



Accessible Design and Disability Inclusion

Frequently Asked Questions



Why is accessible design and disability inclusion important?

Nearly everybody will have a disability that impacts their mobility or cognitive ability at some point in their lives, whether temporary or life-long. According to the Centers for Disease Control and Prevention, 26% of adults in the United States have some type of disability. These numbers do not necessarily reflect temporary disabilities – 5.6% of working Americans experience a short-term disability (six months or less) due to illness, injury, or pregnancy every year.¹

In 2017, nearly 27% of adults in Ohio had some type of disability. Of these individuals, 13.6%, 6.1%, and 4.5% had mobility, hearing, or vision disabilities, respectively.² These percentages may grow as Ohio's population ages. Disabilities are more common among people who are 65 or older, and the share of Ohio's population in this age group is expected to continue to grow as baby-boomers age.^{3,4}

Mobility, hearing, and vision disabilities are often the most challenging when using transportation systems, especially systems that are not up to

Related Resources: Active Living FAQs

the standards of the Americans with Disabilities Act of 1990. This FAQ factsheet provides information about the laws that guide accessible transportation infrastructure, why and how people with disabilities should be considered when designing active transportation networks, and what design considerations professionals should make to increase accessibility for people of all abilities and ages.

What laws ensure access for people with disabilities to transportation systems?

The first disability civil rights law in the United States was [Section 504 of the 1973 Rehabilitation Act](#), which prohibited discrimination against people with disabilities in programs that receive federal financial assistance. While initially written into the Rehabilitation Act without fanfare, it resulted

in two presidential administrations not signing the act over the next four years because of the predicted large implications the law would have on costs of constructing federally funded infrastructure.

In 1977, disability advocates staged the longest nonviolent occupation of a federal building in U.S. history to pressure the Carter administration to sign the Act. This protest, known as the 504 Sit-in, lasted for 25 days and led to the Carter administration's signature of the Act. The protest and legislation set the stage for a generation of disability rights activists who would later lead the efforts to enact the Americans with Disabilities Act.

Title II of the Americans with Disabilities Act of 1990 (ADA) states that no person with a disability shall, because of inaccessibility or usability, be excluded from participation in or denied the benefits of a public entity's programs, services, or activities. In a landmark 2002 decision, the U.S. Court of Appeals for the Ninth Circuit found that the phrase "services, programs, and activities" includes sidewalks in the public right-of-way. The U.S. Department of Justice and the U.S. Department of Transportation have subsequently developed enforceable standards that apply to sidewalks in the public right-of-way, including requirements related to curb ramps, vertical changes in level, surface characteristics, and clear width. Sidewalks that are in violation of these standards may be the subject of ADA lawsuits.



Many aspects of the built environment can impact accessibility for people with disabilities..

People with disabilities

The language we use greatly impacts how policies, programs, and projects benefit or harm communities. It is important that we choose **people-first language** that places our work's focus on people, and not on a single facet of their identities.

The term "**people with disabilities**" is generally preferred over terms such as "handicapped," "wheelchair-bound", etc. as it directs our attention to the people who are experiencing a disability, and not on the disability(ies) itself. For example, it is recommended to use the phrase "**a person with a visual disability**" in place of "a blind person." However, each individual may have their own preference as to how they would like to be addressed; some people may embrace disability-first language because it is a crucial part of their identity.

It is also important to remember that people experience disabilities in different ways and that not all disabilities are evident on the surface. While some people may experience a chronic, lifelong disability, others may have temporary disabilities. Additionally, people with a similar type of disability can have different life experiences. When in doubt, use **language that focuses on the individuals and their experiences over assumed diagnoses**. Even better, **ask people with disabilities** how they prefer to be addressed.

Why should people with disabilities be included in planning/design processes?

Accessible sidewalks, trails, bikeways, bus stops, train stations, and other active transportation facilities benefit everyone, regardless of their ability status. An accessible transportation network is particularly important to people with disabilities, people without access to a vehicle, older adults (those 65 years or older), and parents with young children. Planning for and including people with disabilities in active

transportation planning and design processes leads to a more accessible, comfortable, and connected system for the entire community.

Additionally, people with disabilities also experience significant health benefits from walking, rolling, bicycling, and taking transit. In fact, bicycling is a proven benefit for people with certain chronic conditions such as Parkinson's disease, ADD/ADHD, and perhaps Ménière's disease.^{5, 6, 7} Creating accessible active transportation networks allows people of all abilities and ages the opportunity to experience the health benefits from increased physical activity and connecting with their community.

Beyond including the needs of people with disabilities in planning documents, communities should move toward including people with disabilities in planning and design processes. People with disabilities can speak from their own experiences on how to make plans and designs more accessible, which can lead to better results for people of all abilities and ages. Key stakeholders must be involved in the planning and design process to ensure that active transportation networks accommodate people with disabilities, including individuals who experience different types of disabilities, such as cognitive, auditory, vision, and mobility disabilities.



People with disabilities experience significant health and social benefits from engaging in active transportation activities.

Communities can make planning processes more accessible for people with disabilities by reflecting on current planning practices and using the [IAP2 Spectrum of Public Participation](#)

as a measuring tool.⁸ The spectrum provides a matrix that communities can use to identify the role of the public or a particular group in a planning process, the participation goal, and the related impact of their role on the decision. Once a community has reflected on their position along the spectrum of public participation for a particular project or initiative, there are multiple approaches and best practices that can be implemented to help a community move from informing to empowering people with disabilities. The last page of this document outlines some of these practices by focusing on the “who” and “how” questions of inclusionary planning.

How can people with disabilities be included in programming?

People with disabilities should be considered, included, and empowered in all forms of active transportation planning and programming. As discussed above, people with disabilities experience significant health and social benefits from engaging in active transportation activities like walking, rolling, and bicycling, and there are federal requirements protecting all people's ability to access a public entity's programs, services, or activities. Two areas of active transportation programming that are currently shifting their approach to disability inclusion are Safe Routes to School and public bikeshare systems.

Safe Routes to School: Students with disabilities should be included in Safe Routes to School (SRTS) programs. This is also specified in the Individuals with Disabilities Education Act (IDEA), which requires the development of individualized education programs (IEPs) for students with disabilities. IEPs may include SRTS activities to support students' mobility goals, so schools should include students with disabilities in their SRTS programs. While necessary accommodations will depend on the individual student's abilities, adaptive bicycles, walking buddies, park-and-walk and park-and-roll options, and curb ramp installation and repair efforts can support students' participation, regardless of their abilities.⁹

Public Bikeshare: Public bikeshare systems should provide bicycle-based options for people with disabilities. Historically, bikeshare technology providers have incorporated some accessible features into their non-adaptive bicycles such as step-through frames, an upright sitting position, and wider tires to provide a more stable ride. However, the vast majority of bikeshare systems do not offer bicycles suitable for persons with significant mobility issues.

After several years of providing limited styles of non-adaptive bicycles, bikeshare systems are increasingly being asked about providing accessible options for persons with disabilities in accordance with the ADA. While bikeshare operators have identified a number of challenges in providing customized bicycles and mixed fleet solutions, bikeshare systems across the country are now exploring different distribution models for adaptive bicycles. One system that currently offers adaptive bicycles is [Detroit's MoGo System](#), which has 13 styles of cycles including side-by-side bicycles, cargo trikes, recumbent bicycles, hand cycles, and front-loading trailers to serve a variety of people with different abilities.

What is accessible active transportation and Universal Design?

The best source for general guidance on creating accessible pedestrian spaces in the public right-of-way is the United States Access Board's [Accessibility Guidelines for Pedestrian Facilities in the Public Right-of-Way \(PROWAG\)](#).¹⁰ Once adopted by the applicable federal agencies, compliance with guidelines will be mandatory. Even before adoption, the guidelines provide a useful framework to help public entities meet their obligations to make their programs, services, and activities in the public right-of-way readily accessible to and usable by individuals with disabilities. For that reason, the Federal Highway Administration considers the PROWAG a best practice for the design and construction of sidewalks, pedestrian facilities, and other elements in the public rights-of-way. The Ohio Department of Transportation adopted PROWAG in 2018 as have several other cities in Ohio.¹¹

Universal Design aims to create places where any user can comfortably move, especially those in mobility devices, children, and older adults.

While a variety of documents have legal guidance on accessible design standards (2006 U.S. Department of Transportation Standards and 2010 U.S. Department of Justice Standards, most notably), jurisdictions should use PROWAG to begin creating accessible transportation systems. In addition to PROWAG, communities can incorporate Universal Design into building standards, and work in partnership with transit service providers to improve access at and to fixed route and paratransit services.

Universal Design is a concept that goes beyond conformance to the ADA or PROWAG's guidelines, and instead aims to create places where any user can comfortably move, especially those in mobility devices, children, and older adults. Universal Design tools can be divided into four categories: tactile cues, color, lighting, and audible clues. These strategies can enhance the safety and accessibility of users of all abilities and ages.



Universal design creates places that are comfortable for all users.

What are best practices for incorporating people with disabilities in active transportation planning and design processes?

Planners and designers should establish early and ongoing collaboration between local government representatives and key stakeholders, including:

- » People who represent the spectrum of disabilities, including life-long, temporary, and multiple disabilities.
- » People who care for people with disabilities in both formal and informal roles.
- » Groups that represent people with disabilities, such as local advocacy organizations, life skill training centers, and ombudsmen.
- » Orientation and mobility specialists (professionals who teach independent travel skills to people with disabilities).
- » Groups that represent older adults.
- » Groups that represent pedestrians and bicyclists.
- » Maintenance and operations staff who are responsible for pavement, vegetation, and site furnishings.



People with a spectrum of disabilities should be incorporated at all stages of active transportation planning.

Key stakeholders should be engaged at every stage in the planning and design process, from needs assessment to final design:

- » Develop and deploy strategies for accessible meetings and communication materials and spaces (websites, email, etc.).
- » Advertise meetings through agencies serving individuals with disabilities.
- » Ask invitees well ahead of time whether they will need special accommodations in order for them to participate fully and arrange for those accommodations. Accommodations may include hiring interpreters based on attendees' needs.
- » Provide advance copies of meeting materials in accessible electronic formats, including detailed presentation notes with image/graphic descriptions.
- » Print enlarged copies of presentations for people with low vision, who may be able to read close up but not at a distance.
- » Use tactile maps or 3-D models to convey key design concepts. Allow sufficient time for people with vision disabilities to review these materials or make them available in advance.
- » Provide detailed verbal descriptions of visual elements that are important for understanding, such as presentation graphics or images.
- » Actively engage people with disabilities in meetings. Ask them to share their experiences navigating the built environment, including the technologies they use.
- » Allow people to provide feedback in a variety of methods, including written notes, spoken comments, dot-voting, drawing, and more.
- » Provide an accessible website with accessible project documents. Accessible websites that comply with Section 508 of the Rehabilitation Act of 1973 can also help engage people with vision disabilities in shared street projects.

Where can I find out more?

- » ADA 29, Celebrate the Americans with Disabilities Act. www.adaanniversary.org/
- » CDC, Disability Inclusion. www.cdc.gov/ncbddd/disabilityandhealth/disability-inclusion.html
- » Disabled World; Definitions, Types and Models of Disability. www.disabled-world.com/disability/types/
- » Great Lake ADA Center. www.adagreatlakes.org/
- » Health Policy Institute of Ohio, 2024 Health Value Dashboard. www.hpio.net/2024-health-value-dashboard/
- » National Center on Health, Physical Activity and Disability; Community Health Inclusion Assessment Tools. <https://www.nchpad.org/1261/6287/Community~Health~Inclusion~Assessment~Tools>
- » Ohio Disability and Health Program. <https://odh.ohio.gov/wps/portal/gov/odh/know-our-programs/Ohio-Disability-Health-Program/Ohio-Disability-Health-Program>
- » Ohio Department of Transportation, ADA Transition Plan Resources. <https://www.transportation.ohio.gov/wps/portal/gov/odot/programs/ltap/technical-assistance/ada-transition>
- » Public Rights of Way, United States Access Board. <https://www.access-board.gov/prowag/>
- » WebAIM, WAVE Accessibility Evaluation Tool. <https://wave.webaim.org/>

Endnotes

- ¹ Council for Disability Awareness. (2018). Chances of Disability: Me, Disabled? Retrieved from: disabilitycanhappen.org/disability-statistic/
- ² Centers for Disease Control and Prevention. (2018). Disability & Health U.S. State Profile Data for Ohio (Adults 18+ years of age) Retrieved from: www.cdc.gov/ncbddd/disabilityandhealth/impacts/ohio.html
- ³ Centers for Disease Control and Prevention. (2017). Ohio Category: Disability Estimates. Retrieved from: dhds.cdc.gov
- ⁴ Miami University. Ohio's Population is aging rapidly. Retrieved from: miamioh.edu/cas/academics/centers/scripps/research/ohio-population/index.html
- ⁵ Bicycling Magazine. (2017). Why Cycling May be the Best Way to Handle Parkinson's. Retrieved from: www.bicycling.com/news/g20011415/-16/
- ⁶ Singletracks. (2015). Specialized Medicine: The Impact of Cycling on ADHD. Retrieved from: www.singletracks.com/blog/uncategorized/specialized-medicine-the-impact-of-cycling-on-adhd/
- ⁷ Living with Meniere's Disease. (2008). Non-Drug Treatments for Meniere's Disease. Retrieved from: menieresowhat.blogspot.com/2008/04/non-drug-treatments-for-menieres.html
- ⁸ International Association for Public Participation. (2018). IAP2 Spectrum of Public Participation. Retrieved from: cdn.ymaws.com/www.iap2.org/resource/resmgr/pillars/Spectrum_8.5x11_Print.pdf
- ⁹ Safe Routes to School National Partnership. (2018). Engaging Students with Disabilities in Safe Routes to School. Retrieved from: https://www.saferoutespartnership.org/sites/default/files/resource_files/engaging_students_with_disabilities_in_srts_final.pdf
- ¹⁰ Architectural and Transportation Barriers Compliance Board (2023). Accessibility Guidelines for Pedestrian Facilities in the Public Right-of-Way. 88 FR 53604. Retrieved from: <https://www.federalregister.gov/documents/2023/08/08/2023-16149/accessibility-guidelines-for-pedestrian-facilities-in-the-public-right-of-way>
- ¹¹ Ohio Department of Transportation (2024). Multimodal Design Guide, Section 2.2.2. Retrieved from <https://www.transportation.ohio.gov/working/engineering/roadway/manuals-standards/multimodal>