5.1	6.8

NOTE: Multiple responses were permitted; the sample sizes were very small.

SOURCE: Table 14 and Figure 4, U.S. BTS (2003a).

**TABLE G-3 Types of Driving Self-Regulation by People With and Without Disabilities**

Type of Self-Regulation	Percentage of People	
	With Disabilities	Without Disabilities
Drive less in bad weather	66.3	49.8
Drive less often than before	64.5	32.2
Avoid driving during peak hours	58.0	42.0
Avoid busy roads and intersections	51.7	40.0
Avoid driving at night	51.5	25.8
Avoid driving distances >100 miles	47.2	21.9
Avoid high-speed highways	38.4	21.8
Avoid unfamiliar roads or places	38.0	27.5
Drive slower than speed limits	22.0	14.9
Avoid left-hand turns	11.4	8.4

NOTE: Multiple responses were permitted; the sample sizes were very small.

SOURCE: Table 37, U.S. BTS (2003a).

**TABLE G-4 Complementary Paratransit Cost and Ridership Patterns for People With and Without Disabilities**

<b>System and City</b>	<b>Total Annual System Ridership<sup>a</sup>(in millions)</b>	<b>Annual Paratransit Ridership<sup>a</sup>(in millions)</b>	<b>Paratransit as a % of Total Ridership</b>	<b>Paratransit as a % of Operating Costs</b>
Chicago (IL) Transit Authority	484,811	1,438	0.3	3.7
Los Angeles, CA <sup>b</sup>	428,504	1,904	0.4	8.2
MARTA (Atlanta, GA)	164,078	192	0.1	4.0
Kansas City (MO) Metro Transit	100,626	1,686	1.7	12.0
Tri-County Metro (Portland, OR)	91,186	782	0.9	7.4
Greater Cleveland, OH, RTA	60,094	317	0.5	6.5
Capital Metro Transit Authority (Austin, TX)	33,987	359	1.1	17.5
SUNTRAN (Tucson, AZ)	15,865	295	1.9	17.1
Hillsborough Area Regional Transit Authority (Tampa, FL)	9,815	14	0.1	4.5
Birmingham-Jefferson Co. Transit Authority (AL)	2,775	113	4.1	11.1

a Unlinked trips (e.g., having to transfer buses or transfer from a bus to a train on the way to work creates two unlinked trips; the more transfers the more unlinked trips created by just a one-way journey to work).

b Data are from four Los Angeles-area reports.

**TABLE G-5 Current Paratransit Service Coverage and Potential Expansion Costs**

<b>System and City</b>	<b>2004 Annual Paratransit Ridership<sup>a</sup>(in millions)</b>	<b>2004 Average Cost per Paratransit Ride<sup>a</sup></b>	<b>Annual No. of Rides per Person Age 15+ with Severe Disabilities</b>	<b>2004 System Paratransit Costs (in millions)</b>	<b>Total Annual Cost to Provide One RT/Month to Each Person w/a Disability (in millions)</b>
Chicago (IL) Transit Authority	1,438	\$23.25	0.19	\$33,428	\$155,555
Los Angeles, CA <sup>b</sup>	1,904	\$36.69	0.20	\$68,843	\$331,425
MARTA (Atlanta, GA)	192	\$43.47	0.20	\$8,338	\$290,837
Kansas City (MO) Metro Transit	1,868	\$24.74	0.03	\$41,710	\$28,264
Tri-County Metro (Portland, OR)	782	\$19.90	0.07	\$15,559	\$27,394
Greater Cleveland (OH) RTA	317	\$47.02	0.14	\$14,887	\$51,100
Capital Metro Transit Authority (Austin, TX)	359	\$41.45	0.17	\$14,867	\$60,628
SUNTRAN (Tucson, AZ)	295	\$21.82	0.17	\$6,451	\$26,541
Hillsborough Area Regional Transit Authority (Tampa, FL)	14	\$35.94	2.44	\$1,445	\$29,472
Birmingham-Jefferson Co. Transit Authority (AL)	113	\$13.84	0.89	\$1,563	\$33,458

a One ride is one *unlinked trip* (e.g., having to transfer buses or transfer from a bus to a train on the way to work creates two unlinked trips; the more transfers the more unlinked trips created by just a one-way journey to work).

b Data are from four Los Angeles-area reports.

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