



Barriers and Solutions to Complete Trips for All National Online Dialogue

**September 9 – October 7, 2019
Final Summary Report**



U.S. Department of Transportation
Federal Transit Administration



ODEP
Office of Disability
Employment Policy

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Introduction

Background

Americans are experiencing a historically low rate of unemployment; however, not all share equally in this prosperity. People with disabilities face an unemployment rate more than twice that of their peers without disabilities. According to the U.S. Department of Transportation (DoT), some 30 percent of those people with disabilities who are unable to find employment cite mobility difficulties as a barrier to their success. Removing the disparate barriers facing people with disabilities will lead to employment and independence for Americans, and increased economic strength in communities.

Leading into National Disability Employment Awareness Month (NDEAM) 2019, DOT and the U.S. Department of Labor's (DOL) Office of Disability Employment Policy (ODEP)'s Accessible Transportation Technologies Research Initiative (ATTRI) and Coordinating Council on Access and Mobility (CCAM) hosted the [*Barriers and Solutions to Complete Trips for All National Online Dialogue*](#). This joint online dialogue was a continuation of the Departments' shared commitment to reducing the mobility barriers constraining the participation of Americans with disabilities in the workforce and in communities.

During the online dialogue, 187 stakeholders, including people with disabilities, transportation representatives, advocacy organizations, and state and local government representatives, shared ideas for potential solutions to address barriers traveling to employment or other activities. Individuals shared their experiences traveling using different modes of transportation.

The information gathered during this important online dialogue will provide DOT and DOL an opportunity to better understand the potential benefits of mobility barrier removal. In addition, these contributions will help the Departments better identify existing barriers and their impacts on workforce participation and independent living for people with disabilities in an effort to determine the most effective interventions and solutions. The impacts will reflect the type of challenges facing a person, the type of community in which they live, and their travel patterns among other factors. This knowledge will allow for more accurate determinations of the value of various interventions.

Online Dialogue Topics

The [*Barriers and Solutions to Complete Trips for All National Online Dialogue*](#) divided into the following six topic areas categorized by the different stages of the complete trip:

1. Trip Planning and Monitoring

Under this topic, participants were invited to share barriers they had experienced in trip planning and monitoring. Specifically, they were asked to consider barriers related to inputting trip requirements, evaluating and selecting trip options, monitoring in real-time,

and providing feedback. As part of the conversation, participants shared the impacts of the barriers and detailed potential solutions for removing these barriers, including what technologies would be useful.

2. Payment

Under this topic, participants shared details about barriers they had experienced in paying for any part of the complete trip. They were asked to consider trips across various modes and include details on the accessibility of the payment system including physical usability, as well as ease of use. The topic requested information regarding potential solutions participants may have for improvement, including new technologies that might be helpful.

3. At the Station

Under this topic, participants shared barriers related to access within transportation stations. This topic covered the whole experience at the station including navigating the station, waiting at the station, understanding information within the station, as well as boarding a vehicle at the station. Again, participants were asked to share not only barriers but also potential solutions, including what technologies could be utilized to overcome the barriers discussed.

4. Vehicle Trips

In this fourth topic, participants discussed barriers associated with using different types of vehicles. This included discussion around all aspects of vehicle travel including waiting for the vehicle, boarding the vehicle, obtaining and using information inside the vehicle, and exiting the vehicle. The online discussions involved potential solutions to remove the barrier, including the integration of technologies that might be beneficial.

5. Transferring

Under this topic, participants shared barriers they had experienced in transferring during any part of the complete trip. Barriers included the physical barriers, as well as difficulty locating points of interest and vehicles or other modes of transportation. Once more, participants were asked to focus on potential solutions to removing the barrier, including any technologies that might be useful.

6. The Pedestrian Space

Finally, under the last topic, discussion was around barriers individuals had experienced in pedestrian areas. In addition to physical barriers and terrain type, they were asked to provide information about any issues with way-finding applications while walking or rolling. Potential solutions were also shared and included new technologies would be useful.

Outreach Efforts

The [*Barriers and Solutions to Complete Trips for All National Online Dialogue*](#) looked to individuals with disabilities, transportation experts, state and local governments, advocacy groups, and other stakeholders to share their perspectives. In order to ensure a broad range of participants, ePolicyWorks conducted numerous strategic outreach efforts, including distributing targeted eblasts and social media posts, and partnering in promotions around NDEAM. Eblasts were sent to the ePolicyWorks community, along with a large number of advocacy organizations representing individuals with disabilities and employers, and transportation organizations and transit associations, as well as state and local government representatives and intermediary organizations, and other key stakeholders.

Total ePolicyWorks Outreach

- Eblasts: 6 bundles (customized per stakeholder group)
- Emails Delivered: 11,812
- Emails Opened: 2,414
- Total number of clicks on links in emails (excluding multiple clicks of the same link): 411
- Number of @ePolicyWorks impressions of online dialogue promotions: 5,134 (from 10 online dialogue promotion tweets)
- Social media traffic to the online dialogue: 196
 - Facebook: 79%
 - Twitter: 12%
 - LinkedIn: 9%
- Approximately 7.9% of the total traffic to the online dialogue came from social media

Viral Online Dialogue Promotion

Over the course of the online dialogue, many organizations and advocacy groups promoted the online dialogue through Facebook, LinkedIn, Twitter, emails, blogs, newsletters, and action alerts. Below is a sampling of the organizations that published details about the online dialogue:

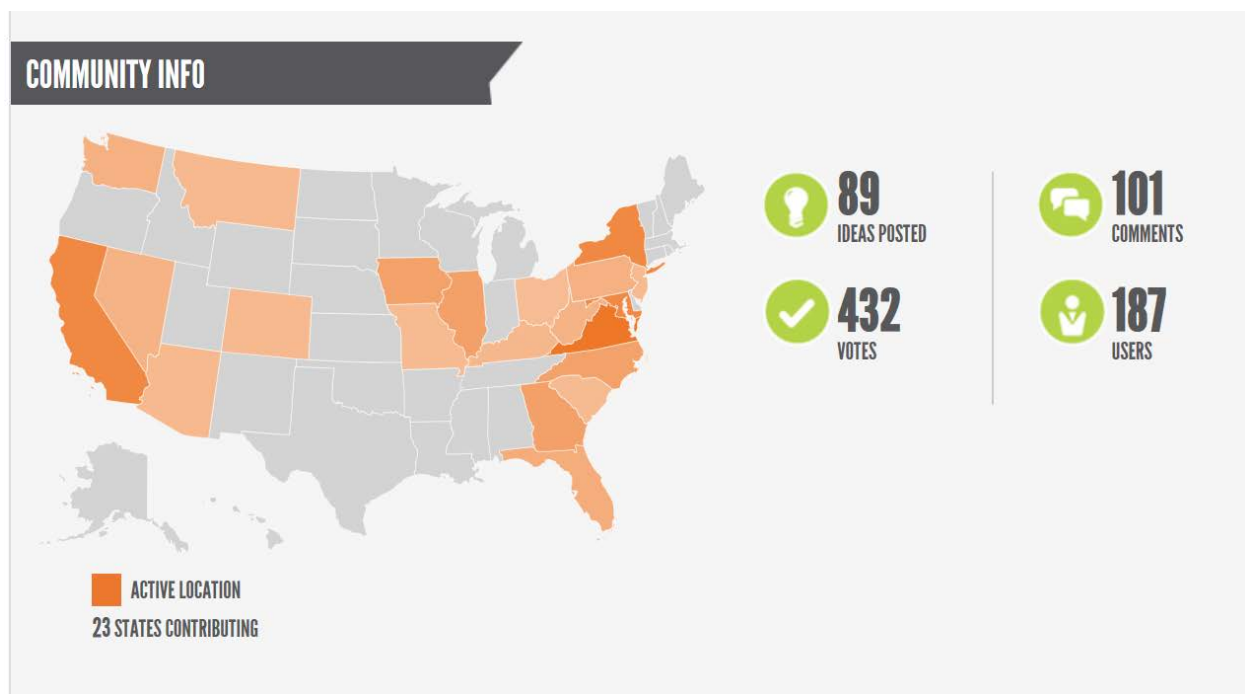
- Administration for Community Living, U.S. Department of Health & Human Services
- American Foundation of the Blind
- DART- Delaware
- Guide Dog Users, Inc.
- Maryland Developmental Disabilities Council
- Mid-Atlantic and Southeast ADA Centers
- National Aging and Disability Transportation Center
- National Aging and Disability Transportation Center
- National Rehabilitation Information Center
- New York Association for Independent Living

- Ohio Developmental Disabilities Council
- Path Forward of Kentucky
- Pennsylvania Office of Vocational Rehabilitation
- United Spinal
- Western New York Independent Living
- WorkAbility

Online Dialogue Participant Summary

The [*Barriers and Solutions to Complete Trips for All National Online Dialogue*](#) opened for participation at 8:00 a.m. ET on September 9, 2019 and closed at midnight on October 8, 2019. Below are participation details, including the number of online dialogue visits*, registrants, participation rates, location of registrants, and profile information provided by registrants during the registration process.

The following chart summarizes the number of ideas, comments and votes posted during the online dialogue. In addition, it shows the number of individuals who registered for the dialogue and the states they were from.



Visitors and Participants During the Online Dialogue

- Total unique visits: 3,218
- Total page views: 9,242
- Total unique visitors*: 2,483
- Average pages per visit: 2.87

- Average visit duration (minutes): 2:32
- Average number of sessions per visitor: 1.3
- Returning visitors: 13.2%
- Bounce rate (percentage of participants who leave after viewing the first page of the online dialogue): 67%
- Total number of registrants: 187
- Number of ideas: 89
- Number of comments: 101
- Number of votes: 432
- Total number of registrants who participated**: 83 (44.4% of registrants)

State Affiliation of Online Dialogue Visitors* (per Google Analytics)

State	Number of Visitors	Percent of Visitors
California	349	14.41%
Virginia	257	10.61%
District of Columbia	160	6.61%
New York	143	5.90%
Washington	128	5.28%
Wyoming	123	5.08%
Texas	116	4.79%
Florida	91	3.76%
Maryland	90	3.72%
Pennsylvania	88	3.63%
Oregon	69	2.85%
Ohio	64	2.64%
Iowa	62	2.56%
Michigan	50	2.06%
Minnesota	49	2.02%
Illinois	47	1.94%
Massachusetts	46	1.90%
Kansas	39	1.61%
New Jersey	37	1.53%
Wisconsin	37	1.53%
Connecticut	31	1.28%
North Carolina	31	1.28%
Georgia	29	1.20%
Colorado	26	1.07%
Arizona	24	0.99%
Missouri	24	0.99%

<u>State</u>	<u>Number of Visitors</u>	<u>Percent of Visitors</u>
Nevada	22	0.91%
Tennessee	22	0.91%
Louisiana	16	0.66%
West Virginia	16	0.66%
Idaho	13	0.54%
Indiana	13	0.54%
South Carolina	12	0.50%
Delaware	11	0.45%
New Mexico	10	0.41%
New Hampshire	9	0.37%
Alabama	8	0.33%
Oklahoma	8	0.33%
Utah	8	0.33%
Montana	7	0.29%
Rhode Island	7	0.29%
Arkansas	6	0.25%
Kentucky	5	0.21%
Nebraska	5	0.21%
Maine	3	0.12%
Alaska	2	0.08%
Hawaii	2	0.08%
North Dakota	2	0.08%
South Dakota	2	0.08%
Vermont	2	0.08%
Mississippi	1	0.04%

**Visitors are all individuals who have viewed the online dialogue. This includes individuals who did not completed the registration process.*

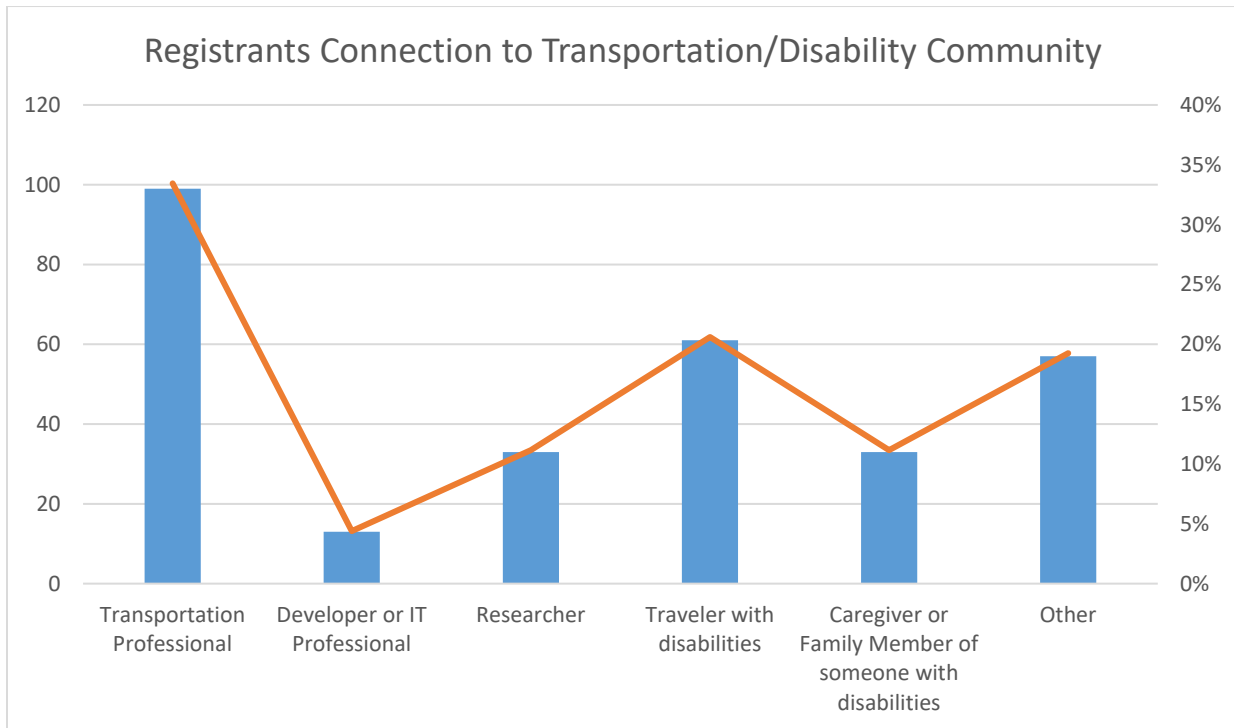
***"Participation" includes registering and submitting ideas, comments or votes to the dialogue's online platform.*

Online Dialogue Registrant Profiles

When registering for the [Barriers and Solutions to Complete Trips for All National Online Dialogue](#), participants were asked two questions for which they were allowed to select multiple answers for their responses. The first question asked each registrant to identify his/her connection to the transportation or disability community. Below is a summary of the responses to that question:

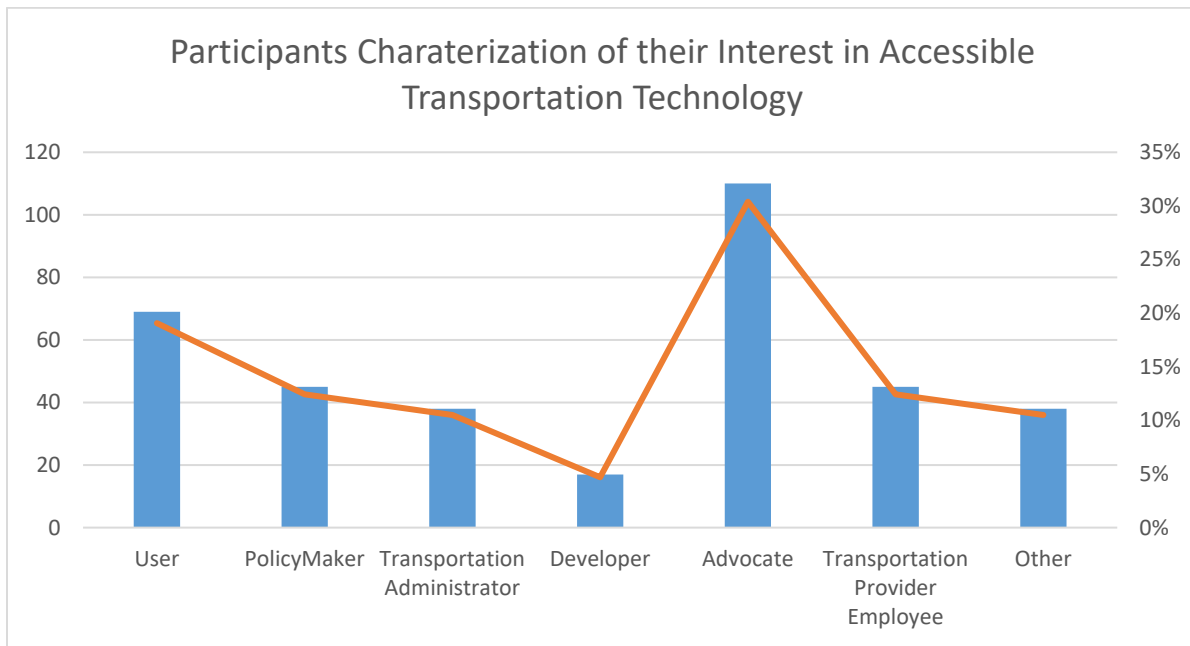
- Transportation professional: 99 (33%)

- Developer or IT professional: 13 (4%)
- Researcher: 33 (11%)
- Traveler with disabilities: 61 (21%)
- Caregiver or family member of someone with disabilities: 33 (11%)
- Other: 57 (19%)



Online dialogue registrants were also asked to characterize his/her interest in accessible transportation technology. Below is a summary of the responses to that question:

- User: 69 (19%)
- Policymaker: 45 (12%)
- Transportation administrator: 38 (10%)
- Developer: 17 (5%)
- Advocate: 110 (30%)
- Transportation Provider/Employee: 45 (12%)
- Other: 38 (10%)



Review and Analysis of Online Dialogue Contributions

Over the course of the [Barriers and Solutions to Complete Trips for All National Online Dialogue](#), participants from across the United States shared the barriers they experienced during the different stages of the complete trip. Along with the barriers, they also shared solutions and recommendations on how new technologies and innovations can improve mobility for those with disabilities. The range and depth of the ideas submitted and discussed during the online dialogue demonstrates the immense value of engaging citizens in policymaking efforts. People with disabilities, transportation professionals, researchers, advocates, and government representatives all joined together to contribute a total of 89 ideas, 101 comments, and 432 votes. Based on these contributions, several themes emerged among the different stakeholders in the discussion around how to utilize new technology and other advancements to ensure the improved mobility for individuals with disabilities.

Key Themes and Takeaways

Enhancing Capabilities of Existing Technologies

Several ideas focused on the need to enhance accessible transportation through existing technologies and platforms. For example, one participant suggested adding a universal transit app to every government-issued cell phone. In addition, one participant asked whether the Federal Transit Administration could support the development of an app that could be used for paratransit services. Another mentioned partnering with existing GPS/Transit Application Providers to allow for mapping the complete trip and to improve safety and security. Others discussed the fact that many paratransit systems lack the features that ride-sharing services offer, like instant booking. Finally, participants discussed the inability to plan for an accessible

trip, citing the lack of data on circumstances such as the pedestrian landscapes they might encounter during a trip.

Lack of Reliable Service

Many participants submitted ideas to the online dialogue around the need improve accessible transportation options for the complete trip in rural and suburban areas. This included challenges with first and last mile connections, where participants simply live too far from quality transportation options or outside paratransit service areas. Others shared their experiences with unreliable paratransit, particularly for work travel. Often, they needed a fallback option when paratransit could not provide reliable transportation.

Consistency of Payment Across the Complete Trip

Several participants suggested ways to improve the accessibility of payment systems across the complete trip. In addition to the lack of accessibility of some fare machines, the varying payment methods and fare cards makes the systems difficult to navigate. Several other participants discussed the need to lower fares (or to have no fares at all) for individuals with disabilities in order obtain transportation to work, health care and other activities. Additionally, participants discussed the need for "money-follows-the-person-style" funding, such as Social Security, to more easily allow them to pay for a range of mobility options.

Improvements Needed at the Station

There were numerous ideas around ways to improve the accessibility of transit stations including removing platform gaps, insuring audible information is available visually, easily identifiable cross walks, and safe and secure payment locations.

Ensure Transit Providers are Complying with the ADA

Several ideas posted in the dialogue focused on the lack of accessibility of public vehicles and/or transportation. As noted by participants, many times, this lack of accessibility is in violation of the Americans with Disabilities Act (ADA). Additionally, participants in the dialogue discussed the often inaccessible loading and unloading areas, as well as broken equipment, such as lifts, anchoring devices, and elevators.

Educate the Community about the Importance of Accessible Pedestrian Space

With the introduction of a variety of microtransit options, participants expressed the importance for all to understand the need for clear and accessible pedestrian spaces. Basic accessible infrastructure, like sidewalks and curb cuts, are critical to the ability of people to safely navigate these spaces.

Most Popular Ideas in the Online Dialogue

Below are the two most popular ideas from each of the [Barriers and Solutions to Complete Trips for All National Online Dialogue's](#) six topic areas. Most popular ideas are determined based on the number of up-votes, comments, and followers. The ideas listed in the following section include minor typographical corrections, which have in no way impacted the substance or the intention of the revised posts.

Text Size/Raised Lettering

Topic: Trip Planning and Monitoring

14 Up Votes | 1 Down Votes | 13 Net Votes

Comments: 3

Followers: 3

Increase text size on schedules and use raised lettering at stops to identify stop (keep using Braille, but add raised lettering).

Location, location, location

Topic: Trip Planning and Monitoring

9 Up Votes | 0 Down Votes | 9 Net Votes

Comments: 2

Followers: 1

With closest stop about 1/2 Mile from the independent living facility I currently live in I would like to see a stop added or some sort of van made available for those of us who are unable to travel that on our own but do not qualify for special pickups.

In fact, I see that in the suburban areas the service is few and hours in between. I bit more attention to the census this year might help.

Consistency in payment types and processes

Topic: Payment

13 Up Votes | 0 Down Votes | 13 Net Votes

Comments: 1

Followers: 2

I travel quite a bit and always find it difficult to navigate different fare systems. The methods to purchase fare cards are different across the country - and even within my own community. I have 17 fare cards in my wallet - each from a different system. Why can't there be consistency in how I buy a ticket, how I use the ticket (swipe or insert), and the ticket itself?

Access to pass/Ticket Dispensers

Topic: Payment

9 Up Votes / 0 Down Votes / 9 Net Votes

Comments: 1

Followers: 2

So often you arrive to a new stop and you need new passes. The access to the ticket dispenser is lowered, but the access to entering funds and choosing number of tickets is too high to make a selection and, in some cases, to read. These types of dispensers should have two locations for accepting funds and dispensing tickets/passes - high for the able bodied and low for those short in stature and who sit in a low position using a chair.

One stop stations...integrating community services

Topic: At the Station

11 Up Votes / 0 Down Votes / 11 Net Votes

Comments: 2

Followers: 4

I have heard of farmers markets at transit stations as a way to increase access to healthy foods...why not expand this? Have medical clinics (people can get flu shots, informational materials etc.). Local employment centers could also set up kiosks and offer career development and job seeking information. Especially in rural areas - having community services at transit hubs make sense and creates great partnerships between transportation and non-transit programs - makes the station an important community resource!

Areas around the station not accessible

Topic: At the Station

5 Up Votes / 0 Down Votes / 5 Net Votes

Comments: 1

Followers: 1

The biggest obstacle "At the Station" is getting to it. Many places do not have adequate egress or sidewalks to safely traverse to or from the station. Walking through parking lots or riding in a wheelchair are pretty chancy when you are dodging distracted or rude drivers in a vehicle. I can't tell you how many times I was nearly run down by drivers dashing into an empty parking space. Many stations do not have marked areas or Yield signs to warn drivers to watch for challenged pedestrians or those in wheelchairs.

Sometimes it is difficult to find the point where a person with disabilities or using a service dog is supposed to "load" onto a bus/trolley/train via a lifting device. If one is sight-impaired, it would be helpful to have a centrally located "press board" (similar to automatically opening doors) to activate a "beeping" sound used in a crosswalk signal. It would also be helpful to have

audible crosswalk signals mandated to be near the station for safety in crossing streets to approach the station.

Developers and nearby stores serving the station should be mandated to provide sidewalks and/or marked areas so people with disabilities can safely approach the station and their service centers. Again, audible signals should be placed in appropriate areas where crossing a street/parking lot is necessary.

Broken Equipment

Topic: Vehicle Trips

7 Up Votes | 0 Down Votes | 7 Net Votes

Comments: 1

Followers: 1

Where to begin? There are so many issues with this. First and foremost is the maintenance of equipment designed to help disabled passengers to board and exit the vehicle. Too many times they are not working well or at all. I have a service dog and using lifts to access vehicles was often metal and slippery when it was dry. When wet, it was a disaster. Elevators located at the stations that have them are also an issue in this respect. Most of the time I had to instruct my dog to lie down to keep her from being sliding off and being injured. The drivers or the person operating the lift were often impatient and hurrying to keep their schedule on-time. It was very stressful for both me and my dog. Then I had to juggle holding onto the dog's harness, my purse/wallet on a moving vehicle to pay the fare trying to maintain my balance. Buying a pass was not cost-effective as I don't use transit on a regular basis due to all the problems, we are confronted with in using public transit. The drivers/operators could also use more sensitivity training towards disabled/aged passengers. Some places train their drivers well, but more often they were not helpful or knew what to do or just didn't do it.

Having a service dog in a too small space with people stepping or tripping over her is ALWAYS an issue. Not to mention she had to lie on filthy flooring with unspeakable contents on it. I know because I had to clean it off. Service dogs for the blind are almost always large breeds. The space on transit vehicles is simply not adequate for safe or easy travel. If my dog is hurt or unable to work, that means I am unable to work or go anywhere. Her comfort and safety is my Number One priority and the transit authority should ensure that by designing and providing adequate space in a relatively clean and safe place in their vehicles.

Anchoring devices for the wheelchairs, mobility scooters, etc. were often missing, broken or could not be secured adequately causing them to shift and roll while riding in the transit vehicle. Since my dog and I were often placed in the disabled section near them, we had to be watchful and ready to dodge them or sit awkwardly on the seat/floor to avoid injury.

I am hearing impaired as well and could barely hear the driver call out (the microphone often don't work) that my stop was approaching. I usually had to ask another rider to alert me. Sometimes the driver would forget to call out the stops in the places I lived where they were supposed to do that. I can't see landmarks or signs, so I am very dependent on that cue. The trolley system I used to ride had an automated announcement, but it often didn't work or needed to be re-set and announced the wrong stop at the wrong station. Again, I had to ask other riders to assist me as I could not depend on the vehicle or its operator. There's more but those given above are the most important. I doubt that most vehicles could pass inspections of their equipment designed to accommodate the disable or challenged.

Autonomous Mobility for Seniors and Disabled Travelers

Topic: Vehicle Trips

6 Up Votes / 0 Down Votes / 6 Net Votes

Comments: 1

Followers: 1

IXR Mobility and Navya is in the process of Deploying a 12 passenger Autonomous Para-transit Shuttle pilot project in Detroit Michigan that would pick up seniors and the disabled for medical appointments who reside in the 15 senior living housing buildings within a 3 mile radius of the DMC Detroit Medical Center 7 hospital complex including the John D. Dingell Veterans Administration Hospital. This will be a 3 month pilot project from a grant. We believe that this pilot would help educate the general population on Autonomous Electrification Transportation as well as to help build trust in AV technologies. Exploring an opportunity in this project of Autonomous Mobility Inclusion to improve mobility options for disabled travelers.

Coordination Among vehicles if there are delays

Topic: Transferring

4 Up Votes / 0 Down Votes / 4 Net Votes

Comments: 1

Followers: 2

There needs to be better coordination in the event that a vehicle is delayed so individuals do not miss transfers.

Transferring Not an Option for People with Disabilities

Topic: Transferring

2 Up Votes / 0 Down Votes / 2 Net Votes

Comments: 1

Followers: 1

For a visually/hearing impaired (not blind and deaf, just impaired) person like me transferring is simply not an option regardless of technology and accommodations except to have a ride-along

"coach" to manage the transitions. Expansion of more shared ride services (SRS) is the only option short of providing door-to-door car services which are generally cost-prohibitive. This resource in every city/state I have lived has been inadequately and mostly a seriously under-funded transit service there is. It's not an option--it is a NECESSITY for many of us. The aged, severely impaired and developmentally disabled populations cannot be viably served without this service. One cannot use them in their current level of available services to get to work. I tried to do this, and the service was too underfunded and simply did not have the resources to get me to work on-time or close to it on a consistent basis. Employers will not tolerate constant lateness and missing important meetings and destroying work scheduling. The aged miss or are late for doctor's appointments, scheduled meetings with professional services (legal, financial, etc.) Time, distance, travel conditions and weather make already stretched SRS resources unreliable and not viable for use in a functional way in a business/work environment. There simply aren't enough vehicles, drivers, and support services to make it all work efficiently or effectively. Seniors and the disabled cannot tolerate 120% increases while living on poverty-level incomes or very close to it. My SRS provider still had to cut-back on trips. We don't have other options available to us like most folks do especially in smaller cities and towns. Family, neighbors and friends help out when they can, but they are busy and have their own issues to manage--jobs, children, work-related travel, community obligations and fulfilling their own household errands. Bottom line: Provide the means for us to live independently, get an education, get and keep a job, pay taxes or taxpayers will have to endure the cost of warehousing and providing for millions of aged and disabled folks. As I see it, pay now or pay a lot more later. It's not much of a choice and it's not going to go away. It's an investment into our collective futures. It's a huge undertaking but it can reap enormous rewards if the programs and resources are adequately funded initially and maintained. It may have to be installed in stages due to funding concerns, but its progress should be mandated. If not, you've wasted your time and mine.

Public Awareness & Education about Shared Pedestrian Space

Topic: The Pedestrian Space

14 Up Votes | 0 Down Votes | 14 Net Votes

Comments: 1

Followers: 2

As more cities and university campuses are incorporating dockless bicycle and scooter programs into the array of mobility options available, questions—and frustrations—have surfaced about keeping walking pathways, building ramps, and curb ramps clear of barriers for travelers who are blind or who use wheelchairs. In cities such as Charlotte and San Diego, advocates are working with local government for stricter laws or enforcement of existing laws. One aspect of sidewalk barriers rarely discussed is public education about and awareness of how people with disabilities use shared space and the clearances that are required for ADA facilities. Many riders may not think about the broader picture of how users of different abilities are affected by

barriers. Possible solutions include expanded public awareness through posters, transit shelter advertisements, app messages, social media posts, and transportation awareness education as part of school safety programs.

Scooter Education Campaign

Topic: The Pedestrian Space

11 Up Votes / 0 Down Votes / 11 Net Votes

Comments: 1

Followers: 3

I want to follow up on Rachel Beyerle's idea regarding micromobility and the pedestrian space. Scooters popped up all over downtown, Raleigh during the past year, and many were left in the middle of sidewalks by either the users or by the chargers who take them home to charge them overnight and then drop them off in the city the next day. The Raleigh Mayor's Committee for Persons with Disabilities discussed the idea of a public education campaign where anybody renting a scooter has to watch a brief video on their smartphone requesting that the person not leave the scooter in a place where it will block sidewalk access for people with mobility disabilities who need to use the sidewalk. Offenders will be tracked through people finding a scooter that blocks the sidewalk, photographing it, and reporting the serial number on it to the City of Raleigh, who will then contact the vendor to find out who the offender is. Hopefully, the public education campaign will reduce the issue of scooters blocking sidewalk access.