

# Assessment of North Dakota Mobility Options, Transit Needs, and Characteristics of Users — Executive Summary

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## Abstract

This study identified and analyzed existing transit and other passenger mobility options in North Dakota. Information about population growth trends and demographics across the state were described and used to identify areas with the greatest needs for mobility services. Transit service levels across the state were analyzed based on an examination of existing data and information collected through surveys of transit agencies, stakeholders, and riders. Results from the rider surveys provided information about the demographics of transit users. Service gaps were identified by comparing service levels across the state to benchmarks, and the level of funding needed to fill these gaps was estimated.

## Introduction

The state of North Dakota recognizes the need for a transportation system that allows for optimum personal mobility. Meeting this goal requires an analysis of existing mobility options, how well those options are meeting the needs of North Dakota residents, gaps in services, and funding needs. This study addresses these issues and also meets the needs of section 10 of HB 1012, passed by the North Dakota State Legislature in 2019, which called for the North Dakota Department of Transportation (NDDOT) to study public transportation services within the state. The study examined the number of users of public transportation services, demographics of users, and other transportation options available to transit users, and it identified areas of the state which have no or limited public or private transportation services.

## Population Growth, Demographic Profiles, and Mobility Needs Index

The estimated statewide population for North Dakota increased 13% from 2010 to 2017. The greatest population growth occurred in the northwest part of the state and the state's two most-populated counties, Cass and Burleigh. Meanwhile, many rural counties in the eastern half of the state

lost population. Many of the counties with stagnant or declining population have a high percentage of older adults. In many rural counties, more than 20% of the population is 65 or older. The population over age 65 is projected to increase more than 50% from 2017 to 2030 in a number of counties. These demographics indicate a need for transit.

Total population, population aged 65 or older, population with a disability, population below the poverty line, and population of workers without access to a vehicle are important factors for determining mobility needs. Using these variables, a mobility need index, expressed with a 1-5 scale, was estimated to identify areas with the greatest needs for mobility services. The results are fairly intuitive, as the more highly populated counties have the highest values. Some less populated counties also rank high because of high concentrations of transportation-disadvantaged populations.

## Existing Service Levels

National Transit Database (NTD) data on ridership, vehicle revenue miles and hours of service, number of vehicles in service, and various performance measures were analyzed to assess current levels of service. A survey of transit agencies provided additional information on service coverage, span of

service, types of services provided, and other characteristics.

North Dakota has three urban transit providers located in Fargo-West Fargo, Bismarck-Mandan, and Grand Forks. Total urban ridership had been increasing until 2011, before leveling off and decreasing after 2014. Rural transit ridership has followed a similar trend. These trends follow similar national trends in bus ridership.

Many rural areas of the state have service just one day per week or less than weekly. A few areas have service 2-4 days per week, and many areas have service 5 days per week. Weekend service is also found in some cities, usually the larger cities, but it is less common. Fixed-route services in the urban areas operate six days per week, while the complementary paratransit is available seven days per week in Fargo-West Fargo and Bismarck-Mandan and six days per week in Grand Forks. Hours of service is often limited in rural areas. Many rural areas have service for less than 9 hours per day, including several areas with less than 5 hours of service per day. Most larger cities have service at least 9 hours per day, and the urban areas have 16 or more hours of service.

### Transit Rider Demographics

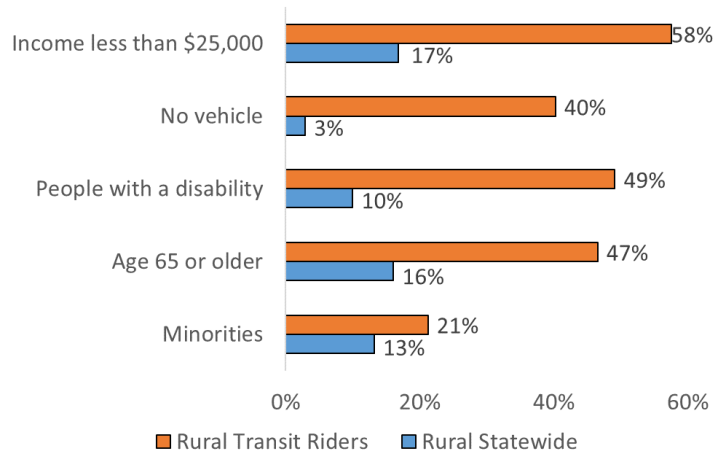
Transit riders across the state were surveyed to collect information about rider demographics. Responses were received from 751 rural transit riders and 105 urban riders. Ridership data by fare category for urban systems provide additional data about rider demographics.

Survey results show that a large percentage of rural transit riders are older adults. Many have a disability, cannot drive, do not have access to a vehicle, and/or have a low income. The median age is 62. Almost one quarter of respondents were 80 or older, and 39% were 70 or older.

About half of riders identified themselves as having a disability, and 47% did not have a driver's license. About 8% were a veteran, and 3% said they have a service animal. Riders are predominantly low income. A majority (58%) have household incomes below \$25,000, and most (87%) have incomes below \$50,000. Many riders do not have access to a vehicle. According to survey responses, 40% do not have any vehicle in the household, and 39% have just one vehicle. About 80% of rural respondents were white,

and 9% were American Indian or Alaska Native. A large majority of respondents (73%) were women.

Figure 1 provides a comparison of the demographics of rural transit riders and the rural general population. Transit is shown to serve a disproportionately higher percentage of these population groups.



**Figure 1. Demographics of Rural Transit Riders and Rural General Population**

For MATBUS in Fargo-Moorhead, nearly half of fixed-route trips in 2019 were taken by college students. People with disabilities accounted for 15% of trips and older adults took 6% of the trips. Including paratransit ridership, the total share of MATBUS trips taken by people with disabilities was about 19%. While MATBUS serves a lower percentage of seniors, Metro Senior Ride helps to fill that gap. In 2019, 13% of Cities Area Transit fixed-route trips in Grand Forks-East Grand Forks were taken by college students, 7% by seniors, and 5% by people with disabilities. Including both fixed-route and demand-response trips, people with disabilities accounted for 18% of total ridership and seniors 13%. For Cities Area Transit, the number of trips taken by college students will increase as the transit agency is taking over the University of North Dakota (UND) campus shuttle service previously operated by UND.

Survey responses in the urban areas also showed a large percentage of riders have a disability, a majority do not have a driver's license, most are low-income, and a majority do not have any vehicles in the household.

### Other Passenger Transportation Services

In addition to public transit services, there are other passenger transportation options available across the state.

These include taxi services, transportation network companies (TNCs) such as Uber and Lyft, private intercity bus service, intercity rail, veterans' transportation services, and others.

Cities with a population of 3,500 or greater all have taxi services. Some of these taxi companies also provide services to other areas within the region. A search for Uber services across the state revealed that it was available only in the larger cities with a population of 20,000 or more, as well as a few smaller cities near Fargo or Grand Forks. Lyft services were found to be more extensive across with state. While these services provide another mobility option for North Dakota residents, they are more expensive than public transit and may not be accessible for people with disabilities. Finding a wheelchair accessible TNC vehicle may currently be difficult or unlikely. Similarly, most taxis are also not accessible. Intercity bus and rail services are also available but are infrequent, do not serve much of the state's population, and may be inconvenient for some types of trips.

### Adequacy of Service and Transit Agency Needs

Surveys of transit agencies and stakeholders across the state collected information regarding how well the needs of residents are being met. The transit agency survey also collected information regarding needed facility upgrades, the capacity for transit agencies to meet service requests, and staffing needs.

Survey results suggest a need for an expansion of service. Most stakeholders and a majority of transit agencies agreed that there are transportation services needed by their service area residents that are not currently available. They most commonly identified a need for weekend service, longer hours of service, and, generally, an expansion of currently available services. Another common remark was the need for better services for people traveling from rural areas and smaller communities to the larger cities for services, especially for medical care. Transit agencies commented that inadequate funding and staffing are the major challenges to providing the additional service.

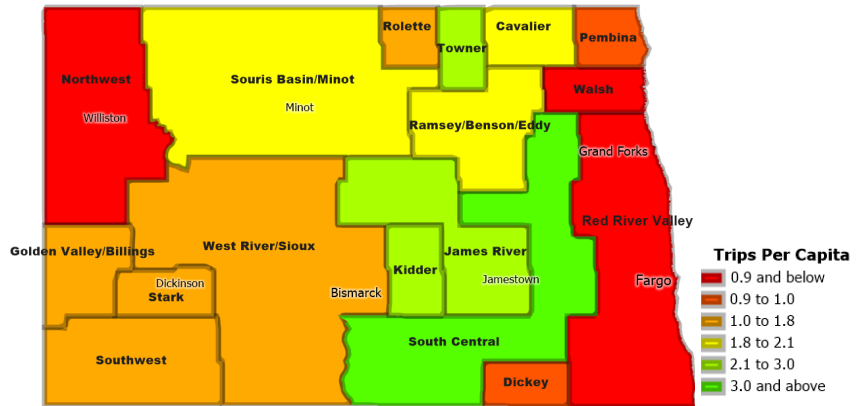


Figure 2. Rural Transit Trips Provided Per Capita

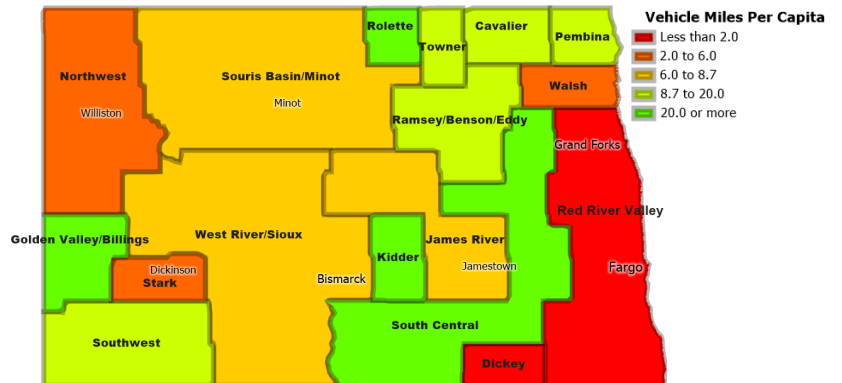


Figure 3. Rural Transit Vehicle Revenue Miles of Service Per Capita

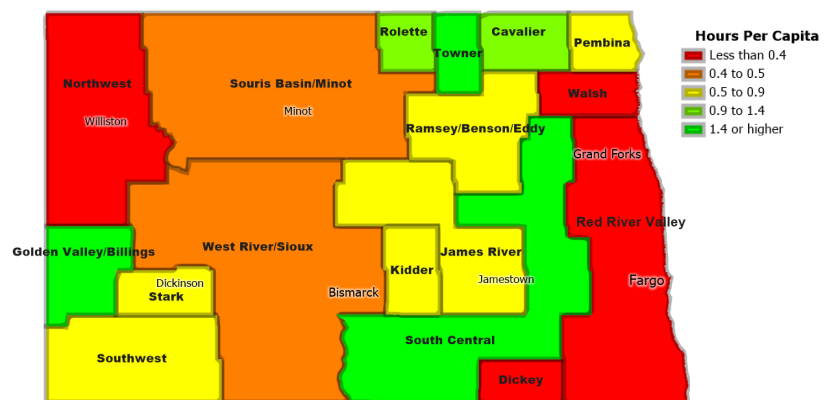


Figure 4. Rural Transit Vehicle Revenue Hours of Service Per Capita

Cost concerns were also mentioned by many respondents. Many stakeholders noted that their clients are low-income and cannot afford taxi, Uber, or Lyft services, or to own a vehicle. Even the cost of public transportation services can be a barrier for some. The lack of options in rural areas was commonly mentioned.

### Service Gaps and Funding Needs

To evaluate service levels in North Dakota, the state was divided into 20 regions, consisting of the three urban areas

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and 17 rural regions based on the current service boundaries of the state's transit providers. Figures 2-4 show rural transit trips, vehicle revenue miles, and vehicle revenue hours per capita for each rural transit region.

Service gaps were determined by comparing the current level of service to benchmark values for vehicle revenue miles and hours. For rural transit, the analysis was based on the level of service provided in comparison to the population of older adults, people with disabilities, and those with low income. Urban fixed-route services were assessed based on vehicle revenue miles and hours provided per capita. Urban demand-response services were assessed based on vehicle revenue miles and hours per population of older adults and people with a disability.

A \$5.3 million increase in statewide annual operating funding is needed in the base scenario to meet the service gaps for both urban and rural transit (Table 1). By 2030, the projected need in increased funding is \$14.4 million statewide, based on projected population growth. For rural transit, this

represents an increase in funding of 21% for the base case and 55% by 2030. For urban transit, this is an increase of 14% for the base and 46% by 2030. One-time new vehicle purchases to meet service needs total \$13.5 million and \$33.5 million in the base and 2030 scenarios, respectively.

**Benefits of Transit**

Investments in transit services in North Dakota provide numerous benefits to transit users, communities, and the state. Societal benefits were estimated in dollar terms for rural and urban transit across the state. Benefit-cost ratios were estimated as 1.5 for rural transit and 1.7 for urban transit. A large share of these benefits are from improving access to health care. Transit provides other benefits that were not quantified in dollar terms. These include relocation avoidance, intangible user benefits, increased productivity, and equity. Separate from these societal benefits are the economic impacts to local economics from transit spending, improved access to shopping, and increased population in the community.

**Table 1. Total Statewide Funding Increases Needed for Base and 2030 Scenarios**

	Base		2030	
	Total	Non-Federal Share*	Total	Non-Federal Share*
<b>Increase in Annual Operating Funds</b>				
Rural	\$3,179,828	\$1,589,914	\$7,335,260	\$3,667,630
Urban	\$2,071,211	\$1,387,712	\$7,099,346	\$4,756,562
<b>Total</b>	<b>\$5,251,040</b>	<b>\$2,977,626</b>	<b>\$14,434,606</b>	<b>\$8,424,192</b>
<b>One-Time New Vehicle Purchases</b>				
Rural	\$3,394,832	\$678,966	\$7,860,406	\$1,572,081
Urban	\$6,691,511	\$1,338,302	\$17,811,363	\$3,562,273
<b>Total</b>	<b>\$10,086,343</b>	<b>\$2,017,269</b>	<b>\$25,671,769</b>	<b>\$5,134,354</b>
<b>Long-term Increase in Annual Vehicle Replacement Costs</b>				
Rural	\$490,191	\$98,038	\$1,134,990	\$226,998
Urban	\$477,965	\$95,593	\$1,390,173	\$278,035
<b>Total</b>	<b>\$968,156</b>	<b>\$193,631</b>	<b>\$2,525,163</b>	<b>\$505,033</b>

\*Estimated non-federal shares of 20% for vehicles, 50% for rural operating, and 67% for urban operating.