



Planning Minnesota's
Transportation Future

PUBLIC TRANSPORTATION TREND ANALYSIS

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SUMMARY

Transit is an essential component of the transportation system in Minnesota and helps to connect people with employment, education, new opportunities, entertainment and shopping. Across the state, transit takes many different shapes, and all transit service providers have been affected by the COVID-19 pandemic. As Minnesota’s economy and population change, public transit systems adapt to continue to serve residents, especially those who have no other means to access essential services.

TYPES OF TRANSIT IN MINNESOTA

Transit encompasses a variety of vehicles and service types. The tables below summarize the most common types of transit in Minnesota.

FIGURE 1: BUS TRANSIT

SERVICE TYPE	DESCRIPTION
Bus Rapid Transit (BRT)	BRT operates at high frequencies, with fewer stops. BRT delivers fast, efficient service that may include dedicated lanes, traffic signal priority, off-board fare collection, elevated platforms and enhanced stations. Highway BRT operates on bus-only shoulders along highways, dedicated bus lanes and high-occupancy vehicle lanes – those shared by transit and high-occupant vehicles or single-occupant vehicles that pay for its use. Arterial BRT (ABRT) does not use dedicated right-of-way in Minnesota.
Deviated-Route Service	With deviated-route service, transit buses travel along a predetermined alignment or path with scheduled time points at each terminal point and in some instances at key intermediate locations.
Express Bus Service	Express buses operate at high frequencies with limited or non-stop service from peripheral communities to a central business district like a downtown. Buses run on a predefined route with a fixed schedule.
Fixed-Route Bus Service	Fixed-route buses operate on predefined routes and on a fixed schedule. Riders board and leave at bus stops or park-and-ride facilities.
Intercity Bus	Intercity bus service is regularly scheduled, fixed route, limited stop service for the public that connects distant places and makes meaningful connections to the national intercity network.
Regional Bus	These services provide connections between mid-sized towns and rural communities, often offering lifeline services that connect communities where other transportation options may be limited. Smaller shuttle buses are most often used.

FIGURE 2: RAIL TRANSIT

SERVICE TYPE	DESCRIPTION
Commuter Rail	Commuter rail serves morning and evening travelers to between a central city and outlying areas with diesel trains on railroad tracks with limited stops.
Light Rail Transit (LRT)	Service is available through high-frequency electric light rail trains operating in predominantly exclusive rights-of-way. Stations feature enhanced design for easy access and include real-time traveler information, lighting and radiant heat.
Modern Streetcar	Modern streetcar provides rail service with a capital cost that is lower than LRT. Modern streetcar services generally use a single car that offers a capacity like an articulated bus (60 to 110 passengers). This service can be a good fit in dense, pedestrian-oriented urban environments.
Passenger Rail	Intercity passenger rail is Amtrak-type medium and long-distance rail service connecting regions along corridors typically more than 100 miles long. Conventional passenger rail operates at speeds up to 80 miles per hour.

FIGURE 3: OTHER TRANSIT

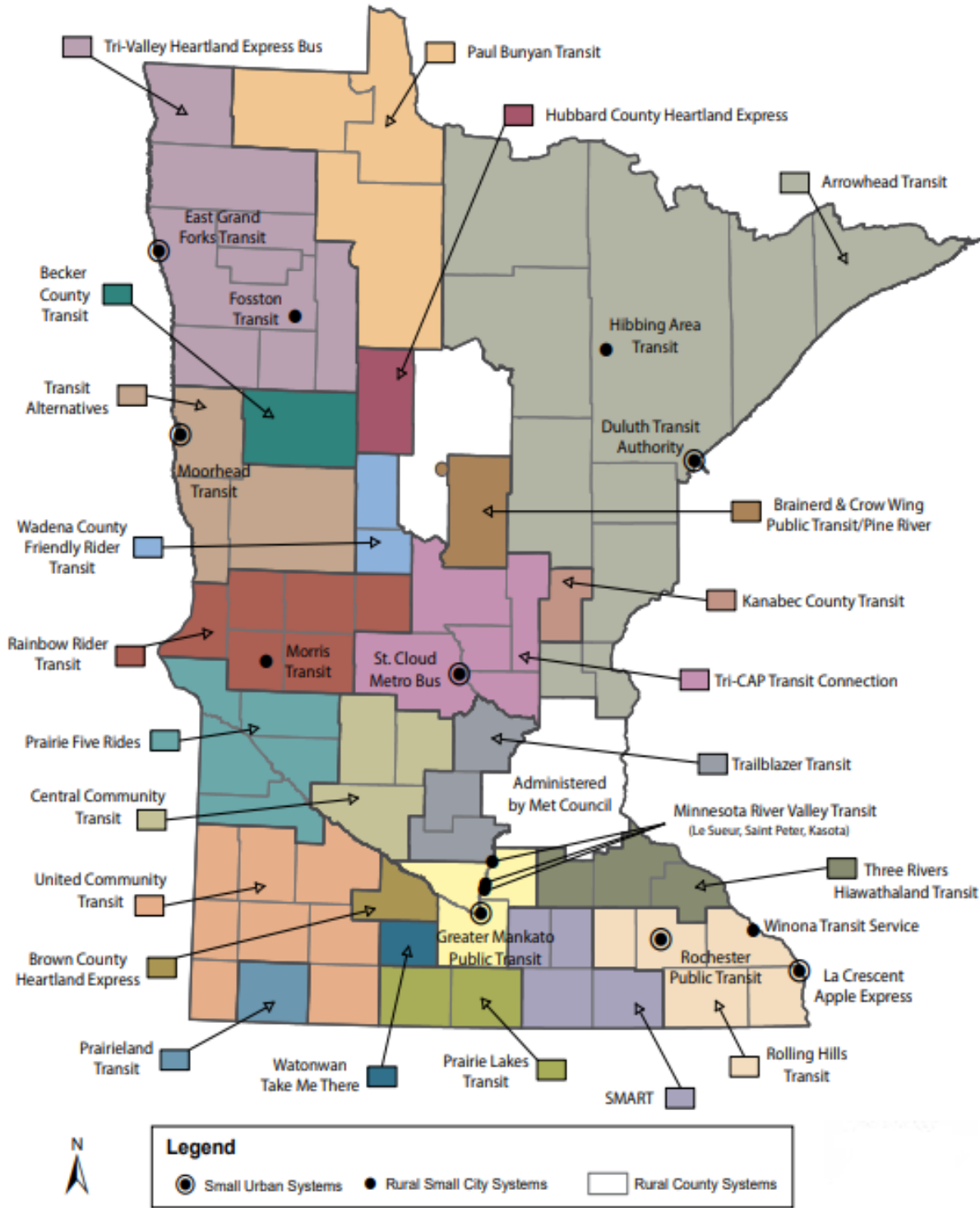
SERVICE TYPE	DESCRIPTION
Carpools and Vanpools	High Occupancy Vehicle (HOV) Carpool is another program to improve traffic congestion and transportation system efficiency. Vanpools are a transit option for areas not served by regular-route bus service, where a group of 5-15 people, including a volunteer driver, regularly get to and from work on a subsidized van.
Microtransit	Small-scale services that that can offer either fixed routes and schedules or flexible routes and on-demand scheduling.
On-Demand Service	A type of public transit that requires rides to be scheduled in advance and is available to the public in predefined regions or to certified users with a disability or health condition who cannot use regular fixed-route service. These can be provided both through public agencies, volunteer drivers and private companies.
Volunteer Driver Programs	Volunteer driver programs are a lower-cost transportation service provided by local governments, human service providers, transit providers and community organizations, typically for non-emergency medical appointments and other purposes such as running errands.

GREATER MINNESOTA TRANSIT

Minnesota has four categories of bus transit service providers: rural, small urban, urbanized and tribal transit systems. Greater Minnesota has 28 rural transit systems, seven small urban systems, seven large urban systems

and five tribal transit systems operated by local governments, joint powers organizations, non-profits and tribal governments that serve 80 Minnesota counties (see Figures 4 and 5).

FIGURE 4: TRANSIT PROVIDERS IN GREATER MINNESOTA



RURAL TRANSIT SERVICE

Greater MN transit systems primarily use demand-responsive service. Demand response is defined as service to individuals that is activated based on passenger requests. Usually, passengers call the scheduler or dispatcher and request rides for dates and times. Demand response usually involves curb-to-curb or door-to-door service. Trips may be scheduled on an advanced reservation basis (also known as “Dial-A-Ride”) or in “real-time.” Typically, smaller vehicles are used to provide demand-response service. This type of service usually provides the highest level of service to the passenger but is the most expensive for the transit system to operate. In rural areas with relatively high populations of elderly persons and persons with disabilities, demand-response service is sometimes the most appropriate type of service.

SMALL URBAN TRANSIT SERVICE

MnDOT supports seven small urban transit systems—Brainerd, Fosston, Granite Falls, Hibbing Morris, Minnesota River Valley Transit (Cities of La Sueur and St. Peter) and Winona. These systems serve small cities from 2,500–49,999 in population and primarily run route-deviation type services. With route-deviation service, transit buses travel along a predetermined alignment or path with scheduled time points at each terminal point and in some instances at key intermediate locations. Route deviation service is different from conventional fixed route bus service in that the vehicle may leave the route upon requests of passengers to be picked up or returned to destinations near the route. Following an off-route deviation, the vehicle typically returns to the point at which it left the route. Passengers may call in advance for route deviation or may access the system at predetermined route stops. The limited geographic area within which the vehicle may travel off the route is known as the route deviation corridor.

URBANIZED TRANSIT SERVICE

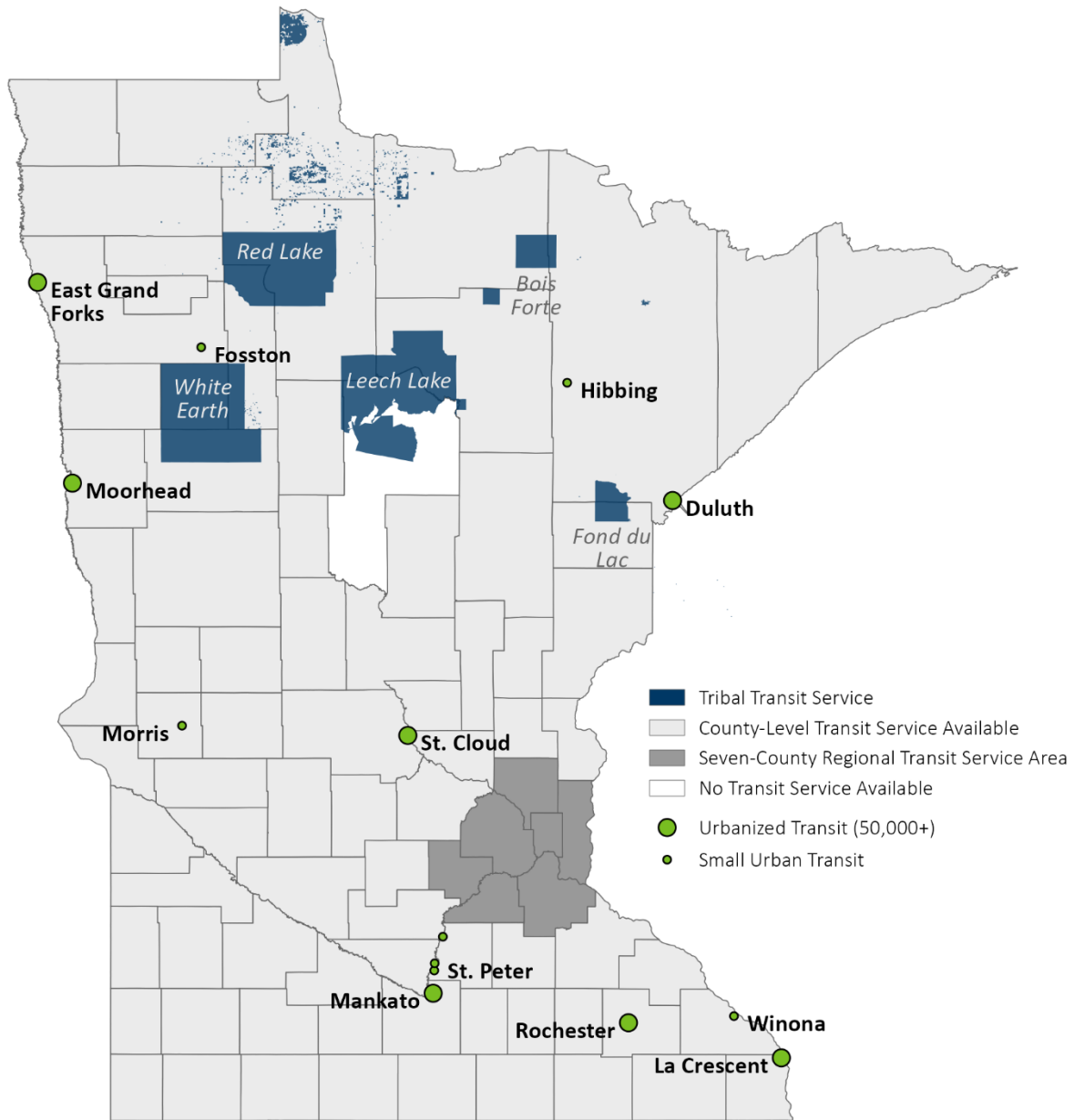
MnDOT supports seven urbanized systems—Duluth, Fargo-Moorhead, Grand Forks-East Grand Forks, La Crosse-La Crescent, Mankato-North Mankato, Rochester and St. Cloud. These systems serve cities with a population between 50,000 and 200,000. Urbanized systems primarily run fixed-route service. Fixed route is service that is provided on a repetitive, fixed-schedule basis along a specific route, with vehicles stopping to pick up passengers at and deliver passengers to specific stops. Fixed route service carries a higher number of people because they serve large cities and generally have very good reliability and on-time performance because of the fixed schedule. The frequency, or time in between buses, can vary based on the route from 15 minutes to one hour. This makes service predictable and consistent.

In addition to fixed route service, all urbanized systems must provide complementary paratransit service for eligible individuals who are unable to independently navigate the overall transit system without assistance. This is part of the Americans with Disabilities Act of 1990 (ADA), the law passed by Congress, which makes it illegal to discriminate against people with disabilities in employment, services provided by state and local governments, public and private transportation, public accommodations, and telecommunications. State statute 174.30 contains additional requirements for paratransit.

A variety of public transit options are available in the seven-county metro area. Current options include regular and express bus routes, BRT, LRT and commuter rail—these are collectively known as fixed route services. Dial-a-

ride service is also available throughout the region. All 188 communities in the Twin Cities have access to some form of public transit service.

FIGURE 5: GREATER MINNESOTA TRANSIT SERVICE, 2021



TRIBAL TRANSIT SERVICE

Minnesota has five tribal transit systems—Bois Forte, Fond Du Lac, Leech Lake, Red Lake and White Earth. These systems operate the same way as the rural transit systems typically via demand-responsive services.

VOLUNTEER DRIVER PROGRAMS

Volunteer driver programs consist of volunteers who drive their own vehicles and get reimbursed only for expenses. This type of service can be provided by local governments, human service providers, transit providers and community organizations. These services are typically for long-distance and cross county trips where regular public transit service may not exist. They are more common in smaller Greater Minnesota cities; however, some programs are available in urban settings. Because of the one-on-one type of service volunteers provide, this service is important for older adults and people with disabilities to access basic needs and services, such as medical appointments.

INTERCITY BUS AND PASSENGER RAIL SERVICE

Minnesota has intercity passenger rail and bus service. Amtrak’s Empire Builder route offers passenger rail service between Chicago and the Pacific Northwest, stopping at stations in six Minnesota cities (Detroit Lakes, Staples, Saint Cloud, Minneapolis-St. Paul, Red Wing and Winona). Round-trip service is expected to be expanded in 2024 with a second daily train from St. Paul to Chicago being added to the existing Amtrak service on the Empire Builder route. Additional corridors are being considered for future passenger rail service.

Greyhound, Jefferson Lines, Land to Air Express, Megabus, Northfield Lines, Rainbow Rider and Saint Cloud NorthStar Link provide intercity bus service to 87 destinations across the state. These services also connect to every major metropolitan area in the Midwest. See Figure 3 for existing and planned intercity passenger rail corridors and existing intercity bus network.

FIGURE 3: MINNESOTA'S EXISTING AND PLANNED INTERCITY PASSENGER RAIL CORRIDORS AND EXISTING INTERCITY BUS NETWORK, 2021



PUBLIC TRANSIT TRENDS IN MINNESOTA

FUNDING

Transit maintenance and operations are funded by passenger fares and state funds. State funding comes from the general fund and special taxes like the Motor Vehicle Sales Tax (MVST), which is distributed through the Metropolitan Transit Account. For major transitway projects, such as the METRO Green Line, significant funding for capital and operations comes from county transportation sales tax revenue. Under Minnesota statute, each county is authorized to implement up to a half-cent sales tax for transportation purposes. In the seven-county metropolitan area, all the counties have implemented this tax, though not all use it for transit.

In Greater Minnesota, most public transit activities are funded through state sources. These include MVST and general revenue. Local sources make up approximately a quarter of Greater Minnesota transit.

Federal programs constitute the majority of transit formula funding in Minnesota. They provide operating and capital funds through grants to large urban, small urban and rural areas. MnDOT's Office of Transit and Active Transportation administers state and federal financial assistance to public transit systems in Greater Minnesota.¹ In 2021, MnDOT provided \$7.06 million in Section 5311 and \$22.3 million in Coronavirus Aid, Relief, and Economic Security (CARES) Act funding toward public transportation assistance in Greater Minnesota².

Federal Section 5307 and tribal funds are directly appropriated and managed by the large urban systems and the tribal nations. In the seven-county Twin Cities metropolitan area, the Metropolitan Council plans, coordinates, administers and reports state and federal funding for public transit services. In recent years, MnDOT has not provided funding to Tribal Nations because they receive a direct annual apportionment of federal funds for transit services.

In the next few years, passenger rail service will improve in Minnesota. The Twin Cities-Milwaukee-Chicago (TCMC) project will add a second daily round trip between the Twin Cities and Chicago on the corridor used by Amtrak's Empire Builder passenger rail line. This project will add daily stops in St. Paul, Red Wing, Winona and other cities in Wisconsin and Illinois. The Federal Railroad Administration (FRA) funded most of the \$53 million in capital costs, with MnDOT, WisDOT, and Amtrak each contributing between \$5 million and \$10 million. The FRA also awarded \$12.6 million to offset operations costs for the first three years, and the ongoing costs will be split between Minnesota, Wisconsin and Illinois.³

MOTOR VEHICLE SALES TAX

As required by the Minnesota Constitution, 40% of revenue from the state's MVST is reserved for transit purposes.⁴ 36% is designated for transit in the Twin Cities and the remaining 4% is distributed among Greater

¹ <https://www.dot.state.mn.us/transit/reports/transit-report/pdf/2021%20Annual%20Transit%20Report%20FINAL1.pdf>

² <https://www.dot.state.mn.us/transit/reports/transit-report/pdf/2021%20Annual%20Transit%20Report%20FINAL1.pdf>

³ Minnesota Department of Transportation, "Twin Cities-Milwaukee-Chicago Intercity Passenger Rail Service", <http://www.dot.state.mn.us/passengerrail/tc-mil-chi/>.

⁴ <https://www.house.leg.state.mn.us/hrd/pubs/ss/ssmvst.pdf>

Minnesota transit agencies. Greater Minnesota also receives a portion of Motor Vehicle Lease Sales Tax revenues from leased vehicles, which are split among the state general fund and county state-aid highways.

MVST revenue is essential for transit agencies across the state, as it provided more than half of all systems' operating expenses in 2021.⁵ This dependence leaves transit funding vulnerable to outside economic pressures, as reduced vehicle sales during an economic recession would strain transit operating budgets. (State transit funding fell from \$453 million in 2019 to \$308 million in 2020 due to the COVID-19 pandemic, while rising vehicle costs led MVST revenues to grow to nearly \$500 million in 2021.) Additionally, an increase in transit use that causes a reduction in motor vehicle sales would correspondingly lower MVST revenues, therefore depriving transit systems of their largest funding source. While MVST allocations to transit have remained constant over the past decade, this may cause a structural funding problem for transit systems in the future.

COUNTY TRANSPORTATION SALES AND USE TAX

Minnesota Statue 297A.993 allows counties to impose a transportation sales tax up to one-half of one percent on retail sales and uses and an excise tax of \$20 per motor vehicle registration to dedicate to transportation. The funds can only be used on projects designated by the county board in the following categories:

- Capital cost of a specific transportation project of improvement
- Capital and operating costs for a specific transit project or improvement
- Capital costs for a Safe Routes to School program
- Transit operating costs
- Capital costs of constructing buildings or facilities for maintaining transportation or transit projects or improvements

Counties dedicate the use of funding via a resolution of the county board. Counties have used this funding for several transportation options including trails, transit capital costs and transit operating costs. This tax is generally referred to as the Local Option Sales Tax. As of January 2023, 55 counties have implemented the Local Option Sales Tax⁶. However, not all counties will use these resources for transit.

In 2016, Dakota County voted to leave the Counties Transit Improvement Board (CTIB).⁷ CTIB was a joint powers board established in 2008 for the purposes of granting funds to major transit infrastructure projects around the Twin Cities metro area. The action by Dakota County led to the dissolution of CTIB, and a change in transit funding opportunities.⁸ The counties in CTIB had collected a quarter-cent sales tax and spent the funds collectively on transit projects. After the counties left CTIB, they became subject to Minnesota Statue 297A.993, which allows counties to levy up to a half-cent sales tax to spend on transit and roads. This funding is being used in part to fund transitway projects like the METRO Gold Line BRT between Woodbury and St. Paul.

⁵ National Transit Database, <https://www.transit.dot.gov/ntd/ntd-data>, "2021 Funding Sources".

⁶ https://www.renvillecountymn.com/detail_T2_R495.php

⁷ Janet Moore, "CTIB: The little-known board that influences Twin Cities transit," *Star Tribune*, July 28, 2016, <https://www.startribune.com/ctib-the-little-known-board-that-influences-twin-cities-transit/388612731/>.

⁸ Peter Callaghan, "By triggering the death of CTIB, did Dakota County save mass transit in the Twin Cities?" *MinnPost*, June 21, 2017, <https://www.minnpost.com/politics-policy/2017/06/triggering-death-ctib-did-dakota-county-save-mass-transit-twin-cities/>.

INFRASTRUCTURE INVESTMENT AND JOBS ACT

Transit agencies statewide can expect to receive additional federal funding because of the Infrastructure Investment and Jobs Act (IIJA), passed in 2021. IIJA authorized up to \$109 billion in federal transit funding, a significant increase from the previous authorization bill, the Fixing America’s Surface Transportation (FAST) Act.⁹ Transit systems in both urbanized and rural areas (defined as areas serving less than 50,000 people) can expect to receive additional formula funds which can be used for capital, planning and operating assistance. (Funding available under those programs increased 27% and 28%, respectively, compared to the FAST Act.) Expanded discretionary funds under IIJA will provide another funding source by which agencies can seek to construct ADA improvements, improve rider facilities, purchase low- or no-emission vehicles or construct additional transit capital projects.

The IIJA authorizes more than \$4 billion over five years for transit in rural areas. The IIJA made no changes to the formula for allocating funds for Section 5311 programs.¹⁰ Likewise, the IIJA continues formula funding for seniors and people with disabilities under Section 5310 with no changes.

FAREBOX REVENUE

For all transit systems, money collected from passenger fares makes up a portion of the funding available for capital, maintenance and operations activities. However, the amount varies widely among different transit services throughout the state.

Public transit operators across the state experienced significant ridership declines due to the COVID-19 pandemic. Federal legislation¹¹ provided emergency operating and capital funding during 2020 and 2021. In addition, MnDOT included additional state funding in 2020 and 2021 to supplement as local share instead of transit systems using collected revenues as local match. As these existing funds are used up, and revenues track behind operating expenses, transit agencies face a potential “fiscal cliff” in coming years.¹²

PLANNING

CAPITAL PROJECT PLANNING

Planning rail transit in the United States is difficult. Researchers have found that major rail projects in the U.S. cost more and take longer to build than projects in other countries. Southwest LRT, which was not complete as of

⁹ <https://t4america.org/2022/01/25/transit-funding-infrastructure-bill/>

¹⁰ Federal Transit Administration and Department of Transportation, “Notice of FTA Transit Program Changes, Authorized Funding Levels and Implementation of the Infrastructure Investment and Jobs Act; and FTA Fiscal Year 2022 Apportionments, Allocations, Program Information and Interim Guidance,” Federal Register, April 28, 2022, <https://www.federalregister.gov/documents/2022/04/28/2022-09143/notice-of-fta-transit-program-changes-authorized-funding-levels-and-implementation-of-the#p-34>.

March 2023, was first identified by the Hennepin County Regional Railroad Authority in 1988¹³. Though transit projects varying substantially around the US, they tend to be more expensive and time-consuming to build. A comparison by the Eno Center for Transportation¹⁴ of 180 projects in the US and around the world shows that the US pays nearly 50% more per mile for both at-grade and tunneled projects. This is even though transit built in other countries can be more complex than similar lines in the US. There is no single cause for high cost and long timelines. Instead, compounding effects result in inefficiencies that result in few projects, shorter lines and less than optimal routes.

Communities around Minnesota are investing in bus-based transit solutions to improve services in urbanized areas. BRT, in particular, can provide similar amenities to rail (e.g., dedicated right-of-way, high-frequency service, offboard fare collection and permanent stations) with lower capital costs and a quicker construction schedule. Metro Transit opened its first BRT line (the Red Line) in 2013 and has opened four more BRT lines since then. The Twin Cities has six more lines scheduled to open from 2024 to 2027. In Greater Minnesota, Rochester plans to begin BRT service in 2026, and Duluth began implementing BRT elements in 2022.

Additionally, some agencies (such as Metro Transit) plan to improve service on existing transit routes by upgrading them to ABRT lines. These lines provide higher service frequencies and upgraded passenger facilities on par with BRT. ABRT routes often mirror existing high-frequency routes with stable ridership as opposed to creating new transit corridors, and they have been successful at retaining and growing ridership along these lines. Metro Transit has opened three ABRT lines in the past few years and is planning for at least five more in the coming years. Further small-scale improvements, which focus on stop spacing, signal timing and bus scheduling, will likely continue as well.

There are many ways MnDOT includes transit in its investment plans. The Minnesota State Highway Investment Plan (MnSHIP) has five investment categories, and two of the categories include transit investments. The Critical Connections category, which aims to maintain and improve multimodal transportation connections, supports improvements like bus-only shoulders and HOV lanes are assets that can enhance transit operations. The Healthy Equitable Communities category covers some capital investments for transit in Greater Minnesota.

REGIONAL TRANSIT COORDINATION

Minnesota Council on Transportation Access

The Minnesota Council on Transportation Access (MCOTA) is a 13-state agency council established by the Minnesota Legislature in 2010 (Minn. Statute 2010 174.285) to improve public transit services for the public. MCOTA is chaired by MnDOT's Assistant Commissioner of the Sustainability, Planning, and Program Management Division. Members include state agencies, boards and councils, the Metropolitan Council and the Minnesota Public Transit Association (MPTA). MCOTA supports the development of Regional Transportation Coordinating Organizations, reduces barriers to volunteer driver programs, identifies best practices for improving service and more.

¹³ <https://www.hennepin.us/choose-to-reuse/-/media/swlrt/Document-Archive/archive/Hennepin-County-LRT-System-DEIS/System-DEIS-Chapter-3-Alternatives.pdf?la=en>

¹⁴ <https://projectdelivery.enotrans.org/report/>

Regional Transit Coordinating Organizations

Coordination between transportation providers and service agencies is a strategy that can help fill transportation gaps by providing more rides using the same or fewer resources, making transportation easier to use and giving customers more options of where and when to travel.

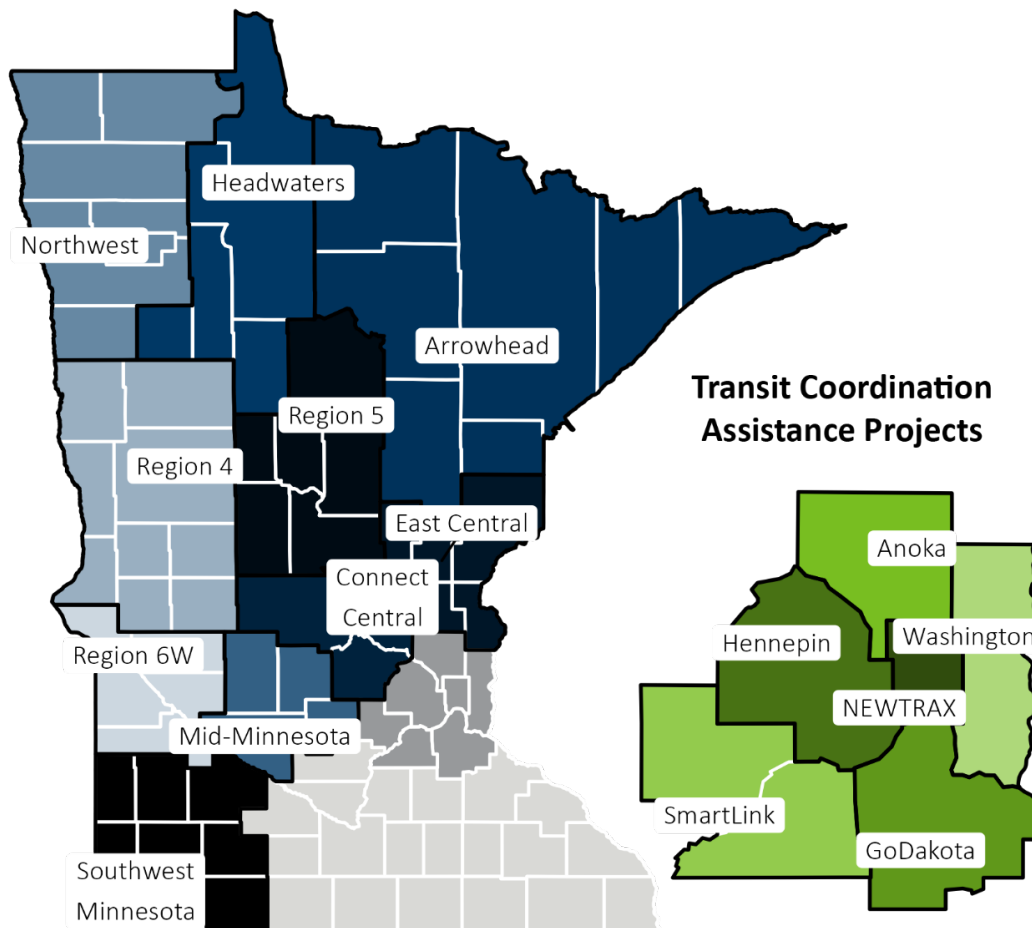
MCOTA agencies are developing organizations to facilitate coordination at a local level through two types of organizations (see Figure 4):

- Regional Transportation Coordinating Councils (RTCCs) in Greater Minnesota, and
- Transit Coordination Assistance Projects (TCAPs) in the seven-county metro area.

Both types of organizations consist of local stakeholders interested in improving mobility for the "transportation disadvantaged" – older adults, people with disabilities, people with low incomes or military veterans.

FIGURE 4: REGIONAL TRANSPORTATION COORDINATING ORGANIZATIONS IN MINNESOTA

Regional Transportation Coordinating Councils



Rural Transit Assistance Program

The Rural Transit Assistance Program (RTAP) is a training, technical assistance and outreach program funded by the Federal Transit Administration (FTA) as part of the Formula Grants for Non-Urbanized Area Section 5311 program. The goals for the Minnesota RTAP are to provide positive customer focused service to the transit agencies by engaging with them to know their training needs, offering the right opportunities for knowledge transfer and advancing the skills and competencies to the individuals providing transit in Greater Minnesota. The program focuses on:

- Enhancing the quality of training and technical assistance
- Encouraging and assisting with peer networking and engagement
- Advancing the skills, competencies, and knowledge for all
- Providing proactive communication supporting RTAP trainings, workshops, effective practices and opportunities

RTAP supports the transit agencies by investing in our transit team members with training, workshops, seminars, and on-the-job skill-based training. This work helps to ensure that transit providers are prepared to meet the anticipated growth in demand for transit around the state.

RIDERSHIP

Before the pandemic, transit use in the metro area remained steady between 2010 and 2019 according to Metropolitan Council's Travel Behavior Inventory Household Survey results. Of those who use transit, 7% use transit weekly and 44% only use transit when attending an event. In 2019, public transit provided millions of trips, including over 91 million rides in the Twin Cities metro area and 11.5 million rides in Greater Minnesota.

Transit ridership levels significantly decreased because of the COVID-19 pandemic, among other factors. In 2020, the Twin Cities metro area saw a decrease in ridership by as much as 60% on local routes, 70% on light rail and 95% on express bus routes and Northstar commuter rail. There was a further decline in total ridership of 6.5% from 2020 to 2021. Metro Mobility ridership also fell from its pre-pandemic levels in 2020 and rebounded somewhat in 2021. Large construction projects and the price of gas also affect transit ridership levels.

The long-term impacts of the pandemic on public transit are yet to be determined but trending slightly upwards in 2022 for Greater Minnesota transit. In the first three months of 2023, Metro Transit saw its highest ridership since 2020.

Some transit types have rebounded from the lowest levels of pandemic ridership, and some have not. ABRT routes (A Line and C Line) have risen gradually to about 75% of their 2019 levels. Northstar commuter rail has not done as well. The rail line serving the northwest suburbs carries only about 10% of the riders it carried in 2019. LRT and regular bus routes have rebounded more than North Star but less than ABRT routes.

Changes to commuting patterns, including an increase in teleworking, has impacted trends in transit ridership as well. Express bus routes, which travel from suburban locations into downtown Minneapolis and Saint Paul, saw their ridership plummet at the onset of the COVID-19 pandemic and have been slow to recover ever since. As the

number of employees working onsite continues to be lower than pre-pandemic levels, ridership overall and the number of commuter-oriented transit trips operated by Metro Transit remain low. It is yet to be seen whether teleworking will continue at these levels in the near- and long-term but changes to commuting patterns have already had a significant impact on peak-hour transit ridership.

While a rider may no longer require transit to access their place of work, transit will remain an option to access shopping, entertainment and other appointments and activities. Transit is also crucial for the 80,000 Minnesotans who ride transit to work and do not have access to a vehicle. Transit agencies are taking steps to market transit to other audiences, such as residents of new apartment buildings and college students.¹⁵ Metro Transit established a Residential Pass program, allowing residents of multifamily buildings to purchase an unlimited pass for \$14 a month, and provided all University of Minnesota-Twin Cities students an unlimited transit pass as part of their student ID card. Additionally, a Transit Assistance Program (TAP) allows riders receiving public assistance to ride for just \$1. The promotion of these programs demonstrates a shift toward marketing transit passes directly to the end user, rather than predominantly being provided through their employers through the Metropass program.

OPERATIONS

ACCESSIBILITY

Under the ADA, agencies are required to ensure that their transit infrastructure is accessible to people with disabilities. Public agencies with 50 or more employees are required to develop an ADA transition plan which demonstrates the steps they will take to achieve ADA compliance. Many smaller operators are exempt from these requirements due to the small size of their workforce, but MnDOT and larger transit systems have either developed or are currently adopting transition plans.

As Minnesota's population ages, the state's transportation needs continue to change and may drive increases in public transit usage across the state. Metro Mobility, the shared public service for certified riders with disabilities and health issues in the seven-county metro area, recorded 2.42 million rides in 2019. The service has been growing by 5% to 8% each year.

ADA ridership has been growing in the rest of Minnesota, as well. Six Greater Minnesota cities have dedicated ADA paratransit systems: Duluth, East Grand Forks, Mankato, Moorhead, Rochester and St. Cloud. The other 30 transit systems serve older adults and people with disabilities with dial-a-ride or flexible route service. Altogether, Greater Minnesota transit providers provided more than 2.7 million rides to older adults and people with disabilities in 2018.¹⁶

Approximately 11% of the state population has a disability, and people with disabilities use public transit at higher rates than those without disabilities. This often takes the form of paratransit, which uses smaller vehicles to provide door-to-door service to residents. Paratransit requires a much higher per-rider subsidy than fixed-route

¹⁵ <https://www.metrotransit.org/passes>

¹⁶ https://minnesotago.org/application/files/4916/2387/4203/Aging_Population_FINAL.pdf

service, and these growing costs have the potential to strain agency operating budgets without additional resources.¹⁷

WORKFORCE RECRUITMENT AND RETENTION

Transit systems around the nation are having staffing difficulties¹⁸. These shortages started before the pandemic but were made worse as staff retired or moved to higher-paying private-sector jobs¹⁹. Staffing shortages are making it difficult to win back ridership that dropped precipitously with the onset of the pandemic.

Transit providers across Minnesota have reduced the hours and frequency of their services, often citing a labor shortage. A shortage of staff jeopardizes an agency's ability to deliver all its services as scheduled. The available service they can deliver is limited by the number of operators and support staff available on any given day. This requires agencies to make difficult decisions to reduce transit service, even in absence of any budgetary concerns.

Metro Transit, for example, was operating only 75% of the service that they operated in August 2019 due to operator shortages. Despite these cuts, service was still being reduced as the operator shortage persists. In December 2022, Metro Transit service was reduced by an additional 8%. Because of these reductions, several transit routes have been eliminated or seen their frequency dramatically reduced.²⁰

In Greater Minnesota, vehicle revenue hours have fallen between 5% and 22% in Duluth, St. Cloud and Rochester. Prior to these service cuts being implemented, this problem will often appear as an agency cutting transit trips, usually with limited advance notice, when there is no operator available to drive that route. Unsurprising, total transit service levels statewide have not yet rebounded to pre-2020 levels. While total in-service hours statewide steadily increased over the past decade, reflecting an expansion in overall transit service, almost all systems statewide still operated reduced service in 2021 compared to 2019.²¹

Rural systems that rely on volunteer drivers are also experiencing recruitment and retention issues according to the Volunteer Drive Coalition.²² Volunteer driver programs are often an essential tool for people and communities to retain their access to transportation. Transit agencies, human services departments and private providers are facing difficulties to meet growing demand.

Several issues have been identified to recruiting and retaining volunteers.²³ Insurance coverage and federal taxes pass legal and financial liability to the volunteers. Insurance policies treat volunteers as for-hire taxicab or Lyft/Uber drivers. Some insurers require volunteers to hold insurance that covers for-hire services. Combined with the IRS-set reimbursement rate of 14 cents per mile²⁴ makes it financially difficult for people to volunteer.

¹⁷ https://minnesotago.org/application/files/7916/3666/4255/Disability_Trend_Analysis_FINAL.pdf

¹⁸ <https://www.apta.com/wp-content/uploads/APTA-Transit-Workforce-Shortage-Report.pdf>

¹⁹ <https://www.bloomberg.com/news/articles/2022-07-20/america-s-bus-driver-shortage-has-left-transit-systems-in-crisis>

²⁰ https://metro council.org/Council-Meetings/Committees/Transportation-Committee/2022/October-10,-2022/Info-1-_-Q4-Svc-Changes-workforce-update.aspx

²¹ National Transit Database, <https://www.transit.dot.gov/ntd/ntd-data>, "2021 Service Data and Operating Expenses".

²² <https://volunteerdrivermn.org/about/>

²³ https://coordinatemntransit.org/sites/coordinatemntransit.org/files/2021-06/mcota_volunteerdriverforum_may2018_1.pdf

²⁴ <https://volunteerdrivermn.org/about/>

Like many other industries, transportation providers have been forced to reimagine their hiring process to attract staff. Agencies have increased starting salary and offered hiring bonuses to new staff and have simplified training to ensure that new hires can begin working as quickly as possible.

TECHNOLOGY

Technology in the transit industry is generally underutilized and there is significant potential to expand its use. The technology solutions most useful for public transit agencies have been around for some years and are well-tested, such as scheduling, dispatching and maintenance software. What is critical in advancing these solutions include:

- Widespread adoption of technology that has proven useful in similar contexts
- Solutions tailored to the variety of agencies and needs in Minnesota and elsewhere
- Shared specifications and ways for exchanging digital information between transit agencies
- Greater cohesive networks of services so that transit agencies can readily connect and exchange digital information, and customers can access information using commonly employed mobility platforms

Because of the rapid development of technology, small public transit agencies have implemented limited technology improvements. There is not yet a common and widely used framework for discussing transit technology.

MnDOT completed a Greater Minnesota Public Transit Technology Plan²⁵ in 2021. Information from current plans, existing technologies and initiatives indicates there is inconsistent technology use across regions and transit agencies. Some have robust technology systems, grant funding sufficient to meet most needs and the organizational capacity to implement new technology solutions. Others are enmeshed in day-to-day issues and indicated less time available to learn about new technologies, apply for funding or implement new technology. Lack of access to funding is a clear differentiator with technology and technology support. In March 2023, MnDOT launched a multimodal trip planner focusing on rural transportation services.²⁶ This pilot project, running through April 2024, enables people in southern and western Minnesota to plan and sometimes pay for transit trips through the Transit app.

Several clear opportunities are present to deployed technology to improve public transit services. Opportunities include:

- Scheduling/Dispatch Software and Related Management Systems—focus on demand-responsive services to efficiently schedule trips and fixed route systems to schedule vehicles and drivers.
- Customer-Facing Trip Planning—mobile and web-based applications for customers to determine available transit services and their schedules.
- Communication With Riders and the Public—using all channels (e.g., websites, social media, apps, etc.) to communicate easily with the public.

²⁵ <https://www.dot.state.mn.us/transit/reports/2021-10-12%20Greater%20MN%20Transit%20Technology%20Plan%20updated.pdf>

²⁶ Minnesota Department of Transportation. "MnDOT launches first multimodal trip planner to focus on rural transportation services." MnDOT press release, March 1, 2023. On the MnDOT website. <https://www.dot.state.mn.us/news/2023/03/01-statewide-Multimodeltrip.html>, accessed July 20, 2023.

- Asset Management and Maintenance—track and maintain capital assets.
- In-Vehicle Technology—from automated voice announcements to cameras to automatic vehicle location devices.
- Fare Payment—fare collection without the need for the driver to handle payment.
- Service Planning—planning routes, completing analyses and mapping services.
- Grant Management and Compliance—track a variety of state and federal compliance information like assets, fiscal activities, grant management, etc.

When there are no clear answers, it is important to think through the functional needs of the agency and the potential benefits and costs of a particular technology solution.

AUTOMATED SHUTTLES

MnDOT has collaborated with partners to test automated shuttles in a couple locations around Minnesota. Automated Vehicle technology is rapidly developing around the world. Minnesota offers unique climate challenges that are much different from others currently testing these technologies. See the [Connected and Automated Vehicles Trend](#) for more information.

The Med City Mover demonstration project tested two low-speed, automated, electric, multi-passenger shuttles in downtown Rochester, MN. The shuttles were driverless, with no steering wheel, and could transport up to 12 people (six seated, six standing). The vehicle was manufactured by Easy Mile and operated by First Transit. The shuttles drove a programmed route for 12 months and ended on August 31, 2022. During this time, MnDOT and project partners tested technology, gathered feedback from residents, and conducted research on shuttle use. A full report is expected in 2023. Pilots are currently underway in White Bear Lake and Grand Rapids.

SHARED USE MOBILITY

To close the “last-mile” gap²⁷ between a person’s transit stop and their destination, transit agencies have begun exploring alternative ways for a rider to complete their journey. These include offering on-demand technology-enabled services within a defined coverage area and partnering with other transportation providers (e.g., car-sharing, bike-sharing and ride-hailing services). This trend is most apparent in larger, urban systems that predominantly provide point-to-point, fixed-route service as opposed to dial-a-ride. These partnerships envision mobility as an interconnected service provided by a city, rather than several discrete trips across several modes and systems.

Suburban providers in the Twin Cities have debuted on-demand service in areas with lower transit ridership demand²⁸, and Minneapolis has installed several “mobility hubs” which locate bicycle and scooter rentals at high-volume bus stops. MnDOT’s Greater Minnesota Shared Mobility Program is focusing on identifying opportunities for shared mobility statewide. Future innovation in shared mobility may focus on integrating ticketing systems and the user experience (i.e., one mobile app for all travel options).

²⁷ “Last-mile” and “First-and-last mile” refer to the first and final leg of a journey between a transit stop and the destination.

²⁸ <https://swtransit.org/sw-prime/>

Wilson, North Carolina ditched its public transportation system to operate an Uber-like solution²⁹ where people could book transit from their phone rather than wait at a transit stop. The on-demand service has been operating since 2020. Previously, fixed route buses ran once an hour, limited when and where people could travel. Now, the system covers 100% of the city. The service, paid for by the city, is operated by Via, which provides software, vehicles and drivers.

See the [Shared Use Mobility Trend](#) for more information.

SYSTEM MERGERS

Transit providers have consolidated in recent years. From 2011 to 2021, the number of public transit systems in Greater Minnesota fell from 58³⁰ to 35³¹. This is because several systems merged with other systems. This trend is slowing down because most of the systems that wanted to consolidate have already done so.

At the beginning of 2020, Greater Minnesota had 36 public transit systems offering scheduled transit service in 79 counties³². In spring 2020, Granite Falls Heartland Express public transit agency merged into Prairie Five Rides. Granite Falls Heartland Express was a small, single-city system that served their community for many years but needs increased for services outside of Granite Falls. Prairie Five Rides, a five-county regional bus and transportation system that serves west-central Minnesota, was a good fit for taking over the Granite Falls Heartland Express service. Because Prairie Five Rides provides a regional transportation system, Granite Falls residents gain more access to services outside of their community.

In June 2020, Isanti County contacted MnDOT about the future of the Chisago/Isanti Heartland Express Transit program. In July 2020, the Chisago and Isanti County Board of Commissioners unanimously passed resolutions to allow MnDOT to solicit bids for providing transportation services in Isanti and Chisago Counties. Arrowhead Transit applied and was awarded the service contract. Arrowhead began providing public transit in the two counties in early 2021.

SUSTAINABILITY

Agencies are taking several steps to reduce carbon emissions from public transit. Transit agencies have been transitioning motor pool vehicles to EVs and installing charging stations for visitors, employees and their motor pool. Some facilities use geothermal, solar and other renewable sources to meet building energy needs.³³ Overall, agencies have been investing in way to improve efficiency throughout system operations to minimize dependency on carbon-based sources of electricity. Vehicle electrification in an increasing trend in Minnesota.

²⁹ <https://www.npr.org/2022/07/19/1111765630/on-demand-shuttles-have-replaced-buses-in-a-small-north-carolina-town>

³⁰ Minnesota Department of Transportation, *2012 Annual Transit Report*, https://edocs-public.dot.state.mn.us/edocs_public/DMResultSet/download?docId=27242227

³¹ Minnesota Department of Transportation, *2021 Annual Transit Report*, https://edocs-public.dot.state.mn.us/edocs_public/DMResultSet/download?docId=27243283

³² <https://www.dot.state.mn.us/transit/reports/transit-report/pdf/2021%20Annual%20Transit%20Report%20FINAL1.pdf>

³³ <https://www.metrotransit.org/our-facilities>

FLEET ELECTRIFICATION

Transit agencies across the state have taken steps to electrify their fleet. Fleet electrification allows public transit agencies to reduce both carbon emissions and operating costs due to reduced diesel consumption. However, electrification requires upfront capital investments, including new vehicles and EV-charging infrastructure.

The Duluth Transit Authority (DTA) was the first transit agency to operate electric fixed-route buses.³⁴ On October 25, 2018, seven electric buses were introduced to the fleet. Metro Transit started operating battery-powered electric buses on the METRO C Line in 2019.³⁵ During initial deployment along the METRO C Line, Metro Transit had to pull electric buses off the road three times (including a nine-month outage) due to malfunctioning chargers which have since been replaced under warranty. DTA's electric buses experienced reduced battery range and braking issues during cold weather and has postponed any further purchases of electric buses for the time being.

Challenges to fleet electrification include planning for reduced battery life during cold weather, deployment of bus chargers both within bus garages and on-route (such as a transit center), limited manufacturers of electric buses and chargers and maintenance of new technology.³⁶ Bus routes and schedules may require adjustments to ensure that a bus has enough battery life to complete its trip.

Many buses and vans meet or exceed their useful life. According to Mass Transit's 2022 Mobility Report³⁷ 36% of respondents reported their agencies fleet as in immediate need for investment to comply with State of Good Repair. The IIJA Low or No Emission Grant Program and Grans for Buses and Bus Facilities Program provide a combined \$1.5 billion to help transit agencies purchase new vehicles.

Fleet electrification will likely accelerate in the coming years with expanded manufacturing capacity, lower costs and continued federal funding should make electric buses a feasible choice for transit agencies seeking to replace older vehicles.³⁸ For example, in 2022, MnDOT received a federal grant from the IIJA to purchase six electric buses for rural transit systems across the state.³⁹ The Metropolitan Council will be accelerating its transition to a zero-emission fleet. Minnesota Statue requires the Metropolitan Council to develop a Zero-Emission Bus Transition Plan.⁴⁰ Under this plan, Metro Transit plans for at least 20% of its fleet replacement to be electric in the next five years.

OTHER PUBLIC TRANSPORTATION TRENDS

REDUCED FARES

Transit agencies are also taking steps to ensure services remain available to people regardless of income. This often takes the form of income-based fare assistance programs. Metro Transit's TAP offers reduced \$1 fares for

³⁴ <https://www.duluthtransit.com/home/about/about-dta/>

³⁵ <https://www.metrotransit.org/electric-buses>

³⁶ <https://www.lrl.mn.gov/docs/2022/mandated/220301.pdf>

³⁷ <https://www.masstransitmag.com/bus/article/21262914/special-report-us-bus-fleets>

³⁸ <https://content.sierraclub.org/evguide/blog/2019/02/us-transit-agencies-future-buses-electric>

³⁹ <https://www.dot.state.mn.us/news/2022/08/23-electric-buses.html>

⁴⁰ https://www.metrotransit.org/Data/Sites/1/media/about/improvements/electric_buses/220210_zebtp_finalreport.pdf

individuals who are on public assistance.⁴¹ Several transit providers, both in Twin Cities and Greater Minnesota, offer reduced fares for older adults, youth, people with disabilities and veterans.

PERSONAL SAFETY

Safety on public transportation is necessary to deliver on the promises of the services. From seat belts to infrastructure in a state of good repair to personal safety, all aspects of safety are important. Providing safe environments for staff and people using the services are key components to transit safety.

Public transit often intersects with other socioeconomic aspects in our societies. People experiencing homelessness, people in need for mental health services or people in need of medical can find their way to public transit services, which offer a warm, dry place to be. Transit staff often lack the social services-related training needed to provide adequate support. Instead, transit services have relied on more punitive measures to minor offenses. These have often resulted in more harm by intensifying encounters, diverting attention away from more serious incidents and criminalizing the need for a place to rest.

The murder of George Floyd has caused some to explore the long history of structural racism, classism and ableism⁴² in public transit. Traditionally, transit agencies have relied on police presence to create a sense of safety and security. The focus was on fare enforcement and adherence to codes of conduct to reduce incidents.⁴³ This approach put more burden on people already vulnerable in our society.

However, we cannot overlook the safety concerns for people operating and using the public transit system. Reports of incidents on transit are increasing in the seven-county metro area. The number of security events on Metro Transit buses and trains is increasing. In absolute terms, security events peaked in 2019 with 156 reported assaults and 17 reported robberies. However, relative to the number of passenger miles traveled, the rate of reported crime has risen to historic highs in 2020 and 2021.

Of the transit agencies in Greater Minnesota that are required to report security events to the FTA (Duluth, Moorhead, Rochester and St. Cloud), none reported personal crime since 2014. The National Transit Database does not share safety and security information for smaller transit providers. Rochester, Duluth, and St. Cloud, as well as metro-area transit agencies, have seen more fires and crashes in recent years.

REIMAGING POLICE ON TRANSIT

Agencies have launched pilots to have services staff by liaisons—sometimes called ambassadors—trained to deal with people in crisis and able to offer a calm presence for passengers.⁴⁴ Ambassadors often work in pairs, are training in de-escalation and anti-bias techniques and have police radios to bring in other staff as needs arise. These staff can help riders navigate the transit system, provide directions, offer face masks and connect people in need with appropriate services.

⁴¹ <https://www.metrotransit.org/tap-riders>

⁴² <https://journals.sagepub.com/doi/10.1177/0361198120976329?icid=int.sj-abstract.citing-articles.1>

⁴³ <https://transitcenter.org/publication/safety-for-all/>

⁴⁴ <https://nationalcenterformobilitymanagement.org/blog/public-transit-rider-safety/>

PUSH TO DECRIMINALIZE FARE EVASION

In 2021, Metro Transit leadership testified before the Minnesota House Transportation Committee requesting the decriminalization of fare evasion. Metro Transit and transit advocates support shifting from criminal citations to administrative citations for a few reasons. First, it would allow transit police to address more serious issues. Ordinary staff can issue administrative citations, so law enforcement officers wouldn't have to board vehicles and asking for proof of payment. Second, the criminal citations are not very effective. Less than 5% of tickets result in criminal convictions, likely because county attorneys choose to devote scarce resources to prosecute more serious crimes. Third, the criminal citation for fare evasion is relatively harsh. Currently, a fare evasion ticket carries a \$180 fine and results in a criminal record. An administrative citation would be comparable to a \$35 parking ticket.

ADDRESSING HUMAN TRAFFICKING

Traffickers can go to transit stops or centers to find potential victims and may use transit services to transport victims to place where they will be sold. Victims may use transit to find safety or escape. According to a Polaris study,⁴⁵ 26% of survivor survey respondents said that public transportation played a role in a least one of their exit attempts. The journey after exiting requires securing stable housing, accessing job skills training, getting to medical services and more. For these reasons, transit services provide critical services to combat and overcome trafficking. Ways to combat trafficking include training staff, establishing a reporting policy and launching an awareness campaign.⁴⁶

RELATED TRENDS

- [Aging Population](#)
- [Connected and Automated Vehicles](#)
- [Demographic Trends](#)
- [Economy and Employment](#)
- [Shared Use Mobility](#)
- [Transportation and Race](#)
- [Urban and Rural Population](#)

⁴⁵ <https://polarisproject.org/wp-content/uploads/2018/08/A-Roadmap-for-Systems-and-Industries-to-Prevent-and-Disrupt-Human-Trafficking-Transportation-Industry.pdf>

⁴⁶ https://www.mpta-transit.org/sites/mpta/files/uploads/2020-07/BOTLtoolkit_transit_FINAL.pdf