MINNESOTA GO

Planning Minnesota's
Transportation Future

DISABILITY TREND ANALYSIS

CONTENTS

SUMMARY

People depend on transportation for their quality of life and having a disability can make it harder to move around. According to the U.S. Census Bureau, one in nine Minnesotans have a disability.[1] This equals 608,774 people (or 11%) of the total state population. Disabilities can complicate everyday tasks, such as reading a transit schedule, reading directions, driving a car, climbing steps or crossing a street. Different or added transportation services can help people with a disability stay in good health and take part in the community. A recent study found that accessible transportation options reduce social isolation and increase community integration for people with a disability.[2]

Older adults (over 65) have the highest proportion of disability status by age group. Nearly 45% of people 75 and older have a disability. The most common type of disabilities is ambulatory (e.g., difficulty walking). Other common types are cognitive and independent living.

Minnesotans living with a disability are employed at a rate higher than the national average. However, employment for people with a disability is still lower than for people who do not have a disability. About two-thirds of workers with disabilities drive alone to work. More than three-quarters of workers without a disability do. People with a disability use public transit to get to work more than twice as much as people without a disability. People with a disability also use paratransit services.

Agencies are working toward compliance with the Americans with Disabilities Act (ADA). This improves aspects of transportation, like transit service and sidewalk infrastructure, so that people of all abilities can use them safely and comfortably. New mobility as a service options, like ride hailing and e-bikes or e-scooters, are also creating mobility options for people with disabilities. However, they have a long way to go to supply fair services. Some of the barriers that prevent people from using these services include the type of payment required, physical disability limitations and reliance on smart phones.

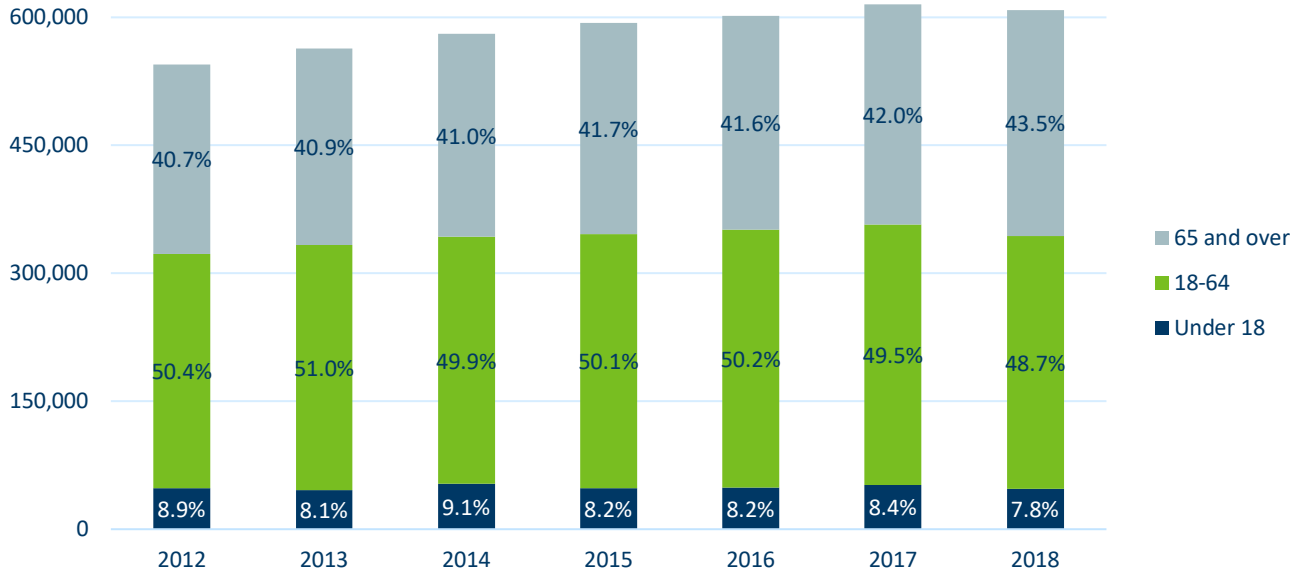
PEOPLE WITH DISABILITIES IN MINNESOTA

As Figure 1 shows, the number of people with a disability in Minnesota increased from approximately 545,000 to more than 600,000 (up 13%) from 2012 to 2018.

[1] U.S. Census Bureau; American Community Survey, 2018 American Community Survey 1-year estimates, S1810; generated by MnDOT using data.census.gov (accessed February 19, 2021).

[2] N.N. Sze and Keith M. Christensen, "Access to Urban Transportation System for Individuals with Disabilities," Science Direct (International Association of Traffic and Safety Sciences, May 20, 2017), https://www.sciencedirect.com/science/article/pii/S0386111217300444#!.

Figure 1: People with a disability in Minnesota by age group, 2012-2018[3]

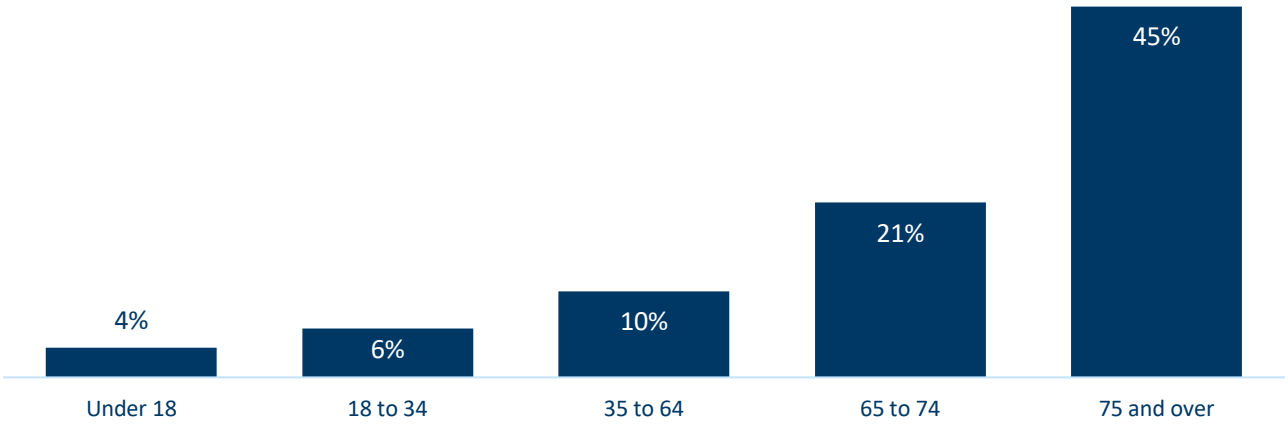


Although older adults are more likely to have a disability, people of all ages have disabilities. Most Minnesotans with a disability are younger than 65 years old, and about 8% (approximately 50,000 people) are under the age of 18. A person's chance of having a disability increases with age. There is a 25% chance a 20-year-old will become disabled before reaching retirement.[4] Minnesota State Demographic Center projects that the number of Minnesotans age 65 and older will increase by more than half a million people by 2035 and surpass the under-18 population for the first time in the state's history.[5] Accordingly, the number of people with a disability in Minnesota will also likely increase.

Figure 2 shows that older age groups have a higher proportion of people with a disability than younger age groups. About four percent of people under the age of 18 have a disability. That figure increases to 6% for people 18 to 34 years old, to 10% for people 35 to 64 and 21% for people 65 to 74. Almost 45% of people 75 or older have a disability.

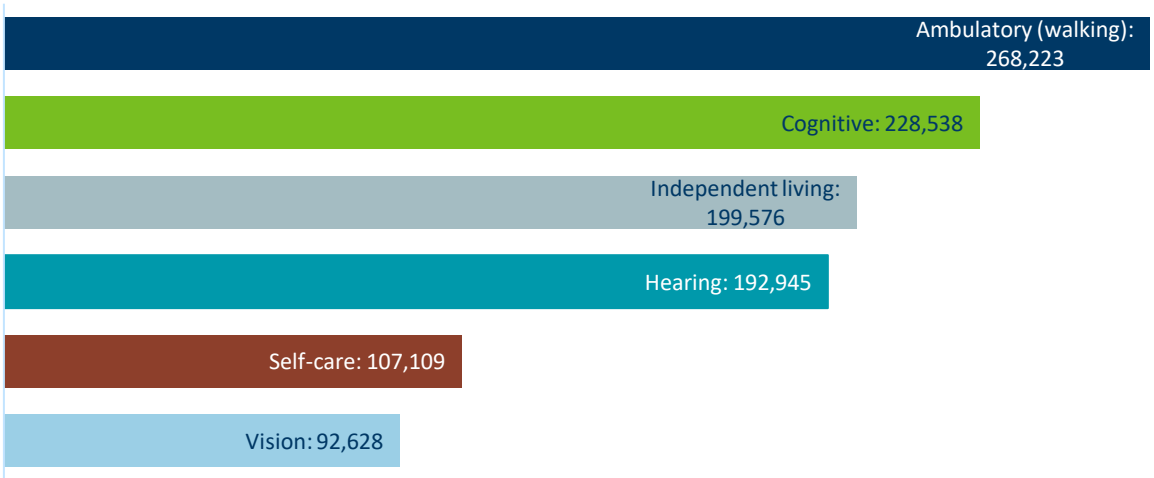
[3] U.S. Census Bureau; American Community Survey, 2018 American Community Survey 1-year estimates, S1810; generated by MnDOT using data.census.gov (accessed February 19, 2021).
[4] "Social Security Facts," SSA, accessed February 19, 2021, https://www.ssa.gov/disabilityfacts/facts.html.
[5] "Our Projections: Population Data," Minnesota State Demographic Center, February 23, 2021, https://mn.gov/admin/demography/data-by-topic/population-data/our-projections/.

Figure 2: Share of people with a disability by age group in Minnesota, 2018[6]



The most prevalent kind of disability is difficulty walking and climbing stairs, but most Minnesotans with disabilities have more than one difficulty. Figure 3 shows the most common disabilities in Minnesota. The relative number of people with each type of disability has remained consistent over the last decade. More than 265,000 people having trouble walking or climbing stairs. Cognitive difficulties, defined as a serious difficulty concentrating, remembering or making decisions, are the second most common type. Independent living and hearing difficulties are the third and fourth most common types of disabilities, each affecting almost 200,000 Minnesotans. Self-care and vision difficulties are the least common, but each still affects more than 90,000 people in the state. Many people live with more than one disability. The sum of people living with each type of disability is more than the total number of people with a disability.

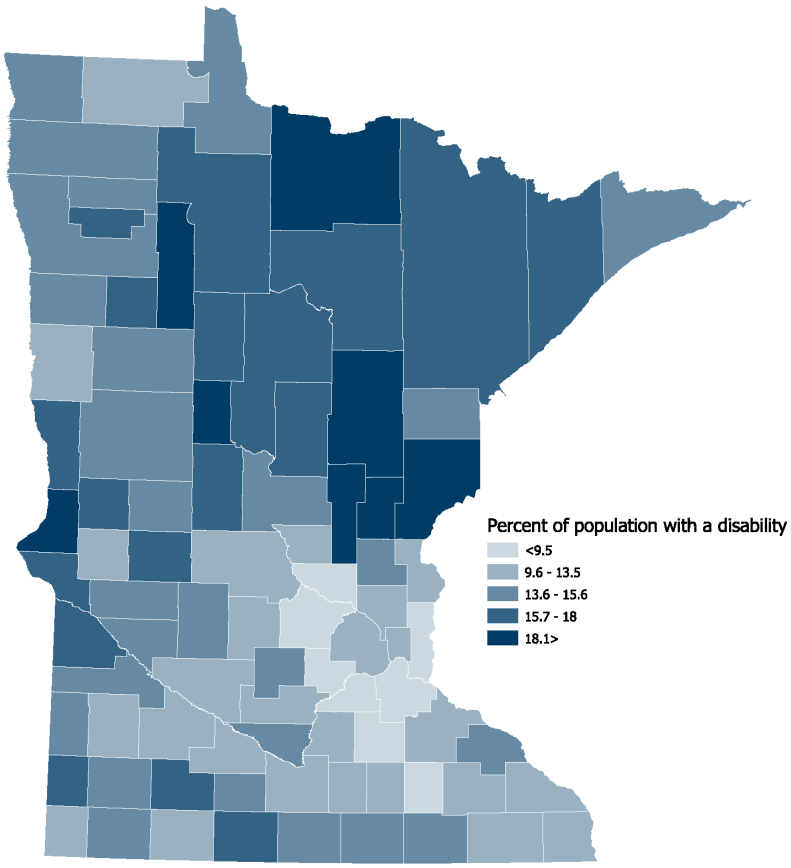
Figure 3: Prevalence of different types of disabilities in Minnesota, 2018[7]



[6] U.S. Census Bureau; American Community Survey, 2018 American Community Survey 1-year estimates, B18130; generated by MnDOT using data.census.gov (accessed February 19, 2021).
[7] U.S. Census Bureau; American Community Survey, 2018 American Community Survey 1-year estimates, S1810; generated by MnDOT using data.census.gov (accessed February 19, 2021).

Most Minnesotans with disabilities live in the seven-county metro area, but the counties with the highest concentration of people with a disability are in the western and northern parts of the state. Figure 4 shows the percentage of people with a disability by county. Traverse County, in the western part of the state, has the highest rate of people with a disability at 19.1%. In northern Minnesota, more than 17% of the residents of Kanabec and Aitkin Counties have a disability. Carver County in the seven-county metro area had the lowest rate, at 6.5%.

Figure 4: Share of population with a disability by county, 2018[8]

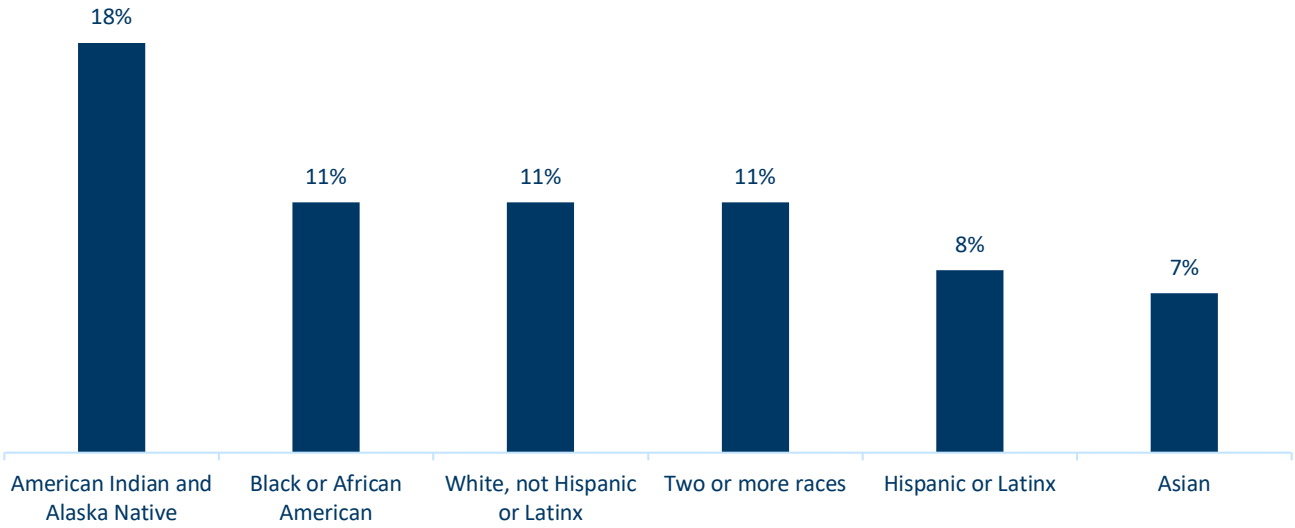


Counties with older populations are more likely to have a greater percent of people with a disability. In the three counties with the highest rates of people with a disability (Traverse, Kanabec and Aitkin), between 19% and 31% of the population is age 65 and older, which is higher than the state average of nearly 16%. In the counties with the lowest rates of people with a disability (Scott, Carver and Sherburne), only 11 or 12% of people are age 65 or older.[9] Understanding the correlation between aging populations and people with disabilities can help local and state agencies prioritize types and locations of improvements. Future housing locations for seniors and people with disabilities can also be thoughtfully identified in maximizing access to public transportation and close proximity to key destinations like grocery stores, community centers, retail and medical clinics.

[8] Ibid.
[9] Ibid.

People in some racial and ethnic groups are more likely to have a disability than people in other groups, as illustrated in Figure 5. American Indian and Alaska Native people are more likely to have a disability than any other group, with 18% in Minnesota having some form of disability. About 11% of Black Minnesotans have a disability, which is similar to the rates for white and multi-racial Minnesotans. Just under 8% of Hispanic or Latinx people in Minnesota have a disability. Asian-Americans are the group least likely to have a disability, at 6.5%.

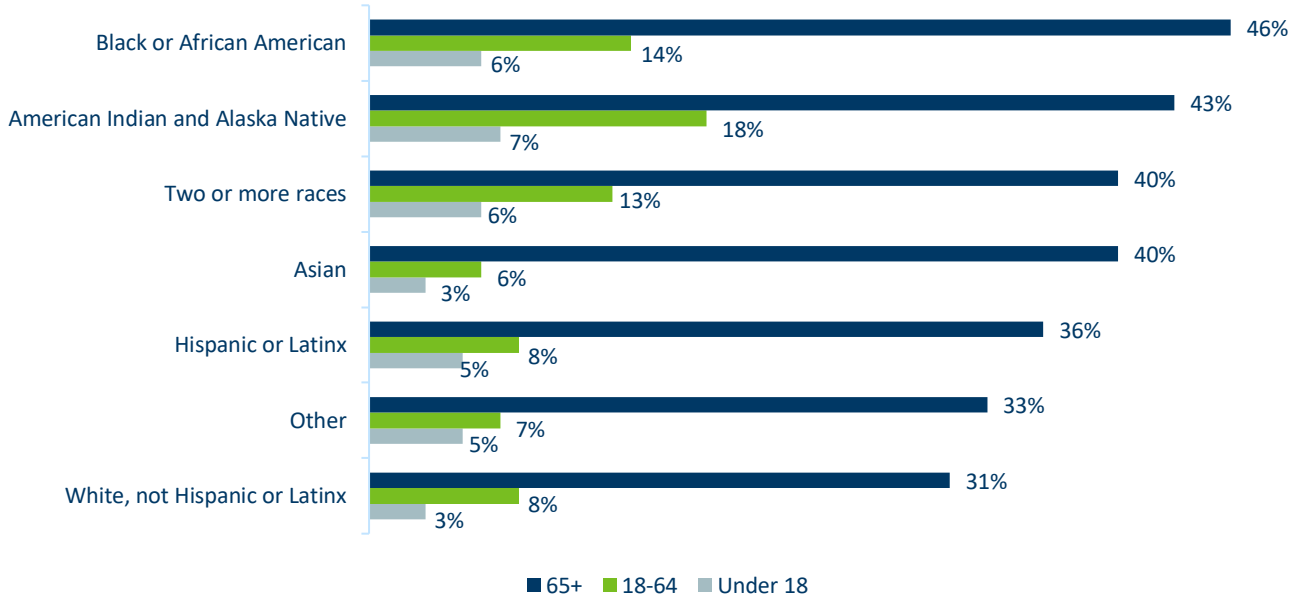
Figure 2: Shares of people with a disability among different racial and ethnic groups, 2018[10]



Accounting for age, racial disparities in disability rates become clearer. White non-Hispanic people are the group with the highest median age and highest proportion age 65 and older. As BIPOC in Minnesota age, people with a disability in the state will become more diverse. The racial disparities in disability status become clearer when the population is divided into different age groups. Blacks and American Indians of all ages are more likely to have a disability than Minnesotans in the same age group who are white or Hispanic or Latinx. Figure 6 illustrates these disparities. This suggests that as the median age of Minnesotans of color rises, the share of people with a disability will increase and surpass that of white Minnesotans.

[10] Ibid.

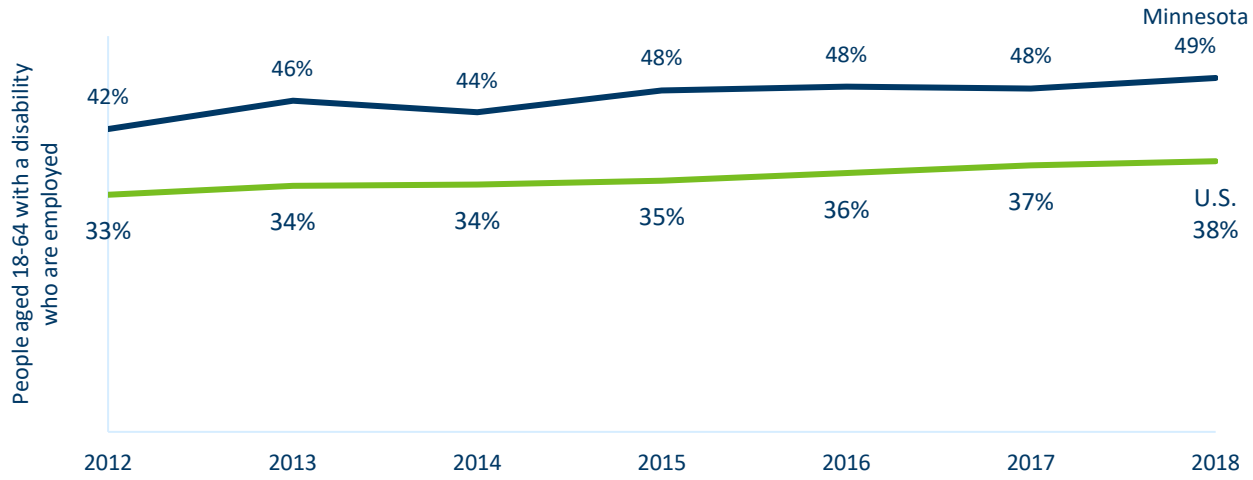
Figure 6: Share of people in Minnesota with a disability by age for different racial and ethnic groups, 2018[11]



EMPLOYMENT & MOBILITY FOR PEOPLE WITH A DISABILITY

As shown in Figure 7, people with a disability in Minnesota have a higher labor force participation rate than the national average. In 2018, over 49% of Minnesotans with a disability between the ages of 18 and 64 were employed, which was 11 percentage points higher than the national level of 38%. The employment rate for people with a disability in Minnesota and the nation has been rising steadily since the early 2010s.

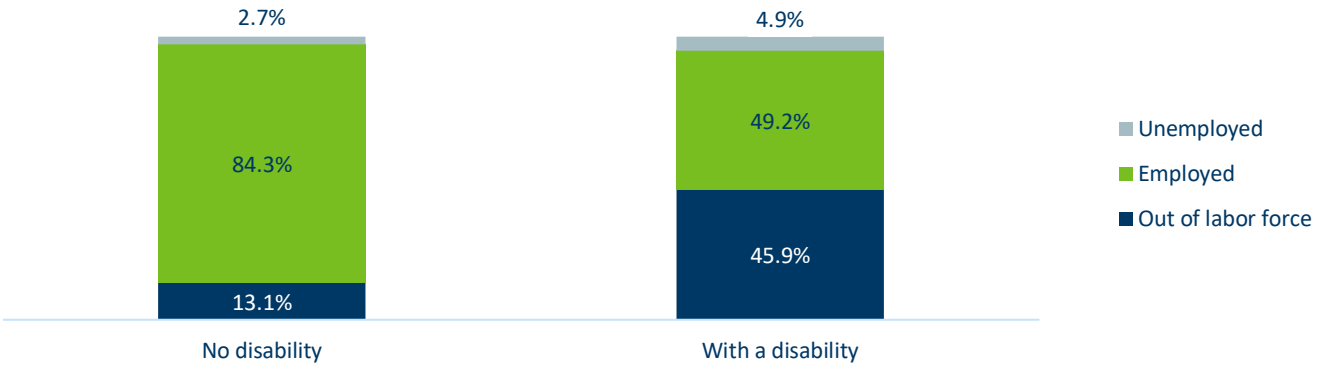
Figure 7: Share of working-age people with a disability who are employed, 2012-2018



[11] U.S. Census Bureau; American Community Survey, 2018 American Community Survey 5-year estimates, B18101; generated by MnDOT using data.census.gov (accessed February 19, 2021).

While Minnesotans with a disability participate in the labor force at a higher rate than their counterparts in other states, they are more likely to be unemployed or out of the workforce than people without a disability in Minnesota. Figure 8 compares the two groups. The unemployment rate for people with a disability is 2.2 percentage points higher than for people without disabilities, and for those out of the labor force, the rate is 32.8 percentage points higher. In 2018, working-age Minnesotans without disabilities were employed at a rate of nearly 84%, compared to 49% for Minnesotans with a disability.

Figure 8: Employment status by disability status in Minnesota for people aged 18-64, 2018[12]



COMMUTING TRENDS

People with a disability who are employed are less likely to drive alone during their commute to their jobs than people without a disability. Table 1 highlights the ways people with and without a disability get to work. About two-thirds of workers with disabilities drive alone to work, compared to more than three-quarters of non-disabled workers. People with a disability use public transit to get to work at more than twice the rate as people without a disability. Also, people with a disability are 67% more likely to walk to work than people without a disability.

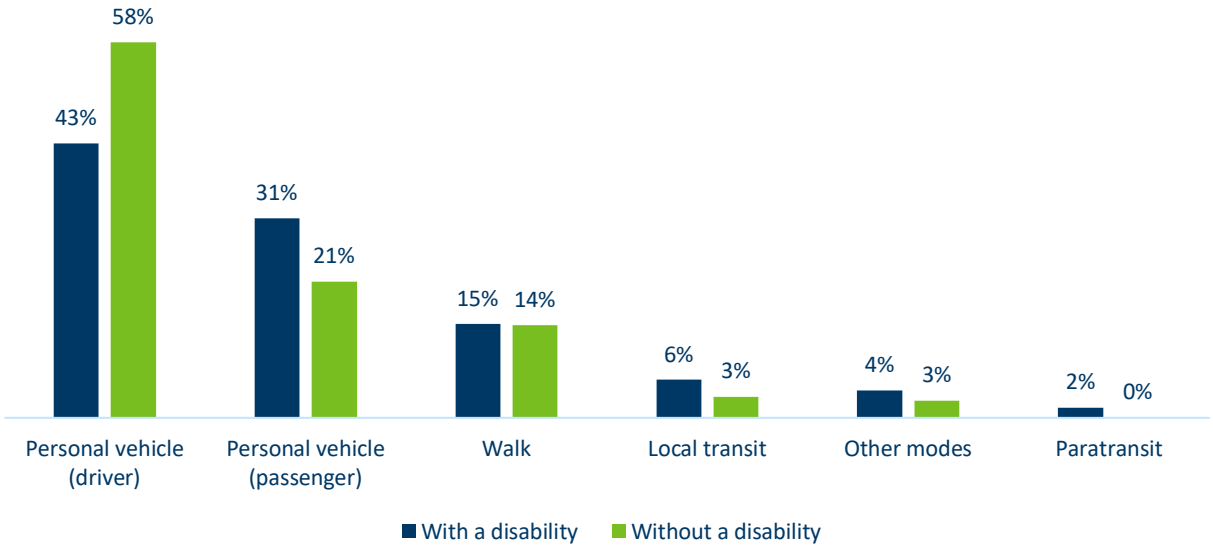
Table 1: Commuting patterns of workers in Minnesota by disability status, 2018[13]

Population	Drive alone	Carpool	Public transit	Walk	Other	Work at home
With a disability	67.1%	11.4%	7.8%	4.5%	3.1%	6.1%
Without a disability	78.3%	8.2%	3.3%	2.7%	1.4%	6.1%

The available national data suggests a similar pattern of travel modes for non-workers. Among people who do not work, people with a disability are less likely to drive a personal vehicle and more likely take transit or use other transportation options than people without disabilities. Figure 9 shows the transportation mode share for U.S. non-workers by disability status. Non-workers without a disability drive a personal vehicle for 58% of trips, which is 15 percentage points more than for people with a disability who do not work. People with a disability who do not work are 10 percentage points more likely to be a passenger in a personal vehicle than people without a disability, and are more likely to walk, take transit and use other modes, including paratransit services.

[12] U.S. Census Bureau; American Community Survey, 2018 American Community Survey 1-year estimates, B18120; generated by MnDOT using data.census.gov (accessed February 19, 2021).
[13] U.S. Census Bureau; American Community Survey, 2018 American Community Survey 1-year estimates, S1811; generated by MnDOT using data.census.gov (accessed February 19, 2021).

Figure 9: Transportation mode share for U.S. non-workers by disability status, 2017[14]

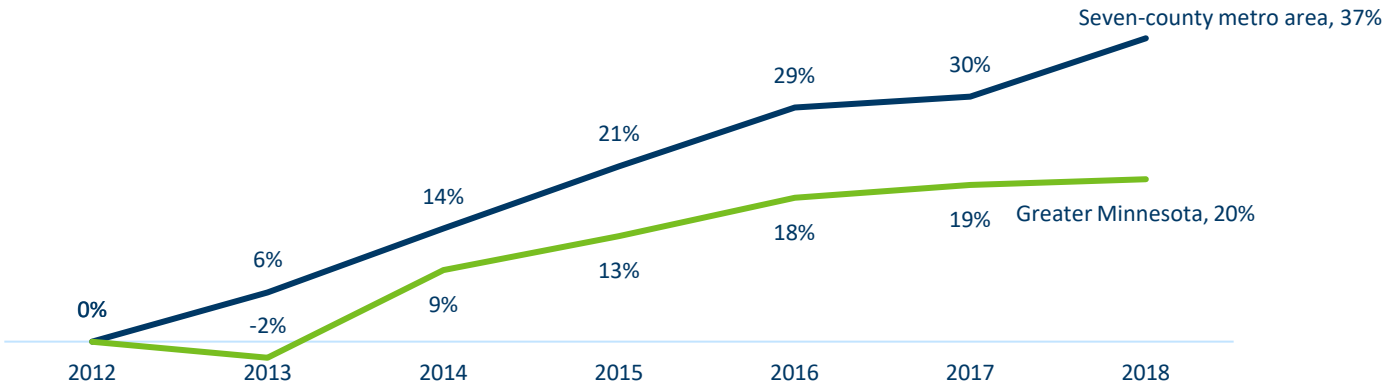


Statewide, more people are using door-to-door public transportation services, which the Americans with Disabilities Act (ADA) of 1990 requires transit agencies to provide. The purpose of the ADA was to eliminate discrimination against people with a disability.[15] The act requires public transit providers to offer complementary paratransit service for people who, because of a disability or health condition, cannot use the fixed-route service. There are seven transit providers across Minnesota that provide on-demand, door-to-door service to certified users. As Figure 10 illustrates, the use of the paratransit service has grown in recent years, both in the seven-county metro area and in Greater Minnesota.

It requires considerable resources to provide paratransit service. Because paratransit drivers operate smaller vehicles and provide personalized door-to-door service to passengers with limited mobility, the service requires greater subsidy per passenger than fixed-route service. For example, the per-rider subsidy for seven-county metro area-based Metro Mobility paratransit service is about $26. This is almost six times the per-rider cost for Metro Transit's regular bus service. Additionally, Metro Mobility ridership increased 37% between 2012 and 2018, and the cost to provide this service is taking a larger portion of Metropolitan Council's budget each year. This matches national trends. The Federal Transit Administration estimates that the average operating expense per passenger for a demand response service like ADA paratransit is more than $40, compared to $5.24 for fixed-route bus service, and that passenger miles traveled by demand response services have risen by 24% from 2010 to 2019, more than bus or rail ridership.[16]

[14] "Travel Patterns of American Adults with Disabilities," Bureau of Transportation Statistics, December 11, 2018, https://www.bts.gov/topics/passenger-travel/travel-patterns-american-adults-disabilities.
[15] "Introduction to the ADA," Information and Technical Assistance on the Americans with Disabilities Act, accessed February 19, 2021, https://www.ada.gov/ada_intro.htm.
[16] "2019 National Transit Database National Transit Summaries and Trends," Federal Transit Administration, accessed December 8, 2020, https://www.transit.dot.gov/sites/fta.dot.gov/files/2020-11/2019-NTST.pdf.

Figure 10: Cumulative percent growth in paratransit ridership in Minnesota, 2012-2018 [17]



ADA requires an accessible public realm, and the United States Access Board established a requirement for the built environment to ensure access for people with a disability.[18] Since 1992, public agencies that employ 50 or more people have been required to develop ADA transition plans to achieve compliance with ADA standards.[19] The required elements of a transition plan including, but not limited to, a grievance procedure for documenting and responding to accessibility concerns, a prioritization methodology for removing barriers and a schedule for implementation of accessibility improvements.[20] As of 2019, 102 Minnesota cities and counties are in progress of developing transition plans, 98 have adopted transition plans and 12 cities and counties have no plan. Many more cities and counties are exempt due to having fewer than 50 employees. MnDOT is currently updating its ADA Transition Plan.[21]

WINTER MAINTENANCE

Winter maintenance is another factor that affects mobility for the disability community, particularly in Minnesota with its long winters. When sidewalks aren't cleared promptly, snow and ice build-up can become impassable for people using mobility devices. MnDOT is responsible for snow clearance on some sidewalks throughout the state but also has maintenance agreements with counties and municipalities for them to clear snow from sidewalks.

Some municipalities, like the City of Minneapolis, use a citation-based system to enforce uncleared sidewalks after snow events. However, there are limited resources to devote to such efforts. The City sends mailers to residents at the beginning of the winter season and uses social media and GovDelivery communication tools to remind residents of sidewalk clearance rules, particularly when a snow emergency has been declared. Residents have 24 hours to remove snow from a sidewalk after a snowfall event.[22] City staff inspect sidewalks for compliance and also respond to complaints. If sidewalks are not shoveled, city crews shovel the sidewalks and bill the property owner.

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[17] "Transportation 2020-21 Governor's Biennial Budget Recommendations," n.d. and MnDOT
[18] "ADA Standards for Accessible Design," Information and Technical Assistance on the Americans with Disabilities Act, accessed February 19, 2021, https://www.ada.gov/2010ADAstandards_index.htm.
[19] "ADA Title II Technical Assistance Manual," The Americans with Disabilities Act, accessed February 19, 2021, https://www.ada.gov/taman2.html.
[20] Ibid.
[21] "MnDOT ADA Transition Plan," (MnDOT, 2015).
[22] "Sidewalk Snow Clearing Rules," City of Minneapolis, accessed February 19, 2021 https://www.minneapolismn.gov/getting-around/snow/snow-clearing/sidewalk-snow-clearing/.

OLMSTEAD PLAN

The 1999 U.S. Supreme Court decision on Olmstead v. L.C. strengthened the rights of people with a disability to live, study, interact and be employed in their communities. The ruling requires states to provide services to people with a disability in the most integrated setting possible. This decision led to the creation of Minnesota Olmstead Plans demonstrating compliance with ADA requirements. While generally focusing on overall integration of people with a disability, these plans work to address issues of affordable housing and transportation.[23] Minnesota's Olmstead Plan was first approved in 2015, and its March 2019 revision set measurable goals for person-centered planning, transition services, housing, employment, education, healthcare, transportation and other topics. The transportation goals include making accessibility improvements and expanding and improving public transit service across the state. Achieving these goals will require cooperation between MnDOT, city and county governments, the Metropolitan Council and other transit providers. The plan's goals and responsible parties are summarized in Table 2 below.

Table 2: Transportation Goals in Minnesota's Olmstead Plan

Goal	Responsible organization(s)
Build more accessibility improvements	MnDOT, Cities and Counties
Increase service-hours for public transit in Greater Minnesota	MnDOT, Greater Minnesota Transit Providers
Expand transit coverage in Greater Minnesota	MnDOT, Greater Minnesota Transit Providers
Improve on-time performance for public transit statewide	MnDOT, Greater Minnesota Transit Providers, Seven-County Metro Area Transit Providers
Serve more people with a disability with regular route transit service in the seven-county metropolitan area	Seven-County Metro Area Transit Providers

Other goals in the Minnesota Olmstead Plan are not the responsibility of transportation agencies to implement but will affect transportation needs. For example, the Department of Human Services, the Department of Corrections and Minnesota Housing are responsible for the goal of increasing the number of people moving from segregated settings (like nursing homes) to more integrated settings. Integrated settings are like supportive housing where people with disabilities have more freedom and greater opportunity to participate in society. As people with a disability become less geographically isolated and segregated, the need to make accessibility improvements throughout all communities becomes more urgent.

SHARED MOBILITY AND PEOPLE WITH A DISABILITY

Over the last few years, several shared mobility services have started operating in Minnesota, but they provide inconsistent access for people with a disability. Bike share, rental e-scooters and ride-hailing transportation network companies (TNCs) like Uber and Lyft operate in much of the seven-county metro area and to a lesser extent in Greater Minnesota. Some shared mobility services can directly impede people with limited mobility and many services have obstacles that prevent people with a disability from enjoying the benefits of the services.

[23] "Olmstead Plan," Minnesota Olmstead Implementation Office, June 9, 2021, https://mn.gov/olmstead/.

However, people with a disability have varying needs and abilities, and some mobility services can expand travel options for one person with a disability and restrict the ability to travel for another.

Despite local ordinances, rental e-scooters are sometimes parked on sidewalks in a way that obstructs the path of pedestrians. Blocked sidewalks are a significant hazard to people who use a mobility aid like a walker or a wheelchair, have a visual impairment or are otherwise unaware or unable to navigate around something blocking a sidewalk. Some cities, including Minneapolis, dedicate on-street parking for e-scooters,[24] but the impact of this strategy for people with a disability has not been studied.

The National Aging and Disability Transportation Center identified three obstacles that limit the ability of some people to use shared mobility services:[25]

1. Most TNC vehicles are not accessible to people using wheelchairs or scooters.
2. App-based services (including e-scooters, TNCs and increasingly bike share) do not accept cash payment.
3. App-based services rely on smartphone access.

Each of these barriers primarily or disproportionately impacts people with a disability. Adults with a disability are three times as likely to live in a household where no one has a checking or savings account as adults without a disability and are less likely to have a smartphone or internet at home.[26] As a result, people with a disability are less likely to be well-served by shared mobility services. These service providers should consider and respond to the needs of people with a disability.

TECHNOLOGY AND ASSISTIVE DEVICES

New technologies are providing devices and services that improve the quality of life for people with a disability and have implications for transportation. Most smartphones come equipped with assistive technology like text-to-speech and dictation services, which could be useful for a person with impaired hearing who wishes to arrange a trip with a paratransit or deviated route bus. Three-dimensional printing technology has the potential to improve the quality and lower the cost of prostheses, hearing aids and other devices.[27] In 2020, Google Maps unveiled an "Accessible Places" feature that shares whether a destination is wheelchair accessible.[28] Transit, paratransit, cars and the public streetscape should be designed to accommodate new mobility devices.

[24] "Minneapolis Adds Scooter Parking Areas Downtown," Kare 11, August 13, 2019, https://www.kare11.com/article/news/minneapolis-adds-scooter-parking-areas-downtown/89-a546421b-c2b3-4d20-a4bb-25c3d5826e58.
[25] Addressing New Mobility Services' Accessibility Barriers, National Aging and Disability Transportation Center, 2019.
[26] Nanette Goodman and Michael Morris, "Banking Status and Financial Behaviors of Adults with Disabilities: Findings from the 2017 FDIC National Survey of Unbanked and Underbanked Households and Focus Group Research," 2019.
[27] "Amputee Coalition," 3D Printed Prosthetics | Where We Are Today, February 8, 2019, https://www.amputee-coalition.org/3d-printed-prosthetics/#:~:text=3D%20printing%20is%20a%20rela
tively,designs%20are%20even%20available%20online.&text=A%20prosthetic%20hand%20can%20cost,for%20as%20little%20as%20%2450.
[28] Sasha Blair-Goldensohn, "Find Wheelchair Accessible Places with Google Maps," Google, May 21, 2020, https://www.blog.google/products/maps/wheelchair-accessible-places-google-maps/.

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Minnesota's vision for transportation is known as Minnesota GO. The aim is that the multimodal transportation system maximizes the health of people, the environment and our economy. A transportation vision for generations, Minnesota GO guides a comprehensive planning effort for all people using the transportation system and for all modes of travel. Learn more at MinnesotaGO.org.

REVISION HISTORY

Date	Summary of revisions
February 2020	Original paper.
March 2021	Updated data and trends.