



Accessible Public Transportation: A Case for Improving the Lives of the Disabled with Better Accessibility to the Los Angeles Metro

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Abstract:

Accessibility to public transportation in Los Angeles has increased countywide since the passage of the Americans with Disabilities Act (ADA) in 1990. Although many barriers have been removed to enable access for people with disabilities, substantial barriers still exist and affect the day-to-day lives of people with disabilities. The purpose of this study was to investigate and detail the experiences of people with disabilities when using public transportation and paratransit services. With far reaching implications on accessibility and public transportation design, this study examines the following research questions: **How do LA Metro Stations create barriers for the physically disabled community?** And **What remedies will ensure proper compliance with the Americans with Disabilities Act?** An online survey was created and disseminated to contacts of the Los Angeles Community Action Network (LA CAN) and the Los Angeles Chapter of the California Council for the Blind, and 17 individuals responded. Six interviews were conducted from the same sample and one interview was conducted with two officials from the Los Angeles Metro. This study finds the following:

- Bus Drivers and Metro Employees are not trained properly and often do not treat people with disabilities as equal citizens.
- Education surrounding the ADA is not robust and widespread.
- Policymaking is too “top down” and lacks the input of people with disabilities.
- Accessible Design on both buses and trains is outdated and requires more room on vehicles for people with disabilities.
- Access Services is difficult to use and must be easier to apply for.
- The Built Environment must be taken into account when determining whether Los Angeles is accessible.

This study developed the following policy recommendations:

- Expand the definition of accessibility with station and vehicle specific metrics.
- Improve the education and outreach program to reach disabled riders.
- Incentivize collaboration between Metro and all stakeholders.
- Create an entire department at Metro devoted to Disability Rights.
- Utilize Universal Design in current and future projects.

Introduction:

Public transportation is a vital aspect of both rural and urban living. It creates avenues for employment opportunities, social activities, active citizen participation, and affects every aspect of daily life for those who cannot or do not use an automobile. An accessible public transportation system provides an environment that makes it possible for people with disabilities to feel included in normal daily life. It offers an independent mobility that can enrich the quality of life that an individual with a disability may not otherwise experience.

Accessible public transportation is possible and should be implemented in every major American city, yet the present condition of public transportation creates barriers for people with disabilities, ultimately affecting their access to employment. There are currently 56.7 million people (19% of the population) with disabilities living in the U.S. (U.S. Census Bureau, 2012). More than half a million of those people with disabilities are not able to leave their homes because of the lack of access to public transportation (Steinfeld et al., 2017).

Currently, public transit is experiencing huge cutbacks and funding issues in nearly every major American city. Creating the ability to use public transit can be beneficial not only to people with disabilities but also to the general population. Access to transportation that allows 19% of the population to fully join the work force could have immense benefits for everyone. Studies have shown that public transportation can even be beneficial to mental health (Melis et al., 2015). For a city like Los Angeles, where commuting and transporting by automobile is the norm, accessible public transportation is often overlooked and underfunded. To investigate the barriers and opportunities of accessible public transportation on the Los Angeles Metro, this study addresses the following research questions:

- How do LA Metro Stations create barriers for the physically disabled community?

- What remedies will ensure proper compliance with the Americans with Disabilities Act?

Literature Review:

Population growth continues to follow the nationwide trend of returning to cities, raising the question as to how urban transportation systems can adapt to serve disabled people equitably. Despite the passage of the Americans with Disabilities Act (ADA) in 1990, people with disabilities continue to face barriers when using public transportation. In the hope of improving accessibility to public transportation, this report synthesizes literature regarding access to public transportation by people with disabilities and the history and implementation of the ADA.

Public Transportation under the ADA

On July 26, 1990, President George H.W. Bush signed the Americans with Disabilities Act, but the struggle for its passage dates back much farther, as disability advocacy groups fought for their equal rights long before Congress took legal action. Among people with disabilities, the ADA is commonly known as “The bill of rights for people with disabilities” (Disability Rights California, 2003). The ADA contains four titles, and Title II contains regulations regarding public transportation (See Appendix A). The U.S. Department of Transportation (DOT) wrote the rules included in this section, and those rules became fully effective on January 26, 1997 (Disability Rights California, 2003). However, implementation of this section has been very slow and ineffective.

“Do People with Disabilities Believe the ADA has served their Consumer Interests,” highlights the barriers that people with disabilities face in their daily lives. The study administered a survey to 1,000 people with disabilities to see whether consumers thought the

ADA was being implemented properly (Scarborough, 2005). According to the author, “In general, the results show that respondents believe their consumer interests have been served by the ADA, but the results also show there is more to be done” (Scarborough, 2005). The implementation of the ADA has caused some controversy, as the definitions of terms such as “disability”, or “physical impairments”, are hard to define and contested (Scarborough, 2005).

The Importance of Documentation and Involving Stakeholders

As most of the funding to improve accessibility comes from Federal and State governments, involving NGOs and all other stakeholders is critical. The American Public Human Services Association did a case study on practices that address transportation needs. The study found that involving state agencies, transportation entities, private transportation providers, employers, and state officials can help produce more robust policy (APHSA, 2010). For example, in Illinois, the Strategic Planning Leadership Committee, the Illinois Division of Public and Intermodal Transportation, and the University of Illinois partnered together to educate employers on the importance of hiring people with disabilities. They found that transportation issues have a negative effect on business competitiveness, which helped establish a best practice of how to “seek or hire people with disabilities” (APHSA, 2010). The case study also highlighted the importance of documentation in the New Jersey public transportation sector. As surveys and interviews were administered, they were able to document the transportation needs of people with disabilities, “with a particular emphasis on those working or seeking work” (APHSA, 2010). The case study in New Jersey was part of a 5-year study that helped bring about statewide policy focused on improving the ease of commuting to work for people with disabilities.

Los Angeles and the ADA

Although there is no agreed upon gold standard in terms of ADA implementation, Los Angeles is far behind any definition of that standard (Steinfeld, 2017). In “Los Angeles Missed the Bus: Solutions to Issues in Transportation Equity,” it is evident that, for example, rail systems receive more funding and are more accessible than bus systems, even though it is widely understood that the majority of the disabled population uses the bus system (Matricardi, 2006). This study shows that one of the main issues with Los Angeles’s implementation of the ADA has been a lack of documentation. Although many advocacy groups have complained to Metro, they still have not created an accessible database of disabled people who ride the bus or light rail (Matricardi, 2006). Another study found that barriers include: “inoperable lifts and ramps, failure to stop for a traveler with a disability, attitudinal barriers among drivers, and failure to provide stop announcements.” (Bezyak, 2017).

Public Transportation Agency Compliance

Public transportation agencies are largely responsible for the development of accessible transportation, making it important to understand how they deal with accessibility. One such study in Houston, Texas showed that although by rule Houston’s transit system did fully comply with ADA standards, there were still many “trip-limiting factors” (ADA Compliance Review, 2010). The review looked at patterns of practices of Paratransit, including pickup times, long trips, trip denials, and other barriers that people with disabilities experienced. The findings did not show any non-compliance with the ADA, but Robert Katzmann’s study of Transportation Policy showed that, “A study of the Houston Metro found that the lack of accessible sidewalks imposed barriers to fixed-route transit, regardless of how accessible the buses themselves were

(Katzmann, 1991). This finding is important in that it illustrates gaps in policy. Bus and light rail systems may be compliant with federal law, but the actual day-to-day experience of disabled people can be more demanding than what the ADA has to offer.

To look at how different agencies tackle disability services, one study went to each agency and analyzed how each chose to comply with the ADA. In every public agency, including public transportation agencies, the federal government requires that there be an individual designated as the ADA/Section 504 Coordinator (Steinfeld et. al, 2017). That individual is responsible for accessibility compliance to the ADA and Section 504. Section 504 of the Rehabilitation Act guarantees certain rights for people with disabilities, some including public transportation (See Appendix B).

For example, the Los Angeles Metro chose to take a fairly decentralized approach, with one person from their headquarters staff designated as the ADA coordinator. The ADA coordinator is responsible for policy and program development, but day-to day implementation is taken care of by staff from every department in the agency (Steinfeld, 2017). Los Angeles has one of the largest rail and bus systems in the U.S., but lacks a department to implement, regulate, and research accessibility. In contrast to this decentralized approach, Washington D.C.’s transportation agency, DC Metro, has a smaller system limited to heavy rail and bus services, but has a separate department devoted to disability services with 20+ staff (Steinfeld, 2017). According to Steinfeld et al’s findings, “a centralized approach puts responsibility for all accessibility services in the hands of one team.” (Steinfeld et al., 2017) This more “top down” structure might make it easier to hold the organization accountable for its actions.

Boston’s transit agency (MBTA) has a real estate development program that helps to fund accessibility at bus and rail stops. They promote accessibility when they buy or sell land to

developers and give incentives to build elevators at stations or build under and overpasses to the station (Steinfeld et al., 2017). Unfortunately, there is extremely limited research on the success of any particular organizational structure in regards to the ADA coordinator or disability services.

In evaluating the ADA it is also necessary to look at previous disability policies to help implement proper practices. One study, “Challenges and Dilemmas in Implementing Disability Rights Policies,” shows that reviewing evidence on other disability rights policies can help identify obstacles and challenges that the ADA faces” (Percy, 1993). For example, the author shows in Section 504 of the Mass Transportation Act that, “it only provided a brief statement that recipients of federal funds shall not discriminate on the basis of handicap” (Percy, 1993). He argues that, “It gave implementers no sense of what legislators intended with regard to policy objectives or implementation strategies for public transit” (Percy, 1993). This kind of vague language is also present in Title III of the ADA, which discusses the lack of awareness that the anti-discrimination language applies to public transportation. The study also debates the importance of flexible policy, allowing for the policy to change based on improper implementation (Percy, 1993). Again, Section 504 was in question, as disability rights leaders argued that city agencies were not doing enough to implement laws concerning the discrimination of people with disabilities on public transportation. City agencies across the country argued that the cost was too much to do education training, but civil rights leaders argued that cost should not be an issue when it came to something as important as basic civil rights (Percy, 1993).

The study ultimately found that the language used in the ADA was too similar to previous disability rights policies to allow for proper implementation in the future. He argues

that, “Persons with disabilities have a more recognized position in society and both the public and private sectors have begun to accept responsibility for removing discriminatory barriers faced by this set of Americans” (Percy, 1993).

Franchise-Bid Programs

It is important to understand the concept of the travel chain, which includes every aspect of the traveler’s journey from the moment they depart to the moment they arrive at their destination (See Appendix C). Bus stops are an essential aspect of this journey, as they can shelter individuals in extreme weather conditions as well as provide safety from theft and crime. One issue many transit providers have cited as a reason for not constructing and maintaining bus stops is the lack of funding from both the state and federal levels (Steinfeld et al., 2017).

Franchise-bid programs are used to fund, construct, and maintain bus shelters in many American cities and other cities around the world. These programs are based on the idea that advertising agencies pay full construction and maintenance costs, and in return are allowed to advertise on bus shelters and other transit stops (Fielding & Klein, 1993). Because the funding comes from outside the transit agency, it can lead to improved comfort and accessibility, but without regulations and supervision by transit providers the shelters are subject to unequal maintenance and improper practices by advertising agencies (Fielding & Klein, 1993).

Accessible Service to Train Stations and Airports

Transportation to and from major airports and train stations in cities such as Los Angeles can be a critical issue for people with disabilities. These transportation hubs are essential to leaving the city but can create traffic and other transportation problems for intra-city mobility.

For example, Los Angeles uses a private transportation agency separate from Metro to transport people from suburban areas to the Los Angeles International Airport (LAX) (Steinfeld et al., 2017). Although buses used for this purpose have wheelchair lifts and accessible seating areas, they do not adhere to the same standards that LA Metro does. One issue is that terminals for pickup are not located close to services provided by LA Metro. These issues lead to expensive taxi rides for people with mobility impairments, a particularly inaccessible form of airport transportation. More research needs to be done on collaboration between private and public transportation agencies to ensure proper compliance with the ADA and improved accessibility.

The literature regarding the effectiveness of accessibility service is lacking, and must be more focused to properly disseminate best practices to transit agencies. There are currently no policy solutions to enforcing ADA regulations symmetrically between public and private agencies. Innovations in better organizational effectiveness exist in many European countries for instance, and those European organizational approaches could be researched to improve accessibility across the entire agency.

Gaps in Federal Transportation Policy Regarding Accessibility

Transit agencies receive funding from both state and federal sources, which means they are required to comply with ADA standards set by the U.S. Department of Transportation. However, DOT and the Access Board (Federal Disability Board) are not required to use empirical research to develop regulations. Instead, they use consumer advocates and equipment manufacturers to guide their research (U.S. Access Board, 2009). This leaves the consumer out of the equation, which leads to improper implementation of disability policies such as the ADA and Section 504 of the Rehabilitation Act. Research has shown that, for example, there are no

regulations concerning quality of sound or clarity of speech used in announcements, whether on buses or trains (Dias et al., 2015). Additionally, vague language in the ADA results in federal policy that does not require bus drivers to help people while boarding or disembarking if they have mobility impairment. Drivers are also confronted with complicated equipment, such as seatbelts for wheelchair stability, without any previous training to aid them in proper usage (Fitzgerald et al., 2007).

Design and Manufacturing of Transportation Vehicles

Transportation vehicles are tremendously expensive, and require lots of upkeep. Agencies usually purchase these vehicles in a fleet, and are interested in keeping vehicles until they are obsolete, which leads to a long-term impact in accessibility standards. Although there are numerous studies concerning crash tests and ergonomic fit in the automobile industry, human modeling and simulation are not common in transit vehicle design practices (Steinfeld et al., 2017). There needs to be better communication between transit providers and manufacturers when designing vehicles so that better simulation techniques can be used. Ultimately, more research must be done to implement more innovative technologies.

Implications of Improper ADA Implementation

Although the main focus of the research associated with this study is rooted in the lack of access to public transportation, the implications related to this lack of access are far reaching. Robert Katzmann's study of, "Institutional Disability: The Saga of Transportation Policy for the Disabled," is one of the most comprehensive studies that not only looks at ADA compliance but other federal acts concerning the rights of people with disabilities. The article looks at how the

history of exclusion from mobility can affect every aspect of a person living with a disability, “Exercising the right to pursue employment in a discrimination-free environment and to utilize accessible services is a vacuous opportunity if there is no usable transportation to that job or service” (Katzmann, 1991). Katzmann’s article is able to successfully analyze the consequences that arise from an inability to leave one’s house safely, or what many sources have referred to as *The Travel Chain* (See Appendix C). Katzmann later touches on the fact of missing data on people with disabilities in which to study disability policy. He argues that the Department of Transportation, the agency usually deemed responsible for providing data on the disabled population, last did a comprehensive study in 1977 (Katzmann, 1991). Finally, his study emphasizes the importance of updated databases with a simple statistic, “28% of nonworking people with disabilities asserted that a dearth of accessible or affordable transportation was a reason why they were not employed” (Katzmann, 1991). Few other studies correlate the improper implementation of the ADA with a lack of data on the disabled population.

Other studies such as Matricardi’s, “Los Angeles Missed the Bus: Solutions to Issues in Transportation Equity”, look at the right to employment. The paper is not solely focused on people with disabilities but on a general analysis on equitable public transportation in Los Angeles. As the majority of disabled people take the bus, it is important to have an equitable bus system that transports disabled people to their jobs. The paper also focuses on the forgotten involvement of disabled people in decision-making processes. Too often policy decisions are made without participatory public forums. Another study states that, “Transportation is a key quality of life indicator, along with environmental quality, health, education and employment” (Matricardi, 2006).

Access to Employment

A large part of the barriers disabled people face is centered on a lack of mobility. Without equal mobility, people with disabilities are not able to participate actively in their community and statistically have a harder time obtaining and keeping jobs. One study, which focused on how the built environment can be limiting to the disabled, showed that, “These most significant barriers to public transportation and complementary paratransit services continue to negatively affect active community participation” (Beyzak, 56). If one out of every eight Americans is considered disabled, barriers to effective usage of public transportation have enormous implications regarding political participation and quality of life. This particular study also talked about the lack of access to Paratransit, a safety net to traditional public transportation to people with disabilities that is also covered under the ADA (See Appendix A). After the surveys were administered, the study found that, “Nearly half of the respondents reported the public transportation system was inadequate, meaning that it did not get them where they needed to go, when they needed to get there, and in a reasonable amount of time” (Bezyak, 2017). Respondents were reached nationally and included cities such as Los Angeles, Boston, New York, and San Francisco. Discrimination by bus and rail drivers was also an issue in the study.

Low-income ridership is a disadvantage of its own, but adding disability makes navigating urban transportation systems much more difficult. Looking at disability from an intersectional approach is extremely important, and not enough literature looks at the issue through this lens. Although the ADA does include employment in its first title, it does not mention Title II and I to suggest that they are connected (Disability Rights California, 2003).

Defining Accessibility

Defining what is accessible is of the utmost importance in designing an equitable built environment. The Easter Seals Disability Services was tasked with tackling this issue in a study called, “Project Action: Accessible Community Transportation in Our Nation” (NADTC, 2009). The study’s purpose was to find common problems related to transit accessibility and create solutions that target that accessibility. They define an accessible pathway as, “corridors of travel on private property and in the public right-of-way that incorporate elements such as sidewalks, curb ramps, cross-walks, and pedestrian signals at intersections” (NADTC, 2009). The study focuses on collaborating with disabled community members to understand what the barriers are in preparing a plan to tackle accessibility. They found that, “linking commitments made during the planning process with implementation tasks” were extremely important in satisfying the needs of disabled transportation riders (NADTC, 2009). This study was important in showing the importance of community involvement, as the built environment in Los Angeles is inconsistent at best, with poor sidewalk maintenance, broken elevators, and urban sprawl being just a few issues that keep disabled people from getting to transit stations.

Best Practices

Tools for Practicing Accessibility

Creating a truly accessible environment must include a consideration of all contexts in which transportation is accessed. Research on this topic is not extensive, but what does exist is very detailed.

The Transect

The Transect is a tool that can be used to mitigate urban and rural transit inequalities, define best practices, guide planning, and inform regulatory activity. According to one study the Transect is, “A concept that classifies neighborhoods into six zones by their mix of land uses, density, and general characteristics ranging from underdeveloped rural areas to high density business districts” (Center for Applied Transect Studies). The idea is that each neighborhood has different concentrations of density, and that transportation cannot be planned equitably and accessibly if each zone is planned similarly. Currently, transit is designed mainly by using the same zoning practices regardless of where it’s being developed. The Transect is just one example of an accessible zoning practice that can lead to a truly accessible built environment that is tailored to the particular needs and characteristics of each community (See Appendix D for Diagram).

Inclusive Public Transportation

What Constitutes an Inclusive Public Transportation System?

Multiple studies have shown the relationship between having a disability and low-income status, along with the inability of many people with disabilities to drive (Steinfeld et. al.,

2017, Katzmann, 1991). Unfortunately, there is no research on best practices related to fare reduction. Additionally, studying affordable service is difficult as many transit areas have both public and private transit providers with varying policies and regulations (Steinfeld et al., 2017). Another aspect of an inclusive public transportation system is that elements of a system must be usable for people who have limitations to mobility, perception, and cognition. This includes the pedestrian environment as well as the actual journey in a vehicle (Steinfeld et al., 2017).

Research on inclusive public transportation is incomplete and best practices are not widely disseminated. Transit agencies do not include the entire journey while researching accessible transportation, which leads to inaccessible parts of the journey, such as an unsafe pedestrian environment.

The Built Environment

As previously mentioned, *the travel chain* cannot be evaluated without the built environment. Riders of public transportation cannot start or end their journey if the built environment is not accessible. As Edward Steinfeld explains in his chapter in Steinfeld et al., “The built environment includes pedestrian paths to stops and stations, local stops, and stations and terminals” (Steinfeld et al., 2017). This part of the travel chain is the most important, but also vastly under researched. One well-researched topic is bus shelter accessibility.

The *Easter Seals Action Project* has a toolkit for assessing bus stop accessibility and safety using ADA interpretation of accessibility. The ADA has minimum requirements for wheelchair accessibility as well as transparency and lighting requirements (See Appendix A). In short, riders want to be visible and safe while waiting for the bus (Easter Seals Action, 2006).

While the research mentioned above involved a national study in the United States, there are other studies that focus on the problematic aspects of the built environment that affect people with disabilities. One study, “Focusing on Disability and Access in the Built Environment”, focuses on public policies and practices towards development and regulation of the built environment. This study demonstrates that impediments, such as poorly built sidewalks and inaccessible entrances to buildings, can severely decrease the quality of life of people with disabilities (Imrie, 1998). The study states, “In turn, such evidence has led to a number of commentators to conclude that the design of the built environment is ineffective by restricting, and discriminating against, the mobility and access requirements of disabled people” (Imrie, 1998). Dirty and unkempt pavements are also cited as obstacles to mobility. The article does a remarkable job of showing that urban design and planning is extremely important in shaping the built environment for people with disabilities. In the UK for example, “Access to London’s underground is only mandatory where new stations are being constructed” (Imrie, 1998). This is similar to the language used in the ADA in the United States, where only new light-rail and subway stations require accessibility measures (Ashworth, 2000).

Stations and Terminals

The spatial organization of large terminals can be an accessibility hazard, or it can make it easy for people to navigate. There are two widely used practices when it comes to the design of large terminals. In a tree-like design, “travelers must make a series of decisions as they proceed deeper into the building. If they make a mistake, it becomes hard for them to understand the whole and can take much effort and time to recover” (Steinfeld, 2017). In a ring-like design, “all the gates in each section are relatively close to one another and visible to the traveler from a

central space” (Steinfeld, 2017). In addition, signs must meet a certain criteria as well, “Fonts must be large enough to be seen and must be located overhead, the most visible position” (Steinfeld, 2017).

Platforms and Levels

Boarding and exiting vehicles is often cited as one of the main accessibility frustrations for people with disabilities. If the built environment were better designed to suit loading and unloading people from vehicles, obstacles could be eliminated from the journey of travelers. The literature shows multiple problems with one such practice: vehicle loading from a platform. When arriving at a station or terminal, people with disabilities encounter different levels that confuse them, and prevent them from getting where they need to go. One commonly cited issue is difficulty addressing complicated announcements for people with communications impairments (Steinfeld et al., 2017). More research must be overseen to address people who cannot understand or process voice or visual announcements.

Universal Design

Best practices cannot be developed without a comprehensive framework. To achieve best practices in accessible design, several studies have created a new way of looking at accessibility called *Universal Design*. Universal Design operates under the idea that there is a need for a completely new method for improving access to the environment. It destroys the notion that accessible design does not benefit everyone, something a large amount of accessibility research fails to address (IDeA, Steinfeld et al., 2017).

Universal design has eight goals that seek to provide a better quality of life for people with disabilities, as well as other people who use public transportation. These eight goals are based on the Center for Inclusive Design and Environmental Access's (IDeA) research on Universal Design:

1. Body Fit: Accommodating a wide range of body sizes and abilities.
2. Comfort: keeping demands within desirable limits of body function.
3. Awareness: Ensuring that critical information for use is easily perceived.
4. Understanding: making methods of operation and use clear.
5. Wellness: Contributing to health promotion, avoidance of disease, and prevention of injury.
6. Social Integration: treating all groups with dignity and respect.
7. Personalization: Incorporating opportunities for choice and the expression of individual preferences.
8. Cultural Appropriateness: respecting cultural values and the social and environmental context of any design project.

This list was taken in its entirety from Steinfeld et al.'s *Accessible Public Transportation*, but was originally created by IDeA's efforts to create a larger movement of "evidence-based practices" (IDeA). Consideration of the literature regarding universal design is essential to providing transit agencies with a framework for accessible design for everyone, not just disabled people. This more comprehensive approach benefits all aspects of mobility, whether or not the population using it is disabled.

Geographic Information Science (GIS) and its Implications for the ADA

Although there have been many studies looking at disabled populations' use of public transportation, few have used geographic mapping as a tool to study the mobility of disabled people. "Bus Transit Accessibility for People with Reduced Mobility", shows that GIS can be used to establish a database of disabled ridership in order to improve accessibility. The study came about because local advocacy groups in Oviedo, Spain asked for more attention to be paid to the problems faced by people with disabilities. To better understand barriers, the study built a user-friendly computerized application that would allow the local planning authority to, "detect areas of difficulty of Persons with Reduced Mobility (PRM) regarding accessibility for the bus transit system and plan the work needed to eliminate barriers and automatically calculate the necessary costs" (Dell'Olio, 2007). According to the article, "The study determined the shortcomings and obstacles that prevent universal accessibility to public transport" (Dell'Olio, 2007). This study shows best practices to solve accessibility problems with modern technology. At the end of the study, the town was able to put together a budget of 2 million euros needed for improvements taken from the application, a result Los Angeles could look to for ideas to move forward.

Another study was able to use GIS data to measure the travel behavior of blind individuals in Atlanta, Georgia. In "Objective Mobility Documentation Using Emerging Technologies, researchers attached a GPS-GIS device with an accelerometer to the research subject and measured the number of trips, level of activity, distance, maximum speed, and average speed per trip (Williams, 2006). Although this study was relatively small (N=4), its implications for a larger study are important. The study showed that it is feasible to quantify the travel behaviors of adults who are visually impaired (Williams, 2006). It was also able to

quantify a disabled person's mobility because all of the participants used public transportation in the study.

It is important to use modern technology such as GIS when studying the disabled community in relation to their actual usage of public transportation because it is a way of establishing a database and quantitative data otherwise lacking in this specific field of study. It can have a large effect on improving public policy such as the ADA and Mass Transportation Act (MTA) for future generations of people with disabilities.

Methodology:

Introduction: This study researched the barriers that the disabled community of Los Angeles County experienced while using public transportation as well as analyzed the effectiveness of the Americans with Disabilities Act. I conducted this study using a mixed methods approach. The purpose of this approach was to obtain both a quantitative and qualitative understanding of the barriers that disabled people face on public transportation in Los Angeles. Using surveys and personal interviews, this study analyzed the day-to-day struggles of the disabled population in Los Angeles County.

Surveys:

Instrumentation: I created an online survey using a survey software called Qualtrics, and distributed the survey to a small sample population at the Los Angeles Community Action Network (LA CAN) in Downtown Los Angeles, as well as the LA chapter of the California Council for the Blind. The survey included four sections investigating fixed-route transportation (light-rail and buses), paratransit services, perceptions of transportation accessibility, and demographic items. Several of the surveys were administered in-person, as some of the participants did not have access to an Internet connection. I formed specific questions assessing the daily use of public transportation following an extensive literature review of previous studies.

Procedure: The survey was overseen continually from Early February 2018 until March 1st, 2018, and received 17 responses. I made the survey accessible to both mobility impaired and partially sighted/blind individuals by choosing the “screen-reader friendly” option on Qualtrics. The survey included 18 questions and was designed to take no longer than twenty minutes.

Interviews:

Instrumentation: In addition to the surveys, I conducted open-ended interviews with a format conducive to day-to-day personal experiences using both fixed-route transportation and Paratransit. Although the interviews were open-ended, the format intended to reflect each person's disability, their employment experiences, and their experiences accessing public transportation. I chose interview participants using the same outreach strategy as the surveys from the Los Angeles Community Action Network and the California Council for the Blind. I also conducted one interview with two Metro officials to discuss their stance on how Metro approached accessibility and ADA compliance. This interview was also open-ended but was mainly informational as neither of the officials were disabled.

Procedure: I chose the interviewees because of their unique experiences as people with disabilities who use public transportation in Los Angeles. The duration of the interviews was around 20 to 30 minutes each, with a focus on accessibility and ADA implementation opinions. The interview with the Metro officials was of the same duration, but the format reflected their opinions on the degree of successful ADA implementation, as well as questions regarding the accessibility sections in Measure M. I conducted the interviews from late January 2018 through Early March 2018.

Limitations

Although this research reached its goals, there were some unavoidable limitations. First, this research was only conducted with a small sample size of the disabled population in Los Angeles County. Therefore, to generalize the results for the entire community, the study should have involved more participants from different areas of the county. Second, countywide data on the geographical locations of disabled riders was not available. This data would have provided a more robust and contextual look at the barriers of the built environment.

Future research should include a countywide disabled ridership dataset and Geographic Information System Technology (GIS) should be used to inventory entire journeys that disabled riders take in order to pinpoint each barrier more efficiently and quantitatively. A document analysis of the ADA should also be done in order to compare current compliance practices with other public transportation agencies.

Findings

When people with disabilities live in a city without an accessible public transportation system, they become less active in daily life and are not full participants in decision-making processes that affect all citizens. Inaccessible public transit is problematic because not only does it mean that the public transportation agency is not practicing equity, but it also signifies the failure to comply with the ADA. This study investigated the degree of accessibility on the Los Angeles Metro and found the following.

Key Findings

- Bus Drivers and Metro Employees are not trained properly and often do not treat people with disabilities as equal citizens.
- Education surrounding the ADA is not robust and widespread.
- Policymaking is too “top down” and lacks the input of people with disabilities.
- Accessible Design on both buses and trains is outdated and requires more room on vehicles for people with disabilities.
- Access Services is difficult to use and must be easier to apply for.
- The Built Environment must be taken into account when determining whether Los Angeles is accessible.

Driver and Operator Treatment

It became clear in the interviews that although Metro has made strides in improving Bus service to people with disabilities, they are still far behind in terms of driver treatment. All 7 of the interviewees expressed concerns about how they are treated as people with disabilities when they board and exit the Bus. One person stated that, “When I’m waiting for a bus and there is a person with a wheelchair, they tell me I can’t get on because there isn’t enough room.” Because the ADA prohibits discrimination based on disability, this quote reveals non-compliance by Metro as an agency. Out of all the topics discussed in the interviews, driver treatment was the most common and brought out the most emotion. These problematic actions by bus drivers can sometimes be as negative as; “There was one day the bus driver threw me out in Pasadena because I was disabled.” Although many interviewees blamed rude bus drivers, they also made sure to place the overall blame on the agency. When asked what they would suggest to improve

daily interactions with drivers, one interviewee said, “Drivers should go through a more thorough training program taught by disabled people so they develop some sort of respect for us before starting their job.”

Another common complaint was night service. Multiple people complained about the driver failing to stop to pick them up after 7pm, “If you’re not paying attention, the buses won’t stop. I feel like when they see people with disabilities they choose not to stop because they feel it takes too much time.” Complaints also included the frequency that buses ran. All the interviewees cited the lack of funding Metro receives as a reason for poor and infrequent service. One person complained about the problem with passenger issues on the bus, “If the driver hears someone creating an issue, they should know how to deescalate the situation to make sure everyone is safe.” This issue was brought up because the person, someone who uses a wheelchair, spoke about how bus drivers do not always strap people in wheelchairs into the safety belts, “It is not Metro’s legal responsibility to strap us in, but that doesn’t mean they shouldn’t ask us if we want to be strapped in. That IS part of the ADA, but most drivers don’t even ask.” The ADA does not require bus drivers to strap people in wheelchairs into the bus during the ride; they only require that the driver ask the person if they want to be strapped in (See Appendix A). This insufficiency should be seen as a gap in the ADA.

The Built Environment

Although Metro is not directly responsible for accessibility beyond their property, the topic of the built environment was an important one in most of the interviews. One person who used a wheelchair stated, “The ADA needs to come down and get the city straight about the sidewalks...you see a lot of wheelchairs in the middle of the street because the sidewalks are not

accessible.” Another complaint centered on lighting and safety, as one interviewee went on to say, “Since I moved away from Downtown I don’t travel like I used to. My radius is not as widespread because sometimes there is no safely lit pathway to take.” The interviewees felt that this was Metro’s responsibility because it determined the success of their trip, “If you are a block or two away from a bus or train station, there has to be lights and signs telling you where to go. Sometimes I feel like I’m clueless because there isn’t a single light or sign telling me if the stop is within 5 minutes of where I am.”

Vehicle Design

Interviewees also communicated their frustrations with bus and train design. One person stated, “We need bigger buses. At the entrance there should be half handicapped seating and half for regular people. They should have a more accessible entrance and exit for people in wheelchairs.” Another bus rider talked of visibility issues: “There are really dark windows so you miss your stop. Some of the new buses have ads on the side so you can’t see what is going on outside of the bus.” They also spoke about the general design of light-rail, “There are quite a few accidents on the blue line. The main reason it scares people with disabilities is because they are on the same level as the automobile and the street.”

Space is an especially important issue for people with wheelchairs, as one person stated: “They should have more space on trains for people with wheelchairs. If I go grocery shopping I should have room to put my groceries beside me when I park my wheelchair.” Providing more spaces where people with disabilities can voice these complaints is something Metro must improve on if they hope to become more accessible.

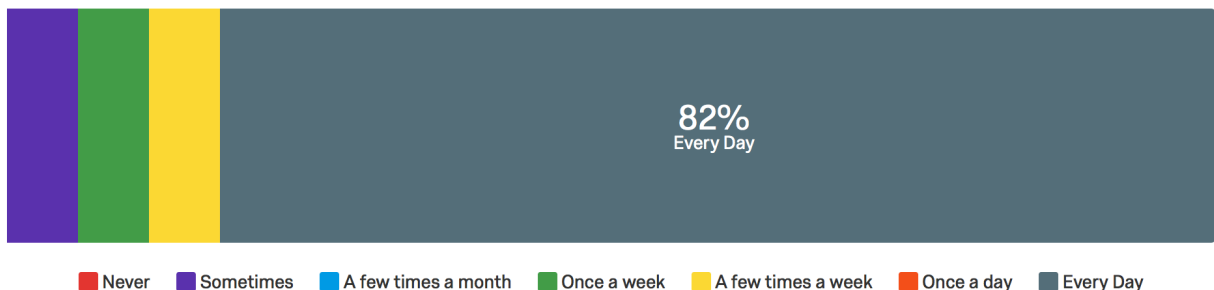
Access Services

The ADA requires Metro to provide an alternative transportation option for people with disabilities if they are unable to reach their stop or station, thus explaining the existence of Access Services. Out of the seven interviewees, five of them regularly used Access Services. All of them criticized the process in which one obtains an Access Card. One person explained the process: “We have to get a doctor’s note and a meeting, and then we have to go through a course to learn about how to get on and off the bus and train. You go through all of this and then when you call them to pick you up they’re late.” None of the interviewees complained about driver treatment, but they did speak on tardiness and sometimes desertion. One stated, “They pick me up at the airport, but they are absolutely never on time.” Another said, “Sometimes they are an hour late, and a few times they just never came at all.” Frustrations with Access were shared across the board and included complaints about vehicles getting stuck in traffic and drivers not having proper directional knowledge.

Surveys

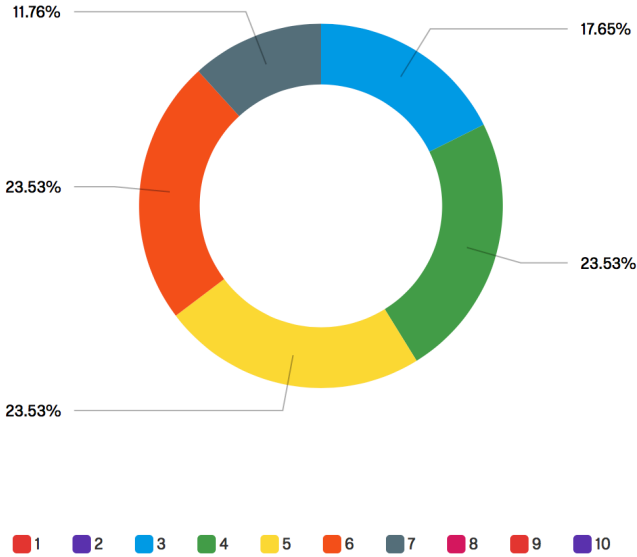
Q8 - How often do you take Public Transportation?

Page Options ▾



Q9: On a scale from 1 to 10, 1 being not accessible at all and 10 being extremely accessible, how accessible do you feel public transportation is in Los Angeles?

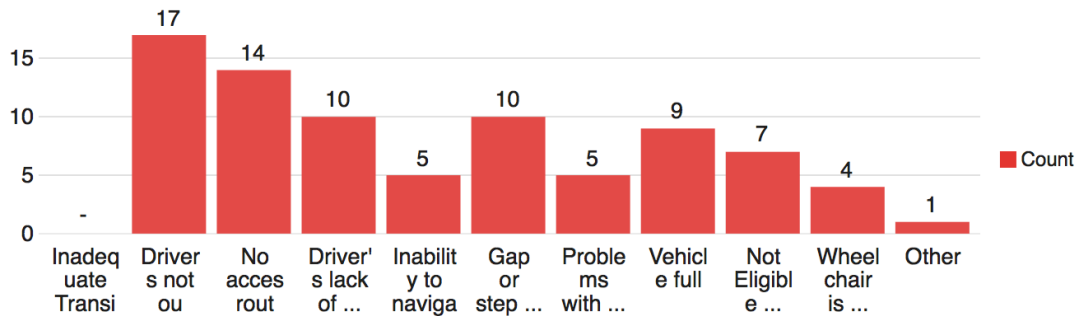
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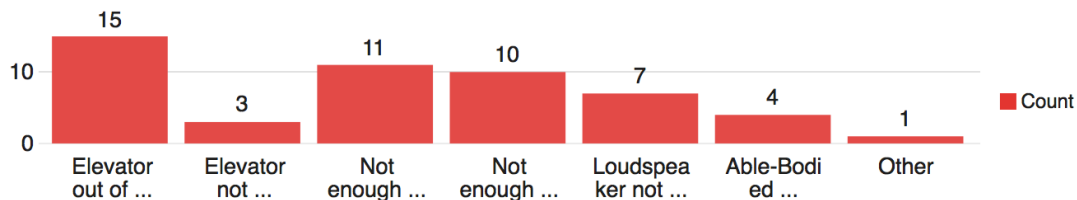
The 17 survey responses revealed a similar trend as the interviews. Out of the 17 respondents, nine had a mobility disability, seven were partially sighted/blind, and one chose “other.”

Consider the above charts. Out of the 17 respondents, 82% took public transportation every day, consistent with national disability trends from Census Data (U.S. Census Bureau, 2012). Out of those 17 people, a response to how accessible LA public transportation was varied from 3 to 7. This trend is particularly telling of accessibility because 42% people chose either a 3 or a 4 on the scale, meaning they did not feel that the system was very accessible at all.

Q10 - If you take the bus, which barriers do you face most often?
(Check all that apply) - Selected Choice



Q11 - If you take light-rail, which barriers do you face most often?
(Check all that apply) - Selected Choice

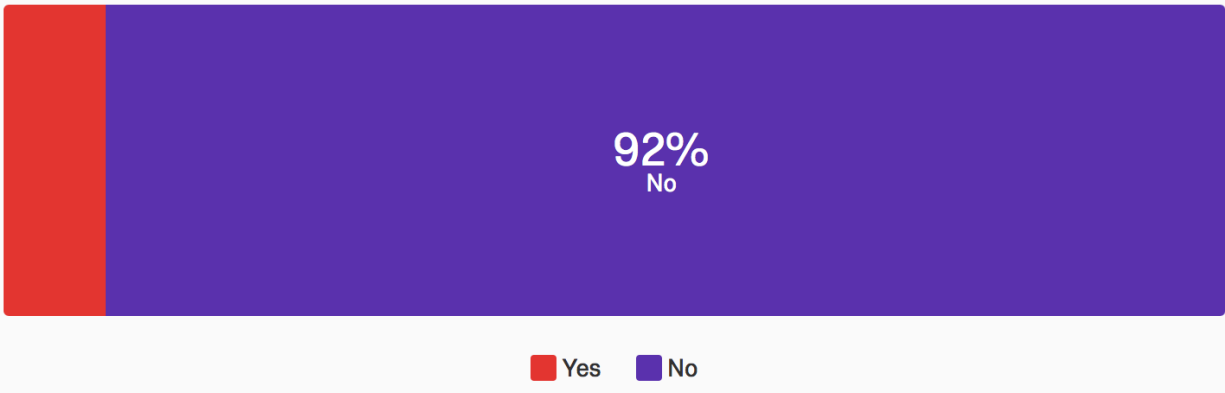


The two most common complaints in the surveys on buses were “driver’s not calling out stops” and “no accessible route to stop/station.” For light-rail, the two most common barriers were “elevator out of service” and “not enough handicapped seating.” The charts above show the responses to these two questions. The data from these survey questions show consistency with the interviews in that people with disabilities have a shared experience. It also shows that there are many more issues when riding the bus as opposed to light-rail. General comments at the end of the survey showed satisfaction with accessibility on the light rail and stated general opposition to riding the bus.

Effectiveness of the ADA

Among the 17 survey respondents 71% were aware of the ADA and 29% of them had never heard of the policy. Of the 71% who knew about the ADA, an overwhelming 92% of them believed Metro had not done a good job implementing the ADA.

Q13: Do you feel that the Los Angeles Metro has done a good job implementing the ADA?



The chart below shows responses to the question: how can public transportation in Los Angeles be made more accessible? Responses focused on several common themes, such as involvement of all stakeholders, more accessible vehicle and station design, and better access services.

Q18 - How can public transportation be made more accessible in Los Angeles?

How can public transportation be made more accessible in Los Angeles?

They need to take into account what WE have to say. People with disabilities know how to make traveling accessible believe it or not. Better designed buses and light rail would be helpful as well. They need to make room for us because there are a lot of us.

They can have a committee with people with disabilities to make it better.

They should make it way easier to get Access Services or greatly improve the bus system. There is not enough light-rail to justify a lack of accessibility on the bus system. Also the buses get stuck in traffic all the time so it does not make it easier to get around town.

I think there needs to be more input from people with disabilities. I do not know how to get involved in the decision making process and they do not do a good job alerting me of changes.

They could have more frequent buses and make bus stops have seating areas

Showing Records: 1 - 5 Of 10

Interview with Metro Officials:

Although the interview with two Metro Officials was brief and informational, there were several reoccurring themes. They were unable to find any sort of disabled ridership data to use in this study, and were hesitant to speak about any complaints from disabled riders. On the topic of ADA compliance, they seemed to think Los Angeles had a fully accessible system. In fact one official stated, “Our stations are far more accessible than the minimum ADA requirement, and possibly the most accessible in the world.” These two officials also took the responsibility off of themselves by stating, “Our roles are largely oversight. We don’t design things. If the bus manufacturers cannot make accessible buses we can’t do anything about that.”

When asked about ADA gaps, such as the lack of seatbelt requirements, they stated, “Wheelchair securement is optional, so operators can only offer. Sometimes we cannot go above and beyond, we cannot accommodate everyone.”

Recommendations

The ADA is the only universally used policy that upholds accessibility on the LA Metro; yet, this research shows the ADA is inadequate. The Los Angeles Metro and surrounding county transportation agencies should look beyond the ADA in measuring and defining accessibility. The following recommendations will ensure that more spaces exist for collaboration between Metro and the disabled community.

1. Expand the definition of accessibility with station and vehicle specific metrics.

Disabilities are wide-ranging and cannot always be addressed by Metro, as some are not included in the ADA. For instance, the ADA does not require operators to strap people in wheelchairs into the bus during their trip. Metro should have their own policy requiring operators to strap in people with wheelchairs. This would likely lead to a decrease in wheelchair related accidents on board. Metro should also consider wheelchair size when determining whether the design of a vehicle is accessible. Metro should go beyond the ADA and increase the width of their ramps to accommodate larger wheelchairs as obesity rates continue to rise.

2. Improve the education and outreach program to reach as many disabled riders as possible.

It was clear in the interviews and surveys that a majority of riders either do not know or believe it is too complicated to obtain an access card. Metro should simplify the process and establish a more far-reaching program to educate riders and provide free assistance in applying for an Access Card. In addition, Metro’s Accessibility Advisory Committee should meet once a week

instead of once a month to provide more opportunities for input for people with disabilities. The committee selection process should also be made more public to encourage all people with disabilities to participate so that most or all people who sit on the committee are people with disabilities who ride the Metro.

3. Incentivize Collaboration between Disability Rights Organizations, Metro, and other stakeholders.

Metro should strengthen its ties with the Braille Institute and Easter Seals and should be incentivized to collaborate with every disability rights organization in the greater Los Angeles Area. Metro should also offer incentives such as parking reductions for housing projects in exchange for better upkeep of sidewalks. If there are more stakeholders involved in Metro's ADA compliance and accessibility processes, more people with disabilities and the rest of the general population will benefit.

4. Create an entire department at Metro devoted to Disability Rights and Accessibility.

Currently Metro has seven employees whose responsibilities include ADA Compliance and accessibility. These employees are part of the Civil Rights department at Metro, and only one employee, ADA Coordinator Dan Levy, deals directly with accessibility. Metro should have an entire department devoted to Access Services and Accessibility. There should be innovative jobs created for people with disabilities with specific projects such as station accessibility and bus design. They should look to other transportation agencies around the world for accessible design ideas. Every other department at Metro should also have training to ensure accessibility is considered on current and future projects. The Accessibility Department should also be responsible for improving operator training so that people with disabilities are treated with

respect and Metro is in compliance with all the ADA guidelines concerning the operation of fixed-routes.

5. Utilize Universal Design in current and future projects.

The entire journey that people with disabilities experience while taking a trip on public transportation should be accessible. Metro should apply all eight principles of Universal Design in all current and future projects to achieve the most accessible public transportation they can offer. Metro's goal should not be to simply comply with the ADA, but to employ a new method to make the entire built environment accessible.

Conclusion

This study began with the two-part question of how disabled riders experience public transportation in Los Angeles and what can be done to realize a truly accessible transportation system, and it has mapped out strategies for accomplishing that goal with realistic solutions. Throughout this process, Los Angeles residents got a chance to voice their opinion on something that affects them deeply, federal and local policies were analyzed through literature, and the idea of universal design was introduced to develop a new framework that intends to change the way cities think about accessibility. The Los Angeles Metro must acknowledge that it does not fully comply with the ADA and that the criteria for whether the Metro system is fully accessible depends on much more than simply meeting the guidelines set forth in the ADA.

The physically disabled residents of Los Angeles County are in dire need of better and more accessible public transportation, and it is Metro's responsibility to deliver improved accessibility. Measure M will continue to bring the necessary resources to further develop Los Angeles's transit system, but will Metro utilize these resources to solve the mobility issues of the disabled community or will they continue to barely scrape by ADA compliance checks and be satisfied with the bare minimum? Metro has the potential to provide the disabled community with the necessary tools for a better quality of life, but they must be innovative and look beyond the ADA if they are to be successful. A progressive outcome will only surface if all stakeholders agree to collaborate equally on a shared definition of accessibility that will benefit the entirety of Metro's ridership as well as incentivize new riders.

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Appendix:

A.

SUBCHAPTER II - PUBLIC SERVICES Part A - Prohibition Against Discrimination and Other Generally Applicable Provisions Sec. 12131. Definitions As used in this subchapter:

(1) Public entity. The term "public entity" means (A) any State or local government;

(B) any department, agency, special purpose district, or other instrumentality of a State or States or local government; and

(C) the National Railroad Passenger Corporation, and any commuter authority (as defined in section 24102(4) of title 49).

(2) Qualified individual with a disability. The term "qualified individual with a disability" means an individual who, with or without reasonable modifications to rules, policies, or practices, the removal of architectural, communication, or transportation barriers, or the provision of auxiliary aids and services, meets the essential eligibility requirements for the receipt of services or the participation in programs or activities provided by a public entity.

Sec. 12132. Discrimination

Subject to the provisions of this subchapter, no qualified individual with a disability shall, by reason of such disability, be excluded from participation in or be denied the benefits of services, programs, or activities of a public entity, or be subjected to discrimination by any such entity.

Sec. 12133. Enforcement

The remedies, procedures, and rights set forth in section 794a of title 29 shall be the remedies, procedures, and rights this subchapter provides to any person alleging discrimination on the basis of disability in violation of section 12132 of this title.

Sec. 12134. Regulations

(a) In general. Not later than 1 year after July 26, 1990, the Attorney General shall promulgate regulations in an accessible format that implement this part. Such regulations shall not include any matter within the scope of the authority of the Secretary of Transportation under section 12143, 12149, or 12164 of this title.

(b) Relationship to other regulations. Except for "program accessibility, existing facilities", and "communications", regulations under subsection (a) of this section shall be consistent with this chapter and with the coordination regulations under part 41 of title 28, Code of Federal Regulations (as promulgated by the Department of Health, Education, and Welfare on January 13, 1978), applicable to recipients of Federal financial assistance under section 794 of title 29.

With respect to "program accessibility, existing facilities", and "communications", such regulations shall be consistent with regulations and analysis as in part 39 of title 28 of the Code of Federal Regulations, applicable to federally conducted activities under section 794 of title 29.

(c) Standards. Regulations under subsection (a) of this section shall include standards applicable to facilities and vehicles covered by this part, other than facilities, stations, rail passenger cars, and vehicles covered by part B of this subchapter. Such standards shall be consistent with the minimum guidelines and requirements issued by the Architectural and Transportation Barriers

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Compliance Board in accordance with section 12204(a) of this title. Part B - Actions Applicable to Public Transportation Provided by Public Entities Considered Discriminatory Subpart I - Public Transportation Other than by Aircraft or Certain Rail Operations

Sec. 12141. Definitions As used in this subpart:

(1) Demand responsive system. The term "demand responsive system" means any system of providing designated public transportation which is not a fixed route system.

(2) Designated public transportation. The term "designated public transportation" means transportation (other than public school transportation) by bus, rail, or any other conveyance (other than transportation by aircraft or intercity or commuter rail transportation (as defined in section 12161 of this title)) that provides the general public with general or special service (including charter service) on a regular and continuing basis.

(3) Fixed route system. The term "fixed route system" means a system of providing designated public transportation on which a vehicle is operated along a prescribed route according to a fixed schedule.

(4) Operates. The term "operates", as used with respect to a fixed route system or demand responsive system, includes operation of such system by a person under a contractual or other arrangement or relationship with a public entity.

(5) Public school transportation. The term "public school transportation" means transportation by school bus vehicles of schoolchildren, personnel, and equipment to and from a public elementary or secondary school and school-related activities.

(6) Secretary. The term "Secretary" means the Secretary of Transportation. Sec. 12142. Public entities operating fixed route systems

(a) Purchase and lease of new vehicles. It shall be considered discrimination for purposes of section which operates a fixed route system to purchase or lease a new bus, a new rapid rail vehicle, a new light rail vehicle, or any other new vehicle to be used on such system, if the solicitation for such purchase or lease is made after the 30th day following July 26, 1990, and if

such bus, rail vehicle, or other vehicle is not readily accessible to and usable by individuals with disabilities, including individuals who use wheelchairs.

(b) Purchase and lease of used vehicles. Subject to subsection (c)(1) of this section, it shall be considered discrimination for purposes of section 12132 of this title and section 794 of title 29 for a public entity which operates a fixed route system to purchase or lease, after the 30th day following July 26, 1990, a used vehicle for use on such system unless such entity makes demonstrated good faith efforts to purchase or lease a used vehicle for use on such system that is readily accessible to and usable by individuals with disabilities, including individuals who use wheelchairs.

(c) Remanufactured vehicles

(1) General rule. Except as provided in paragraph (2), it shall be considered discrimination for purposes of section 12132 of this title and section 794 of title 29 for a public entity which operates a fixed route system

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(A) to remanufacture a vehicle for use on such system so as to extend its usable life for 5 years or more, which remanufacture begins (or for which the solicitation is made) after the 30th day following July 26, 1990; or

(B) to purchase or lease for use on such system a remanufactured vehicle which has been remanufactured so as to extend its usable life for 5 years or more, which purchase or lease occurs after such 30th day and during the period in which the usable life is extended; unless, after remanufacture, the vehicle is, to the maximum extent feasible, readily accessible to and usable by individuals with disabilities, including individuals who use wheelchairs.

(2) Exception for historic vehicles

(A) General rule. If a public entity operates a fixed route system any segment of which is included on the National Register of Historic Places and if making a vehicle of historic character to be used solely on such segment readily accessible to and usable by individuals with disabilities would significantly alter the historic character of such vehicle, the public entity only has to make (or to purchase or lease a remanufactured vehicle with) those modifications which are necessary to meet the requirements of paragraph (1) and which do not significantly alter the historic character of such vehicle.

(B) Vehicles of historic character defined by regulations. For purposes of this paragraph and section 12148(a) of this title, a vehicle of historic character shall be defined by the regulations issued by the Secretary to carry out this subsection.

Sec. 12143. Paratransit as a complement to fixed route service

(a) General rule. It shall be considered discrimination for purposes of section 12132 of this title and section 794 of title 29 for a public entity which operates a fixed route system (other than a system which provides solely commuter bus service) to fail to provide with respect to the operations of its fixed route system, in accordance with this section, paratransit and other special transportation services to individuals with disabilities, including individuals who use wheelchairs that are sufficient to provide to such individuals a level of service

(1) which is comparable to the level of designated public transportation services provided to individuals without disabilities using such system; or

(2) in the case of response time, which is comparable, to the extent practicable, to the level of designated public transportation services provided to individuals without disabilities using such system.

(b) Issuance of regulations. Not later than 1 year after July 26, 1990, the Secretary shall issue final regulations to carry out this section.

(c) Required contents of regulations

(1) Eligible recipients of service. The regulations issued under this section shall require each public entity which operates a fixed route system to provide the paratransit and other special transportation services required under this section

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

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(ii) to any individual with a disability who needs the assistance of a wheelchair lift or other boarding assistance device (and is able with such assistance) to board, ride, and disembark from any vehicle which is readily accessible to and usable by individuals with disabilities if the individual wants to travel on a route on the system during the hours of operation of the system at a time (or within a reasonable period of such time) when such a vehicle is not being used to provide designated public transportation on the route; and

(iii) to any individual with a disability who has a specific impairment-related condition which prevents such individual from traveling to a boarding location or from a disembarking location on such system;

(B) to one other individual accompanying the individual with the disability; and

(C) to other individuals, in addition to the one individual described in subparagraph (a),

accompanying the individual with a disability provided that space for these additional individuals are available on the paratransit vehicle carrying the individual with a disability and that the transportation of such additional individuals will not result in a denial of service to individuals with disabilities.

For purposes of clauses (i) and (ii) of subparagraph (A), boarding or disembarking from a vehicle does not include travel to the boarding location or from the disembarking location.

(2) Service area. The regulations issued under this section shall require the provision of paratransit and special transportation services required under this section in the service area of each public entity which operates a fixed route system, other than any portion of the service area in which the public entity solely provides commuter bus service.

(3) Service criteria. Subject to paragraphs (1) and (2), the regulations issued under this section shall establish minimum service criteria for determining the level of services to be required under this section.

(4) Undue financial burden limitation. The regulations issued under this section shall provide that, if the public entity is able to demonstrate to the satisfaction of the Secretary that the provision of paratransit and other special transportation services otherwise required under this section would impose an undue financial burden on the public entity, the public entity, notwithstanding any other provision of this section (other than paragraph (5)), shall only be required to provide such services to the extent that providing such services would not impose such a burden.

(5) Additional services. The regulations issued under this section shall establish circumstances under which the Secretary may require a public entity to provide, notwithstanding paragraph (4), paratransit and other special transportation services under this section beyond the level of paratransit and other special transportation services which would otherwise be required under paragraph (4).

(6) Public participation. The regulations issued under this section shall require that each public entity which operates a fixed route system hold a public hearing, provide an opportunity for public comment, and consult with individuals with disabilities in preparing its plan under paragraph (7).

(7) Plans. The regulations issued under this section shall require that each public entity which operates a fixed route system

(A) within 18 months after July 26, 1990, submit to the Secretary, and commence implementation of, a plan for providing paratransit and other special transportation

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services which meets the requirements of this section; and

(B) on an annual basis thereafter, submit to the Secretary, and commence implementation of, a plan for providing such services.

(8) Provision of services by others. The regulations issued under this section shall

(A) require that a public entity submitting a plan to the Secretary under this section identify in the plan any person or other public entity which is providing a paratransit or other special transportation service for individuals with disabilities in the service area to which the plan applies; and

(B) provide that the public entity submitting the plan does not have to provide under the plan such service for individuals with disabilities.

(9) Other provisions. The regulations issued under this section shall include such other provisions and requirements as the Secretary determines are necessary to carry out the objectives of this section.

(d) Review of plan

(1) General rule. The Secretary shall review a plan submitted under this section for the purpose of determining whether or not such plan meets the requirements of this section, including the regulations issued under this section.

(2) Disapproval. If the Secretary determines that a plan reviewed under this subsection fails to meet the requirements of this section, the Secretary shall disapprove the plan and notify the public entity which submitted the plan of such disapproval and the reasons therefor.

(3) Modification of disapproved plan. Not later than 90 days after the date of disapproval of a plan under this subsection, the public entity which submitted the plan shall modify the plan to meet the requirements of this section and shall submit to the Secretary, and commence implementation of, such modified plan.

(e) "Discrimination" defined. As used in subsection (a) of this section, the term "discrimination" includes

(1) a failure of a public entity to which the regulations issued under this section apply to submit, or commence implementation of, a plan in accordance with subsections (c)(6) and (c)(7) of this section;

(2) a failure of such entity to submit, or commence implementation of, a modified plan in accordance with subsection (d) (3) of this section;

(3) submission to the Secretary of a modified plan under subsection (d)(3) of this section which does not meet the requirements of this section; or

(4) a failure of such entity to provide paratransit or other special transportation services in accordance with the plan or modified plan the public entity submitted to the Secretary under this section.

(f) Statutory construction. Nothing in this section shall be construed as preventing a public entity

(1) from providing paratransit or other special transportation services at a level which is greater than the level of such services which are required by this section,

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(2) from providing paratransit or other special transportation services in addition to those paratransit and special transportation services required by this section, or

(3) from providing such services to individuals in addition to those individuals to whom such services are required to be provided by this section.

Sec. 12144. Public entity operating a demand responsive system

If a public entity operates a demand responsive system, it shall be considered discrimination, for purposes of section 12132 of this title and section 794 of title 29, for such entity to purchase or lease a new vehicle for use on such system, for which a solicitation is made after the 30th day following July 26, 1990, that is not readily accessible to and usable by individuals with disabilities, including individuals who use wheelchairs, unless such system, when viewed in its entirety, provides a level of service to such individuals equivalent to the level of service such system provides to individuals without disabilities.

Sec. 12145. Temporary relief where lifts are unavailable

(a) Granting. With respect to the purchase of new buses, a public entity may apply for, and the Secretary may temporarily relieve such public entity from the obligation under section 12142(a) or 12144 of this title to purchase new buses that are readily accessible to and usable by individuals with disabilities if such public entity demonstrates to the satisfaction of the Secretary

(1) that the initial solicitation for new buses made by the public entity specified that all new buses were to be lift-equipped and were to be otherwise accessible to and usable by individuals with disabilities;

(2) the unavailability from any qualified manufacturer of hydraulic, electromechanical, or other lifts for such new buses;

(3) that the public entity seeking temporary relief has made good faith efforts to locate a qualified manufacturer to supply the lifts to the manufacturer of such buses in sufficient time to comply with such solicitation; and

(4) that any further delay in purchasing new buses necessary to obtain such lifts would significantly impair transportation services in the community served by the public entity.

(b) Duration and notice to Congress. Any relief granted under subsection (a) of this section shall be limited in duration by a specified date, and the appropriate committees of Congress shall be notified of any such relief granted.

(c) Fraudulent application. If, at any time, the Secretary has reasonable cause to believe that any relief granted under subsection (a) of this section was fraudulently applied for, the Secretary shall

(1) cancel such relief if such relief is still in effect; and

(2) take such other action as the Secretary considers appropriate. Sec. 12146. New facilities

For purposes of section 12132 of this title and section 794 of title 29, it shall be considered discrimination for a public entity to construct a new facility to be used in the provision of designated public transportation services unless such facility is readily accessible to and usable by individuals with disabilities, including individuals who use wheelchairs.

Sec. 12147. Alterations of existing facilities -21-

(a) General rule. With respect to alterations of an existing facility or part thereof used in the provision of designated public transportation services that affect or could affect the usability of the facility or part thereof, it shall be considered discrimination, for purposes of section 12132 of this title and section 794 of title 29, for a public entity to fail to make such alterations (or to ensure that the alterations are made) in such a manner that, to the maximum extent feasible, the altered portions of the facility are readily accessible to and usable by individuals with disabilities, including individuals who use wheelchairs, upon the completion of such alterations. Where the public entity is undertaking an alteration that affects or could affect usability of or access to an area of the facility containing a primary function, the entity shall also make the alterations in such a manner that, to the maximum extent feasible, the path of travel to the altered area and the bathrooms, telephones, and drinking fountains serving the altered area, are readily accessible to and usable by individuals with disabilities, including individuals who use wheelchairs, upon completion of such alterations, where such alterations to the path of travel or the bathrooms, telephones, and drinking fountains serving the altered area are not disproportionate to the overall alterations in terms of cost and scope (as determined under criteria established by the Attorney General).

(b) Special rule for stations

(1) General rule. For purposes of section 12132 of this title and section 794 of title 29, it shall be considered discrimination for a public entity that provides designated public transportation to fail, in accordance with the provisions of this subsection, to make key stations (as determined under criteria established by the Secretary by regulation) in rapid rail and light rail systems

readily accessible to and usable by individuals with disabilities, including individuals who use wheelchairs.

(2) Rapid rail and light rail key stations

(A) Accessibility. Except as otherwise provided in this paragraph, all key stations (as determined under criteria established by the Secretary by regulation] in rapid rail and light rail systems shall be made readily accessible to and usable by individuals with disabilities, including individuals who use wheelchairs, as soon as practicable but in no event later than the last day of the 3-year period beginning on July 26, 1990.

(B) Extension for extraordinarily expensive structural changes. The Secretary may extend the 3-year period under subparagraph (A) up to a 30-year period for key stations in a rapid rail or light rail system which stations need extraordinarily expensive structural changes to, or replacement of, existing facilities; except that by the last day of the 20th year following July 26, 1990, at least 2/3 of such key stations must be readily accessible to and usable by individuals with disabilities.

(3) Plans and milestones. The Secretary shall require the appropriate public entity to develop and submit to the Secretary a plan for compliance with this subsection

(A) that reflects consultation with individuals with disabilities affected by such plan and the results of a public hearing and public comments on such plan, and

(B) that establishes milestones for achievement of the requirements of this subsection.

Sec. 12148. Public transportation programs and activities in existing facilities and one car per train rule

(a) Public transportation programs and activities in existing facilities

(1) In general. With respect to existing facilities used in the provision of designated public transportation services, it shall be considered discrimination, for purposes of section 12132 of

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this title and section 794 of title 29, for a public entity to fail to operate a designated public transportation program or activity conducted in such facilities so that, when viewed in the entirety, the program or activity is readily accessible to and usable by individuals with disabilities.

(2) Exception. Paragraph (1) shall not require a public entity to make structural changes to existing facilities in order to make such facilities accessible to individuals who use wheelchairs, unless and to the extent required by section 12147(a) of this title (relating to alterations) or section 12147(a) of this title (relating to key stations).

(3) Utilization. Paragraph (1) shall not require a public entity to which paragraph (2) applies, to provide to individuals who use wheelchairs services made available to the general public at such facilities when such individuals could not utilize or benefit from such services provided at such facilities.

(b) One car per train rule

(1) General rule. Subject to paragraph (2), with respect to 2 or more vehicles operated as a train by a light or rapid rail system, for purposes of section 12132 of this title and section 794 of title 29, it shall be considered discrimination for a public entity to fail to have at least 1 vehicle per train that is accessible to individuals with disabilities, including individuals who use wheelchairs, as soon as practicable but in no event later than the last day of the 5-year period beginning on the effective date of this section.

(2) Historic trains. In order to comply with paragraph (1) with respect to the remanufacture of a vehicle of historic character which is to be used on a segment of a light or rapid rail system which is included on the National Register of Historic Places, if making such vehicle readily accessible to and usable by individuals with disabilities would significantly alter the historic character of such vehicle, the public entity which operates such system only has to make (or to purchase or lease a remanufactured vehicle with) those modifications which are necessary to meet the requirements of section 12142(c)(1) of this title and which do not significantly alter the historic character of such vehicle.

Sec. 12149. Regulations

(a) In general. Not later than 1 year after July 26, 1990, the Secretary of Transportation shall issue regulations, in an accessible format, necessary for carrying out this subpart (other than section 12143 of this title).

(b) Standards. The regulations issued under this section and section 12143 of this title shall include standards applicable to facilities and vehicles covered by this part. The standards shall be consistent with the minimum guidelines and requirements issued by the Architectural and Transportation Barriers Compliance Board in accordance with section 12204 of this title.

Sec. 12150. Interim accessibility requirements

If final regulations have not been issued pursuant to section 12149 of this title, for new construction or alterations for which a valid and appropriate State or local building permit is obtained prior to the issuance of final regulations under such section, and for which the construction or alteration authorized by such permit begins within one year of the receipt of such permit and is completed under the terms of such permit, compliance with the Uniform Federal Accessibility Standards in effect at the time the building permit is issued shall suffice to satisfy the requirement that facilities be readily accessible to and usable by persons with disabilities as required under sections 12146 and 12147 of this title, except that, if such final regulations have

not been issued one year after the Architectural and Transportation Barriers Compliance Board has issued the supplemental minimum guidelines required under section 12204(a) of this title, compliance with such supplemental minimum guidelines shall be

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necessary to satisfy the requirement that facilities be readily accessible to and usable by persons with disabilities prior to issuance of the final regulations.

Subpart II - Public Transportation by Intercity and Commuter Rail Sec. 12161. Definitions As used in this subpart:

- (1) Commuter authority. The term "commuter authority" has the meaning given such term in section 24102(4) of title 49.
- (2) Commuter rail transportation. The term "commuter rail transportation" has the meaning given the term "commuter rail passenger transportation" in section 24102(5) of title 49.
- (3) Intercity rail transportation. The term "intercity rail transportation" means transportation provided by the National Railroad Passenger Corporation.
- (4) Rail passenger car. The term "rail passenger car" means, with respect to intercity rail transportation, single-level and bi-level coach cars, single-level and bi-level dining cars, single-level and bi-level sleeping cars, single-level and bi-level lounge cars, and food service cars.
- (5) Responsible person. The term "responsible person" means
 - (A) in the case of a station more than 50 percent of which is owned by a public entity, such public entity;
 - (B) in the case of a station more than 50 percent of which is owned by a private party, the persons providing intercity or commuter rail transportation to such station, as allocated on an equitable basis by regulation by the Secretary of Transportation; and
 - (C) in a case where no party owns more than 50 percent of a station, the persons providing intercity or commuter rail transportation to such station and the owners of the station, other than private party owners, as allocated on an equitable basis by regulation by the Secretary of Transportation.
- (6) Station. The term "station" means the portion of a property located appurtenant to a right-of-way on which intercity or commuter rail transportation is operated, where such portion is used by the general public and is related to the provision of such transportation, including passenger platforms, designated waiting areas, ticketing areas, restrooms, and, where a public entity providing rail transportation owns the property, concession areas, to the extent that such public entity exercises control over the selection, design, construction, or alteration of the property, but

such term does not include flag stops.

Sec. 12162. Intercity and commuter rail actions considered discriminatory (a) Intercity rail transportation

(1) One car per train rule. It shall be considered discrimination for purposes of section 12132 of this title and section 794 of title 29 for a person who provides intercity rail transportation to fail to have at least one passenger car per train that is readily accessible to and usable by individuals with disabilities, including individuals who use wheelchairs, in accordance with regulations issued under section 12164 of this title, as soon as practicable, but in no event later than 5 years after July 26, 1990.

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(2) New intercity cars

(A) General rule. Except as otherwise provided in this subsection with respect to individuals who use wheelchairs, it shall be considered discrimination for purposes of section 12132 of this title and section 794 of title 29 for a person to purchase or lease any new rail passenger cars for use in intercity rail transportation, and for which a solicitation is made later than 30 days after July 26, 1990, unless all such rail cars are readily accessible to and usable by individuals with disabilities, including individuals who use wheelchairs, as prescribed by the Secretary of Transportation in regulations issued under section 12164 of this title.

(B) Special rule for single-level passenger coaches for individuals who use wheelchairs. Single-level passenger coaches shall be required to

(i) be able to be entered by an individual who uses a wheelchair; (ii) have space to park and secure a wheelchair;

(iii) have a seat to which a passenger in a wheelchair can transfer, and a space to fold and store such passenger's wheelchair; and

(iv) have a restroom usable by an individual who uses a wheelchair, only to the extent provided in paragraph (3).

(C) Special rule for single-level dining cars for individuals who use wheelchairs. Single-level dining cars shall not be required to

(i) be able to be entered from the station platform by an individual who uses a wheelchair; or

(ii) have a restroom usable by an individual who uses a wheelchair if no restroom is provided in such car for any passenger.

(D) Special rule for bi-level dining cars for individuals who use wheelchairs. Bi-level dining cars

shall not be required to

(i) be able to be entered by an individual who uses a wheelchair; (ii) have space to park and secure a wheelchair;

(iii) have a seat to which a passenger in a wheelchair can transfer, or a space to fold and store such passenger's wheelchair; or

(iv) have a restroom usable by an individual who uses a wheelchair. (3) Accessibility of single-level coaches

(A) General rule. It shall be considered discrimination for purposes of section 12132 of this title and section 794 of title 29 for a person who provides intercity rail transportation to fail to have on each train which includes one or more single-level rail passenger coaches

(i) a number of spaces

(I) to park and secure wheelchairs (to accommodate individuals who wish to remain in their wheelchairs) equal to not less than one-half of the number of single-level rail passenger coaches in such train; and

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(II) to fold and store wheelchairs (to accommodate individuals who wish to transfer to coach seats) equal to not less than one-half of the number of single-level rail passenger coaches in such train, as soon as practicable, but in no event later than 5 years after July 26, 1990; and

(ii) a number of spaces

(I) to park and secure wheelchairs (to accommodate individuals who wish to remain in their wheelchairs) equal to not less than the total number of single-level rail passenger coaches in such train; and

(II) to fold and store wheelchairs (to accommodate individuals who wish to transfer to coach seats) equal to not less than the total number of single-level rail passenger coaches in such train, as soon as practicable, but in no event later than 10 years after July 26, 1990.

(B) Location. Spaces required by subparagraph (A) shall be located in single-level rail passenger coaches or food service cars.

(C) Limitation. Of the number of spaces required on a train by subparagraph (A), not more than two spaces to park and secure wheelchairs nor more than two spaces to fold and store wheelchairs shall be located in any one coach or food service car.

(D) Other accessibility features. Single-level rail passenger coaches and food service cars on which the spaces required by subparagraph (a) are located shall have a restroom usable by an

individual who uses a wheelchair and shall be able to be entered from the station platform by an individual who uses a wheelchair.

(4) Food service

(A) Single-level dining cars. On any train in which a single-level dining car is used to provide food service

(i) if such single-level dining car was purchased after July 26, 1990, table service in such car shall be provided to a passenger who uses a wheelchair if

(I) the car adjacent to the end of the dining car through which a wheelchair may enter is itself accessible to a wheelchair;

(II) such passenger can exit to the platform from the car such passenger occupies, move down the platform, and enter the adjacent accessible car described in subclause (I) without the necessity of the train being moved within the station; and

(III) space to park and secure a wheelchair is available in the dining car at the time such passenger wishes to eat (if such passenger wishes to remain in a wheelchair), or space to store and fold a wheelchair is available in the dining car at the time such passenger wishes to eat (if such passenger wishes to transfer to a dining car seat); and

(ii) appropriate auxiliary aids and services, including a hard surface on which to eat, shall be provided to ensure that other equivalent food service is available to individuals with disabilities, including individuals who use wheelchairs, and to passengers traveling with such individuals. Unless not practicable, a person providing intercity rail transportation shall place an accessible car adjacent to the end of a dining car described in clause (I) through which an individual who uses a wheelchair

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may enter.

(B) Bi-level dining cars. On any train in which a bi-level dining car is used to provide food service

(i) if such train includes a bi-level lounge car purchased after July 26, 1990, table service in such lounge car shall be provided to individuals who use wheelchairs and to other passengers; and

(ii) appropriate auxiliary aids and services, including a hard surface on which to eat, shall be provided to ensure that other equivalent food service is available to individuals with disabilities, including individuals who use wheelchairs, and to passengers traveling with such individuals.

(b) Commuter rail transportation

(1) One car per train rule. It shall be considered discrimination for purposes of section 12132 of this title and section 794 of title 29 for a person who provides commuter rail transportation to fail to have at least one passenger car per train that is readily accessible to and usable by individuals with disabilities, including individuals who use wheelchairs, in accordance with regulations issued under section 12164 of this title, as soon as practicable, but in no event later than 5 years after July 26, 1990.

(2) New commuter rail cars

(A) General rule. It shall be considered discrimination for purposes of section 12132 of this title and section 794 of title 29 for a person to purchase or lease any new rail passenger cars for use in commuter rail transportation, and for which a solicitation is made later than 30 days after July 26, 1990, unless all such rail cars are readily accessible to and usable by individuals with disabilities, including individuals who use wheelchairs, as prescribed by the Secretary of Transportation in regulations issued under section 12164 of this title.

(B) Accessibility. For purposes of section 12132 of this title and section 794 of title 29, a requirement that a rail passenger car used in commuter rail transportation be accessible to or readily accessible to and usable by individuals with disabilities, including individuals who use wheelchairs, shall not be construed to require

(i) a restroom usable by an individual who uses a wheelchair if no restroom is provided in such car for any passenger;

(ii) space to fold and store a wheelchair; or

(iii) a seat to which a passenger who uses a wheelchair can transfer.

(c) Used rail cars. It shall be considered discrimination for purposes of section 1132 of this title and section 794 of title 29 for a person to purchase or lease a used rail passenger car for use in intercity or commuter rail transportation, unless such person makes demonstrated good faith efforts to purchase or lease a used rail car that is readily accessible to and usable by individuals with disabilities, including individuals who use wheelchairs, as prescribed by the Secretary of Transportation in regulations issued under section 12164 of this title.

(d) Remanufactured rail cars

(1) Remanufacturing. It shall be considered discrimination for purposes of section 12132 of this title and section 794 of title 29 for a person to remanufacture a rail passenger car for use

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in intercity or commuter rail transportation so as to extend its usable life for 10 years or more, unless the rail car, to the maximum extent feasible, is made readily accessible to and usable by individuals with disabilities, including individuals who use wheelchairs, as prescribed by the

Secretary of Transportation in regulations issued under section 12164 of this title.

(2) Purchase or lease. It shall be considered discrimination for purposes of section 12132 of this title and section 794 of title 29 for a person to purchase or lease a remanufactured rail passenger car for use in intercity or commuter rail transportation unless such car was remanufactured in accordance with paragraph (1).

(e) Stations

(1) New stations. It shall be considered discrimination for purposes of section 12132 of this title and section 794 of title 29 for a person to build a new station for use in intercity or commuter rail transportation that is not readily accessible to and usable by individuals with disabilities, including individuals who use wheelchairs, as prescribed by the Secretary of Transportation in regulations issued under section 12164 of this title.

(2) Existing stations (A) Failure to make readily accessible

(i) General rule. It shall be considered discrimination for purposes of section 12132 of this title and section 794 of title 29 for a responsible person to fail to make existing stations in the intercity rail transportation system, and existing key stations in commuter rail transportation systems, readily accessible to and usable by individuals with disabilities, including individuals who use wheelchairs, as prescribed by the Secretary of Transportation in regulations issued under section 12164 of this title.

(ii) Period for compliance

(I) Intercity rail. All stations in the intercity rail transportation system shall be made readily accessible to and usable by individuals with disabilities, including individuals who use wheelchairs, as soon as practicable, but in no event later than 20 years after July 26, 1990.

(II) Commuter rail. Key stations in commuter rail transportation systems shall be made readily accessible to and usable by individuals with disabilities, including individuals who use wheelchairs, as soon as practicable but in no event later than 3 years after July 26, 1990, except that the time limit may be extended by the Secretary of Transportation up to 20 years after July 26, 1990, in a case where the raising of the entire passenger platform is the only means available of attaining accessibility or where other extraordinarily expensive structural changes are necessary to attain accessibility.

(iii) Designation of key stations. Each commuter authority shall designate the key stations in its commuter rail transportation system, in consultation with individuals with disabilities and organizations representing such individuals, taking into consideration such factors as high ridership and whether such station serves as a transfer or feeder station. Before the final designation of key stations under this clause, a commuter authority shall hold a public hearing.

(iv) Plans and milestones. The Secretary of Transportation shall require the appropriate person to

develop a plan for carrying out this subparagraph that reflects consultation with individuals with disabilities affected by such plan and that establishes milestones for achievement of the requirements of this subparagraph.

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(B) Requirement when making alterations

(i) General rule. It shall be considered discrimination, for purposes of section 12132 of this title and section 794 of title 29, with respect to alterations of an existing station or part thereof in the intercity or commuter rail transportation systems that affect or could affect the usability of the station or part thereof, for the responsible person, owner, or person in control of the station to fail to make the alterations in such a manner that, to the maximum extent feasible, the altered portions of the station are readily accessible to and usable by individuals with disabilities, including individuals who use wheelchairs, upon completion of such alterations.

(ii) Alterations to a primary function area. It shall be considered discrimination, for purposes of section 12132 of this title and section 794 of title 29, with respect to alterations that affect or could affect the usability of or access to an area of the station containing a primary function, for the responsible person, owner, or person in control of the station to fail to make the alterations in such a manner that, to the maximum extent feasible, the path of travel to the altered area, and the bathrooms, telephones, and drinking fountains serving the altered area, are readily accessible to and usable by individuals with disabilities, including individuals who use wheelchairs, upon completion of such alterations, where such alterations to the path of travel or the bathrooms, telephones, and drinking fountains serving the altered area are not disproportionate to the overall alterations in terms of cost and scope (as determined under criteria established by the Attorney General).

(C) Required cooperation. It shall be considered discrimination for purposes of section 12132 of this title and section 794 of title 29 for an owner, or person in control, of a station governed by subparagraph (a) or (b) to fail to provide reasonable cooperation to a responsible person with respect to such station in that responsible person's efforts to comply with such subparagraph. An owner, or person in control, of a station shall be liable to a responsible person for any failure to provide reasonable cooperation as required by this subparagraph. Failure to receive reasonable cooperation required by this subparagraph shall not be a defense to a claim of discrimination under this chapter.

Sec. 12163. Conformance of accessibility standards

Accessibility standards included in regulations issued under this subpart shall be consistent with the minimum guidelines issued by the Architectural and Transportation Barriers Compliance Board under section 504(a) of this title.

Sec. 12164. Regulations

Not later than 1 year after July 26, 1990, the Secretary of Transportation shall issue regulations, in an accessible format, necessary for carrying out this subpart.

Sec. 12165. Interim accessibility requirements

(a) Stations. If final regulations have not been issued pursuant to section 12164 of this title, for new construction or alterations for which a valid and appropriate State or local building permit is obtained prior to the issuance of final regulations under such section, and for which the construction or alteration authorized by such permit begins within one year of the receipt of such permit and is completed under the terms of such permit, compliance with the Uniform Federal Accessibility Standards in effect at the time the building permit is issued shall suffice to satisfy the requirement that stations be readily accessible to and usable by persons with disabilities as required under section 12162(e) of this title, except that, if such final regulations have not been issued one year after the Architectural and Transportation Barriers Compliance Board has issued the supplemental minimum guidelines required under section 12204(a) of this title, compliance

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with such supplemental minimum guidelines shall be necessary to satisfy the requirement that stations be readily accessible to and usable by persons with disabilities prior to issuance of the final regulations.

(b) Rail passenger cars. If final regulations have not been issued pursuant to section 12164 of this title, a person shall be considered to have complied with the requirements of section 12162(a) through (d) of this title that a rail passenger car be readily accessible to and usable by individuals with disabilities, if the design for such car complies with the laws and regulations (including the Minimum Guidelines and Requirements for Accessible Design and such supplemental minimum guidelines as are issued under section 12204(a) of this title) governing accessibility of such cars, to the extent that such laws and regulations are not inconsistent with this subpart and are in effect at the time such design is substantially completed.

SUBCHAPTER III - PUBLIC ACCOMMODATIONS AND SERVICES OPERATED BY PRIVATE ENTITIES Sec. 12181. Definitions As used in this subchapter:

(1) Commerce. The term "commerce" means travel, trade, traffic, commerce, transportation, or communications

(A) among the several States; (B) between any foreign country or any territory or possession and any State; or (C) between points in the same State but through another State or foreign country.

(2) Commercial facilities. The term "commercial facilities" means facilities (A) that are intended for nonresidential use; and (B) whose operations will affect commerce.

Such term shall not include railroad locomotives, railroad freight cars, railroad cabooses, railroad cars described in section 12162 of this title or covered under this subchapter, railroad rights-of-

way, or facilities that are covered or expressly exempted from coverage under the Fair Housing Act of 1968 (42 U.S.C. 3601 et seq.).

(3) Demand responsive system. The term "demand responsive system" means any system of providing transportation of individuals by a vehicle, other than a system which is a fixed route system.

(4) Fixed route system. The term "fixed route system" means a system of providing transportation of individuals (other than by aircraft) on which a vehicle is operated along a prescribed route according to a fixed schedule.

(5) Over-the-road bus. The term "over-the-road bus" means a bus characterized by an elevated passenger deck located over a baggage compartment.

(6) Private entity. The term "private entity" means any entity other than a public entity (as defined in section 12131(1) of this title).

(7) Public accommodation. The following private entities are considered public accommodations for purposes of this subchapter, if the operations of such entities affect

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Appendix B.

Section 504 of the Rehabilitation Act

Section 504 of the Rehabilitation Act - Nondiscrimination Under Federal Grants and Programs

Sec. 504 (a) No otherwise qualified individual with a disability in the United States, as defined in section 7(20), shall, solely by reason of her or his disability, be excluded from the participation in, be denied the benefits of, or be subjected to discrimination under any program or activity receiving Federal financial assistance or under any program or activity conducted by any Executive agency or by the United States Postal Service. The head of each such agency shall promulgate such regulations as may be necessary to carry out the amendments to this section made by the Rehabilitation, Comprehensive Services, and Developmental Disabilities Act of 1978. Copies of any proposed regulation shall be submitted to appropriate authorizing committees of Congress, and such regulations may take effect no earlier than the thirtieth day after the date on which such regulation is so submitted to such committees.

(b) For the purposes of this section, the term "program or activity" means all of the operations of

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(1) (A) a department, agency, special purpose district, or other instrumentality of a State or of a

local government; or

(B) the entity of such a State or local government that distributes such assistance and each such department or agency (and each other State or local government entity) to which the assistance is extended, in the case of assistance to a State or local government;

(2) (A) a college, university, or other postsecondary institution, or a public system of higher education; or

(B) a local educational agency (as defined in section 14101 of the Elementary and Secondary Education Act of 1965), system of vocational education, or other school system;

(3) (A) an entire corporation, partnership, or other private organization, or an entire sole proprietorship-

(i) if assistance is extended to such corporation, partnership, private organization, or sole proprietorship as a whole; or

(ii) which is principally engaged in the business of providing education, health care, housing, social services, or parks and recreation; or

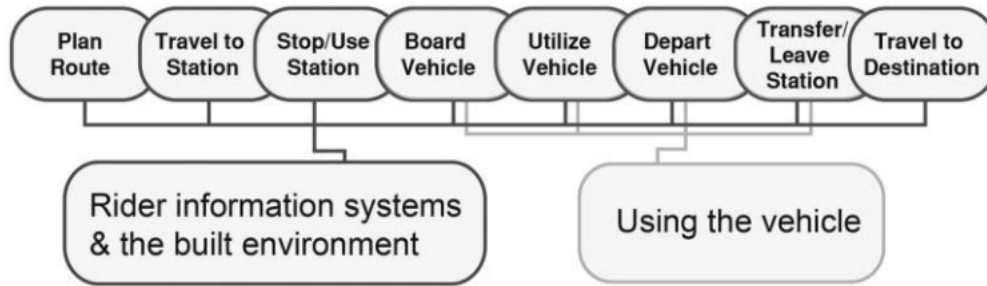
(B) the entire plant or other comparable, geographically separate facility to which Federal financial assistance is extended, in the case of any corporation, partnership, private organization, or sole proprietorship; or

(4) any other entity which is established by two or more of the entities described in paragraph (1), (2), or (3); any part of which is extended Federal financial assistance.

(c) Small providers are not required by subsection (a) to make significant structural alterations to their existing facilities for the purpose of assuring program accessibility, if alternative means of providing the services are available. The terms used in this subsection shall be construed with reference to the regulations existing on the date of the enactment of this subsection.

(d) The standards used to determine whether this section has been violated in a complaint alleging employment discrimination under this section shall be the standards applied under title I of the Americans with Disabilities Act of 1990 (42 U.S.C. 12111 et seq.) and the provisions of sections 501 through 504, and 510, of the Americans with Disabilities Act of 1990 (42 U.S.C. 12201-12204 and 12210), as such sections relate to employment.

Appendix C.



Appendix D:



Appendix E:

1. All interviews will begin with basic introduction questions: a. What is your name, Where are you from...etc.
2. Describe your disability in as much detail as you feel comfortable with
3. How often do you use public transportation and why? (Bus and Light Rail)
4. How do you feel your disability limits the number of trips you take daily/weekly?
5. What are barriers you face when using public transportation?
 - a. Can you describe them in detail?
 - b. Do these barriers affect your daily commute to work?
 - c. Have you had trouble finding a job in the past because of a lack of access to

public transportation, and if you have why?

6. Do you feel you are treated fairly while using Paratransit?

7. Are you familiar with Title II of the Americans with Disabilities Act?

a. To what degree do you think the Los Angeles Metro has implemented the ADA?

8. What more can Metro do to improve accessibility on public transportation? a. Do you feel that Measure M will be helpful for people with disabilities?

Appendix F:

This survey is designed to investigate the barriers that disabled people face while using the Los Angeles Metro. There will be multiple-choice questions and open-ended questions. You do not have to answer all the questions and you may stop taking the survey at any time.

8. Disability Status (Circle One)

- a. Mobility Disability
- b. Blind/low vision
- c. Deaf/hard of hearing
- d. Other__

9. Where do you live? _____

10. On which street? _____

11. Where is the nearest Bus station? _____

12. Where is the nearest Light-Rail station? _____

13. Employment Status (Circle One)

- a. Full Time
- b. Part Time
- c. Self-Employed
- d. Student
- e. Volunteer

- f. Unemployed
14. g. Retired
15. Education
- a. Bachelor's Degree
 - b. Graduate Degree
 - c. Associate's Degree
 - d. Some college
 - e. High School Diploma
 - f. Less than high school
16. How often do you take Public Transportation? (Circle One)
- a. Never
 - b. Rarely
 - c. A few times a month
 - d. Once a week
 - e. A few times a week
 - f. Once a day
 - g. Every day
9. On a scale from 1 to 10, 1 being not accessible at all and 10 being extremely accessible, how accessible do you feel public transportation is in Los Angeles? (Circle One) a.
12345678910
10. If you take the bus, which barriers do you face most often? (Circle all that apply)
- a. Inadequate transit system
 - b. Drivers not calling out stops
 - c. No accessible route to stop/station
 - d. Driver's lack of knowledge regarding accessibility

- e. Inability to navigate public system
- f. Gap or step to vehicle
- g. Problems with lifts
- h. Vehicle full
- i. Not eligible for Paratransit
- j. Wheelchair is too big or heavy

11. If you take light-rail, which barriers do you face most often? (Circle all that apply)

- a. Elevator out of service
- b. Elevator not accessible (broken button, button not reachable)
- c. Not enough handicapped seating
- d. Not enough frequency of trains
- e. Loudspeaker not calling out stops
- f. Able-bodied person sitting in the disabled seating

12. Are you familiar with the Americans with Disabilities Act? a. Yes b. No

13. If you answered yes to the previous question, do you feel that the Los Angeles Metro has done a good job implementing the ADA?

- a. Yes
- b. No
- c. Not sure

14. Are you familiar with Paratransit? a. Yes b. No

15. How often do you use Paratransit?

- a. Never
- b. Rarely
- c. A few times a month

- d. Once a week
- e. A few times a week
- f. Once a day
- g. Every day

16. Describe in detail the barriers you face (if any) while using public transportation

18. How can compliance to the ADA be improved regarding public transportation?