Grand Forks-East Grand Forks
TRANSIT DEVELOPMENT PLAN

GRAND FORKS – EAST GRAND FORKS

Transit Development Plan

Existing Conditions Report

July 2022

EXISTING CONDITIONS REPORT

Grand Forks-East Grand Forks
TRANSIT DEVELOPMENT PLAN

OVERVIEW

The **Grand Forks-East Grand Forks Transit Development Plan (TDP)** is a 10-year plan that provides a vision for transit in the community. Grand Forks – East Grand Forks' previous transit development plan was completed in 2017.

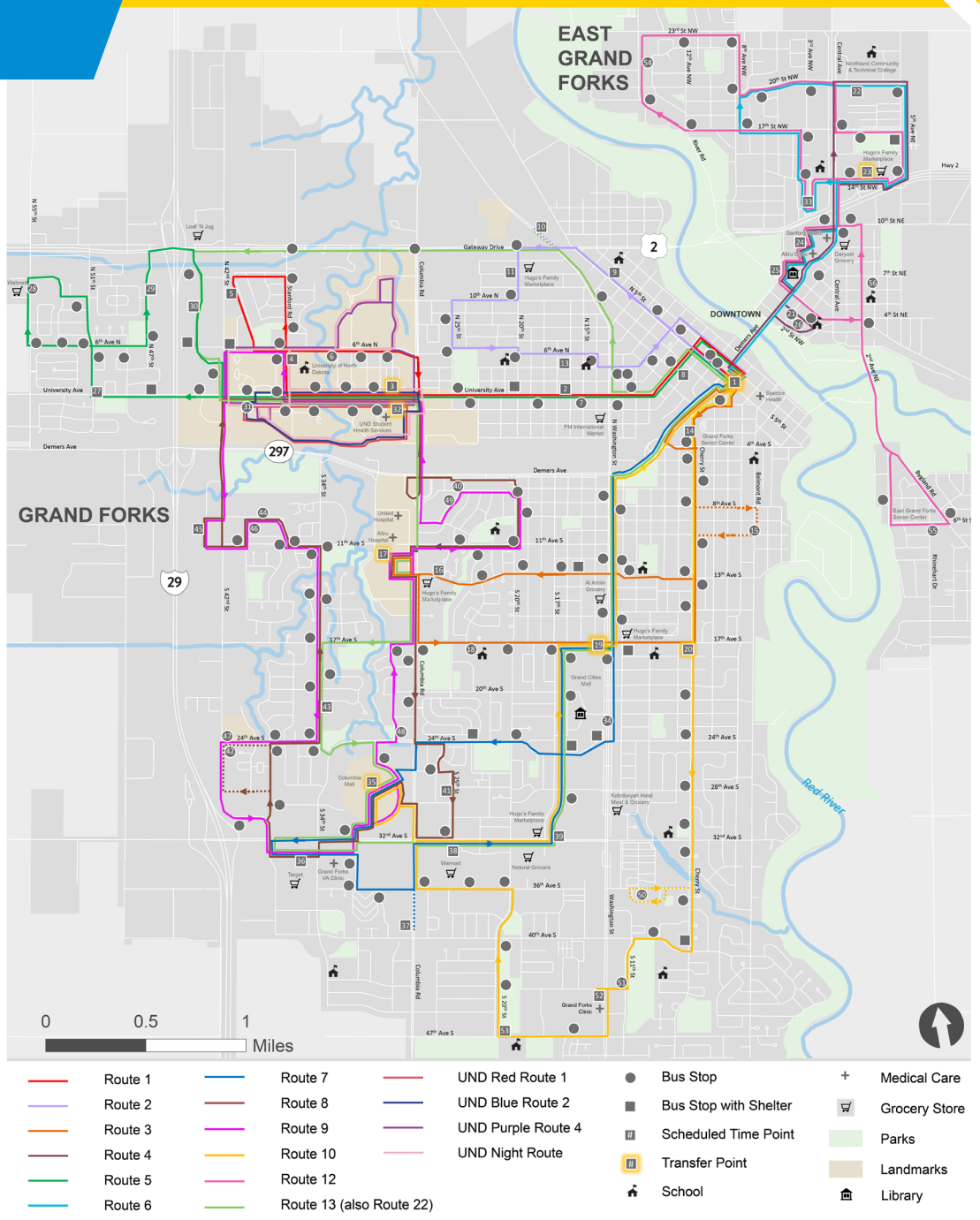
To better understand the needs and priorities, we created an existing conditions report which summarizes the current CAT system, provides information about how the system is performing, and areas for improvement.

Cat Provides Two Types Of Service:

CAT operates buses on **16 fixed routes** (including 4 University of North Dakota routes!).

CAT provides **curb-to-curb demand response service** to seniors (62+) and qualifying people with disabilities.

CAT System Map



CAPITAL OVERVIEW

14 Fixed Route Busses

12 Dial-A-Ride/ Senior Rider Shuttles

49 Bus Shelters and many more bus stops

SYSTEM PERFORMANCE

Route Performance

- CAT routes provided 226,000 rides in 2019.
- CAT ridership since the COVID-19 pandemic declined 37% (between 2019 and 2020) which is a smaller decline than the national average of 55% for the same time period.
- **RANKED #1-** Route 7 is the most popular route with the highest ridership before and since the pandemic.
- **RANKED #2-** Route 5 is a very popular route, consistently ranking 2nd or 3rd in ridership over time.
- **RANKED #3-** Route 3 provides service twice an hour and is ranked number one for efficiency, and number two for total boardings.

Demand Response Performance

- CAT's curb to curb (demand response) service provided 65,182 rides in 2019.
- Before the COVID-19 pandemic there was a 24% increase between 2013 and 2019 in rides, compared to less than 9 percent nationally.

Fares

- CAT 31 Day passes are growing in popularity.
- CAT 31 Day passes are more affordable than 4 out of 7 peers compared.

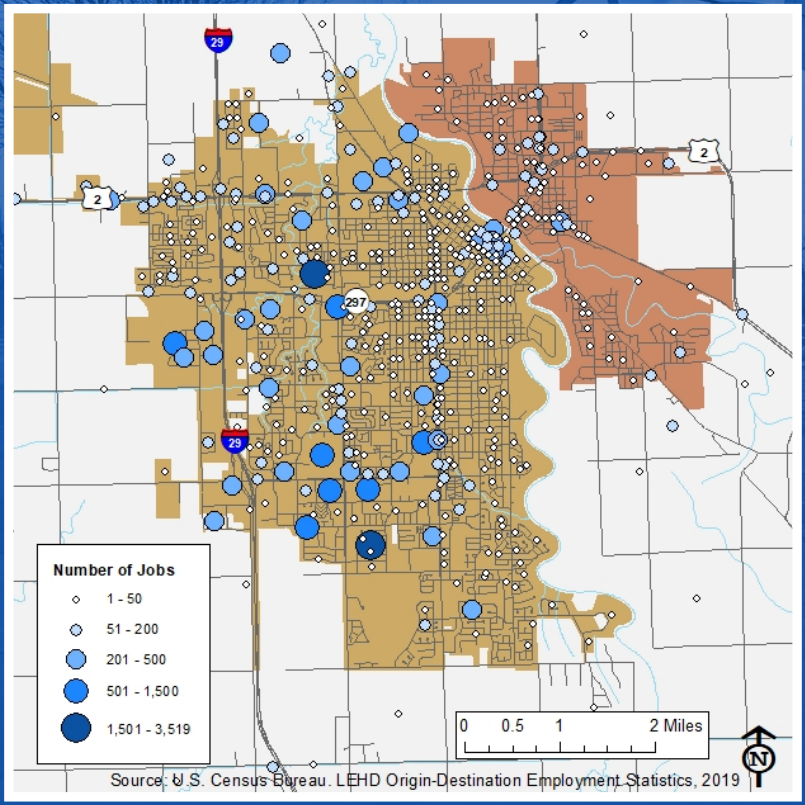
System Reliability & Safety

- Compared to national statistics, both services operate very safely, with only minor injuries and motor vehicle issues on the fixed route service and no safety events for the demand response service.
- The system's vehicles have become more reliable over time. For the fixed route service there were over 350,000 miles between mechanical failures and in 2020 the demand-response vehicles had no mechanical failures at all.

Peer Comparison

- Similar to peer cities nationally, CAT has experienced increasing costs and lower ridership in recent years.
- CAT has consistently provided a similar level of service compared to peers, despite overall population growth of the region.

COMMUNITY FACTS



▲ *Job Density in the Grand Forks-East Grand Forks area*

- **The Grand Forks/East Grand Forks Area has 104,362 people.**
- **About 30% of households in East Grand Forks have at least one person with a disability**
- **The highest population density is near University of North Dakota–Most areas of the Grand Forks/East Grand Forks area are relatively low density with between 0 and six people per acre.**
- **The highest job densities in the region are in Grand Forks near University of North Dakota and along 32nd avenue with up to 3,500 jobs in one area.**

FINANCIALS

- In addition to fares from riders, CAT is funded through a combination of cities (Grand Forks & East Grand Forks), state (MN & ND), and federal funding.
- Currently the system is doing a good job balancing expenses and costs with revenue coming in from the system.
- The fixed route system costs $2.5 Million to run while the Demand Response (Dial-A-Ride/Senior Rider) costs just over $450,000 to operate.
- The recent signing of the Infrastructure Investment and Jobs Act may mean more funding in the future.

NEXT STEPS

- This analysis will be used along with community input to develop ideas for capital and service improvements.

LEARN MORE:

Visit **CatTransitPlan.com** to learn more and get involved!

EXISTING CONDITIONS REPORT

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Introduction

Project Overview

The Grand Forks-East Grand Forks Transit Development Plan (TDP) is a 10-year plan that provides a vision for transit in the community. Grand Forks – East Grand Forks' previous transit development plan was completed in 2017. The 2022 plan update will evaluate recent system improvements and has the following areas of focus:

- Integration of University of North Dakota (UND) campus bus routes
- New or improved fixed route, paratransit, and Senior Rider services
- Maintenance and growth of CAT ridership
- Fare, pass, or transfer policy changes to increase ridership or funding
- Transit fleet and technology recommendations
- Investments in capital improvements like buses, bus stop enhancements, and support equipment
- Support for existing and future CAT operations at transit facilities such as Midtown Transit Center and Metro Transit Center

Purpose of this Document

The purpose of this document is to provide background information on the existing conditions of Cities Area Transit (CAT) services including safety performance measures, transit assets, route system performance, fares, existing area plans, area demographics and transit propensity, and financial performance and funding opportunities. These areas provide a baseline to understand the strengths and challenges of the system. This information will provide insight for the development of recommendations for the TDP.

CAT System Overview and Performance

This section includes an overview of the fixed route and demand response services, including performance indicators and detailed route information. It is intended to provide a detailed look at how efficiently the system is running and possible areas for improvements.

System Overview

CAT offers three primary services: fixed route service and demand-response service, which is the paratransit dial-a-ride service and a senior rider service, offered for individuals 62 years of age and older.

Fixed Route Service Overview

CAT has 16 fixed routes within the system. These include three routes that travel to East Grand Forks, while the majority travel only in Grand Forks (Figure 1). Three routes offer evening service: Route 3, Route 6, and Route 13 (also known as Route 22). The routes that serve the University of North Dakota (UND) campus were recently integrated into the system.

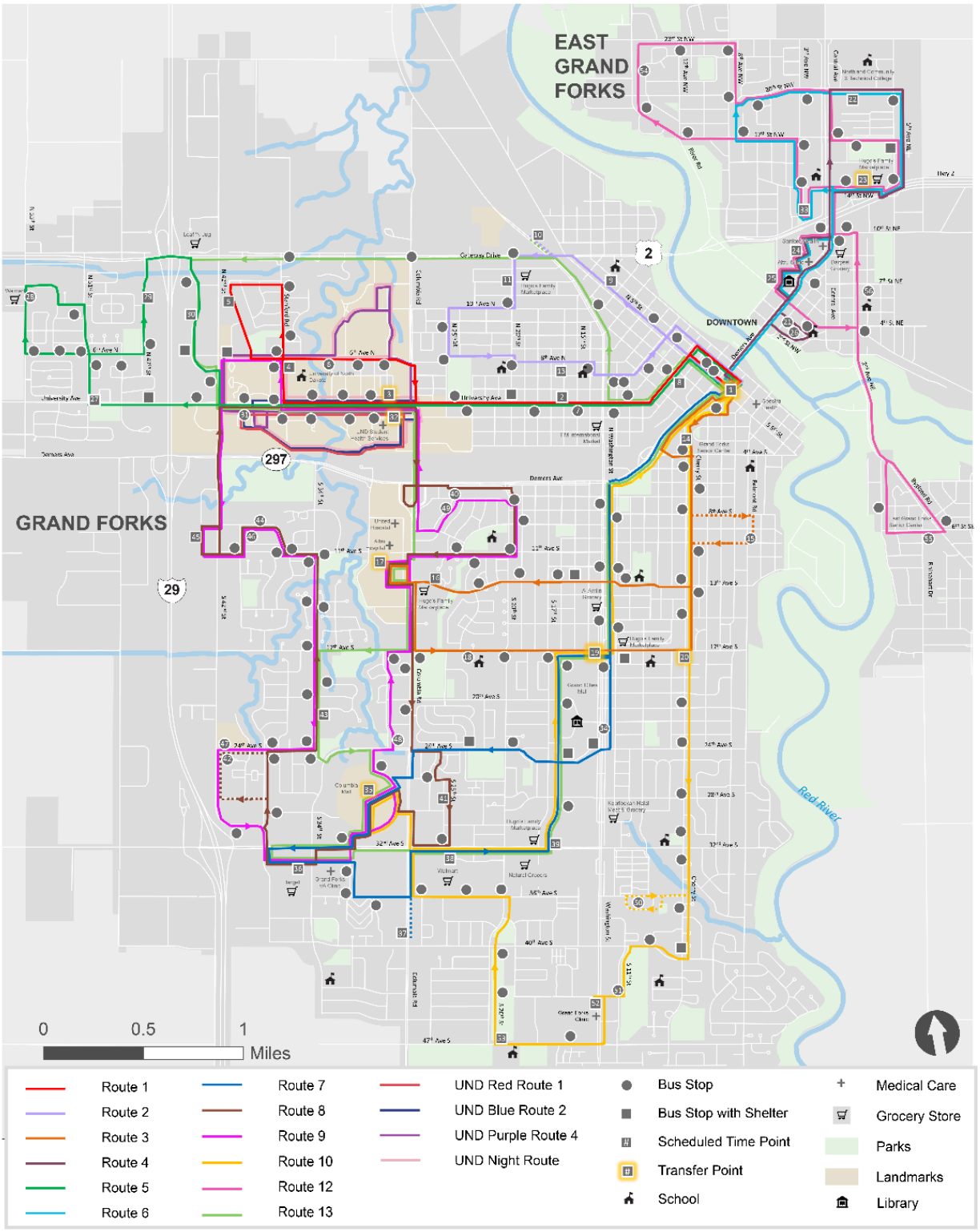


Figure 1: CAT System Map

Fixed Route Span and Frequency

While most CAT routes offer weekend service on Saturdays, UND service is weekday only, with the UND Red, Purple and Blue (Routes 14, 15 and 16) offering service during weekdays (Monday through Friday) and the UND Night (Route 25) offering service only in the evenings and only Monday through Thursday. UND Service only operates during the fall and spring semesters when classes are in session, while all other routes are year-round. Most CAT routes offer service once an hour throughout their span. Route 3 offers service twice an hour (and is interlined with Routes 4 and 6). UND routes are also offered more frequently, every 15 minutes (UND Red and Blue), every 20 minutes (UND Purple) and every 30 minutes (UND Night). The span (times when a bus operates) and frequency (how often a bus comes) for each route are listed in Table 1.

Table 1: Fixed Route Service Span and Frequency

Route	Days of Service	Weekday Hours	Weekend Hours	Frequency
1	Monday - Saturday	7:00 AM – 5:30 PM	8:00 AM – 5:30 PM	60 minutes
2	Monday - Saturday	6:30 AM – 6:00 PM	8:30 AM – 6:00 PM	60 minutes
3	Monday - Saturday	6:30 AM – 9:30 PM	8:00 AM – 9:30 PM	30 minutes before 6:00 PM, 60 minutes after 6:00 PM
4	Monday - Saturday	6:00 AM – 5:30 PM	8:00 AM – 5:30 PM	60 minutes
5	Monday - Saturday	6:00 AM – 6:00 PM	8:00 AM – 6:00 PM	60 minutes
6	Monday - Saturday	6:30 AM – 10:00 PM	8:30 AM – 10:00 PM	60 minutes
7	Monday - Saturday	6:30 AM – 6:00 PM	8:00 AM – 6:00 PM	60 minutes
8	Monday - Saturday	6:00 AM – 6:00 PM	8:00 AM – 6:00 PM	60 minutes
9	Monday - Saturday	6:30 AM – 6:00 PM	8:00 AM – 6:00 PM	60 minutes
10	Monday - Saturday	6:00 AM – 6:00 PM	8:00 AM – 6:00 PM	60 minutes
12*	Formerly Monday - Friday	Formerly 7:00 AM – 6:00 PM	-	60 minutes
13 (also known as 22)	Monday - Saturday	6:00 PM – 10:00 PM	6:00 PM – 10:00 PM	60 minutes
UND Red Route #1	Monday - Friday	7:30 AM – 4:30 PM	-	15 minutes
UND Purple Route #4	Monday - Friday	7:30 AM – 4:30 PM	-	20 minutes
UND Blue Route #2	Monday - Friday	7:30 AM – 4:30 PM	-	15 minutes

Route	Days of Service	Weekday Hours	Weekend Hours	Frequency
Night Route UND Night	Monday - Thursday	5:00 PM – 10:00 PM	-	30 minutes

***Route 12 transitioned to a demand-response service beginning in 2020 due to low ridership. Service was ended on this route due to low ridership and the need to reallocate operators to service to K-12 schools.*

Demand-Response Service Overview

CAT offers two demand-response services: Dial-a-Ride and Senior Rider. These services operate Monday through Friday from 6:00 AM to10:00 PM and on Saturday from 8:00 AM to 10:00 PM, excluding major holidays, similar to the fixed route schedule.

- Dial-A-Ride is an origin-to-destination ADA complementary paratransit for persons who are not able to use the fixed route bus system due to disability.
- Senior Rider is an origin-to-destination service for passengers age 62 and older.

To use this service riders, riders call to schedule the destination and return trips at least one day in advance. Cancellation is required at least two hours in advance of the planned trip.

For the purposes of performance analysis, these services are grouped together in demand response figures.

Key Takeaways

Riders who use most fixed routes have the opportunity to take the bus once an hour, which offers limited flexibility. Most routes stop at the Downtown Grand Forks transit center for transfers. This can make a trip across town lengthy for riders. Riders have three fixed route options for evening service.

The demand response services offer similar service hours to the fixed route service but a more personalized service that does not require transfers. This service is called demand response, because it is available when the rider wants it and where the rider wants it, however, it does require some planning and coordination with CAT (a day in advance) as opposed to a fixed route, which will visit a stop regardless of the rider's schedule.

Performance Indicators

To understand the performance of the existing CAT service, the study team examined eight performance indicators. The eight performance indicators include:

- Ridership
- Revenue Miles per Capita
- Passengers per Revenue Mile
- Cost per Revenue Mile
- Cost per Trip
- Farebox Recovery
- Safety Performance
- Reliability

Data used to determine each of the performance indicators is based on data that CAT reports to the National Transit Database (NTD) and data provided by CAT for individual routes. NTD data is based on a calendar year and is standardized across agencies, making peer comparison more accurate and insightful. For data related to population, the

U.S. Census Bureau's American Community Survey data for 2013-2019 and the Decennial Census data for 2020 were used. More information on performance management, including CAT and the Metropolitan Planning Organization (MPO) goals, objectives, performance measures, and performance targets can be found in the Performance Management section of the plan.

Ridership

Annual Ridership

Annual ridership represents the number of trips that are taken on transit services during a given year. The study team examined ridership for the two main types of service provided by CAT, demand response and fixed route bus service, as well as for the full system. The project team analyzed ridership data from 2013 to 2020, which reflects the years for which NTD data is available for CAT. To highlight the ridership impacts of the COVID-19 pandemic, 2020-2021 data is provided on a monthly basis using data provided by CAT. The ridership data for 2021 is only available for January through June.

Recent trends in ridership are heavily influenced by the impacts of the COVID-19 pandemic. To a lesser degree, these trends are also influenced by the addition of UND shuttle service to CAT's operations. In August 2020, CAT began operating the campus shuttle service for UND for the university's fall semester. This UND fall semester ridership (August-December 2020) accounted for approximately five percent of the total annual CAT ridership in 2020. In January to June 2021, the UND shuttle routes accounted for nearly 13 percent of the total fixed route ridership.

Systemwide Ridership

Systemwide, CAT ridership declined between 2013 and 2020. From 2013 to 2019, ridership decreased by 30 percent. In 2019, CAT had a total ridership of approximately 290,000 rides across all services. Due to the COVID-19 pandemic, ridership decreased by 38 percent from 2019 to 2020 to a total of 179,456, as shown in Figure 2.

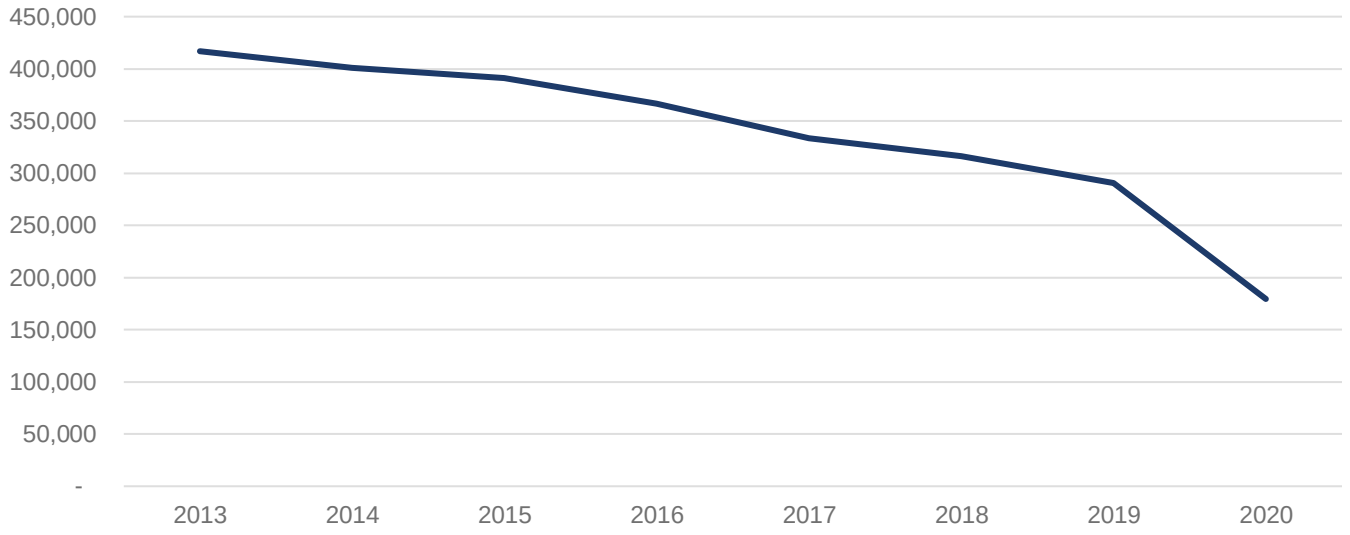


Figure 2: Total Annual CAT Ridership (2013-2020, NTD)

CAT Ridership Trend, 2013-2019
Decrease of **30%**

CAT Ridership Trend, 2019-2020
Decrease of **38%**

In 2020 and 2021, the COVID-19 pandemic impacted ridership nationally, including in the Grand Forks – East Grand Forks area. Monthly CAT ridership dropped significantly starting in March 2020, with an extreme low in April 2020. Since April 2020, ridership has trended up but is still lower than the pre-COVID-19 level in February 2020 (Figure 3).

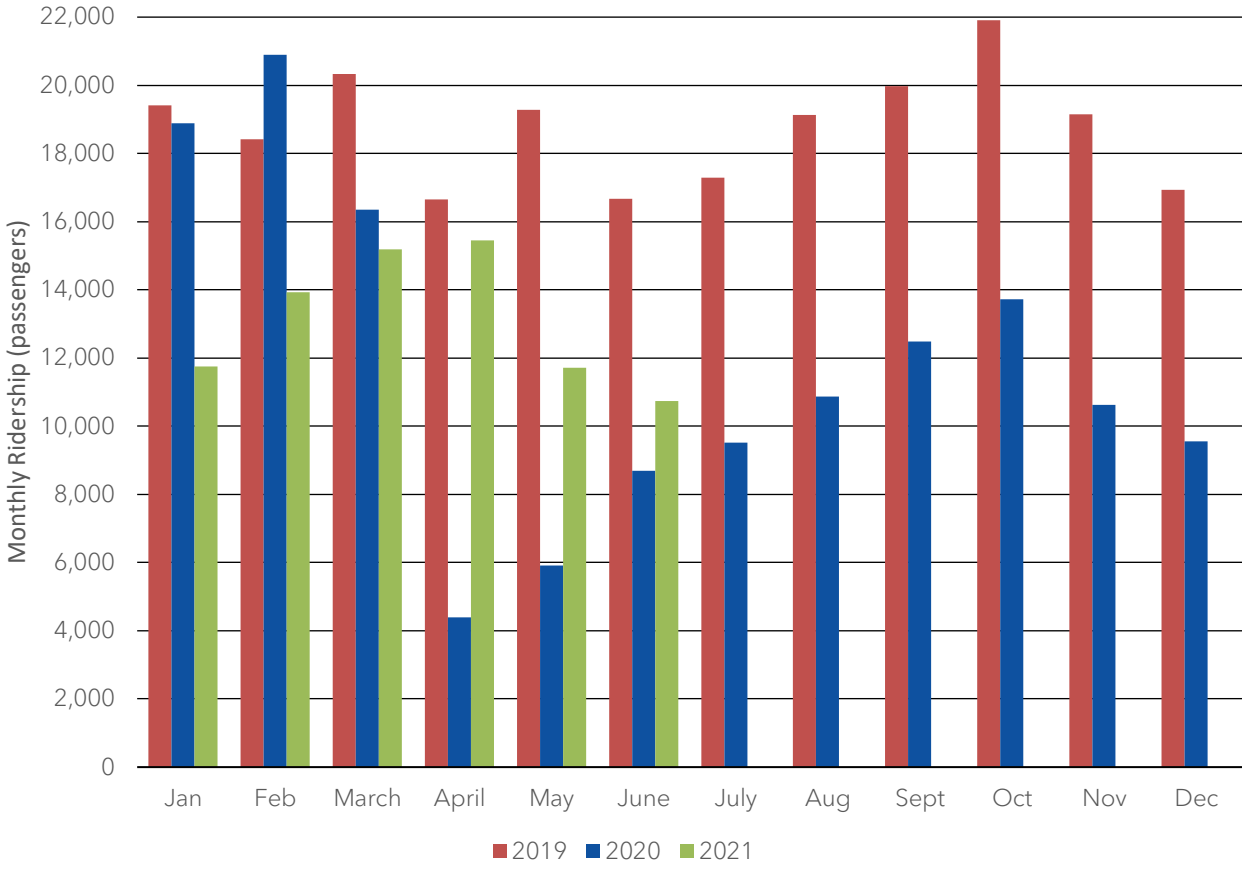


Figure 3: Total System Monthly Ridership (January 2019 to June 2021)

Fixed Route Ridership

Total ridership on the fixed route services in 2019 was approximately 226,000 trips, representing a decrease of 38 percent from 2013. According to NTD data compiled by the American Public Transportation Association[1], agencies serving similar sized populations have seen a decrease in ridership of approximately 10 percent over the same period from 2013 to 2019. This trend follows the national trend for fixed route bus service, which saw an 18.2 percent decrease in ridership from 2010 to 2019. As a result of the COVID-19 pandemic, CAT experienced a decrease of 37 percent from 2019 to 2020. Nationally, fixed route service for agencies serving similar sized populations as CAT decreased by 55 percent from 2019 to 2020. CAT's decrease in ridership was less than the national average for agencies serving similar a population size. Figure 4 shows the annual ridership trend for CAT's fixed route services from 2013 to 2020 based on calendar year NTD data.

[1] https://www.apta.com/wp-content/uploads/2019-Q4-Ridership-APTA.pdf; https://www.apta.com/wp-content/uploads/Resources/resources/statistics/Documents/Ridership/2013-q4-ridership-APTA.pdf; https://www.apta.com/wp-content/uploads/2020-Q4-Ridership-APTA.pdf

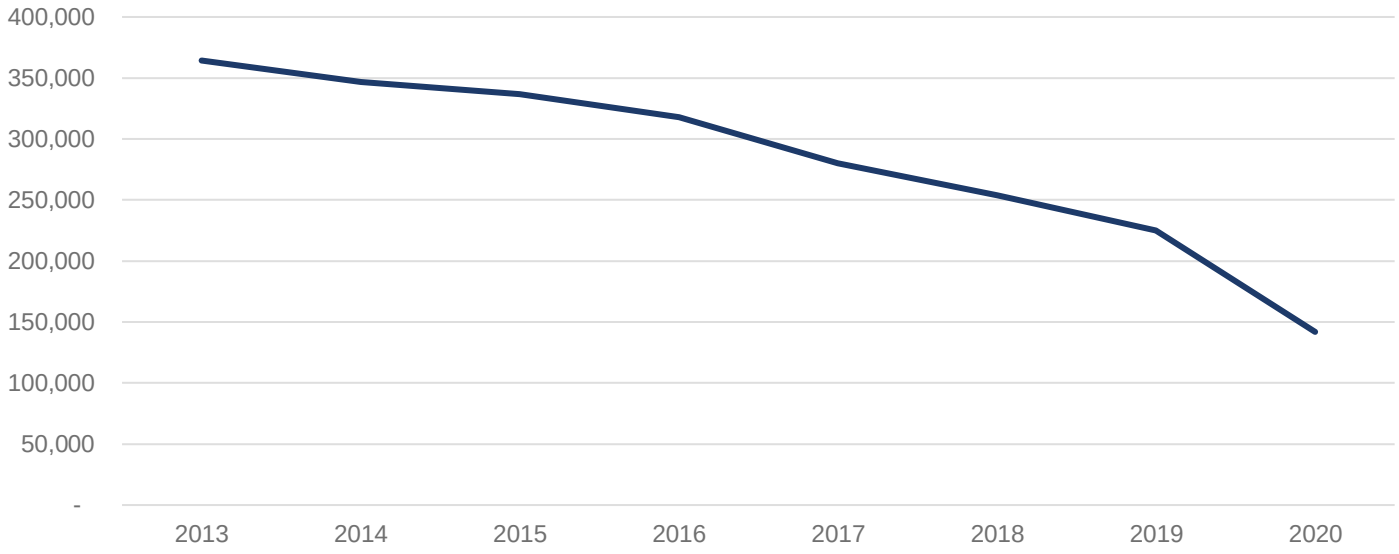


Figure 4: Annual Fixed Route Bus Ridership (2013-2020, NTD)

CAT Fixed Route Ridership Trend, 2013-2019
Decrease of **38%**

CAT 1-Year Fixed Route Ridership Trend, 2019-2020
Decrease of **37%**

The monthly average for ridership on the fixed route service is currently lower than before the onset of the COVID-19 pandemic (Figure 5). The COVID-19 ridership is represented in the months of March 2020 to June 2021. While the increases in ridership follow the same trends by month as they did before the pandemic, the ridership is consistently half to two thirds of what it was before the pandemic. Ridership in June and July is also lower due to the UND school schedule since that service is only offered during the fall and spring semesters.

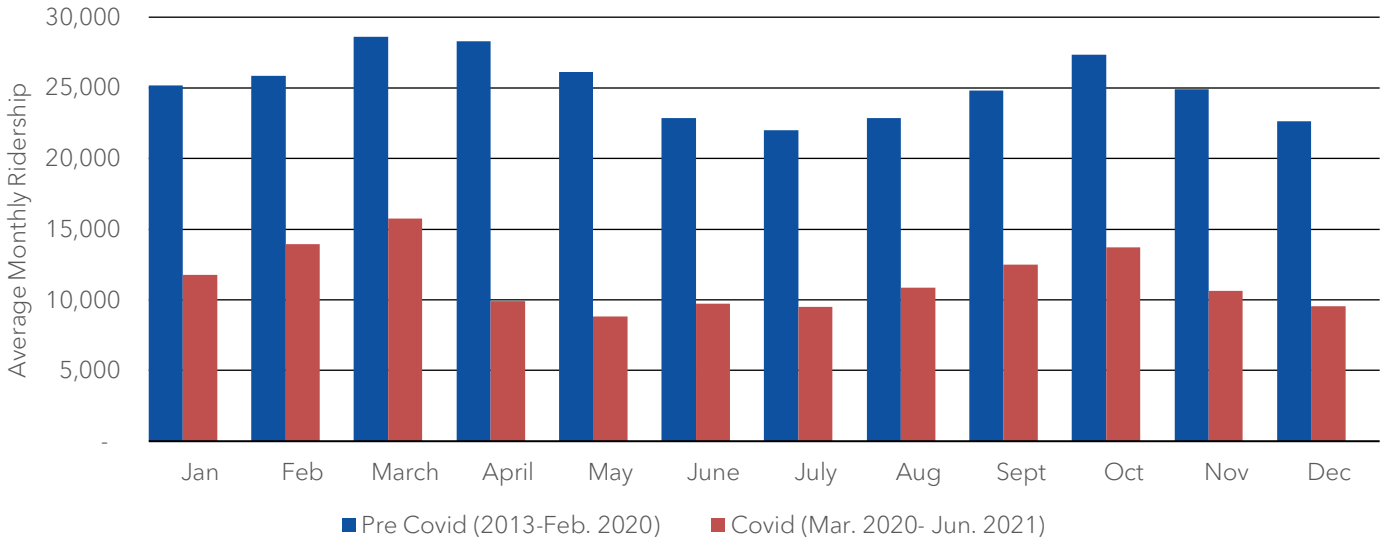


Figure 5: Fixed Route Service Monthly Average Ridership, Pre-COVID-19 vs. COVID-19 (2013-2020, NTD, CAT)

Demand Response Ridership

Demand response ridership had been increasing prior to the beginning of the COVID-19 pandemic. In 2019, the demand response service provided nearly 65,182 trips, representing a 24 percent increase from 2013. This trend increase exceeds that of the national trend, where demand-response service ridership increased by nine percent from 2010 to 2019. Figure 6 shows the annual ridership trend for CAT's demand response service from 2013 to 2020 based on calendar year NTD data.

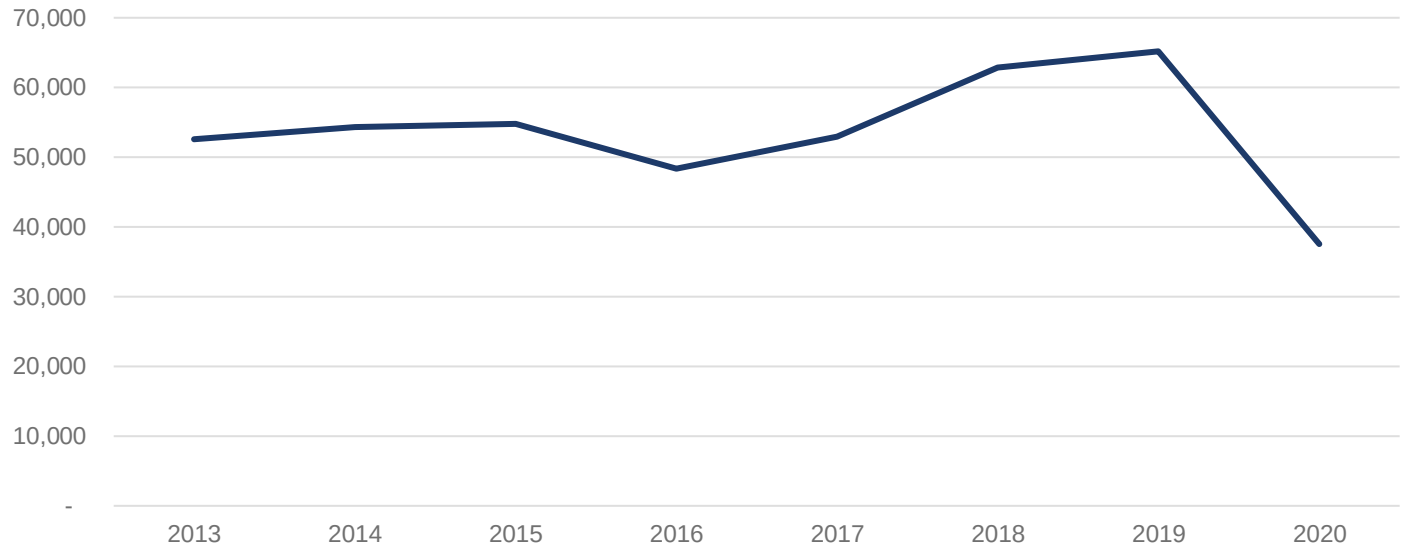


Figure 6: Annual Demand Response Service Ridership (2013-2020, NTD)

Ridership on the senior rider program is lower than paratransit ridership. Both groups experienced a slight dip in ridership in 2016 but otherwise showed growth in use between 2013 and 2019 (Figure 7).

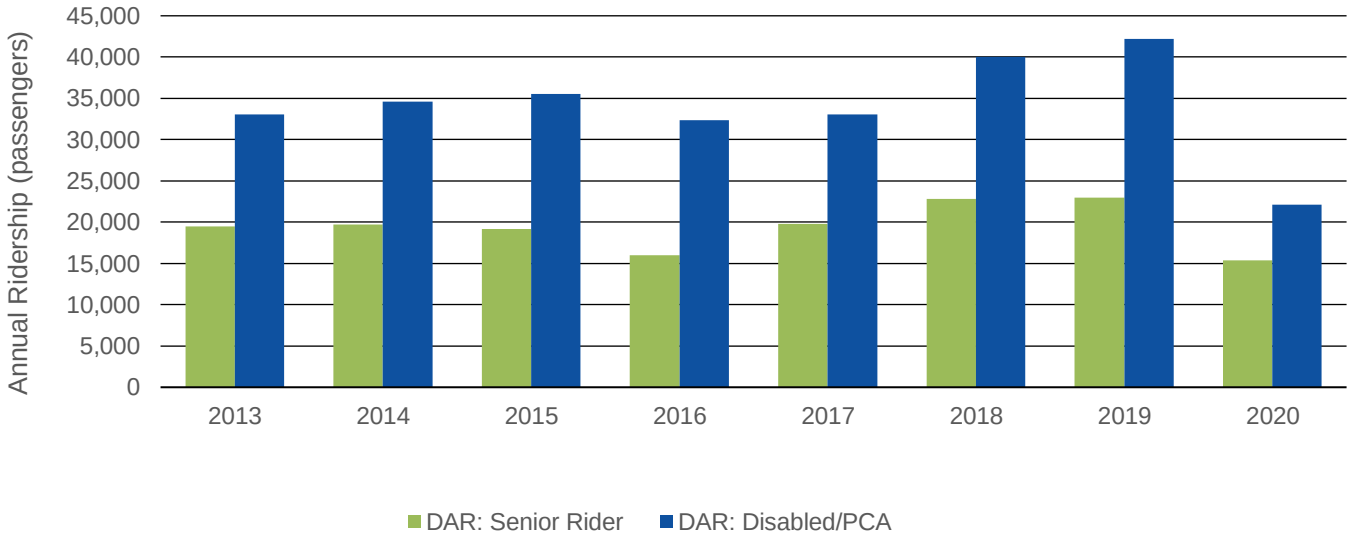


Figure 7: Demand Response Service (Senior & Disabled) Annual Ridership (2013-2020, CAT)

The slight dip in 2016 could be attributed to the improved adherence to the policies of the program and application process. 2017 shows a leveling out and slight increase from 2016. Seniors using the service have said they prefer it over fixed route service because it is more convenient. Since it offers origin-to-destination rides, it also limits any first-mile/last-mile inconvenience that is experienced with fixed route service only traveling to bus stops. Ridership decreased after the onset of the COVID-19 pandemic. Between 2019 and 2020, demand response ridership decreased 42 percent. This decrease was slightly lower than the national trend, in which demand response ridership 45 percent according to NTD data compiled by APTA. Similar to fixed route service, the lowest month for ridership was in April 2020. Since then, ridership has been increasing, while still below the March 2020 levels (Figure 8).

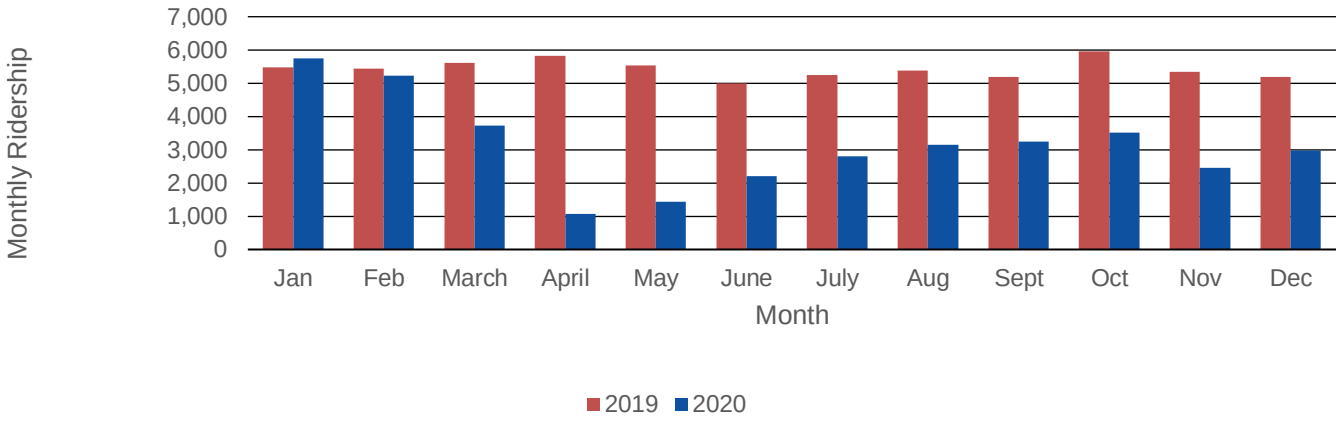


Figure 8: Demand Response Service (Total System) Monthly Ridership (2020, NTD)

Ridership declined less in the East Grand Forks area than in Grand Forks during the pandemic, although the Grand Forks ridership represents significantly more of the total ridership (Figure 9).

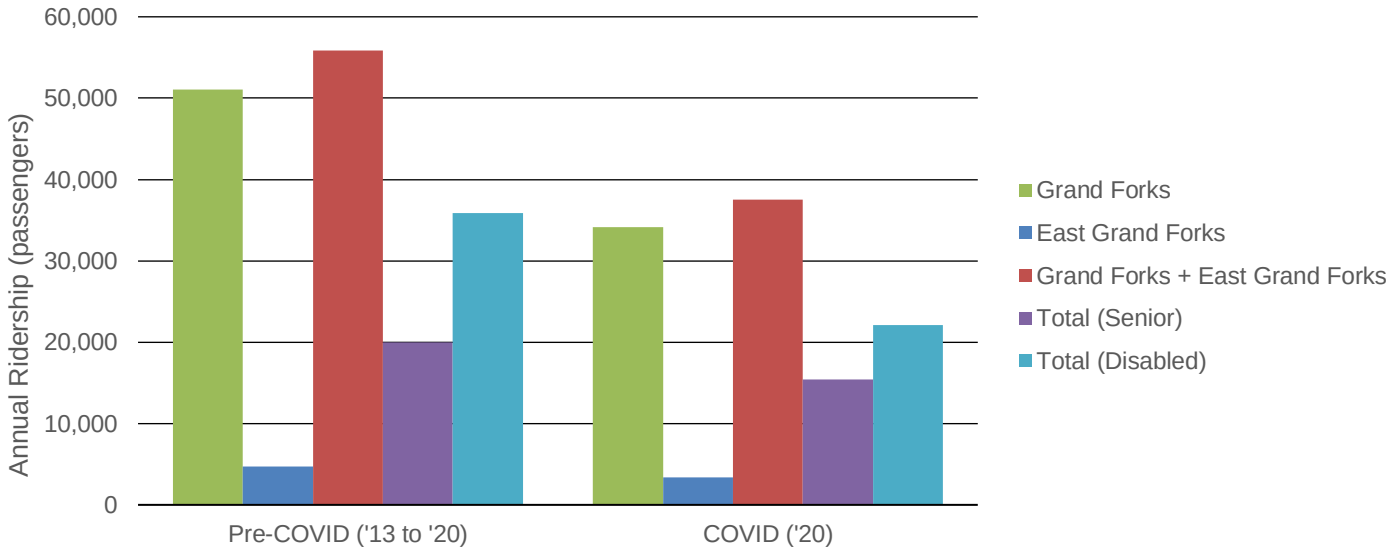


Figure 9: Demand Response Service Monthly Average Ridership by Location (Pre-COVID-19vs During COVID) (2013-2020, NTD)

Key Takeaways

Fixed route ridership was lower in 2019 compared to 2013, and the decline in fixed route ridership occurred at a rate of over three times that of the national average. Improvements to the existing service and marketing campaigns to attract riders after the COVID-19 pandemic could potentially help the fixed route system to regain riders in the years to come.

The steady growth of CAT demand response ridership also indicates an increasing demand for service, particularly as the population continues to age. Demand response service provides critical transportation to those in the community who may not otherwise be able to access jobs, services, or other community resources.

Revenue Miles per Capita

Revenue miles per capita indicates how much service is delivered based on the population of the service area. In 2013, the Grand Forks-East Grand Forks Metropolitan Statistical Area (MSA)'s population was 98,879. That year, CAT provided just under 383,000 miles of fixed route service and just under 191,000 miles of demand response service. In 2019, CAT provided just over 363,000 miles of fixed route service, a decrease from 2013 levels, and just over 251,000 miles of demand response service, an increase from 2013 levels. The population of the MSA was around 101,800 people in 2019. While population grew by three percent during this time, the revenue miles for the full system increased by 7.2 percent. In 2020, as a result of the COVID-19 pandemic's impact on service, the revenue miles decreased by 13 percent from 2019 to 2020. Figure 10 shows the historical change in revenue miles per capita for CAT service.

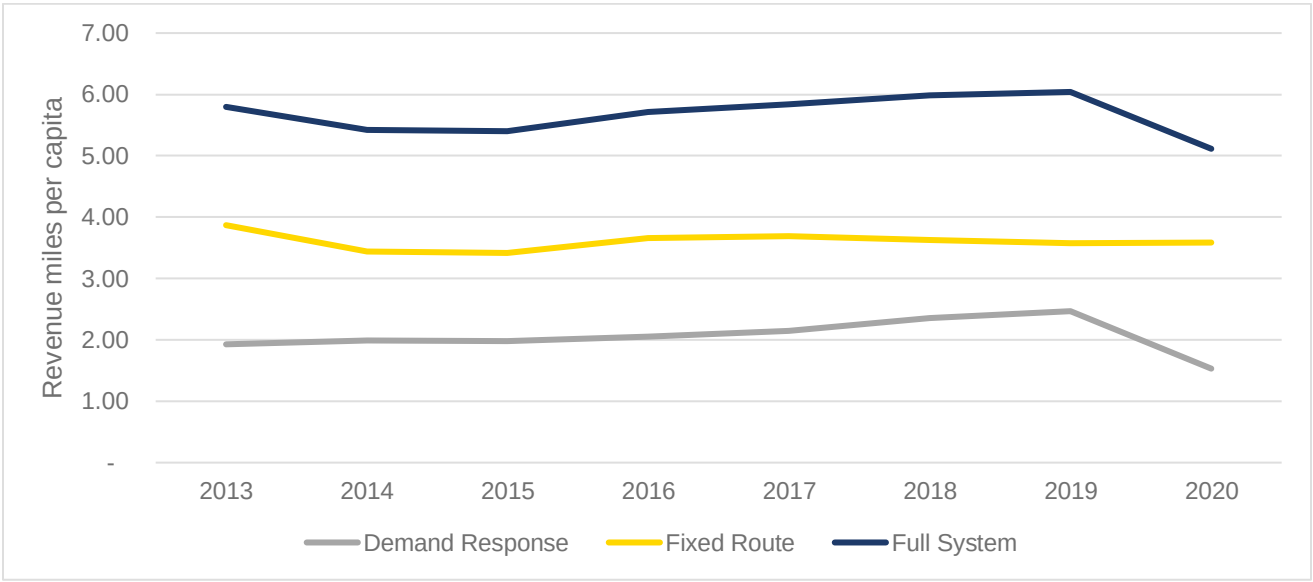


Figure 10: Revenue Miles per Capita by Mode (2013-2020, NTD & U.S. Census Bureau)

In 2019, CAT provided 2.47 revenue miles of demand response service per capita and 3.57 revenue miles of fixed route service per capita. Systemwide in 2019, CAT provided 6.04 revenue miles per capita. As seen in Table 3, these statistics all represent a slight decrease in revenue miles per capita since 2013. This overall trend is driven by a substantial increase in revenue miles per capita in the demand response service, while the revenue miles per capita for fixed route service has decreased.

Table 2: Revenue Miles per Capita (2013 – 2020, NTD)

	2019 Revenue Miles per Capita	Percent Change (2013 to 2019)
Demand Response	2.47	+27.9%
Fixed Route	3.57	-7.7%
All Service Combined	6.04	+4.2%

Key Takeaways

Increasing service relative to increases in population is important to maintaining the quality of existing service and ensure that growing needs of the community are being met. Prior to the pandemic, the modest revenue miles per capita growth showed that CAT was doing a good job of keeping up services based on population growth. The decline during 2020 shows how services were adjusted to the needs of the community as ridership on some routes decreased (Route 12 service was ended). This could show there is an opportunity to increase revenue miles per capita in different services, especially given relative growth of demand response revenue miles per capita.

Passengers per Revenue Mile

Passengers per revenue mile is a comparison of the total passengers carried on a route to the total number of revenue miles operated by the route. Revenue miles measure the number of miles that transit is in service picking up and dropping off passengers. The passengers per revenue mile metric helps to indicate how productive service is over the course of an average mile. As shown in Figure 11, the fixed route system carried an average of almost 0.62 person per mile of service, whereas the demand response service carried 0.26 passengers per revenue mile in 2019. The full system carried 0.47 passengers per revenue mile in 2019. Since 2013, the passengers per revenue mile stayed relative constant for demand response service, even in 2020 after the COVID-19 pandemic began. During this period, the passengers per revenue mile for fixed route service decreased consistently from 2013 to 2019 and decreased more significantly from 2019 to 2020. This may be attributed in part to the introduction of peak service routes in August 2018 through July 2019, which yielded limited improvements in ridership, while increasing revenue miles in fixed route service. Additional changes that occurred during this time was the inclusion of the UND service.

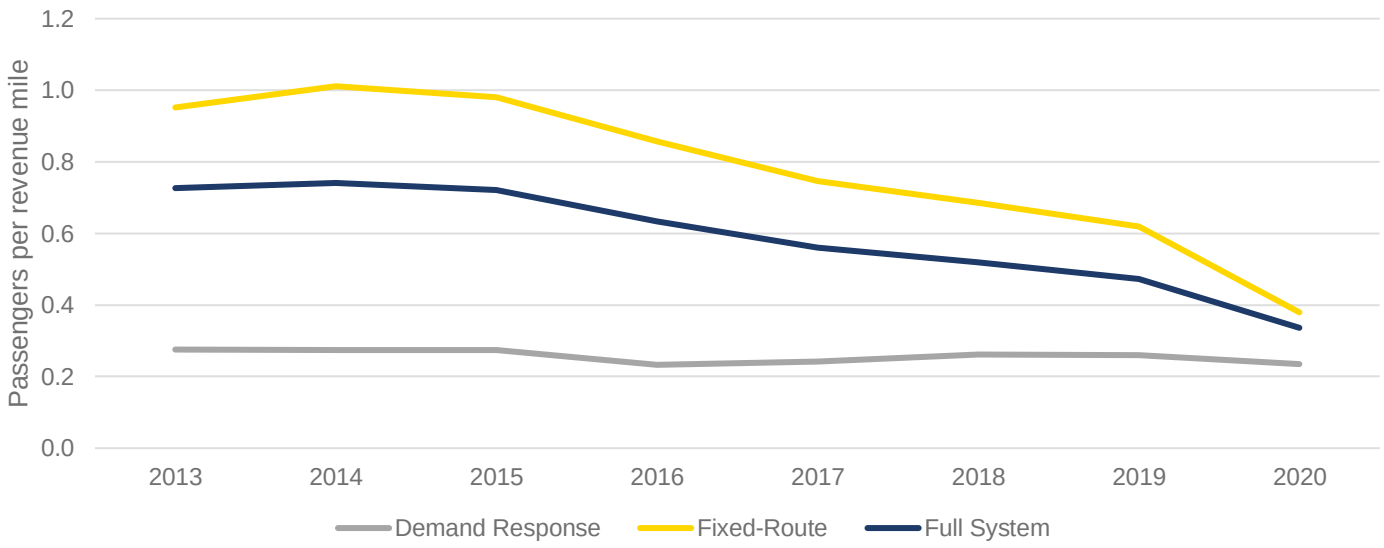


Figure 11: Passengers per Revenue Mile (2013-2020, NTD)

Key Takeaways

Similar to other key metrics, passengers per revenue mile has decreased since 2013 and decreased precipitously systemwide in 2020 with the beginning of the COVID-19 pandemic. While UND service has the potential to create a more efficient system, that can improve services for the students and community, the performance was greatly impacted by the pandemic. Like systems nationwide, services that are less productive in terms of attracting ridership should be reviewed as part of the next steps and recommendations part of this study. While it is unclear if the pandemic will continue to affect ridership, the overall downward trend for the fixed route service warrants review. Since demand response has maintained passengers per revenue mile, a review of the success of this model should also be considered.

Cost per Revenue Mile

The cost per revenue mile metric examines the operating cost of service against the number of miles of service provided. It is a valuable metric, because it enables the cost of service to be evaluated over time even if service levels have changed. Figure 12 shows the change in operating cost per revenue mile from 2013 to 2020 for demand response service, fixed route service, and all service combined. While this trend shows a recent increase in costs, beginning in 2020 the costs to run the demand response service actually decreased as the service was shifted from contracted service to an in-house operation using CAT drivers. However, as this transition occurred so did a change in which expenses would be attributed to operating expenses so that could be in-part the reason for this increase. With this change some of the costs previously associated with only the fixed route were reallocated to the demand response service.

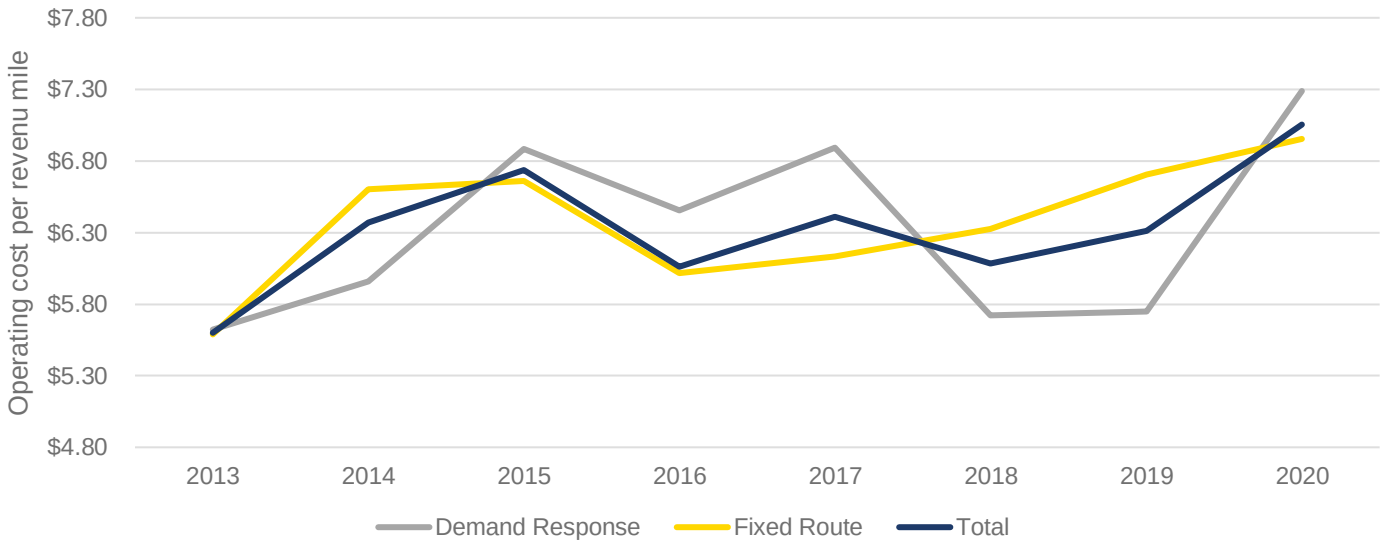


Figure 12: Operating Cost per Revenue Mile by mode, adjusted to 2020 USD (2013-2020, NTD)

Key Takeaways

Cost per revenue mile increased from 2013 to 2015 before it decreased from 2015 to 2016 at a similar rate for both demand response and fixed route service. For the demand response service, costs then increased from 2016 to 2017 before falling steeply through 2018. Costs then stabilized from 2018 to 2019. For the fixed route service, after the initial decline in cost per revenue mile, costs increased nearly 55 percent from 2016 to 2019. Overall, since 2013, systemwide cost per revenue mile has increased. As stated above this could be in part attributed to the reallocation of operating expenses, during the change to in-house drivers in 2020.

Cost per Trip

Cost per trip examines the operating cost of service against the number of trips provided. In combination with cost per revenue mile, cost per trip helps to indicate how cost-effectively a system can deliver service. The cost per trip for demand response service tends to be significantly higher than the cost per trip for fixed route service because demand response service is unable to carry as many passengers as fixed route service within the same amount of time. The cost per demand response trip is around twice as great as that of a fixed route service trip. This ratio has decreased in recent years from around four times greater in 2013 to two times greater in 2019. Like other performance indicators, the cost per trip for all modes increased markedly from 2019 to 2020. Table 3 shows the cost per trip for each service type and the percent change from 2013 to 2019 and 2019 to 2020. This could be attributed to a few causes. Changes to service between 2018 and 2019 included increasing peak hour service for some routes and incorporating UND service. This could have increased the costs associated with operations as the transition occurred. Normally this could potentially level off, but 2020 presented a year with new challenges and changes. In 2020, the demand response service transitioned in-house operators and buses from contracted (outsourced) service. While the hourly costs for that service decreased with the transition, other costs were reallocated to the demand response service. Furthermore, as ridership fell for demand response, each trip might have been more costly since fewer riders were on each van and efficiencies could not be made as the rides were dispatched. The addition of the UND service during a period of low ridership could also have negatively impacted this metric.

Table 3: Cost per Trip, adjusted to 2020 USD (2013 – 2020, NTD)

	2013 Cost per Trip	2019 Cost per Trip	2020 Cost per Trip	Percent Change (2013 to 2019)	Percent Change (2019-2020)
Demand Response	$20.40	$22.14	$31.03	+9%	+40%
Fixed Route	$5.87	$10.82	$18.32	+84%	+69%
All Service Combined	$7.70	$13.36	$20.98	+74%	+57%

Key Takeaways

The cost per trip for CAT service has increased since 2013. While the cost per trip for demand response service was consistently much higher than the cost per trip for fixed route service, between 2013 and 2019 and 2019 and 2020, the percentage increases for costs per trip for fixed route were much larger.

Safety Performance

The categories for system safety monitored by the NTD include the following:

- Events (collisions)
- Fatalities
- Injuries

Table 4 documents the years in which these events occurred. Within the CAT system, for all other event categories as reported by NTD (collisions, injuries, fatalities, etc.), five events occurred between 2013 and 2021 for fixed route service. No events of any sort occurred within the demand response service between 2013 and 2021, so the fixed route events represent the total for the CAT system.

Table 4 System Safety Summary (2013-2021) - Fixed Route Service

Events	2013	2014	2015	2016	2017	2018	2019	2020	2021
Collision: With Motor Vehicle	0	0	1	0	0	0	0	1	0
Injury: Passenger	0	0	1	0	0	0	0	1	0
Other: Other Vehicle Occupant	0	0	1	0	0	0	0	0	0
Fatalities	0	0	0	0	0	0	0	0	0

Note: The table above shows only fixed route services because the **demand response services** had no events so the totals for all years for these categories is zero.

Key Takeaways

CAT has had very limited safety performance issues and no major issues. Demand response service has operated exceedingly well, with zero safety issues to report. More information about this area will be provided in the Performance Management section of this plan.

System Reliability

System reliability is expressed by the average distance between major mechanical failures. Mechanical failure is defined by the NTD as a failure "that prevents the vehicle from completing a scheduled revenue trip or from starting the next scheduled revenue trip" because movement is limited, or there are safety concerns. This is calculated by determining how many failures occur per vehicle revenue mile. Performing this analysis for CAT shows that system reliability is increasing over time. For the fixed route service, the number of miles between a mechanical failure was less than around 125,000 on average between 2013 and 2020, despite a small decrease in reliability in 2020. Between 2013 and 2019, the average number of miles between mechanical failures for demand response vehicles increased from around 95,000 to 251,000. In 2020, there were no major mechanical failures for the demand response service (Figure 13).

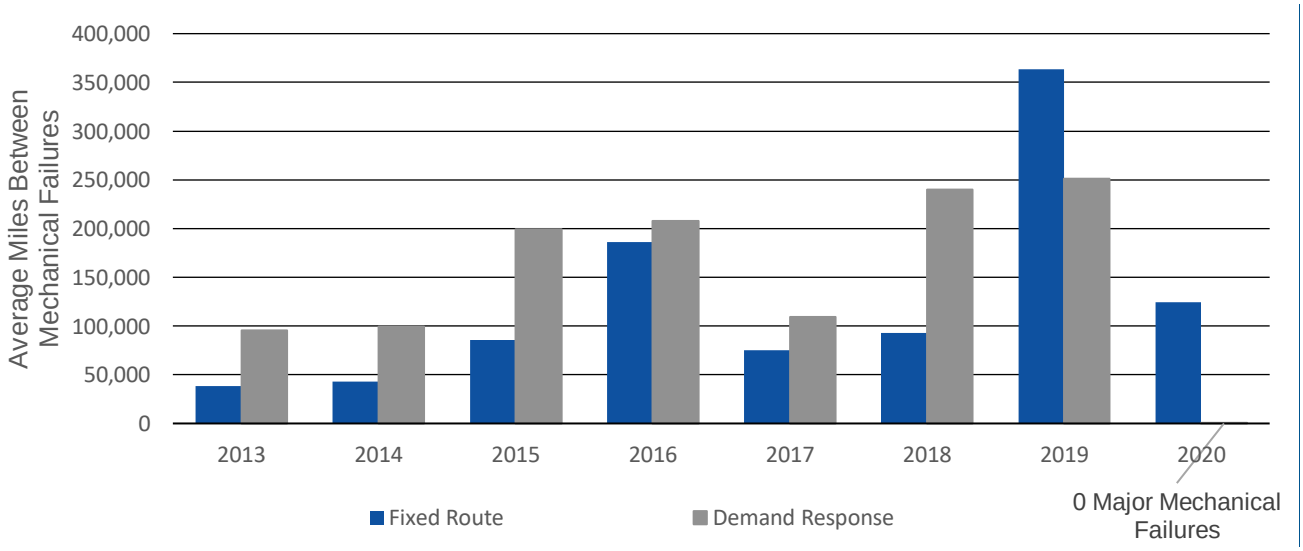


Figure 13: System Reliability Measure (2015-2019, NTD)

Key Takeaways

Overall, the vehicles operating the CAT system are reliable and have improved over time. This metric will continue to be examined in the Performance Management section of this plan.

Ridership by Fare Type

CAT fares vary depending on the characteristics of the rider, with a typical adult rider paying $1.50 a ride. There are reduced fares for students K-12, and further reduced fares for seniors, Medicare card holders, and people with disabilities. There are a variety of passes that can be purchased, which provide a further discount to riders who are frequently using the system. Fare cards can be purchased at the Metro Transit Center, and a rechargeable card comes at an additional cost of $5.00 (Table 5). The demand response service for seniors and paratransit users is $3.00 a trip and covers origin-to-destination service for one direction.

Table 5: Fixed Route Fare Structure

	One-Way Fare*	10-Ride Card
Full Fare	$1.50	$13.00
K-12 Student	$0.75	$6.50
Reduced Fare**	$0.60	$5.25
	Passes	
31-Day Pass	$35.00	
14-Day Pass	$18.00	
1-Day Pass	$5.00	
Rechargeable Fare Media	$5.00	

Transfers are free and may be used on the next connecting bus

Passes may be purchased at the Metro Transit Center, 450 Kittson Ave

* Exact fare required; no change given

**Seniors age 62+, Medicare card holder, and persons with disabilities

In coordination with system ridership patterns, fare collection has declined since 2015, with the lowest number being around 140,000 fares collected in 2020. While fares have declined across the system, some types of fares have decreased more than others during the pandemic including child, youth, and transfers. UND ridership shows a minimal decline, but this could be related to the incorporation of UND service into the system in 2019 (Figure 14). Faculty and staff at UND are also included in the contract for service. Interline also shows a minimal decline before 2020, which is interline transfers between Route 3, 4 and 6. Another nuance to the data below is that the adult fares include all 31-day cards, which could include cards purchased by seniors. Since more seniors are purchasing these cards, that could account for the decline in senior fare purchases.

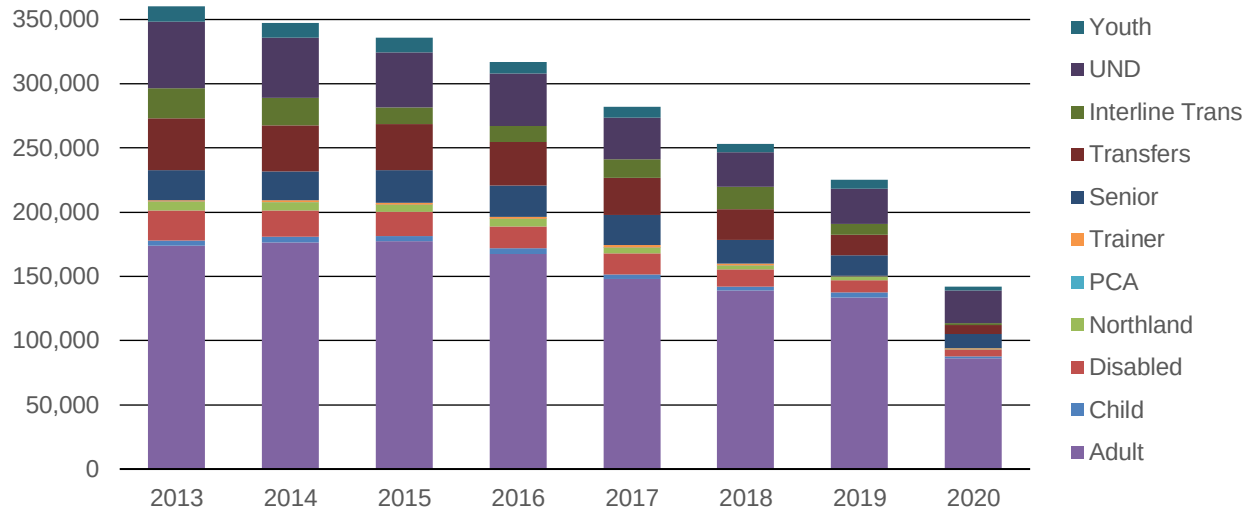


Figure 14: Total System Ridership by Fare Type (2013-2020, Source: CAT)

Key Takeaways

Compared to other fare types, adult fares remained relatively constant over the years. Since this could be attributed to the growing popularity of the 31-day passes, there could be potential in pursuing and promoting this fare type with more groups. 2021 may impact the number of youth fares as changes have been made to the k-12 school bussing system. Disabled fares also saw a significant decreased during this time and more information is needed to determine if this is due to the increased popularity of demand response services for that community.

Farebox Recovery Ratio

The farebox recovery ratio is the amount of revenue generated through fare collection compared to the total operating costs of the system. The farebox recovery ratio between 2013 and 2020 decreased from 14 percent to six percent. Table 6 shows the farebox recovery ratio for CAT service between 2013 and 2020. CAT had a 13 to 14 percent farebox recovery ratio from 2013-2016, which decreased in the following years and fell to six percent in 2020.

Table 6: Farebox Recovery Ratio (2015 – 2019, NTD)

	2013	2014	2015	2016	2017	2018	2019	2020
Farebox Recovery Ratio	13.8%	12.8%	12.4%	14.1%	10.3%	10.8%	9.4%	5.6%

Key Takeaways

The farebox recovery ratio for CAT service declined between 2013 and 2020, which is not surprising considering the rising costs in operations and lower ridership and fares collected. Maintaining a healthy farebox recovery ratio will be an important consideration moving forward. Fares should be balanced to maintain a healthy financial footing without putting an unnecessary burden on riders that could ultimately drive riders from the system.

Performance Indicator Key Takeaways

Similar to national trends, CAT fixed route ridership has been impacted significantly by the pandemic. This has an impact on all performance measures. The decline in fixed route ridership began before the pandemic and was on a steady decline 2015-2019. Like national trends, demand response ridership increased between 2015 and 2019. This ridership was also impacted greatly by the pandemic. Costs per trip decreased for demand response services between 2015 and 2019, which may be due to an increase in ridership and more efficiency in service as a result. Overall system cost per trip increased, which was due to the increases in fixed route costs per trip. While trends for system performance have been impacted significantly by the pandemic, the overall trend prior to the pandemic was that of increasing costs and lower ridership.

Peer Comparison

Comparing performance measures against peer systems' performance over time is a way to establish whether trends in CAT's performance are unique to the system or like those experienced by peer systems. CAT performance was compared to seven peer systems relative that were selected based upon similar populations, budgets, types of service operated, and amounts of service operated. The seven peer systems include:

- Great Falls, Montana
- Casper, Wyoming
- Bismarck, North Dakota
- Dubuque, Iowa
- La Crosse, Wisconsin
- Oshkosh, Wisconsin
- Sioux Falls, South Dakota

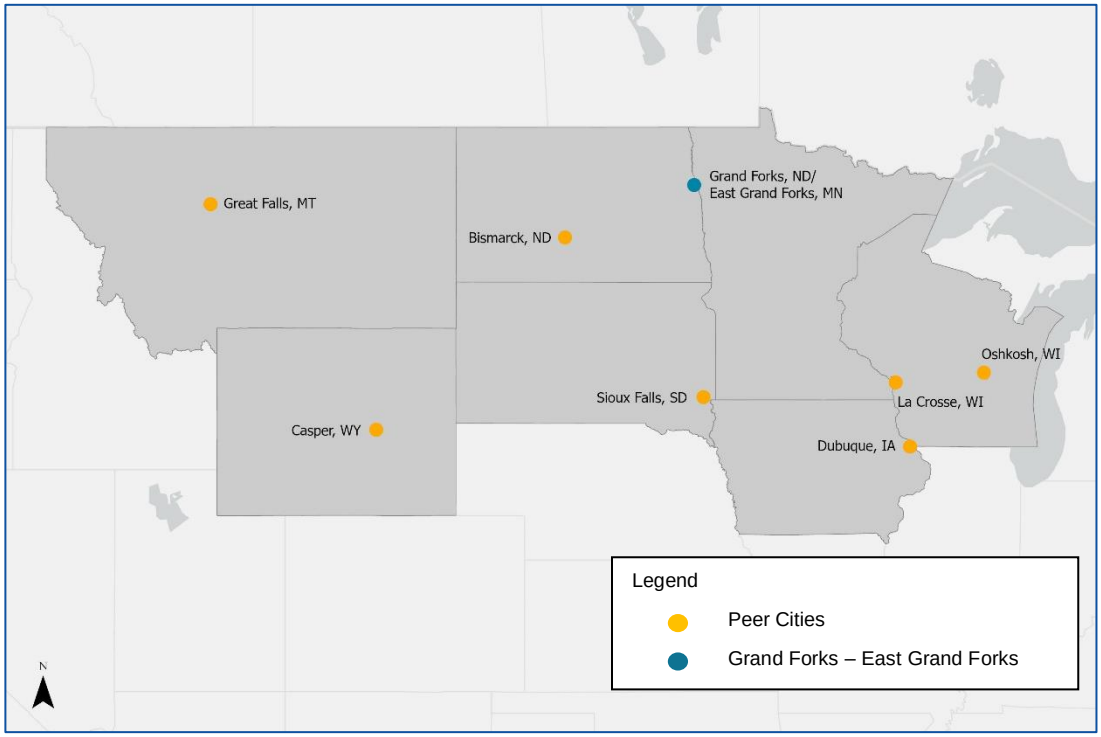


Figure 15: Peer Cities

The 2020 Reports from the National Transit Database (NTD) were used as the basis of the peer analysis. The measures that were used in this peer analysis are the following:

- **Ridership:** the total of annual unlinked trips
- **Revenue Miles Per Capita:** the miles of transit service operated per total metropolitan area population
- **Passengers Per Revenue Mile:** the number of passengers per miles of service operated (the higher this number, the more effective the system)
- **Cost Per Revenue Mile:** the cost per mile of service operated (the lower this number, the more cost effective the system)
- **Cost Per Trip:** the cost per unlinked trip (the lower this number, the more cost effective the system)
- **Farebox Recovery Ratio:** the percentage of total of operating costs covered by fares (the higher the percentage, the more cost effective the system)

Fixed Route Peer Analysis

Within the peer systems analyzed, the Grand Forks-East Grand Forks metropolitan area is the fourth densest metropolitan area, with 30 people per square mile, with five other peer cities having more than 100 people per square mile. Fixed route characteristics of the peer systems analyzed are shown in Table 7.

Table 7: Fixed Route Peer Characteristics (2020 NTD)

Metropolitan Statistical Area (MSA)	2020 Population (for MSA)[2]	2020 Population Density (for MSA)[3]	Operating Expenses	Revenue Hours	Revenue Miles
Oshkosh, WI	171,631	296.9	$3,638,283	36,959	539,128
Dubuque, IA	97,590	158.4	$2,498,884	31,920	435,651
La Crosse, WI	137,134	130.9	$5,301,401	59,275	826,151
Sioux Falls, SD	273,566	105.8	$5,299,572	54,264	656,713
Grand Forks-East Grand Forks, ND-MN	104,362	30.4[4]	$2,600,354	36,211	373,934
Great Falls, MT	81,346	30.0	$2,451,358	26,608	338,452
Bismarck, ND	129,641	29.8	$1,420,374	18,400	307,701

[2] United States Census Bureau, 2020
[3] People per square mile
[4] Note this number reflects the greater Metropolitan Statistical Area (MSA) for comparative purposes to other cities' MSA; the population density for the city boundaries of Grand Forks and East Grand Forks combined are 3,680 people per square mile.

Casper, WY	80,815	15.0	$894,162	21,361	235,615
Peer System Average	138,818	109.6	$3,072,005	35,541	477,059

The fixed route performance of the peer systems is shown in Table 8. Figures 16-21 show the performance measures from 2013 to 2020 comparing CAT's performance with the peer systems, including a peer system average.

In 2020, CAT's fixed route system:

- Recovered about 4.22 percent of operating costs through farebox revenue, which was slightly lower than the peer system average (6.81 percent)
- Cost $6.95 per revenue mile, which was slightly higher than the peer system average ($6.09)
- Cost $18.12 per trip, which is 66.8 percent higher than the peer system average. Sioux Falls and Great Falls were the only cities to cost more than CAT
- Had 0.4 passengers per revenue mile, which is 42 percent lower than the peer system average (69 percent)
- Provided 3.6 revenue miles per capita, which is similar to the peer system average (3.7)

Table 8: Fixed Route Peer Performance (2020 NTD)

	Ridership	Revenue Miles Per Capita	Passengers Per Revenue Mile	Cost Per Revenue Mile	Cost Per Trip	Farebox Recover Ratio
Bismarck, ND	55,445	2.7	0.2	$4.62	$25.62	3.65%
Sioux Falls, SD	445,205	2.4	0.7	$8.07	$11.90	5.24%
Casper, WY	162,942	2.9	0.7	$3.80	$5.49	7.81%
Dubuque, IA	333,244	4.5	0.8	$5.74	$7.50	9.38%
Great Falls, MT	299,609	4.2	0.9	$7.24	$8.18	7.21%
La Crosse, WI	552,719	6.0	0.7	$6.42	$9.59	3.21%
Oshkosh, WI	424,372	3.1	0.8	$6.75	$8.57	11.19%
Peer System Average	324,791	3.7	0.69	$6.09	$10.98	6.81%
Grand Forks-East Grand Forks, ND-MN	141,914	3.6	0.4	$6.95	$18.32	4.22%

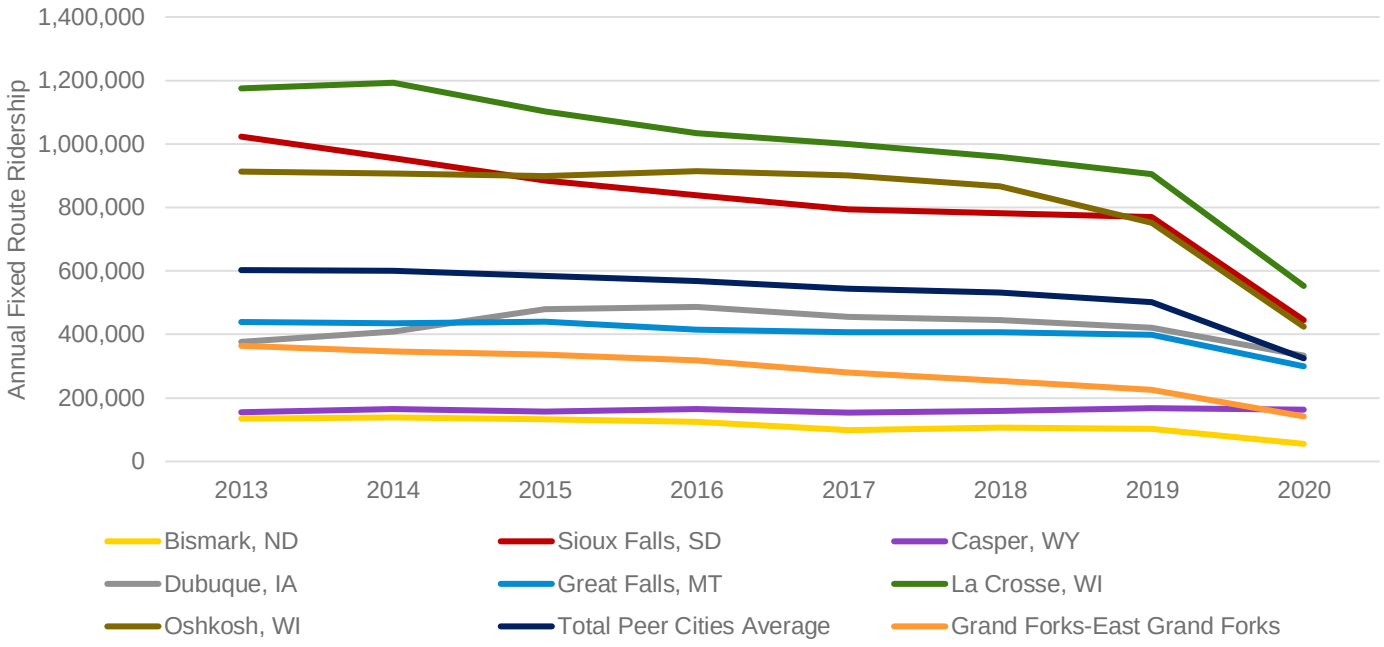


Figure 16: Annual Fixed Route Ridership

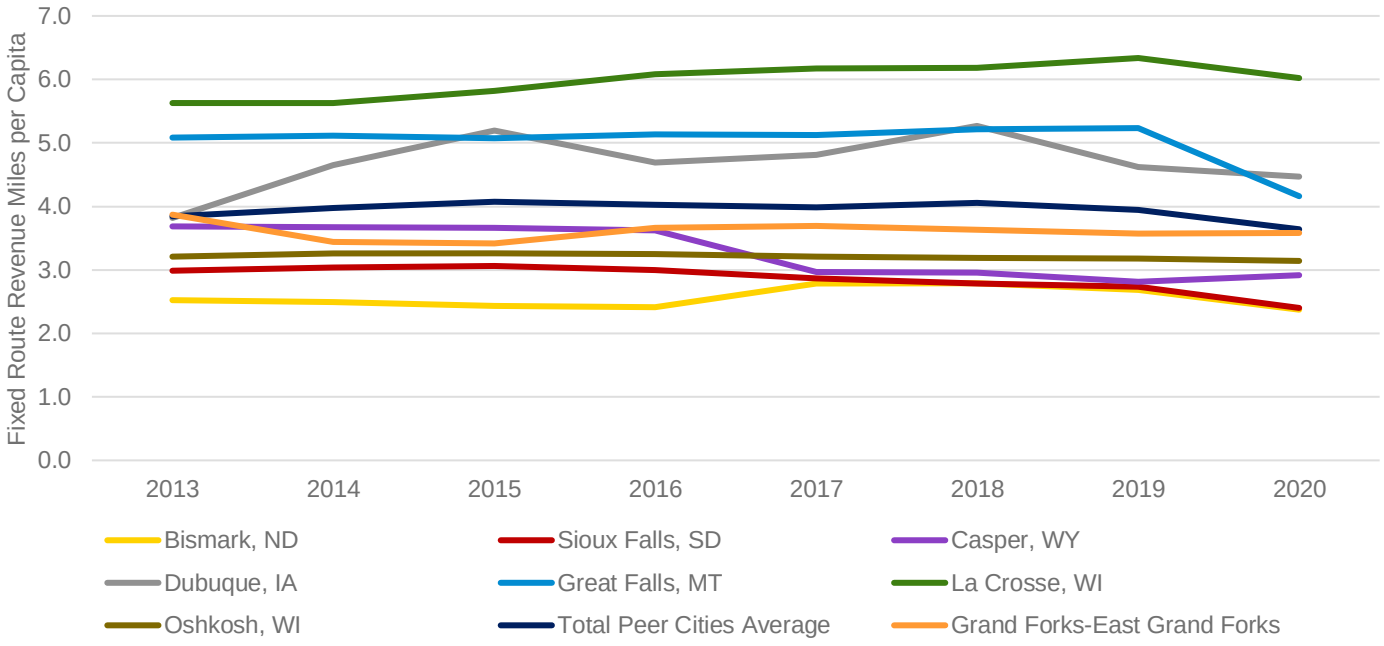


Figure 17: Fixed Route Revenue Miles per Capita

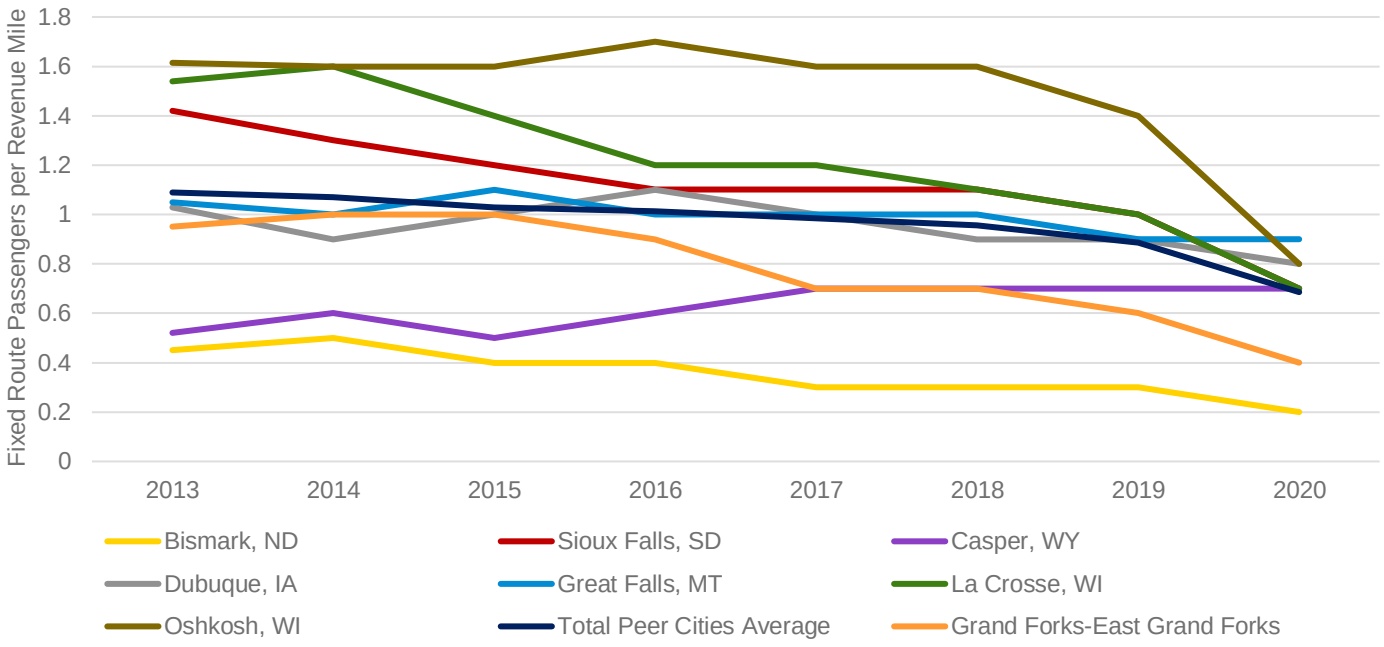


Figure 18: Fixed Route Passengers per Revenue Mile

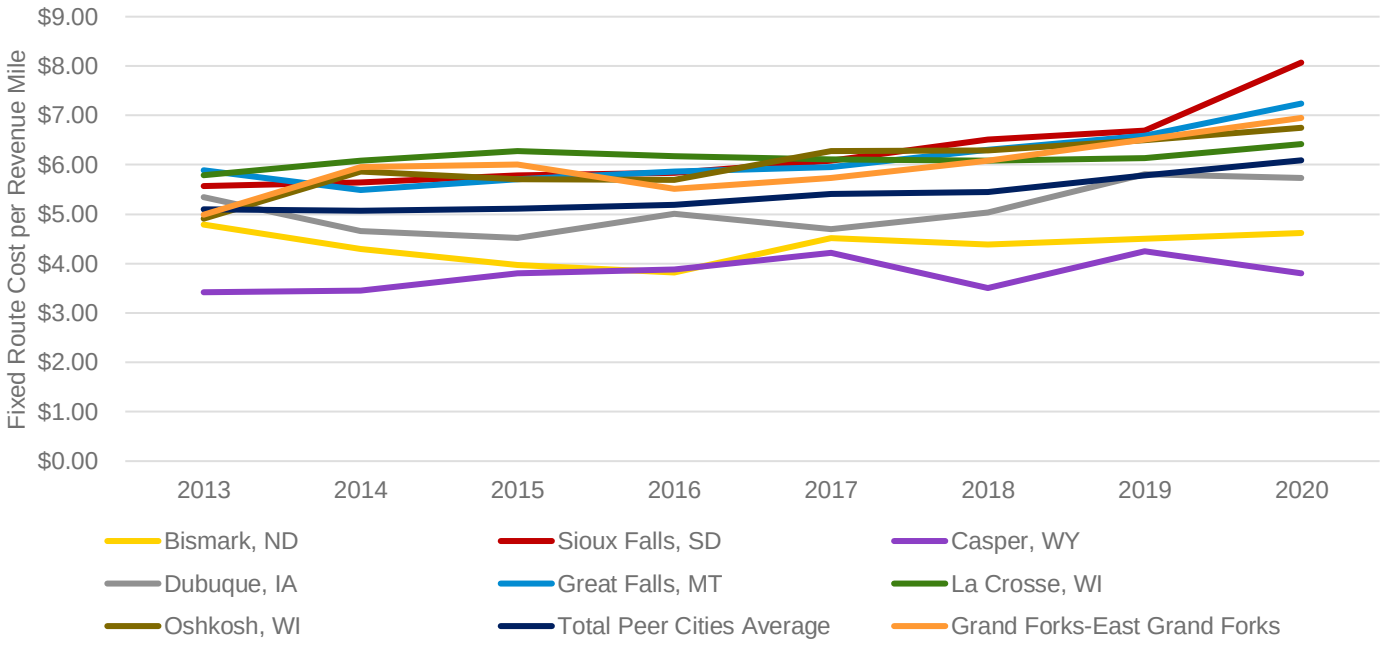


Figure 19: Fixed Route Cost per Revenue Mile

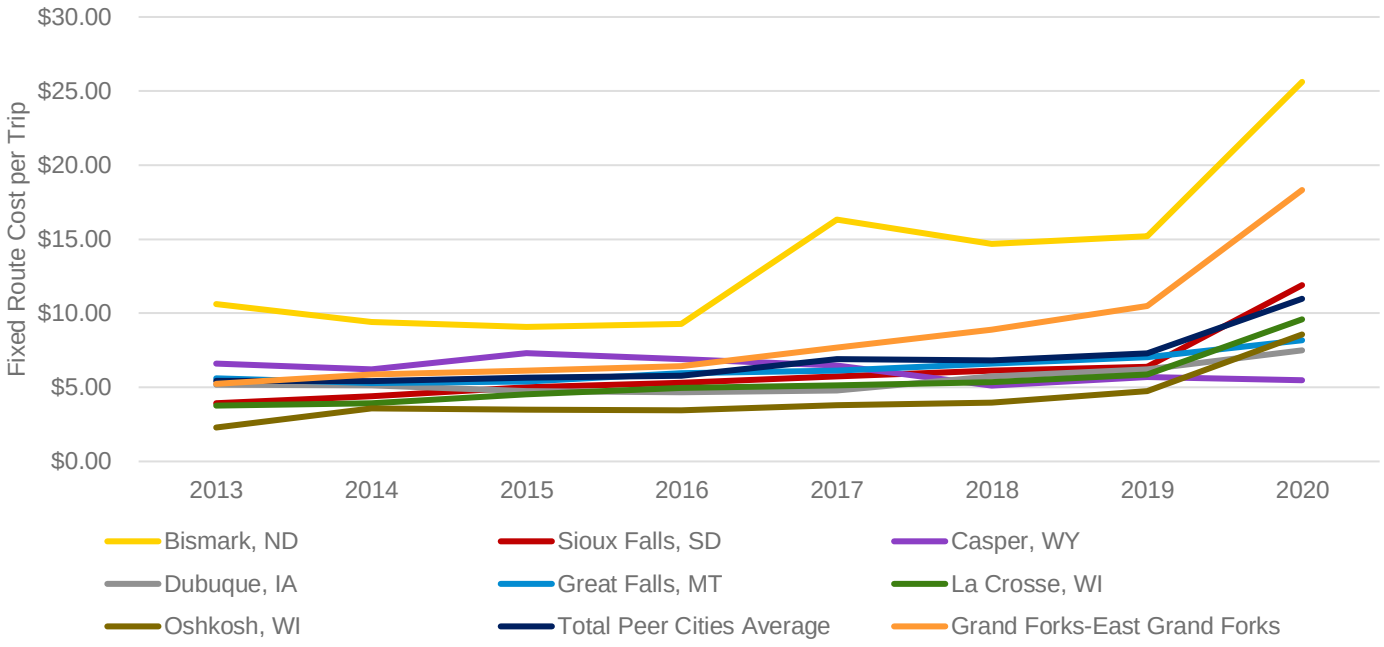


Figure 20: Fixed Route Cost per Trip

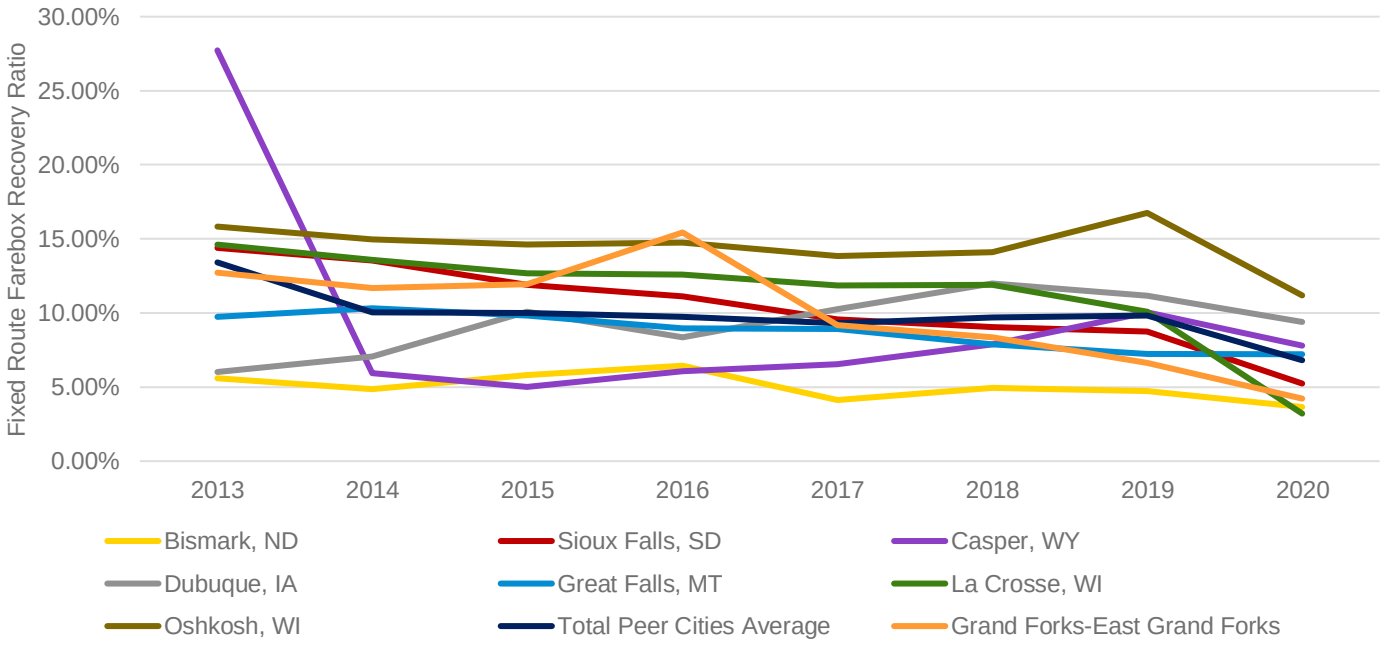


Figure 21: Fixed Route Farebox Recovery Ratio

Demand Response Peer Analysis

The peer system demand response characteristics is shown in Table 9.

Table 9: Peer System Demand Response Characteristics

	2020 Population	2020 Population Density	Operating Expenses	Revenue Hours	Revenue Miles
Bismarck, ND	129,641	29.8	$2,070,486	28,715	378,456
Sioux Falls, SD	273,566	105.8	$3,062,097	28,334	238,089
Casper, WY	80,815	15.0	$1,206,949	18,910	203,843
Dubuque, IA	97,590	158.4	$1,281,694	24,380	245,186
Great Falls, MT	81,346	30.0	$766,078	16,030	180,619
La Crosse, WI	137,134	130.9	$223,555	3,513	61,771
Oshkosh, WI	171,631	296.9	$613,359	9,757	198,978
Peer System Average	138,818	109.6	$1,317,745	18,520	215,277
Grand Forks-East Grand Forks, ND-MN	104,362	30.4	$1,164,805	19,514	159,813

The peer system demand response performance is shown in Table 10. Figures 22-27 show the performance measures from 2013 to 2020, including comparing CAT's performance with peer systems and a peer system average. In 2020, CAT's Demand Response system:

- Recovered about 8.61 percent of operating costs through farebox revenue, which is lower than the peer system average (22.36 percent)
- Cost $7.29 per revenue mile, which is 26.3 percent higher than the peer system average ($5.77)
- Cost $31.03 per trip, which is similar to the peer system average ($31.63)
- Had 0.2 passengers per revenue mile, which is equivalent to the peer system average
- Provided 1.5 revenue miles per capita, which is slightly lower than the peer system average (2.0)

Table 10: Demand Response Peer Performance

	Ridership	Revenue Miles Per Capita	Passengers Per Revenue Mile	Cost Per Revenue Mile	Cost Per Trip	Farebox Recover Ratio
Bismarck, ND	71,635	4.0	0.2	$5.47	$28.90	8.16%
Sioux Falls, SD	39,130	0.9	0.2	$12.86	$78.25	3.61%
Casper, WY	37,561	2.5	0.2	$5.92	$32.13	4.03%
Dubuque, IA	53,529	2.5	0.2	$5.23	$23.94	16.93%
Great Falls, MT	38,243	2.2	0.2	$4.24	$20.03	9.98%
La Crosse, WI	9,426	0.5	0.2	$3.62	$23.72	42.23%
Oshkosh, WI	42,469	1.2	0.2	$3.08	$14.44	71.62%
Total Peer Cities Average	41,713	2.0	0.2	$5.77	$31.63	22.36%
Grand Forks-East Grand Forks, ND-MN	37,542	1.5	0.2	$7.29	$31.03	8.61%

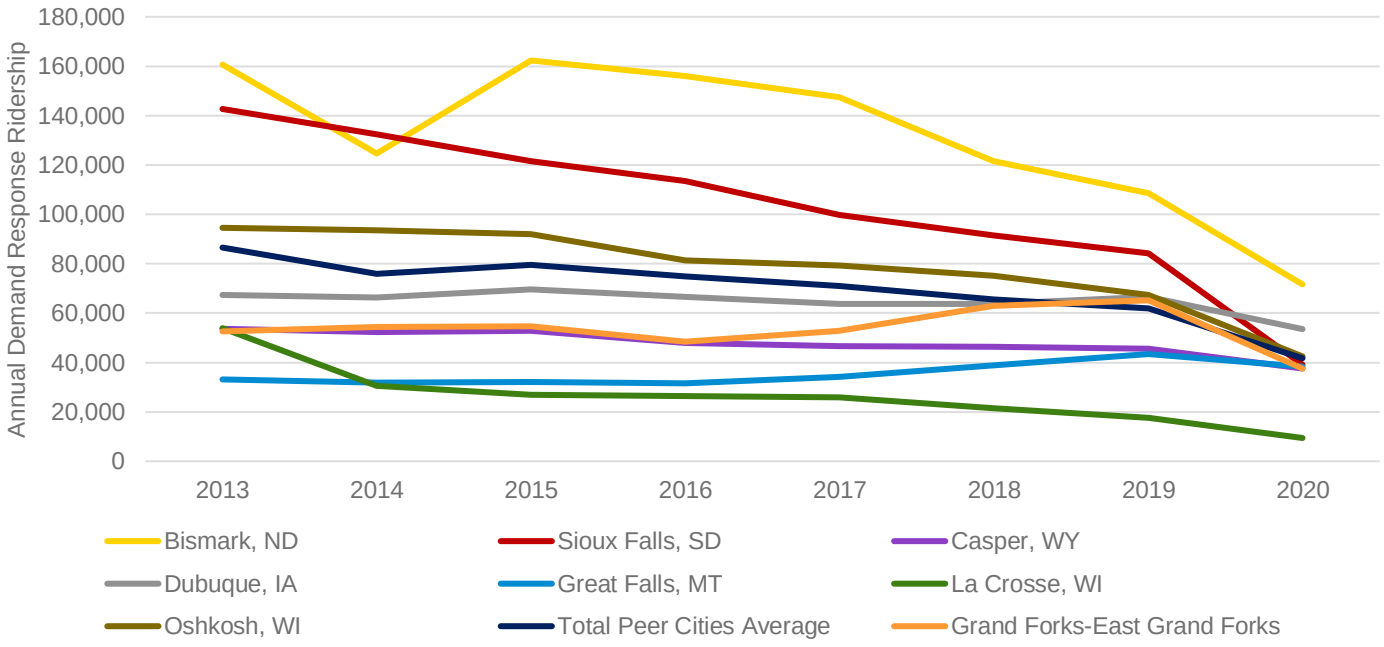


Figure 22: Annual Demand Response Ridership[5]

[5] In efforts to keep all data consistent, Bismarck (2014) calculations exclude Demand-Response Taxi data

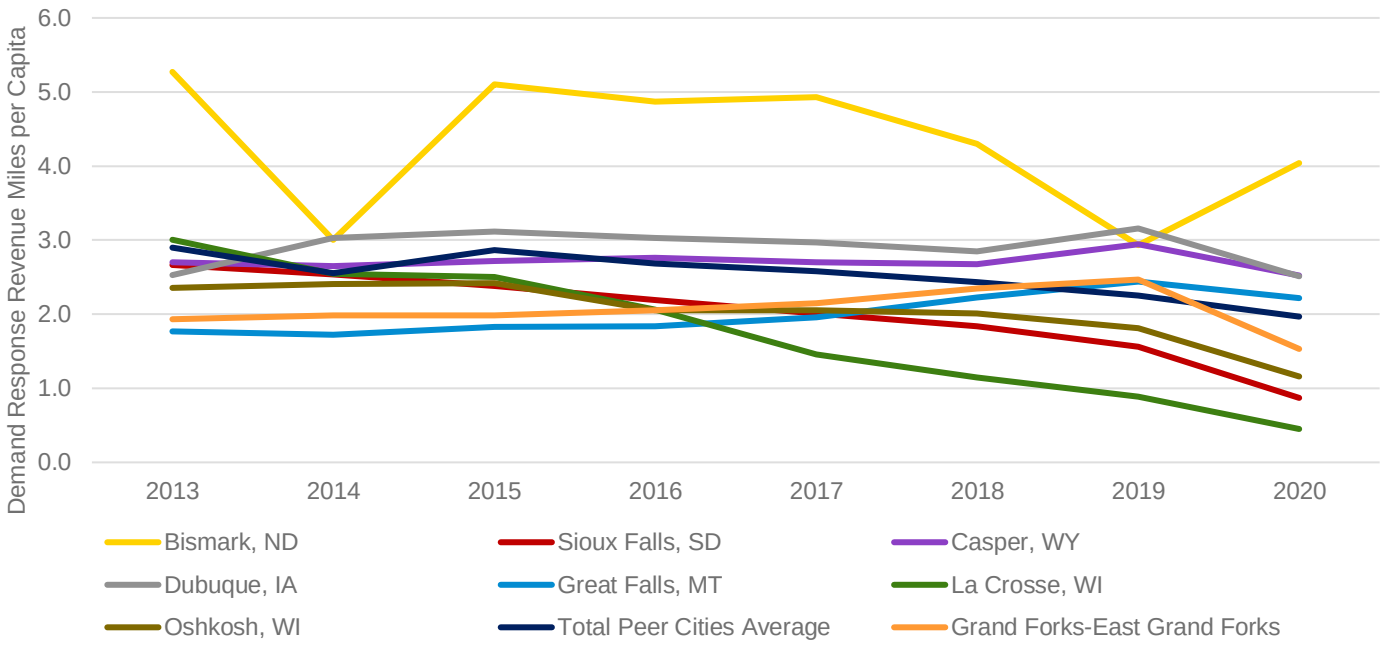


Figure 23: Demand Response Revenue Miles per Capita

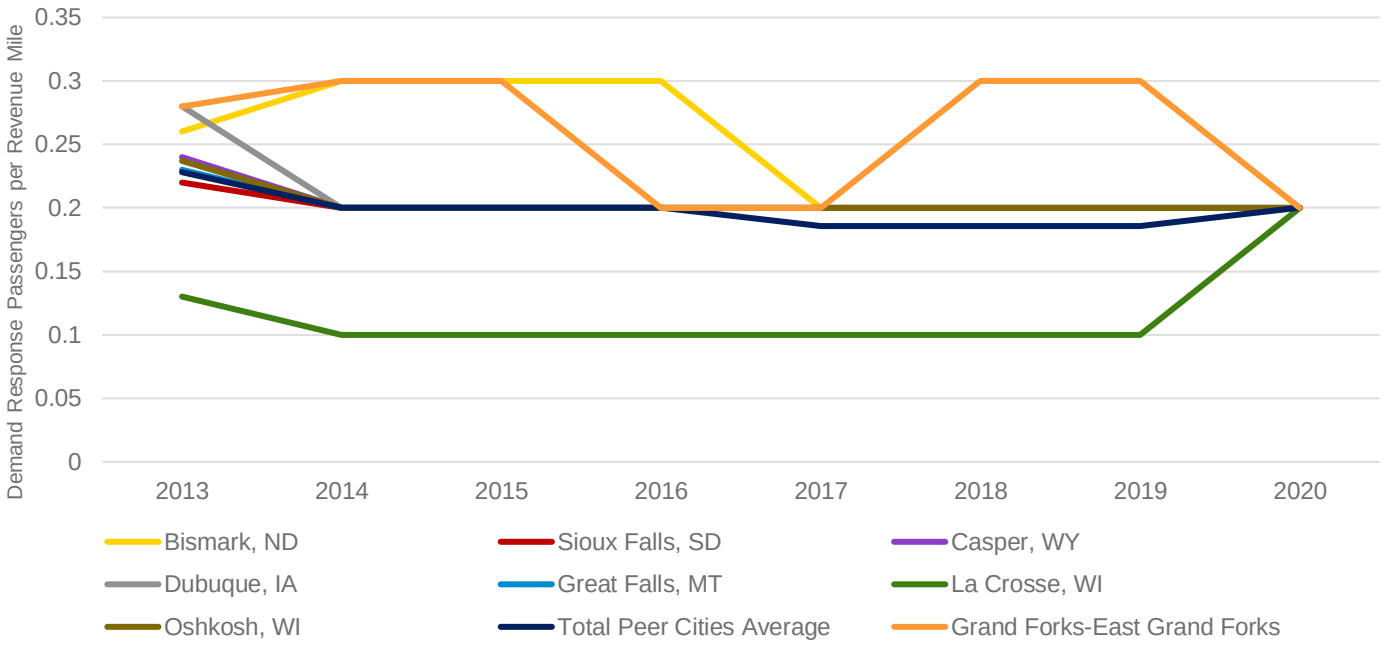


Figure 24: Demand Response Passengers per Revenue Mile

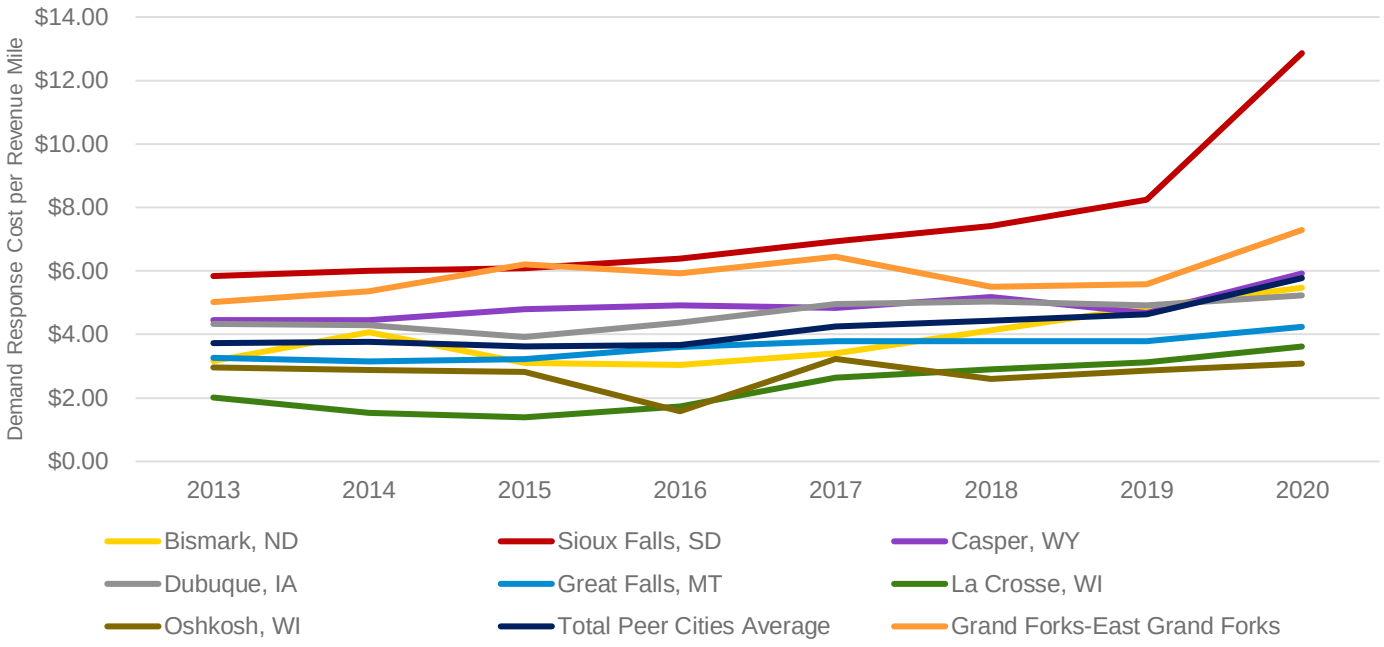


Figure 25: Demand Response Cost per Revenue Mile

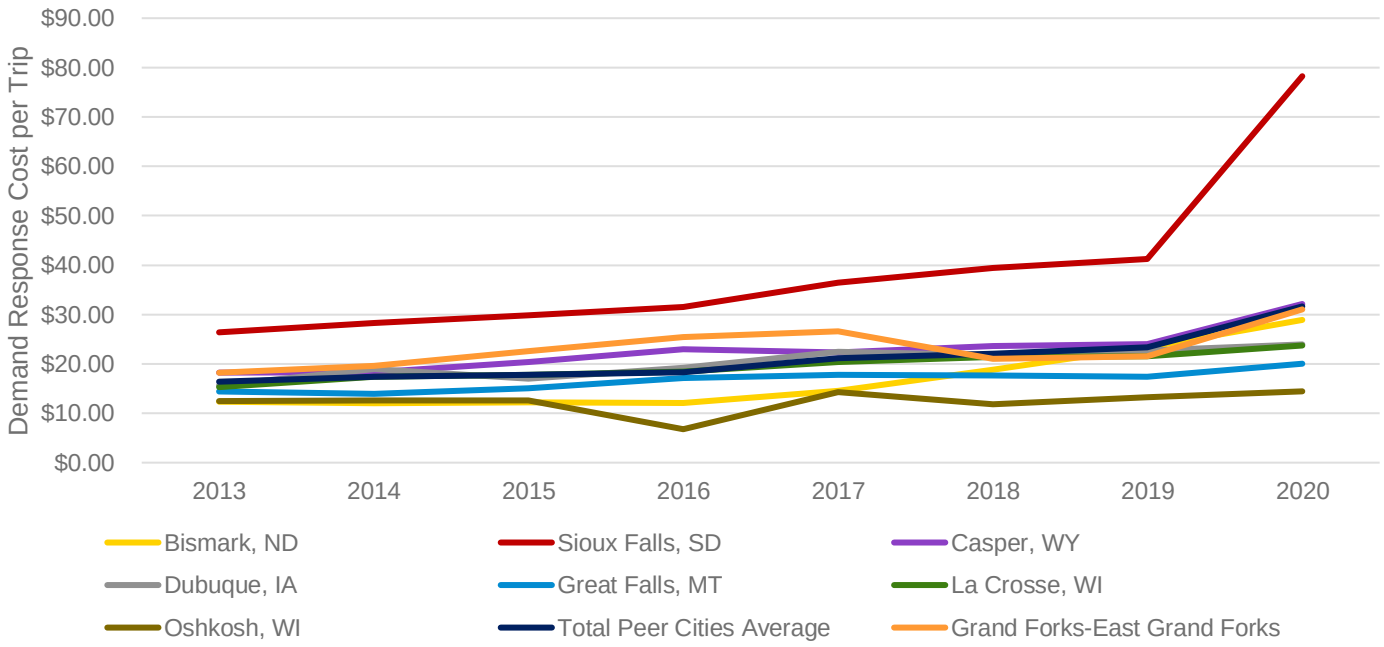


Figure 26: Demand Response Cost per Trip

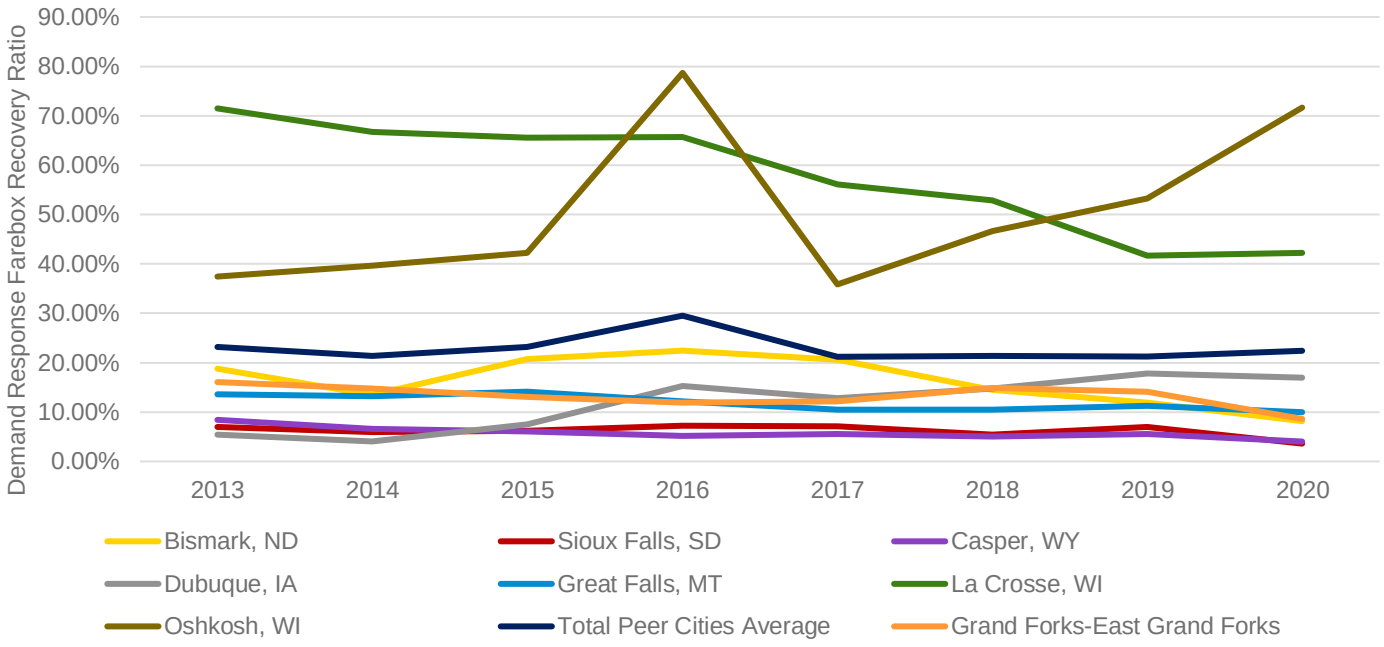


Figure 27: Demand Response Farebox Recovery Ratio

Fare Analysis

Peer systems offer a variety of full and reduced fare options, as shown in Table 7. Three of these systems have only two tiers for their fares, a full fare and a reduced fare. Five of the peer systems have a full fare that is at the same rate as CAT ($1.50). Overall, the reduced fares offered are simpler than that of CAT, commonly with a single reduced fare rate and free fare for others. As for passes, CAT is the only system that provides 14-day passes, and the 31-day pass ($35) is cheaper than two out of the seven peer systems that provide similar options.

Table 11: Peer System Fares

	Full Fare	Reduced Fare	Available Passes and Fares	Mobile Ticketing
Dubuque, IA	$1.50	$0.75	11 Ride Pass: > Full fare: $15 > Half fare*: $7.50 Monthly Unlimited Ride Pass: > Full fare: $45 > Half fare: $22.50 Annual Student Pass (grades K-12): Free (application required) *Half fare eligible groups: Age 65 or older and disabled residents	MyJule Smartphone App: > View routes and schedules > Plan a trip > Purchase bus pass from the app

	Full Fare	Reduced Fare	Available Passes and Fares	Mobile Ticketing
Oshkosh, WI	$1.50	$0.75	Monthly Pass (unlimited rides): $35 3-Month Passes Bundled: $90	Token Transit App > Available on multiple apps (Google Pay, Token Transit, Get Moovit) > Purchase passes > Send a pass
La Crosse, WI	$1.50	$1.25: youth $0.75: seniors, disabled Free: children, university	Adult Fare (18+): $35 (unlimited one-way trips for the month shown) Youth Fare: > $23 (unlimited one-way trips for month shown) > $30 (Summer Freedom Pass: June through August) > $45 (Max Pass) Children 3 and under: Free Senior Citizen 65 and over: $25 Disabled Persons: $25 UWL, Western, & Viterbo students: Free (U-Pass)	N/A
Bismarck, ND	$1.50	$0.75	30-Day Pass: > Regular Fare: $36 > Reduced Fare*: $24 > Children 5 and under, individuals 65 years and over, and paratransit passengers: Free *Reduced Fare applies to students K-12 and higher education, Medicare card holders, and Veterans	Token Transit App > Available on multiple apps (Google Pay, Token Transit, Get Moovit) > Purchase passes > Send a pass
Casper, Wyoming	$1.00	$0.50: seniors, Disabled, Medicare Recipients $0.75: students $0.50: children under 5 years	Monthly Pass: > General Public/Youth: $30 > Seniors, Disabled, Medicare: $15 > Students: $25 > Children 5 and under: Free	N/A

	Full Fare	Reduced Fare	Available Passes and Fares	Mobile Ticketing
Sioux Falls, SD	$1.50	$0.75: persons over 65 years old $0.75: persons with disabilities $0.75: Medicare cardholders $0.75: children 6 to 10 years old Free: children 5 years and under	30-Day Pass: > Adult: $30 > Elderly (65+) and persons with a disability: $15 10-Ride Pass: $10.50 7-Day Pass: $12.50 > Elderly (65+) and persons with a disability: $6.25 Freedom Pass (for all school students during school vacation): Free	SAM on Demand > Saturday bus service > Available on Android, Apple, and Online > Book rides at specific times and stops
Great Falls, MT	$1.00	$0.75: student $0.50: senior citizens $0.50: persons with disabilities Free: children 5 years and under; paratransit service clients; transfers	Monthly Pass: > Regular: $30 > Student: $25 > Seniors and People with Disabilities: $21	N/A

Route Analysis

The following section includes an analysis of the individual fixed routes. This analysis includes:

- Key destinations
- Annual average statistics by route
  - Revenue hours
  - Revenue miles
  - Operating cost estimates
  - Ridership
- Average daily statistics by route
  - Total boardings
  - Passengers per hour
  - Passengers per mile
  - Passengers per trip
- Route maps
- Route analysis summary

The routes were also ranked for comparison to each other. Ranks are ordered from highest to lowest for each metric. For total boardings, passengers per hour, passengers per mile, and passengers per trip, higher numbers and lower rankings indicate better performance. For revenue hours, revenue miles and operating costs, rankings are also ranked high too low for continuity, however, a lower ranking in these cases indicate a more costly, service-intensive route. CAT non-UND routes are ranked separately from UND routes in order to provide a better comparison for CAT's non-UND routes before

and after the COVID-19 pandemic. This analysis will provide a foundation for route improvement recommendations. Summaries of route characteristics can in Table 12 and Table 13.

Table 12: Pre-COVID Route Characteristics Summary Table

Route Number	Average Annual Ridership[6]	Average Daily Passengers	Average Daily Passengers Per Hour	Average Passengers Per Mile	Average Passengers Per Trip	Estimated Operating Expenses
1	10,582	33.8	6.7	0.5	3.3	$145,857
2	9,173	29.3	5.4	0.6	2.7	$157,585
3	30,532	97.5	7.7	0.5	3.8	$366,977
4	9,806	31.3	5.7	0.6	2.9	$157,585
5	46,557	148.7	13.5	1.4	13.5	$317,561
6	13,405	42.8	6.0	0.5	3.0	$207,001
7	50,484	161.3	14.6	1.5	14.6	$317,561
8	9,576	30.6	2.8	0.3	2.8	$317,561
9	10,783	34.5	3.1	0.3	3.1	$317,561
10	17,342	55.4	5.0	0.5	5.0	$317,561
12	2,778	10.6	1.0	0.1	1.0	$258,004
13 (Also known as 22)	6,157	19.7	5.0	0.4	5.0	$112,951
14 (UND Red)	82,785	459.9	54.1	6.6	13.5	$140,729
15 (UND Purple)	52,578	292.1	34.4	2.5	8.6	$140,729
16 (UND Blue)	64,785	359.9	42.3	6.7	14.1	$140,729
25 (UND Night)	13,267	92.1	19.5	1.9	9.8	$62,546

[6] Estimated through monthly estimates provided for July 2018-February 2020 by CAT and UND.

Table 13: COVID-19 Route Characteristics Summary Table

Route Number	Average Annual Ridership[7]	Average Daily Passengers	Average Daily Passengers Per Hour	Average Passengers Per Mile	Average Passengers Per Trip	Estimated Operating Expenses
1	3,774	12.1	2.4	0.2	1.2	$145,857
2	7,384	23.6	4.3	0.5	2.2	$157,585
3	20,429	65.3	5.1	0.3	2.6	$366,977
4	5,781	18.5	3.4	0.3	1.7	$157,585
5	19,886	63.5	5.8	0.6	5.8	$317,561
6	7,076	22.6	3.1	0.3	1.6	$207,001
7	27,889	89.1	8.1	0.8	8.1	$317,561
8	6,005	19.2	1.7	0.2	1.7	$317,561
9	5,590	17.9	1.6	0.2	1.6	$317,561
10	15,975	51.0	4.6	0.4	4.6	$317,561
12	720	2.7	0.3	0.0	0.3	$258,004
13 (Also known as 22)	2,729	8.7	2.2	0.2	2.2	$112,951
14 (UND Red)	8,451	46.9	5.5	0.7	1.4	$140,729
15 (UND Purple)	8,917	49.5	5.8	0.4	1.5	$140,729
16 (UND Blue)	7,398	41.1	4.8	0.8	1.6	$140,729
25 (UND Night)	1,763	12.2	2.6	0.3	1.3	$62,546

[7] Estimated through monthly estimates provided for July 2018-February 2020 by CAT and UND.

Grand Forks - East Grand Forks
TRANSIT DEVELOPMENT PLAN

ROUTE 1

Key Destinations: Downtown, Salvation Army, Hamline & University, UND - Stanford Center, N 39th St Shelter, Princeton & 6th Ave N, 15th & University, YMCA

	WEEKDAY	WEEKEND
SPAN	7:00AM – 5:30PM	8:00AM - 5:30PM
FREQUENCY	60 minutes	60 minutes

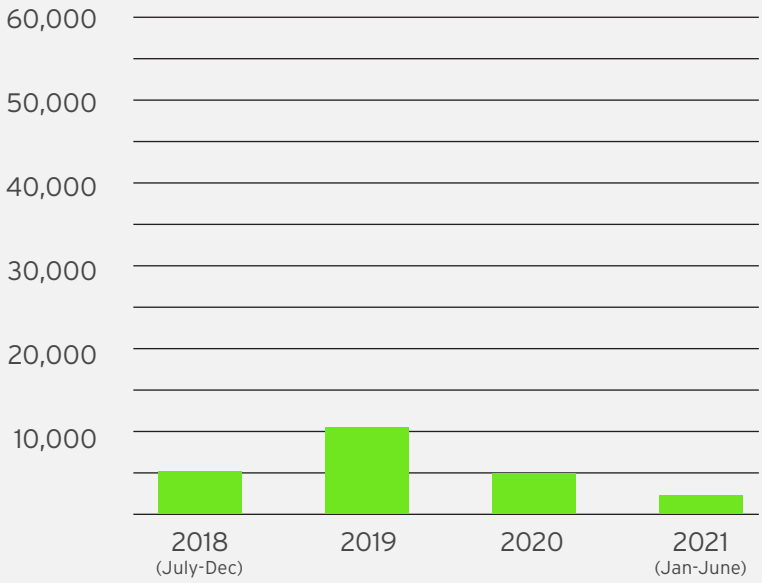
AVERAGE ANNUAL STATISTICS

			PRE-COVID	COVID
REVENUE HOURS	1,586	RANK 11/12		
REVENUE MILES	21,603	RANK 9/12		
OPERATING COSTS	$145,857	RANK 11/12		
RIDERSHIP			10,528	3,774

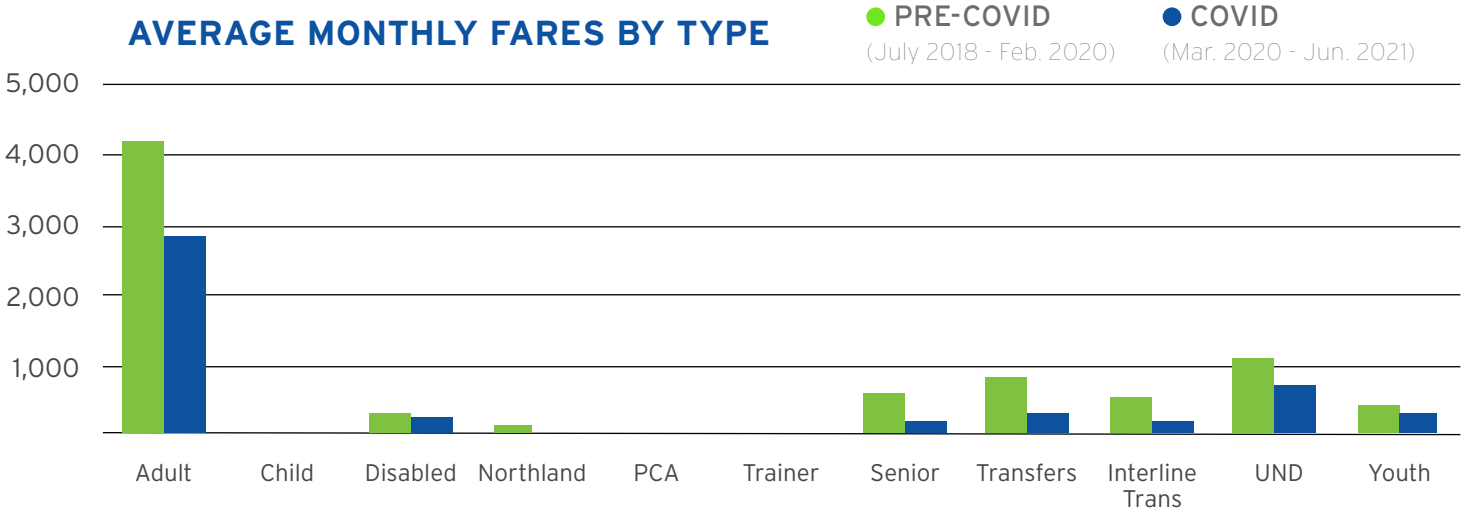
AVERAGE DAILY STATISTICS

	PRE-COVID	COVID
TOTAL BOARDINGS	33.8 RANK 7/12	12.1 RANK 10/12
PASSENGERS PER HOUR	6.7 RANK 4/12	2.4 RANK 8/12
PASSENGERS PER MILE	0.5 RANK 7/12	0.2 RANK 8/12
PASSENGERS PER TRIP	3.3 RANK 6/12	1.2 RANK 11/12

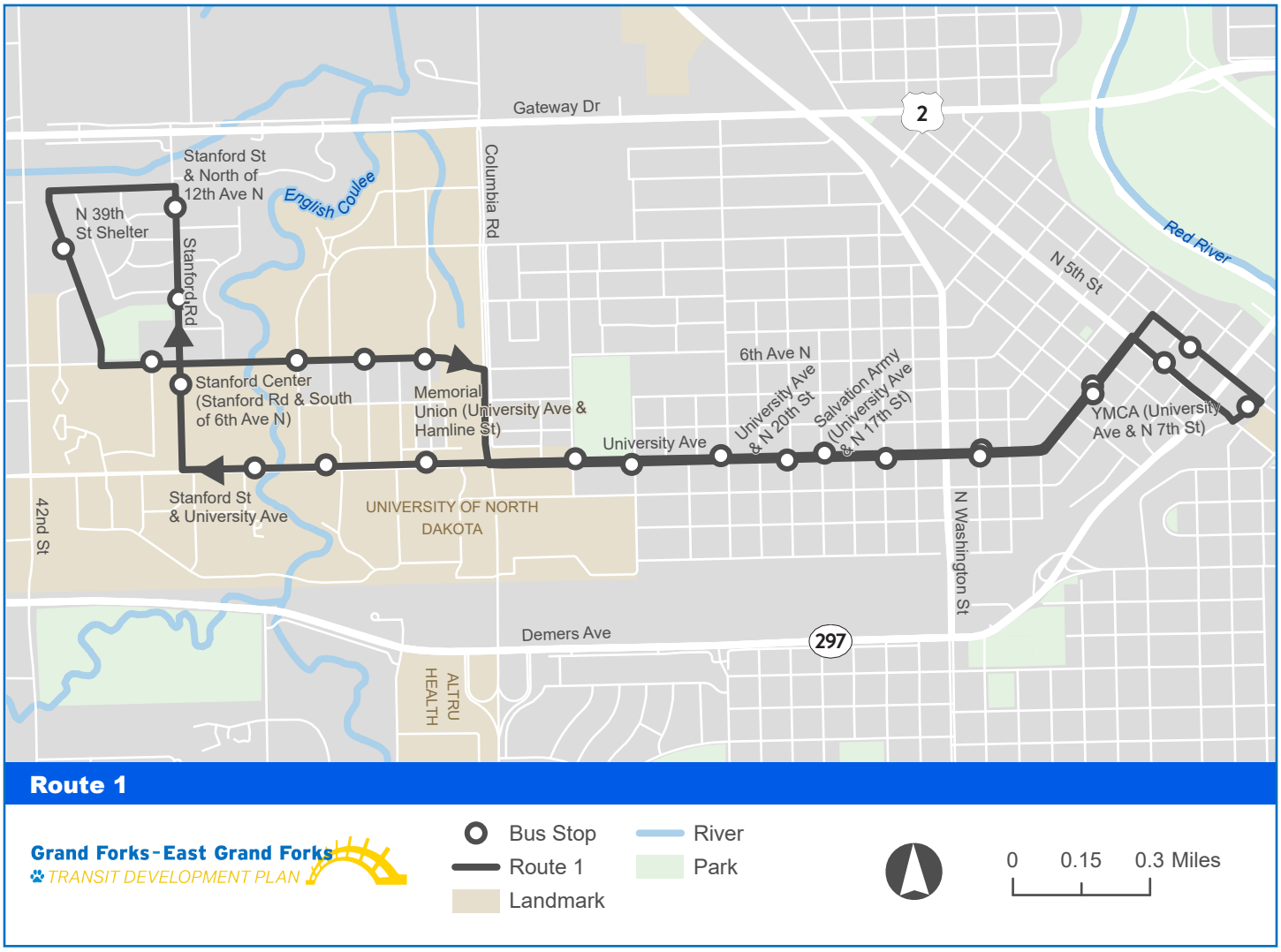
ANNUAL RIDERSHIP TREND



AVERAGE MONTHLY FARES BY TYPE



ROUTE MAP



ROUTE ANALYSIS

STRENGTHS

- Provides circulation within UND and connects UND to downtown
- Relatively direct route
- Provides connections to many north-south routes

WEAKNESSES

- Route duplication with Route 5 and the UND shuttles
- Low ridership

OPPORTUNITIES

- Continue to serve this area with other existing routes and reinvest this route's resources into other routes

Grand Forks - East Grand Forks
TRANSIT DEVELOPMENT PLAN

ROUTE 2

Key Destinations: Downtown, N 5th St & 10th Ave, Home of Economy, Hugo's, Valley Middle School, St. Anne's

	WEEKDAY
SPAN	6:30AM – 6:00PM
FREQUENCY	60 minutes

	WEEKEND
SPAN	8:30AM - 6:00PM
FREQUENCY	60 minutes

AVERAGE ANNUAL STATISTICS

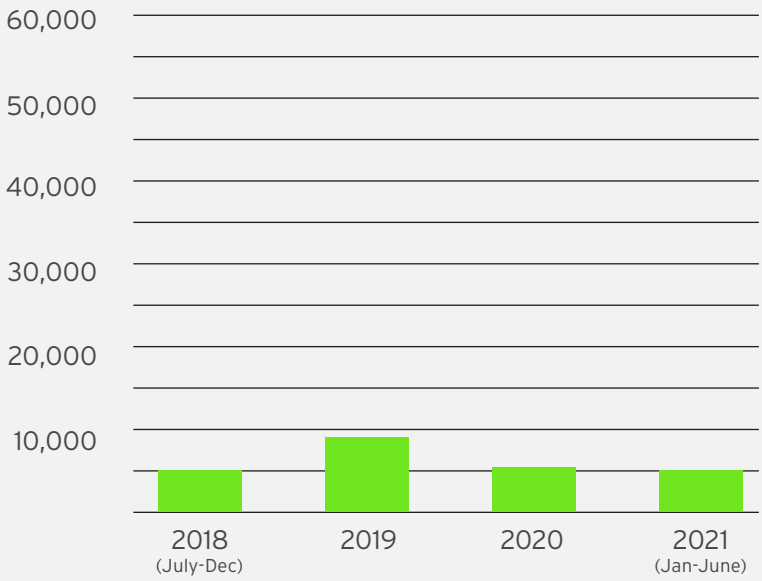
REVENUE HOURS	1,713	RANK 9/12
REVENUE MILES	14,709	RANK 12/12
OPERATING COSTS	$157,585	RANK 9/12

RIDERSHIP	PRE-COVID	COVID
	9,173	7,384

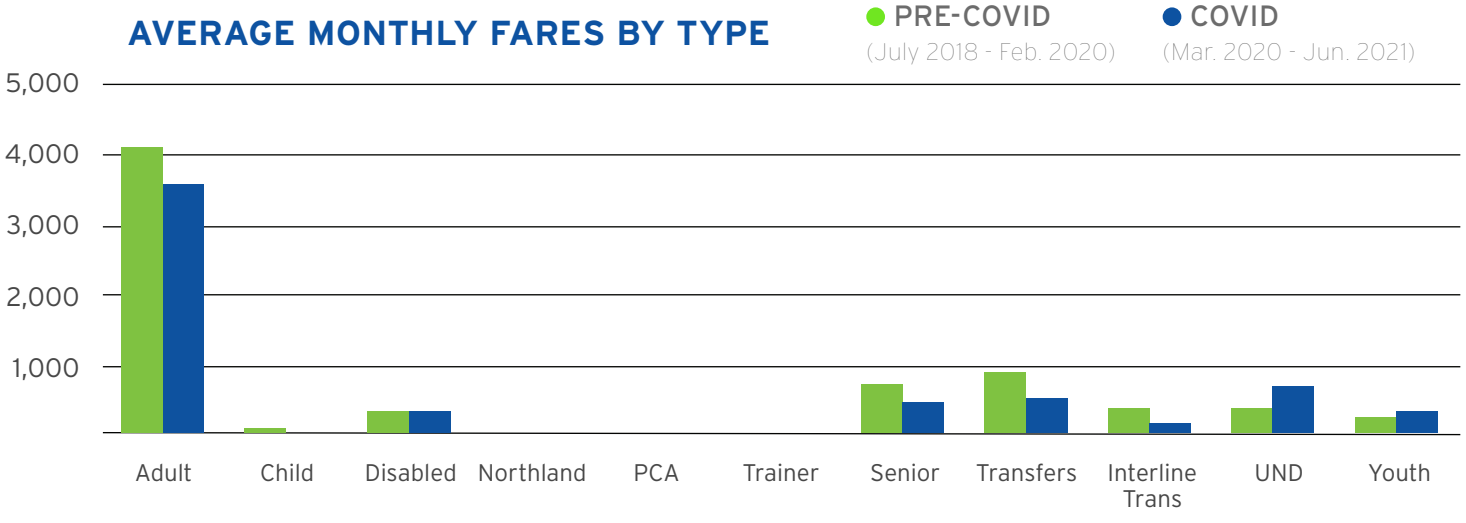
AVERAGE DAILY STATISTICS

	PRE-COVID	COVID
TOTAL BOARDINGS	29.3 RANK 10/12	23.6 RANK 5/12
PASSENGERS PER HOUR	5.4 RANK 7/12	4.3 RANK 5/12
PASSENGERS PER MILE	0.6 RANK 3/12	0.5 RANK 3/12
PASSENGERS PER TRIP	2.7 RANK 11/12	2.2 RANK 6/12

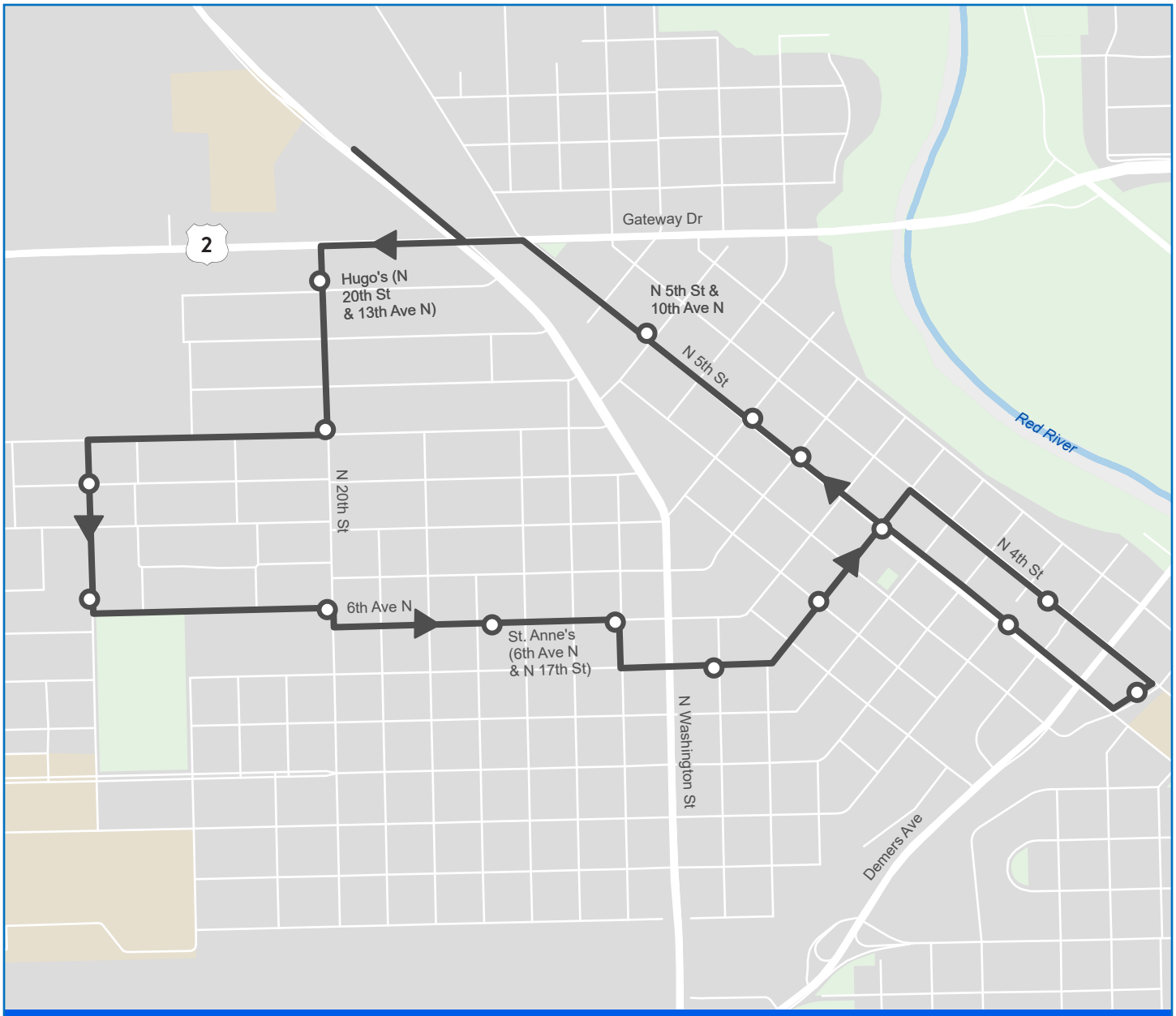
ANNUAL RIDERSHIP TREND



AVERAGE MONTHLY FARES BY TYPE



ROUTE MAP



ROUTE ANALYSIS

STRENGTHS

- Daily performance rankings improved during COVID relative to other routes
- Serves Hugo's and several schools

WEAKNESSES

- Operates in a one-way loop
- Low ridership

OPPORTUNITIES

- Connect to a stronger destination at the northwester part of the route

Grand Forks - East Grand Forks
TRANSIT DEVELOPMENT PLAN

ROUTE 3 Day & Evening Service Route

Key Destinations: Downtown, the Link, 10th & Belmont, Hugo's, Altru - Columbia Rd, Red River High, Midtown, 17th Ave & Cherry

	WEEKDAY
SPAN	6:30AM – 9:30PM
FREQUENCY	30 min. to 6PM, then 60 min.

	WEEKEND
SPAN	8:00AM - 9:30PM
FREQUENCY	30 min. to 6PM, then 60 min.

AVERAGE ANNUAL STATISTICS

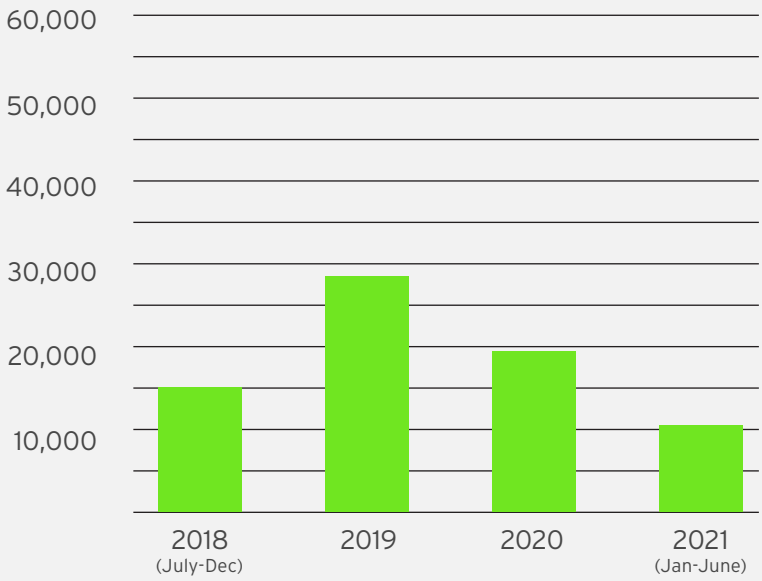
		RANK
REVENUE HOURS	3,990	1/12
REVENUE MILES	58,893	1/12
OPERATING COSTS	$366,977	1/12

RIDERSHIP	PRE-COVID	COVID
	30,532	20,429

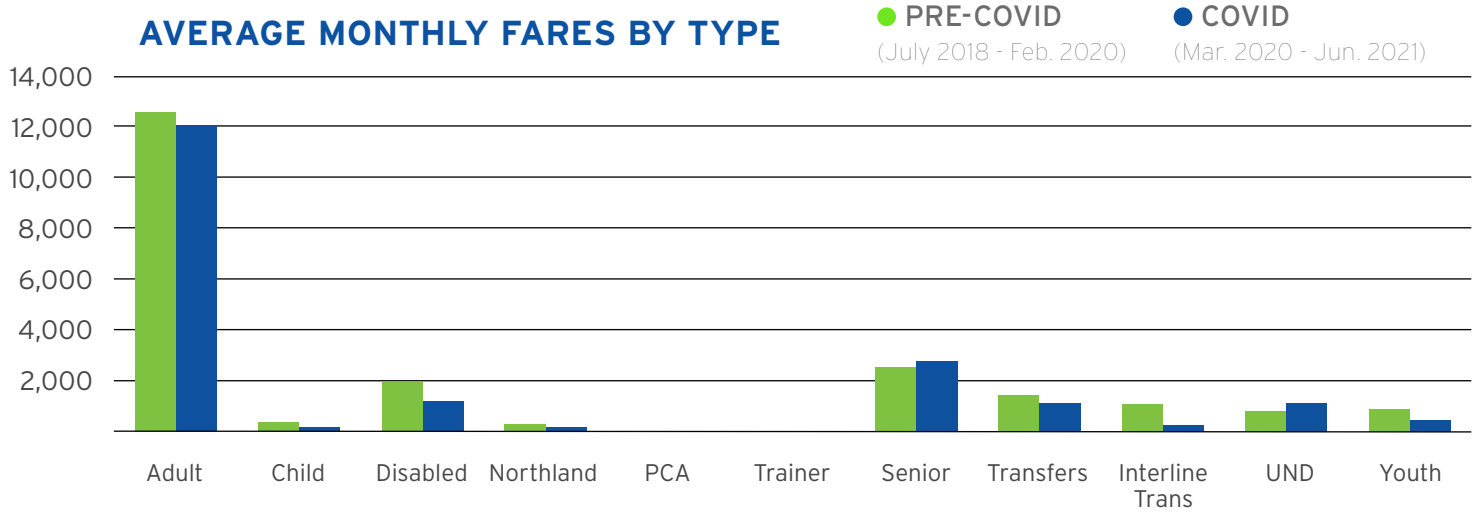
AVERAGE DAILY STATISTICS

	PRE-COVID	RANK	COVID	RANK
TOTAL BOARDINGS	97.5	3/12	65.3	2/12
PASSENGERS PER HOUR	7.7	3/12	5.1	3/12
PASSENGERS PER MILE	0.5	6/12	0.3	5/12
PASSENGERS PER TRIP	3.8	5/12	2.6	4/12

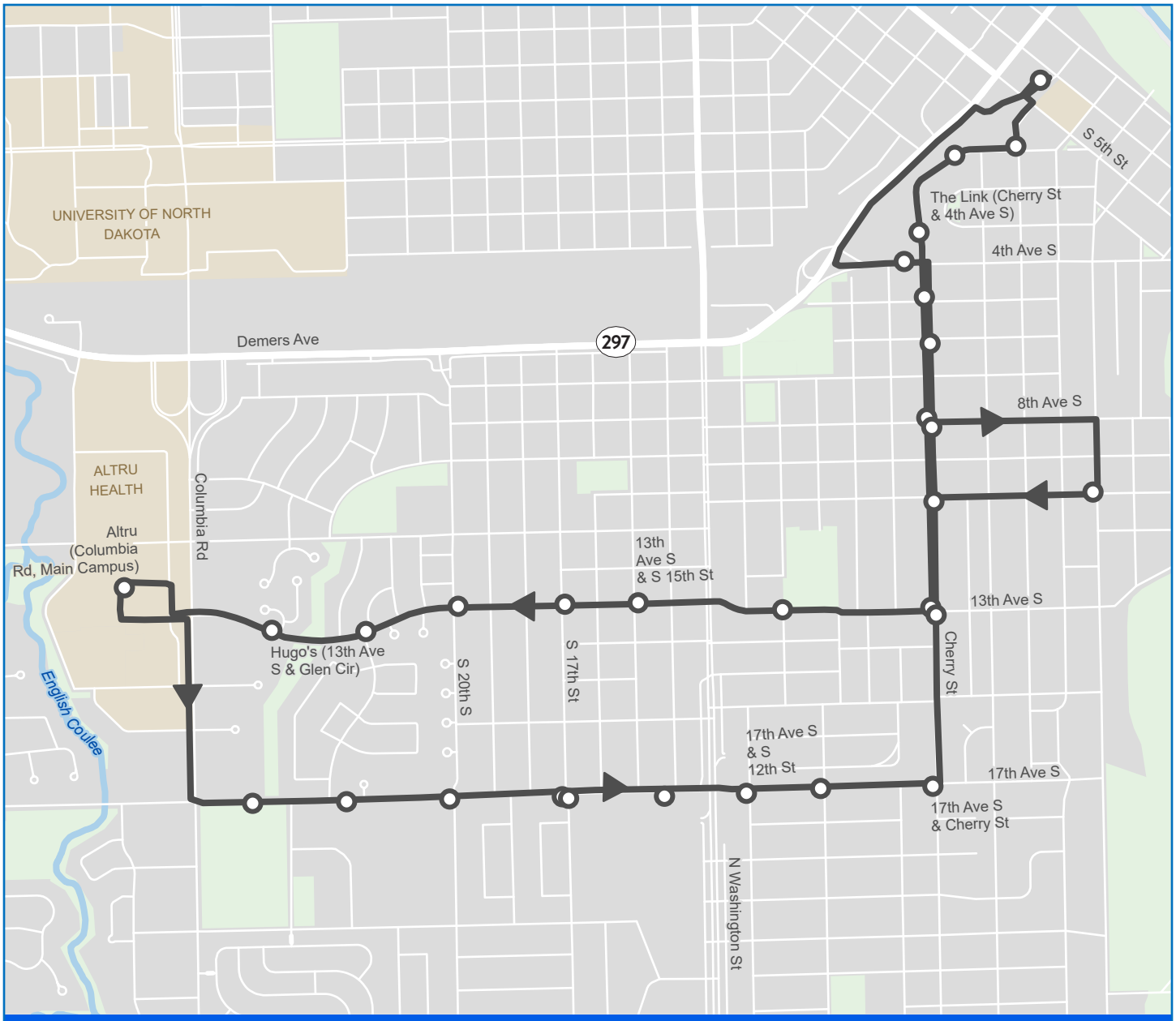
ANNUAL RIDERSHIP TREND



AVERAGE MONTHLY FARES BY TYPE



ROUTE MAP



ROUTE ANALYSIS

STRENGTHS

- High ridership
- Serves important destinations including Altru

WEAKNESSES

- Southern half of the route operates a one-way loop

OPPORTUNITIES

- Consider altering the southern half of the route to provide more direct service

Grand Forks - East Grand Forks
TRANSIT DEVELOPMENT PLAN

ROUTE 4 East Grand Forks Route

Key Destinations: Downtown, Cabela's, Northland College, Hugo's, Sunshine Terrace, Campbell Library, Town Square Apartments

	WEEKDAY
SPAN	6:00AM – 5:30PM
FREQUENCY	60 minutes

	WEEKEND
SPAN	8:00AM - 5:30PM
FREQUENCY	60 minutes

AVERAGE ANNUAL STATISTICS

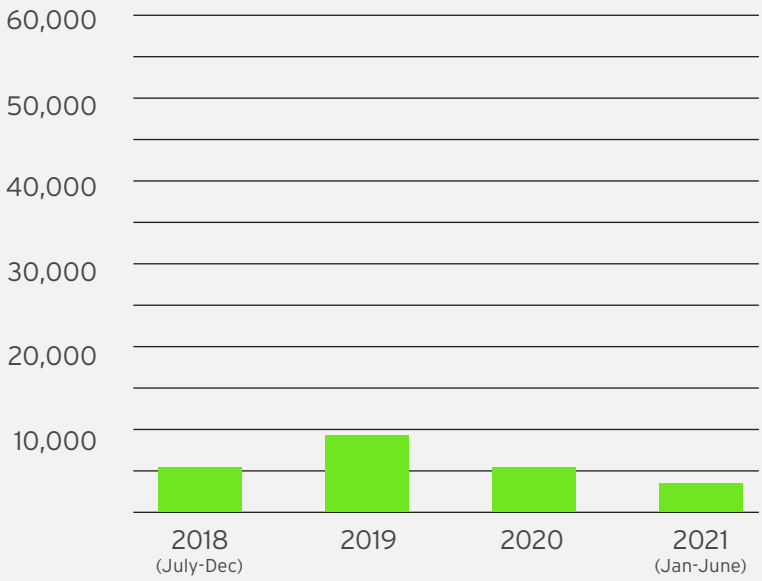
REVENUE HOURS	1,713	RANK 9/12
REVENUE MILES	17,239	RANK 11/12
OPERATING COSTS	$157,585	RANK 9/12

RIDERSHIP	PRE-COVID	COVID
	9,806	5,781

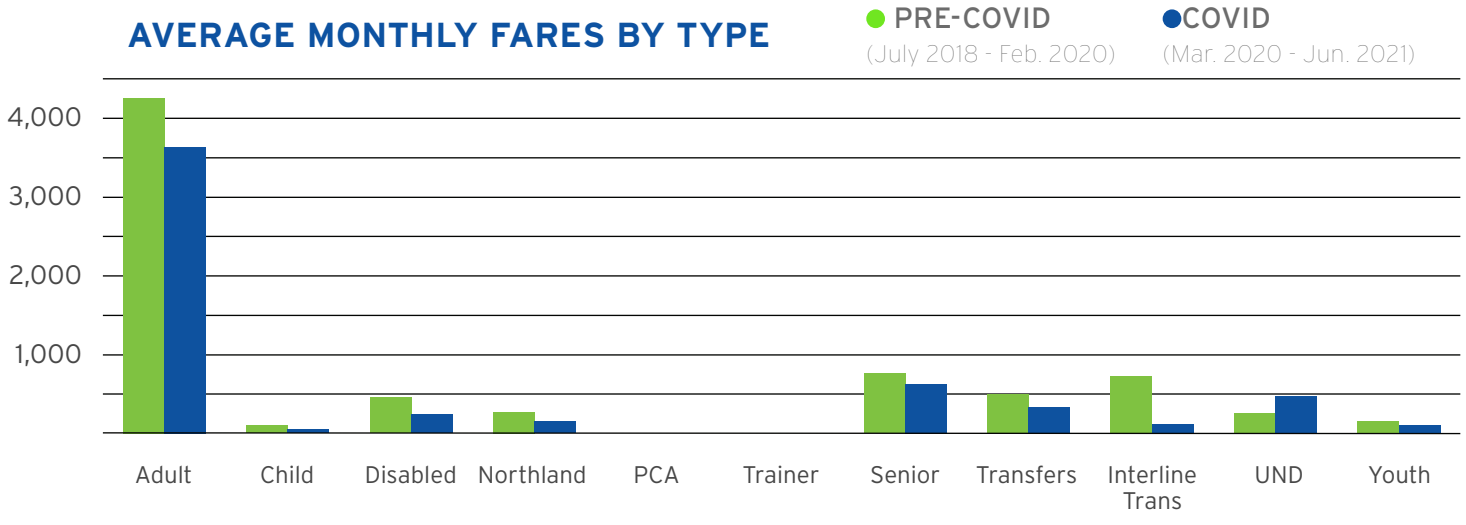
AVERAGE DAILY STATISTICS

	PRE-COVID	COVID
TOTAL BOARDINGS	31.3 RANK 8/12	18.5 RANK 8/12
PASSENGERS PER HOUR	5.7 RANK 6/12	3.4 RANK 6/12
PASSENGERS PER MILE	0.6 RANK 4/12	0.3 RANK 6/12
PASSENGERS PER TRIP	2.9 RANK 9/12	1.7 RANK 8/12

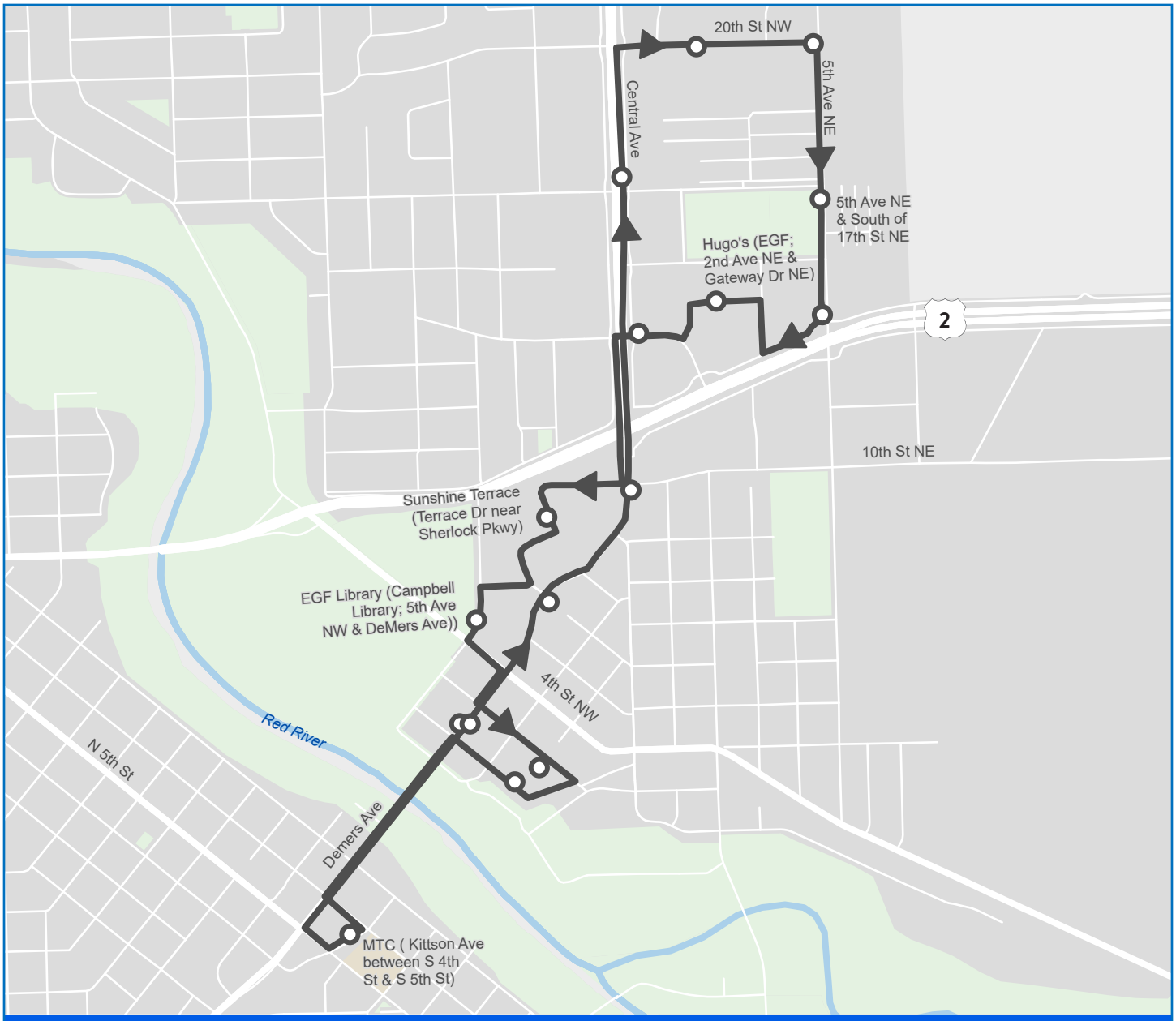
ANNUAL RIDERSHIP TREND



AVERAGE MONTHLY FARES BY TYPE



ROUTE MAP



ROUTE ANALYSIS

STRENGTHS

- Serves important East Grand Forks destinations like Northland, Hugo's and the library

WEAKNESSES

- 3 one-way loops in route

OPPORTUNITIES

- Consider making the route more direct by minimizing one-way loops

Grand Forks - East Grand Forks
TRANSIT DEVELOPMENT PLAN

ROUTE 5

Key Destinations: Downtown, Salvation Army, Hamline & University, N 51st St Shelter Walmart West, Gateway Terrace, N 43rd St Shelter, UND - Odegard Hall, UND - Memorial Union, 15th & University, YMCA

	WEEKDAY
SPAN	6:00AM – 6:00PM
FREQUENCY	60 minutes

	WEEKEND
SPAN	8:00AM - 6:00PM
FREQUENCY	60 minutes

AVERAGE ANNUAL STATISTICS

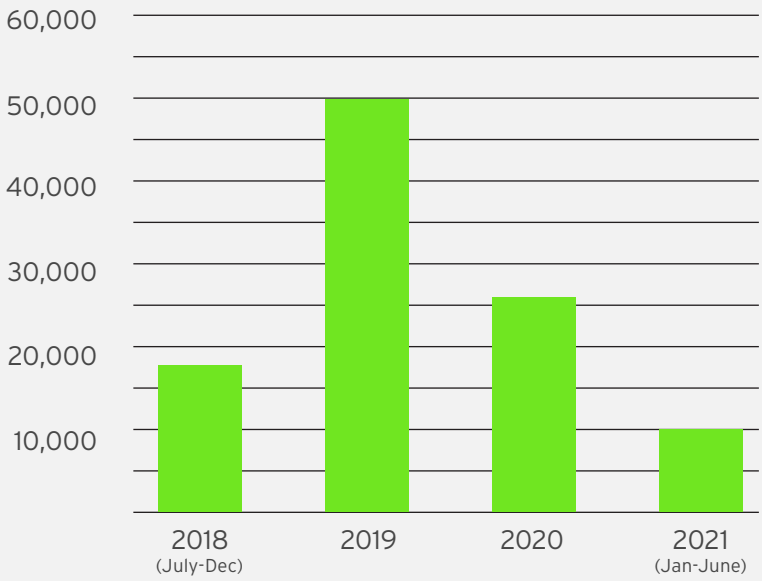
REVENUE HOURS	3,453	RANK 2/12
REVENUE MILES	34,256	RANK 6/12
OPERATING COSTS	$317,561	RANK 2/12

RIDERSHIP	PRE-COVID	COVID
	46,557	19,886

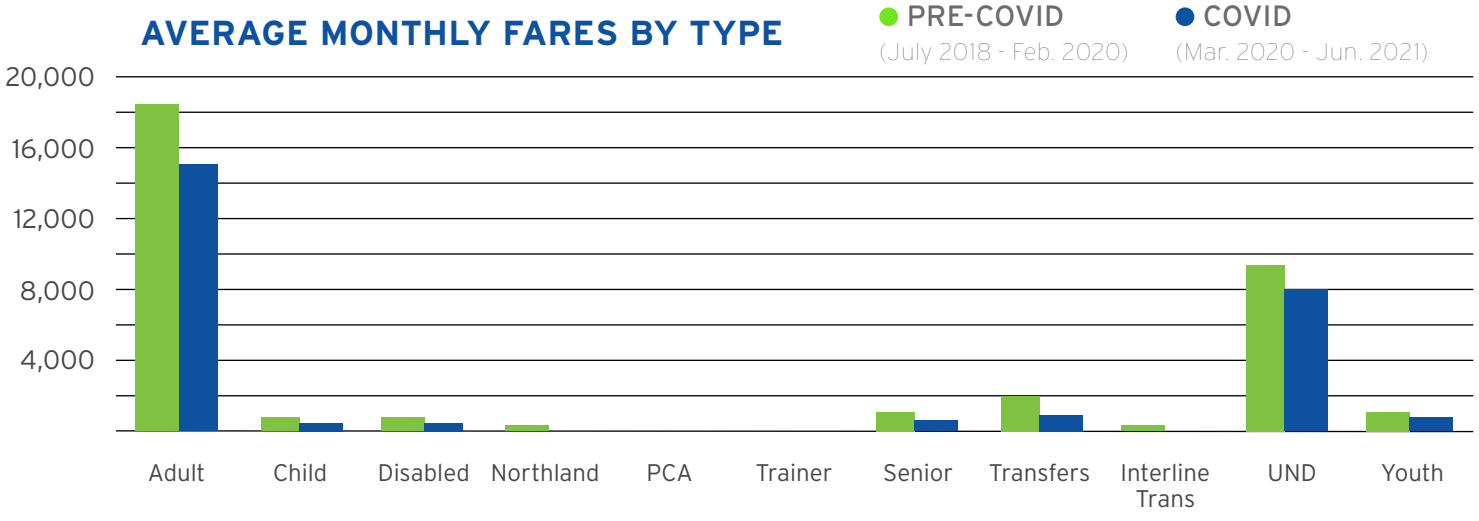
AVERAGE DAILY STATISTICS

	PRE-COVID	COVID
TOTAL BOARDINGS	148.7 RANK 2/12	63.5 RANK 3/12
PASSENGERS PER HOUR	13.5 RANK 2/12	5.8 RANK 2/12
PASSENGERS PER MILE	1.4 RANK 2/12	0.6 RANK 2/12
PASSENGERS PER TRIP	13.5 RANK 2/12	5.8 RANK 2/12

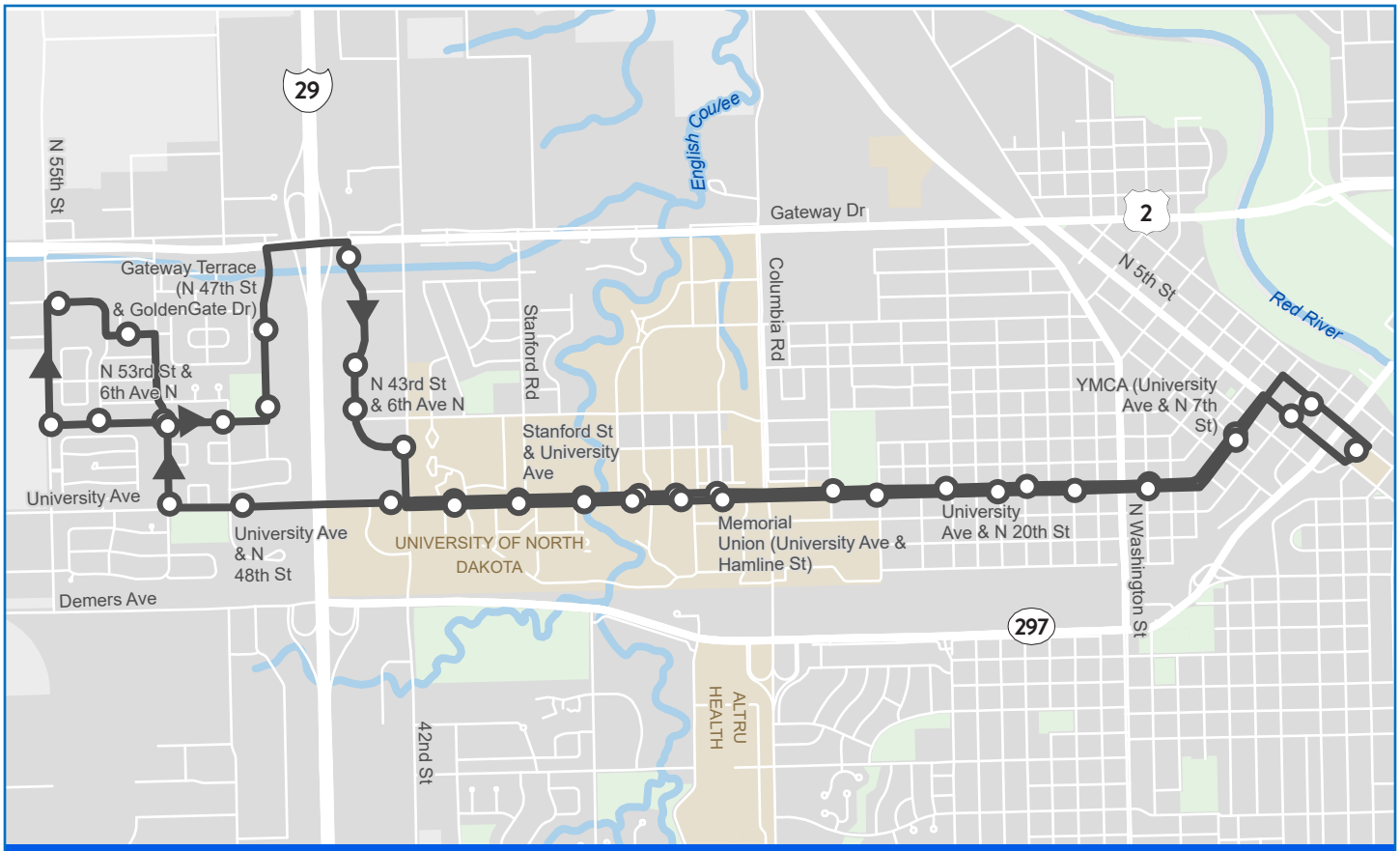
ANNUAL RIDERSHIP TREND



AVERAGE MONTHLY FARES BY TYPE



ROUTE MAP



ROUTE ANALYSIS

STRENGTHS

- High ridership
- Has strong destinations anchoring both ends of the route
- Serves UND
- Provides connections to many north-south routes

WEAKNESSES

- Duplicates Route 1 along University Avenue

OPPORTUNITIES

- Maintained high ridership per trip compared to other routes during COVID
- Consider consolidating route with Route 1

Grand Forks - East Grand Forks
TRANSIT DEVELOPMENT PLAN

ROUTE 6 East Grand Forks - Day & Evening Service Route

Key Destinations: Downtown, Cabela's, 17th St NW & 8th Ave, Northland College, Hugo's, Sunshine Terrace, Campbell Library

	WEEKDAY
SPAN	6:30AM – 10:00PM
FREQUENCY	60 minutes

	WEEKEND
SPAN	8:30AM - 10:00PM
FREQUENCY	60 minutes

AVERAGE ANNUAL STATISTICS

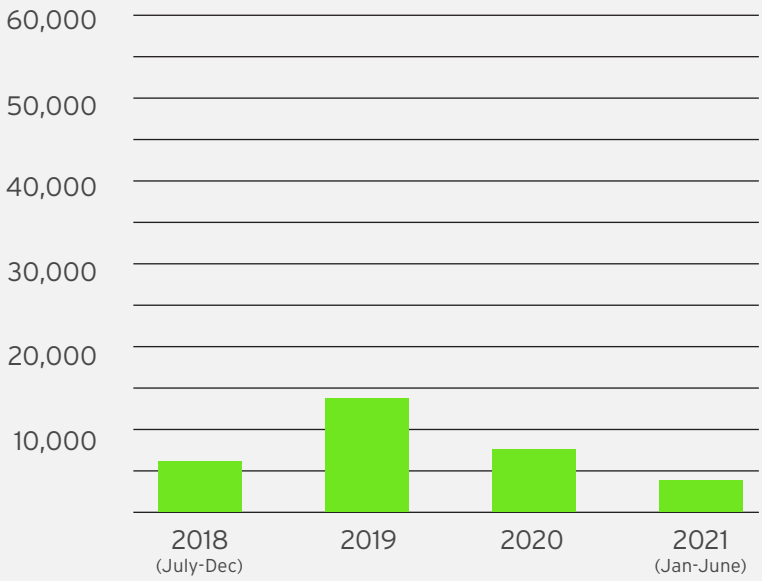
		RANK
REVENUE HOURS	2,251	8/12
REVENUE MILES	25,409	8/12
OPERATING COSTS	$207,001	8/12

RIDERSHIP	PRE-COVID	COVID
	13,405	7,076

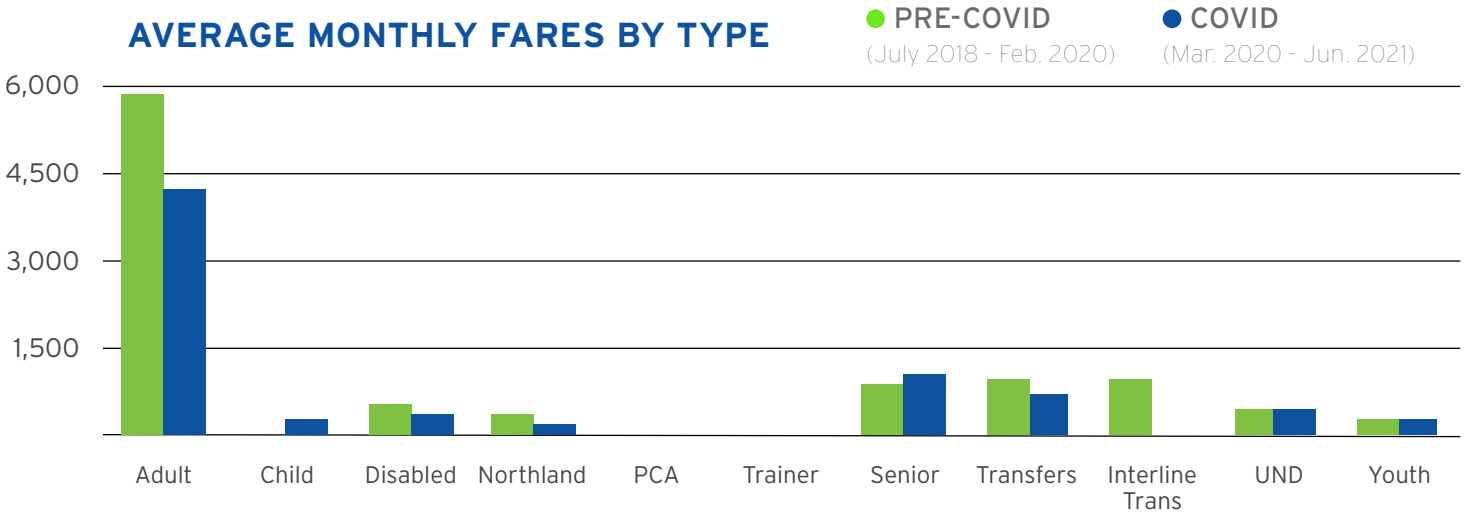
AVERAGE DAILY STATISTICS

	PRE-COVID	RANK	COVID	RANK
TOTAL BOARDINGS	42.8	5/12	22.6	6/12
PASSENGERS PER HOUR	6.0	5/12	3.1	7/12
PASSENGERS PER MILE	0.5	5/12	0.3	7/12
PASSENGERS PER TRIP	3.0	8/12	1.6	10/12

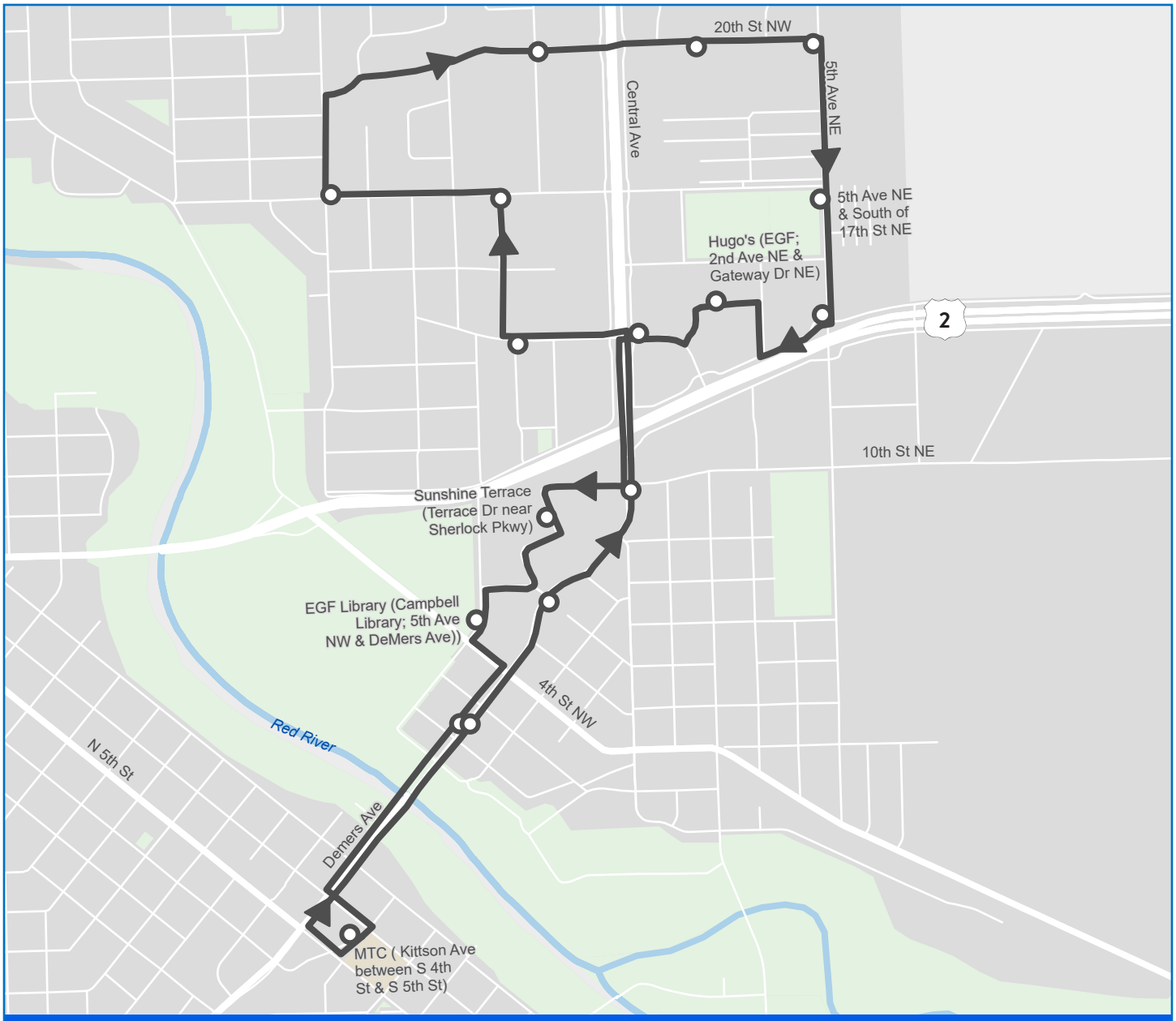
ANNUAL RIDERSHIP TREND



AVERAGE MONTHLY FARES BY TYPE



ROUTE MAP



ROUTE ANALYSIS

STRENGTHS

- Provides service to important destinations
- Serves neighborhoods that are more likely to ride transit

WEAKNESSES

- Operates as a large one-way loop
- Duplicates much of Route 4

OPPORTUNITIES

- There might be an opportunity to consolidate with Route 4

Grand Forks - East Grand Forks
TRANSIT DEVELOPMENT PLAN

ROUTE 7

Key Destinations: Downtown, Grand Forks Library, Columbia Mall, Target, Development Homes, Walmart, Hugo's, Midtown

	WEEKDAY
SPAN	6:30AM – 6:00PM
FREQUENCY	60 minutes

	WEEKEND
SPAN	8:30AM - 6:00PM
FREQUENCY	60 minutes

AVERAGE ANNUAL STATISTICS

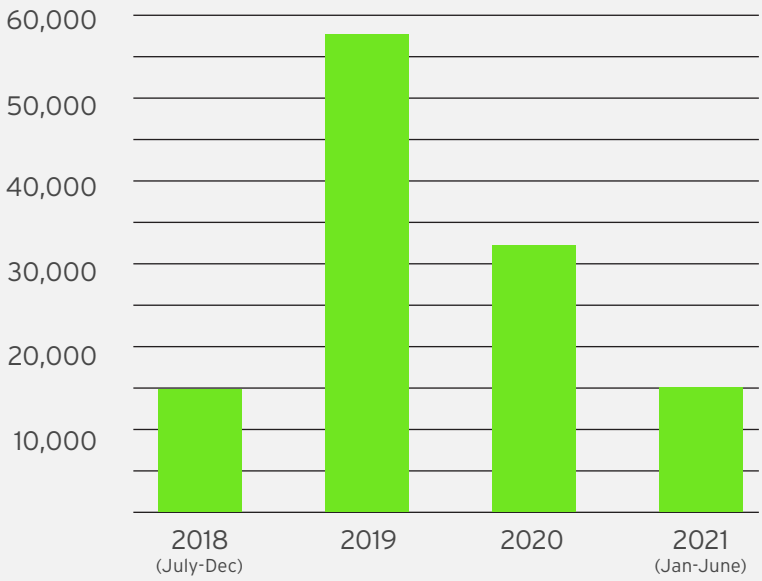
REVENUE HOURS	3,453	RANK 2/12 (TIE)
REVENUE MILES	34,387	RANK 5/12
OPERATING COSTS	$317,561	RANK 2/12 (TIE)

	PRE-COVID	COVID
RIDERSHIP	50,484	27,889

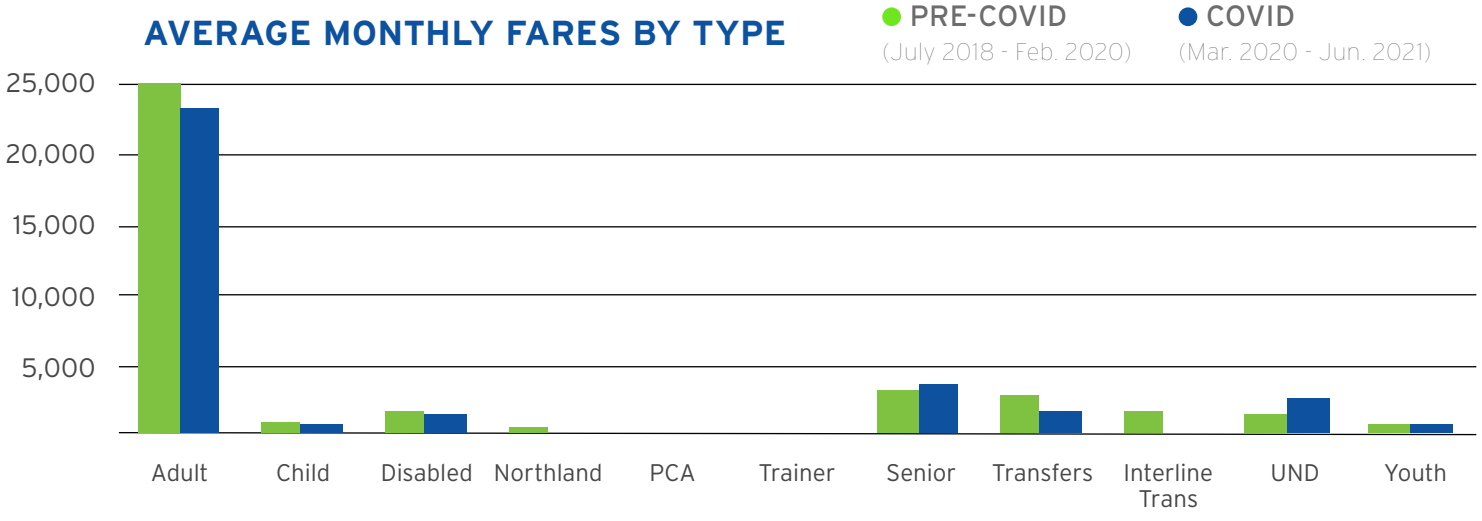
AVERAGE DAILY STATISTICS

	PRE-COVID	RANK	COVID	RANK
TOTAL BOARDINGS	161.3	1/12	89.1	1/12
PASSENGERS PER HOUR	14.6	1/12	8.1	1/12
PASSENGERS PER MILE	1.5	1/12	0.8	1/12
PASSENGERS PER TRIP	14.6	1/12	8.1	1/12

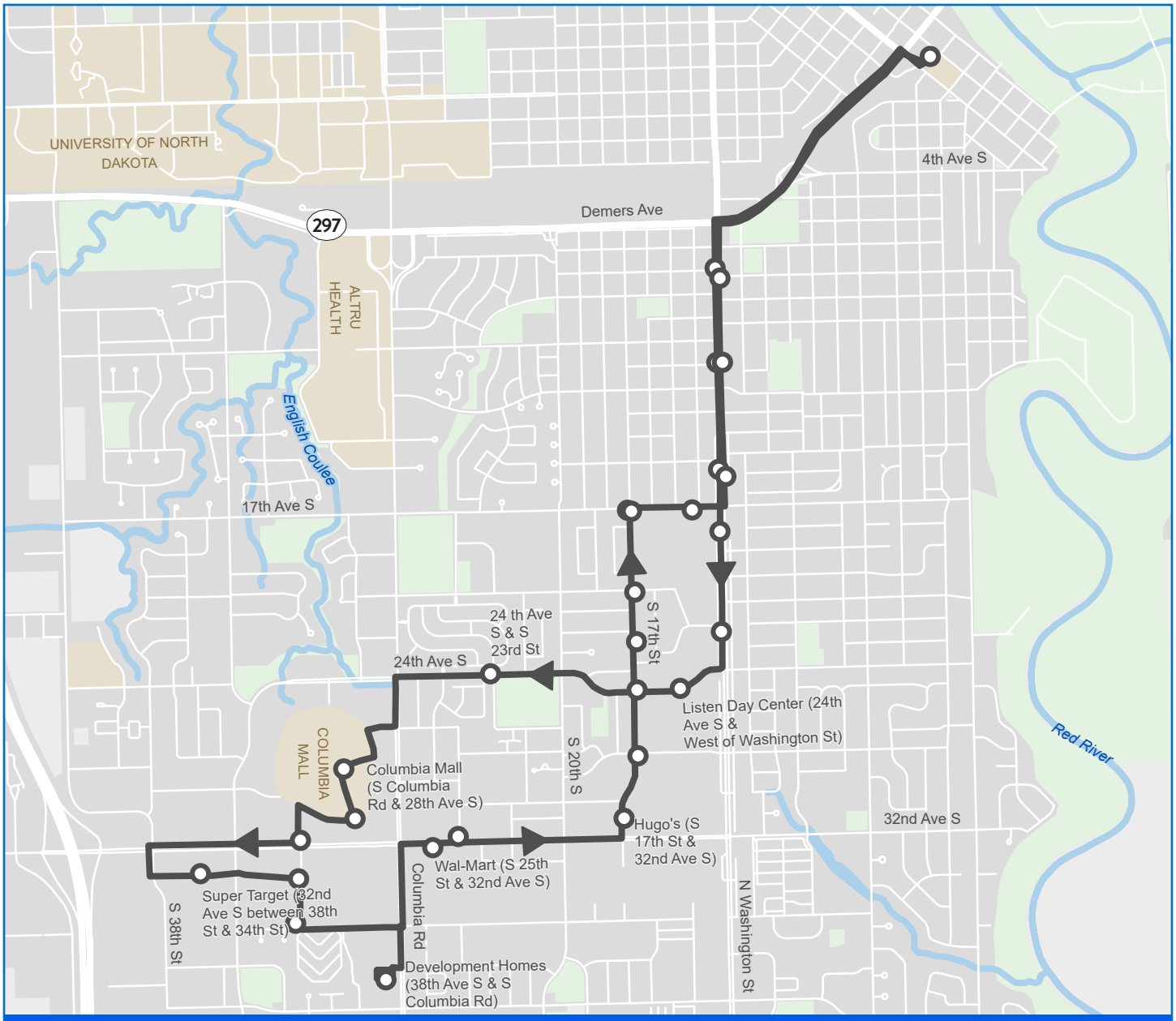
ANNUAL RIDERSHIP TREND



AVERAGE MONTHLY FARES BY TYPE



ROUTE MAP



ROUTE ANALYSIS

STRENGTHS

- Highest ridership in the system
- Serves important shopping destinations and areas with strong growth

WEAKNESSES

- Southern half of the route is circuitous including several one-way loops

OPPORTUNITIES

- Consider increase service span or frequency
- Consider options to make more direct and bi-directional

Grand Forks-East Grand Forks
TRANSIT DEVELOPMENT PLAN

ROUTE 8

Key Destinations: UND - Memorial Union, Altru Business Center, Altru Columbia Rd, Post Office, Columbia Mall, Super Target, Linden Place, Primrose Ct, Garden View Dr, Alerus Center, UND Odegard Hall

	WEEKDAY	WEEKEND
SPAN	6:00AM – 6:00PM	8:00AM - 6:00PM
FREQUENCY	60 minutes	60 minutes

AVERAGE ANNUAL STATISTICS

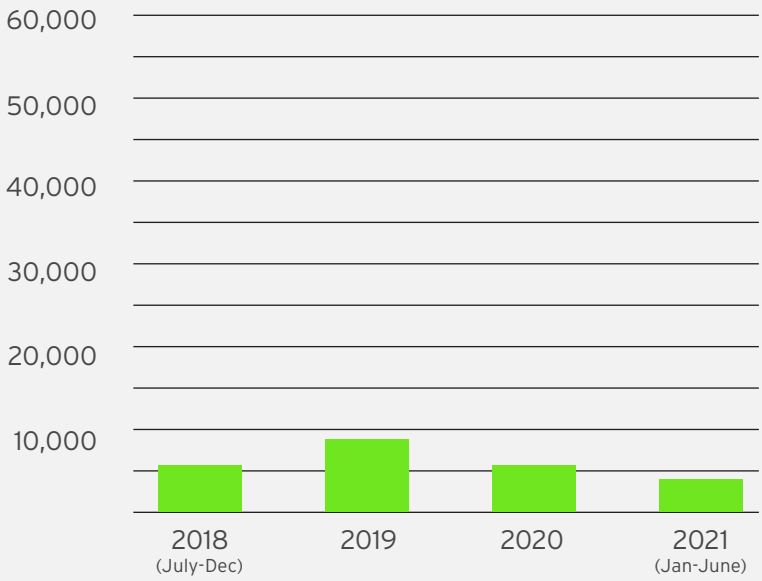
REVENUE HOURS	3,453	RANK 2/12 (TIE)
REVENUE MILES	37, 562	RANK 3/12
OPERATING COSTS	$317,561	RANK 2/12 (TIE)

RIDERSHIP	PRE-COVID	COVID
	9,576	6,005

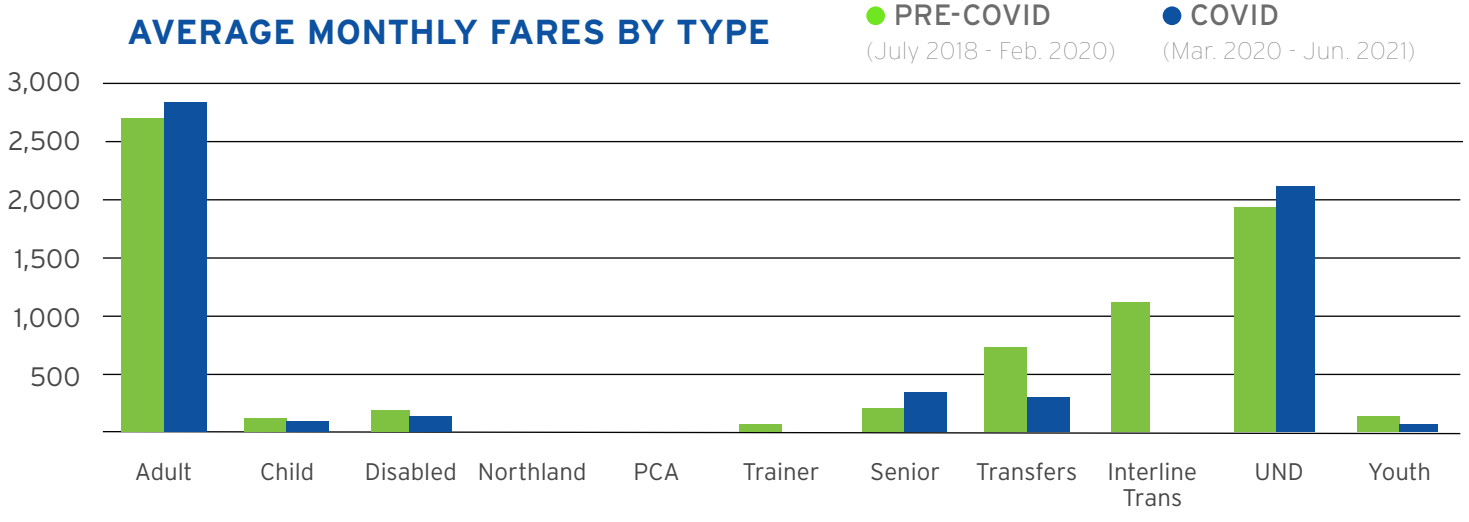
AVERAGE DAILY STATISTICS

	PRE-COVID		COVID	
TOTAL BOARDINGS	30.6	RANK 9/12	19.2	RANK 7/12
PASSENGERS PER HOUR	2.8	RANK 11/12	1.7	RANK 10/12
PASSENGERS PER MILE	0.3	RANK 11/12	0.2	RANK 9/12
PASSENGERS PER TRIP	2.8	RANK 10/12	1.7	RANK 7/12

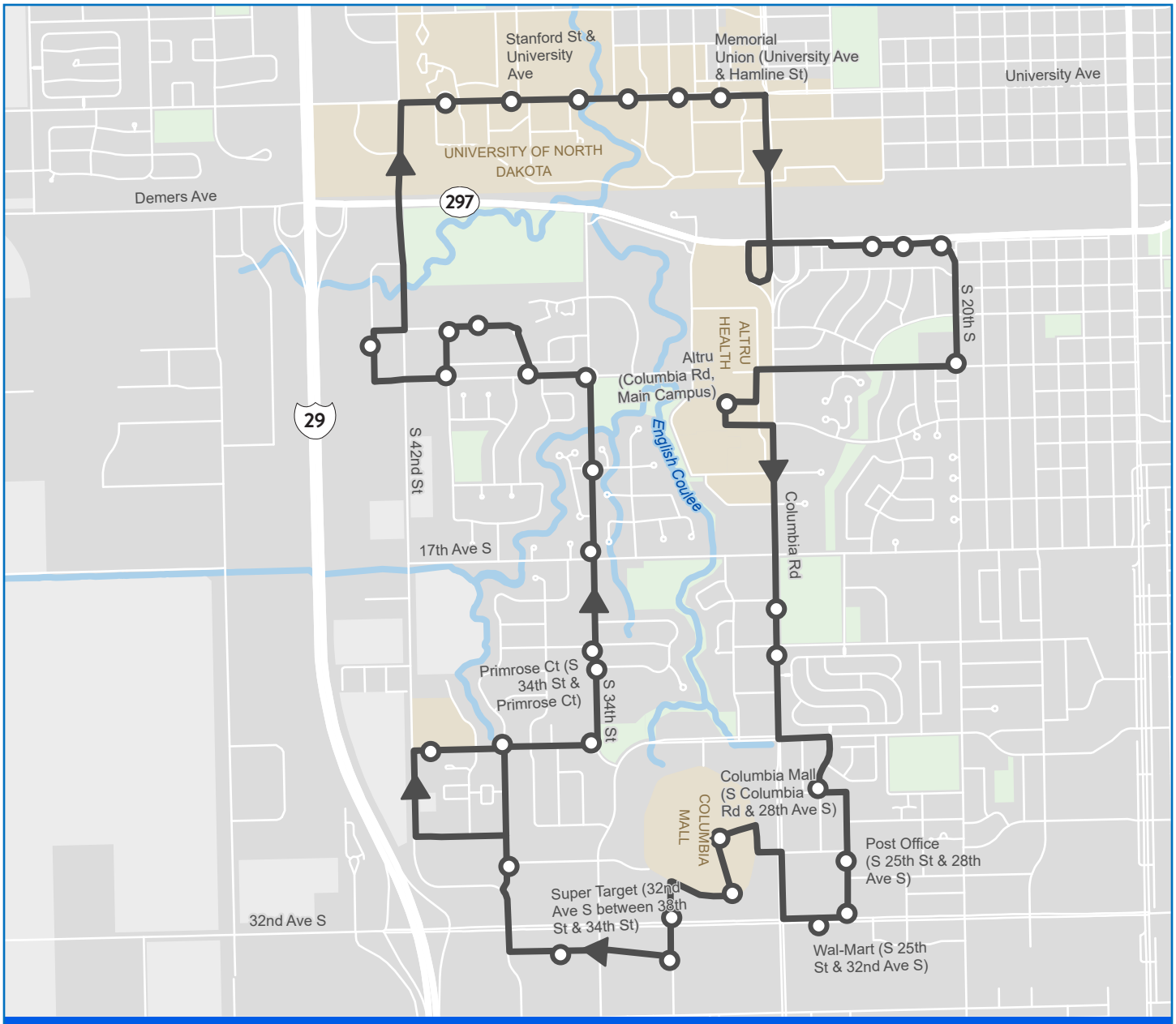
ANNUAL RIDERSHIP TREND



AVERAGE MONTHLY FARES BY TYPE



ROUTE MAP



ROUTE ANALYSIS

STRENGTHS

- Provides a north south connection to UND
- Serves important shopping and commercial destinations

WEAKNESSES

- Limited service span/ schedule for shopping destinations and retail employment

OPPORTUNITIES

- Opportunity to expand hours of operation and frequency

Grand Forks - East Grand Forks
TRANSIT DEVELOPMENT PLAN

ROUTE 9

Key Destinations: Hamline & University, UND - Stanford Center, Alerus Center, Garden View Dr, Linden Place, Super Target, Columbia Mall, 24th Ave & S 29th St, Altru Columbia Rd, Amberwood Apartments

	WEEKDAY
SPAN	6:30AM – 6:00PM
FREQUENCY	60 minutes

	WEEKEND
SPAN	8:00AM - 6:00PM
FREQUENCY	60 minutes

AVERAGE ANNUAL STATISTICS

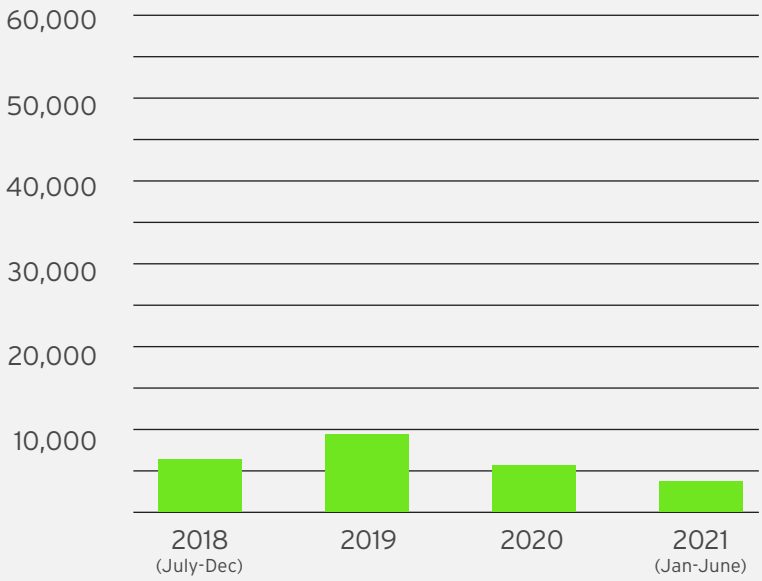
REVENUE HOURS	3,453	RANK 2/12 (TIE)
REVENUE MILES	35, 949	RANK 4/12
OPERATING COSTS	$317,561	RANK 2/12 (TIE)

RIDERSHIP	PRE-COVID	COVID
	10,783	5,590

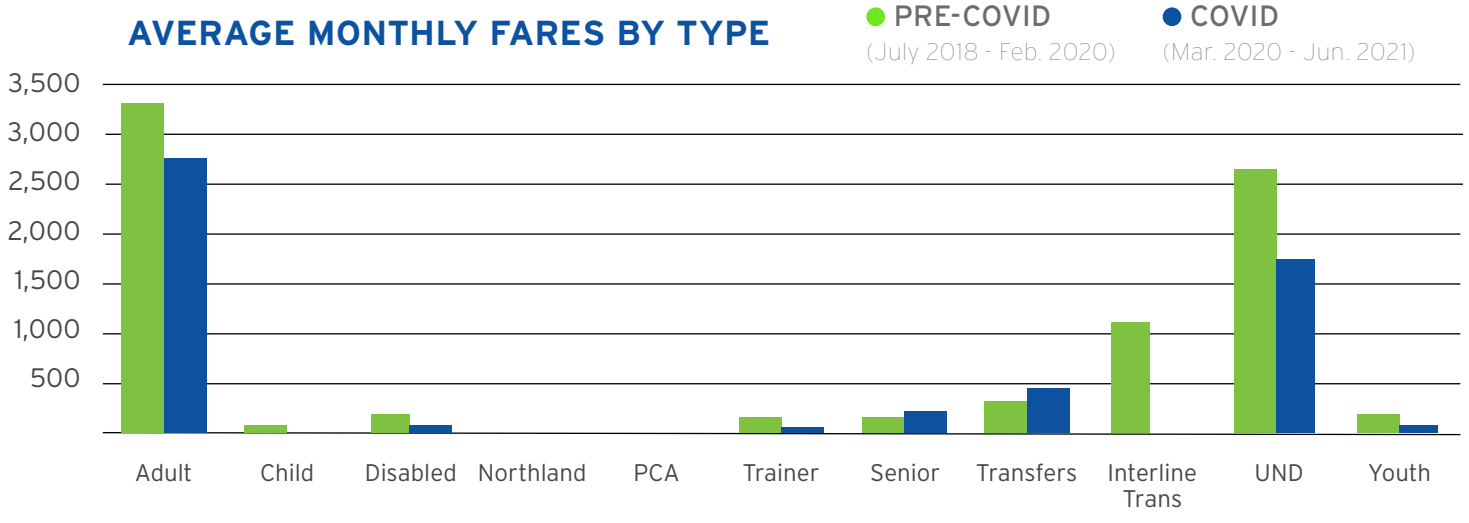
AVERAGE DAILY STATISTICS

	PRE-COVID		COVID	
TOTAL BOARDINGS	34.5	RANK 6/12	17.9	RANK 9/12
PASSENGERS PER HOUR	3.1	RANK 10/12	1.6	RANK 11/12
PASSENGERS PER MILE	0.3	RANK 10/12	0.2	RANK 10/12
PASSENGERS PER TRIP	3.1	RANK 7/12	1.6	RANK 9/12

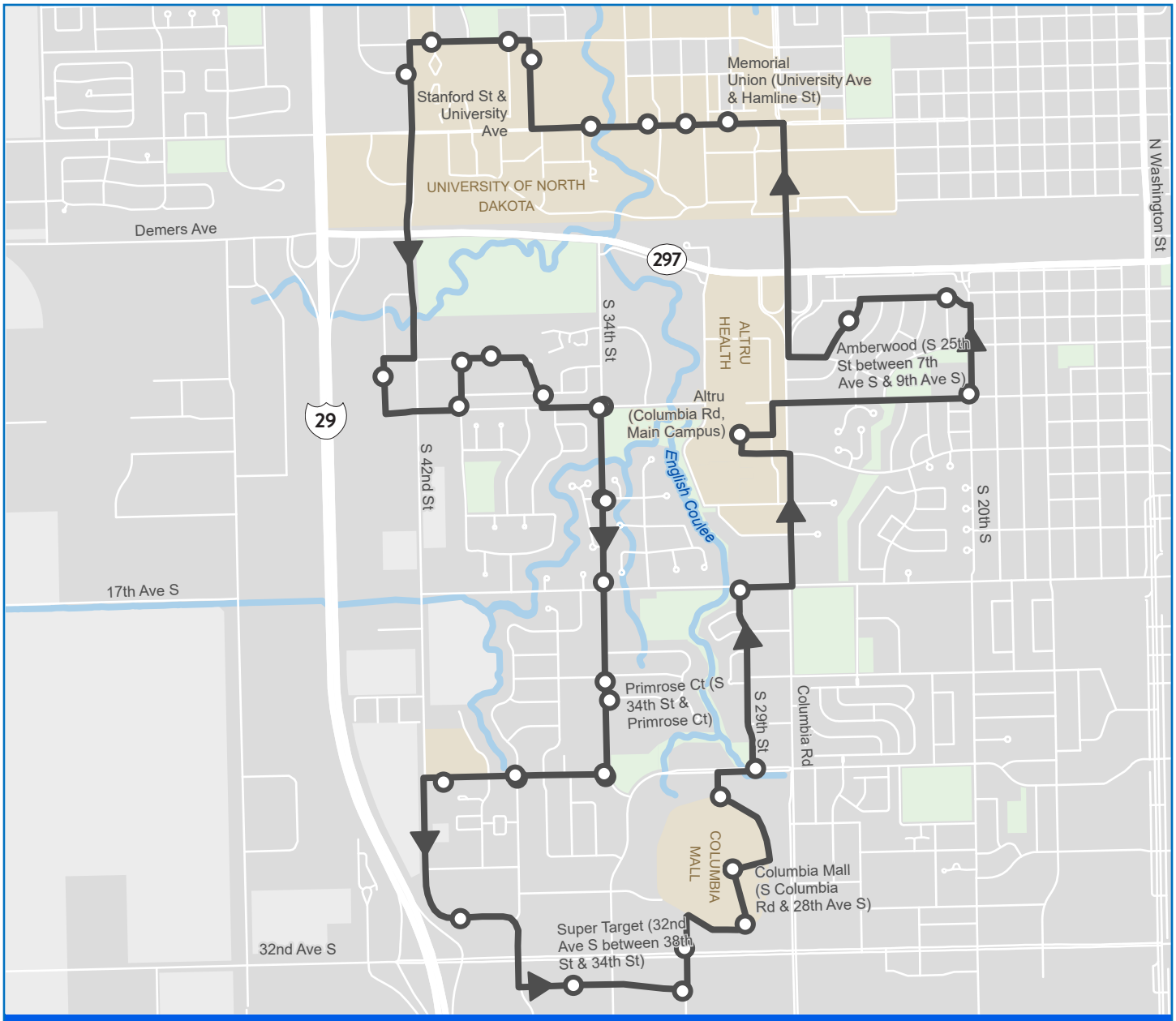
ANNUAL RIDERSHIP TREND



AVERAGE MONTHLY FARES BY TYPE



ROUTE MAP



ROUTE ANALYSIS

STRENGTHS

- Provides north-south connection to UND
- Serves important commercial and shopping destinations

WEAKNESSES

- Limited service span/ schedule for shopping destinations and retail employment

OPPORTUNITIES

- Opportunity to expand hours of operation and frequency

Grand Forks - East Grand Forks
TRANSIT DEVELOPMENT PLAN

ROUTE 10

Key Destinations: Downtown, The Link, 17th Ave & Cherry, Goodwill, Choice Health & Fitness, Altru South, South Middle School, Columbia Mall, Walmart, Hugo's, Midtown

	WEEKDAY	WEEKEND
SPAN	6:00AM – 6:00PM	8:00AM - 6:00PM
FREQUENCY	60 minutes	60 minutes

AVERAGE ANNUAL STATISTICS

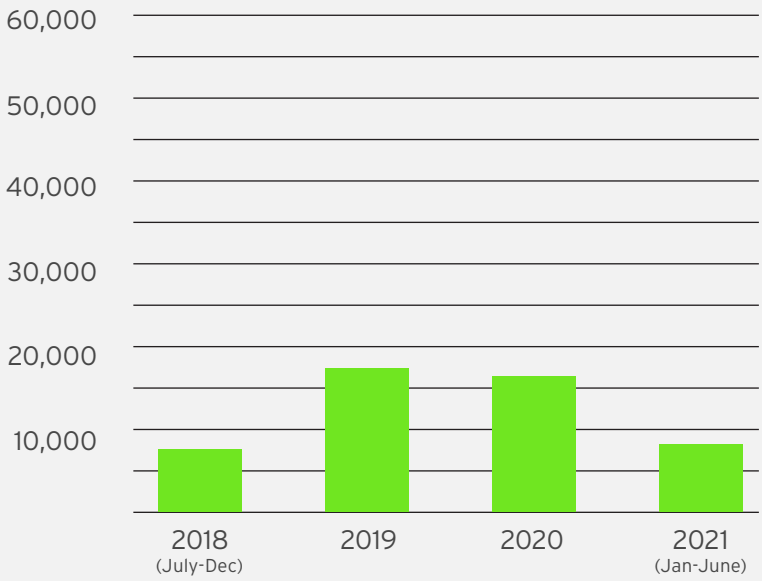
REVENUE HOURS	3,453	RANK 2/12 (TIE)
REVENUE MILES	38,396	RANK 2/12
OPERATING COSTS	$317,561	RANK 2/12 (TIE)

RIDERSHIP	PRE-COVID	COVID
	17,342	15,975

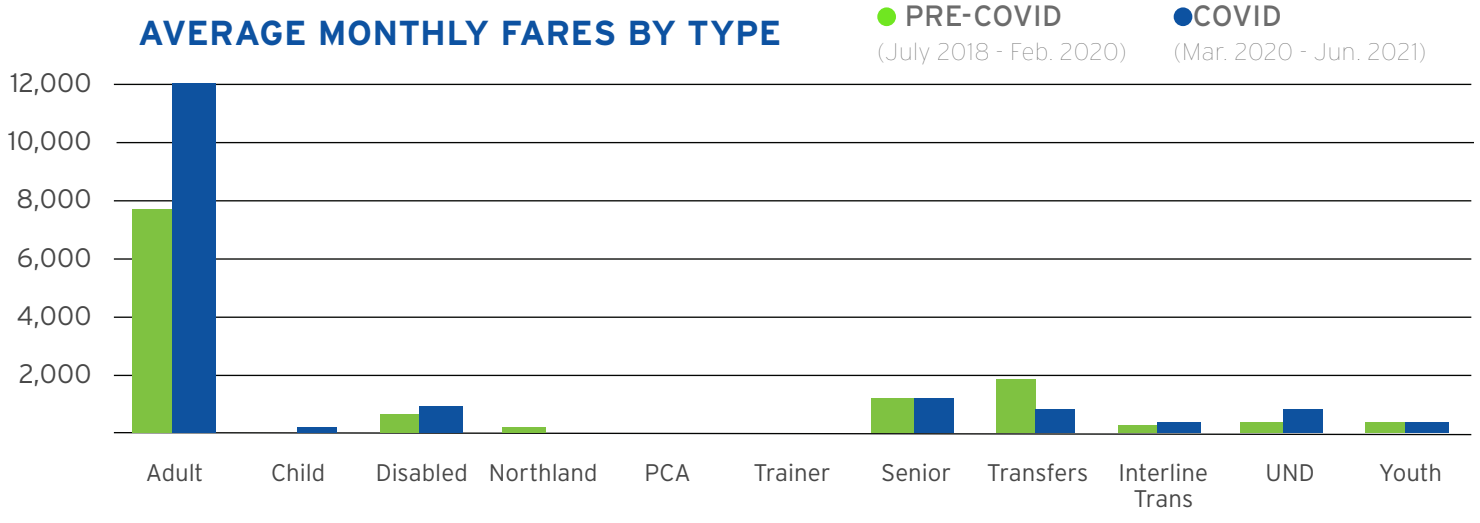
AVERAGE DAILY STATISTICS

	PRE-COVID	RANK	COVID	RANK
TOTAL BOARDINGS	55.4	4/12	51.0	4/12
PASSENGERS PER HOUR	5.0	8/12	4.6	4/12
PASSENGERS PER MILE	0.5	8/12	0.4	4/12
PASSENGERS PER TRIP	5.0	3/12	4.6	3/12

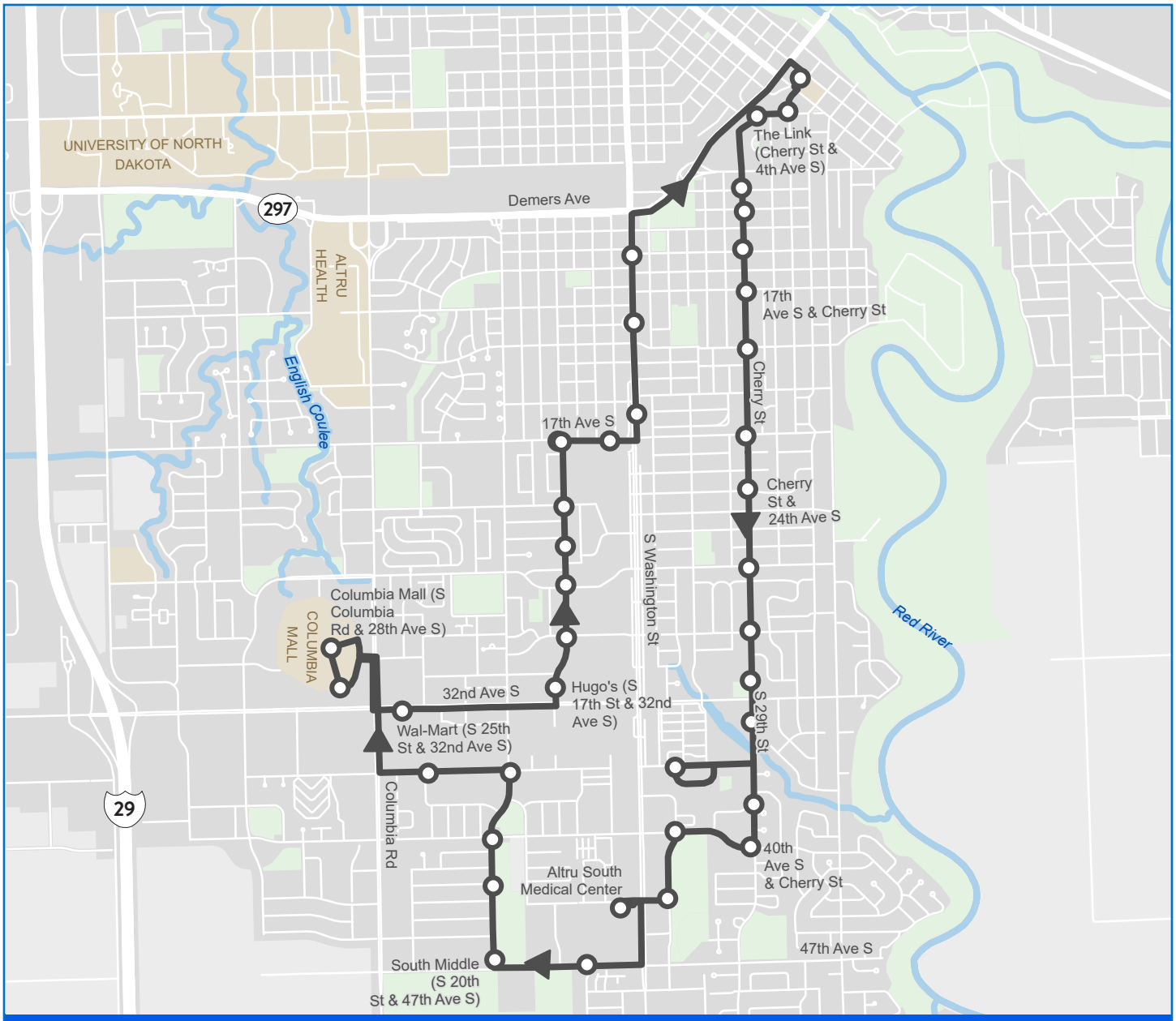
ANNUAL RIDERSHIP TREND



AVERAGE MONTHLY FARES BY TYPE



ROUTE MAP



ROUTE ANALYSIS

STRENGTHS

- Maintained high ridership during COVID
- Serves Downtown and Columbia Mall

WEAKNESSES

- Duplicates service on Cherry Street with Route 3
- Largely operates as a one-way loop

OPPORTUNITIES

- Consider consolidating with other routes and provide bi-directional service

Grand Forks - East Grand Forks
TRANSIT DEVELOPMENT PLAN

ROUTE 12 East Grand Forks Route

Key Destinations: Evergreen Estates, Good Samaritan, Hugo's, Sunshine Terrace, Campbell Library, Town Square Apartments, Senior Center, Riverside School

	WEEKDAY	WEEKEND
SPAN	7:00AM – 6:00PM	-
FREQUENCY	60 minutes	-

AVERAGE ANNUAL STATISTICS

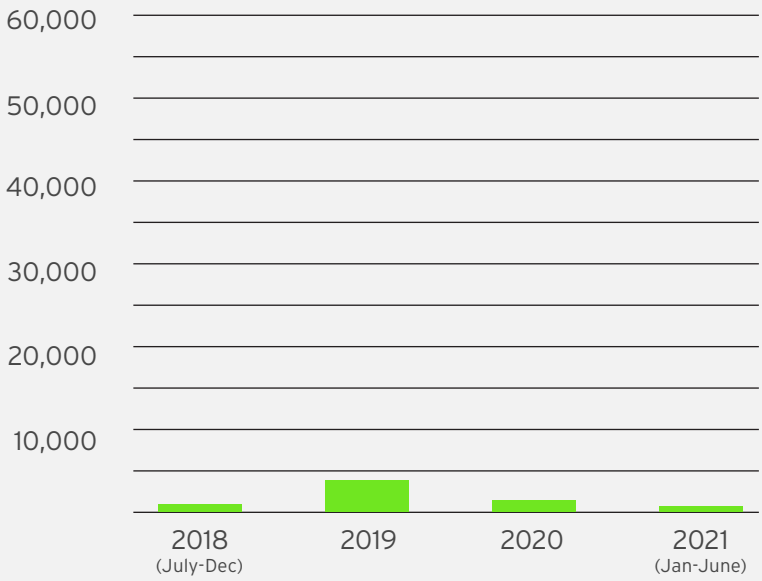
		RANK
REVENUE HOURS	2,805	7/12
REVENUE MILES	28,160	7/12
OPERATING COSTS	$258,004	7/12

RIDERSHIP	PRE-COVID	COVID
	2,778	720

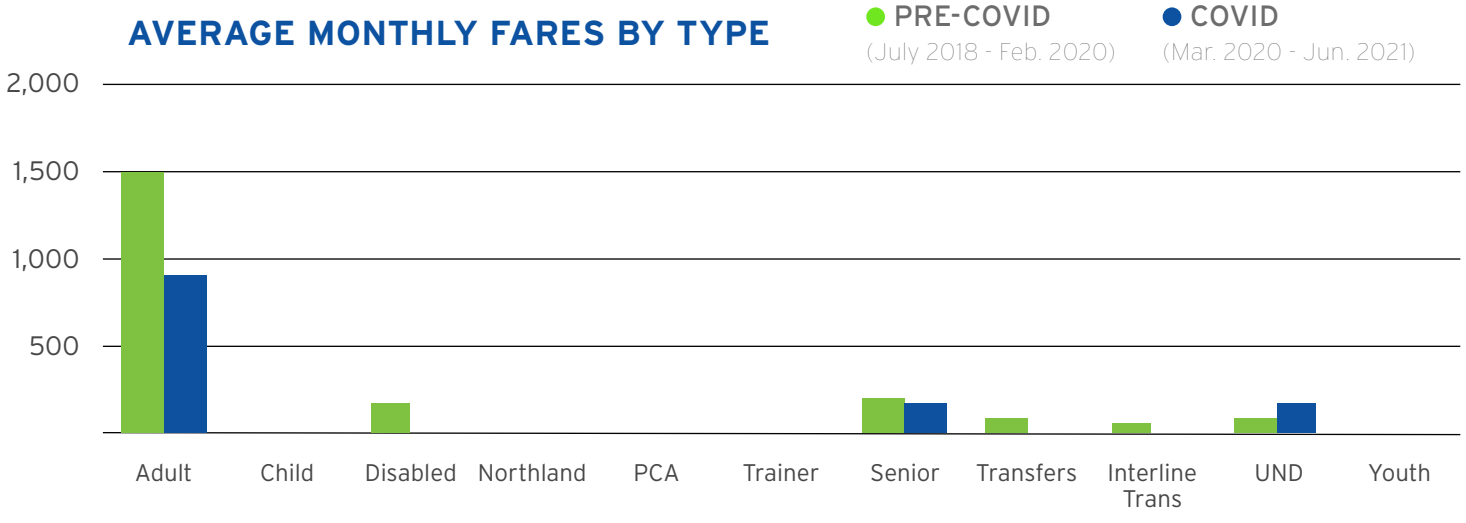
AVERAGE DAILY STATISTICS

	PRE-COVID	RANK	COVID	RANK
TOTAL BOARDINGS	10.6	12/12	2.7	12/12
PASSENGERS PER HOUR	1.0	12/12	0.3	12/12
PASSENGERS PER MILE	0.1	12/12	0.0	12/12
PASSENGERS PER TRIP	1.0	12/12	0.3	12/12

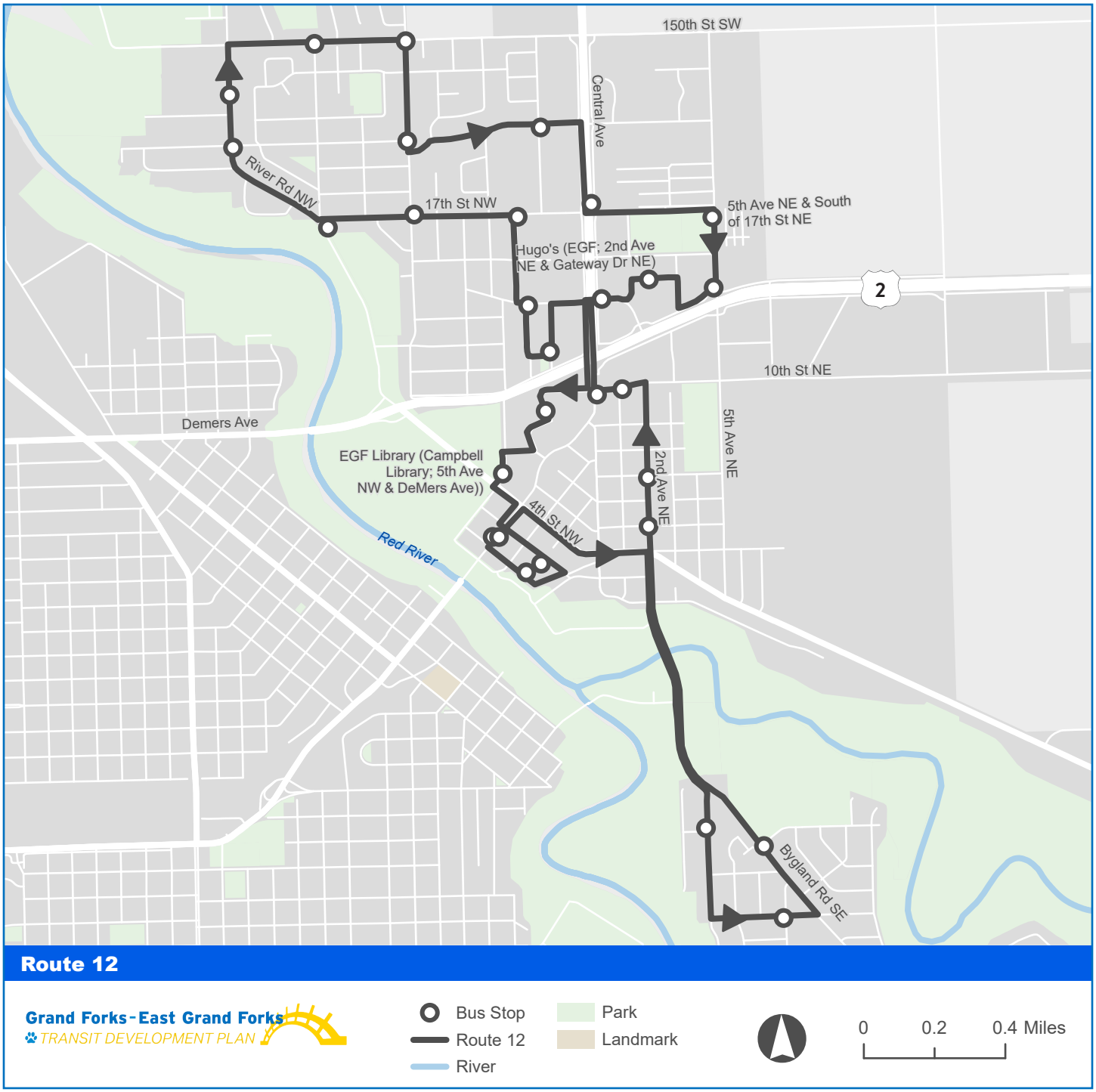
ANNUAL RIDERSHIP TREND



AVERAGE MONTHLY FARES BY TYPE



ROUTE MAP



ROUTE ANALYSIS

STRENGTHS

- Serves neighborhoods that are more likely to ride transit

WEAKNESSES

- Overall poor ridership performance

OPPORTUNITIES

- Consider reallocating resources to other routes and services

Grand Forks - East Grand Forks
TRANSIT DEVELOPMENT PLAN

ROUTE 13

Evening Service Only Route

Key Destinations: Dowtown, Home of Economy, N 43rd St Shelter, UND - Memorial Union, Altru Columbia Rd, Columbia Mall, Walmart, Midtown

	WEEKDAY
SPAN	6:00AM – 10:00PM
FREQUENCY	60 minutes

	WEEKEND
SPAN	6:00AM – 10:00PM
FREQUENCY	60 minutes

AVERAGE ANNUAL STATISTICS

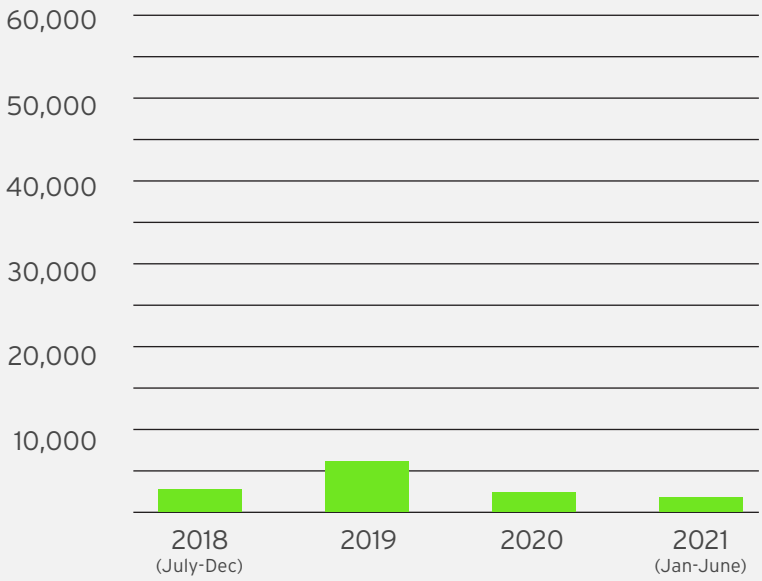
REVENUE HOURS	1,228	RANK 12/12
REVENUE MILES	17,582	RANK 10/12
OPERATING COSTS	$112,951	RANK 12/12

	PRE-COVID	COVID
RIDERSHIP	6,157	2,729

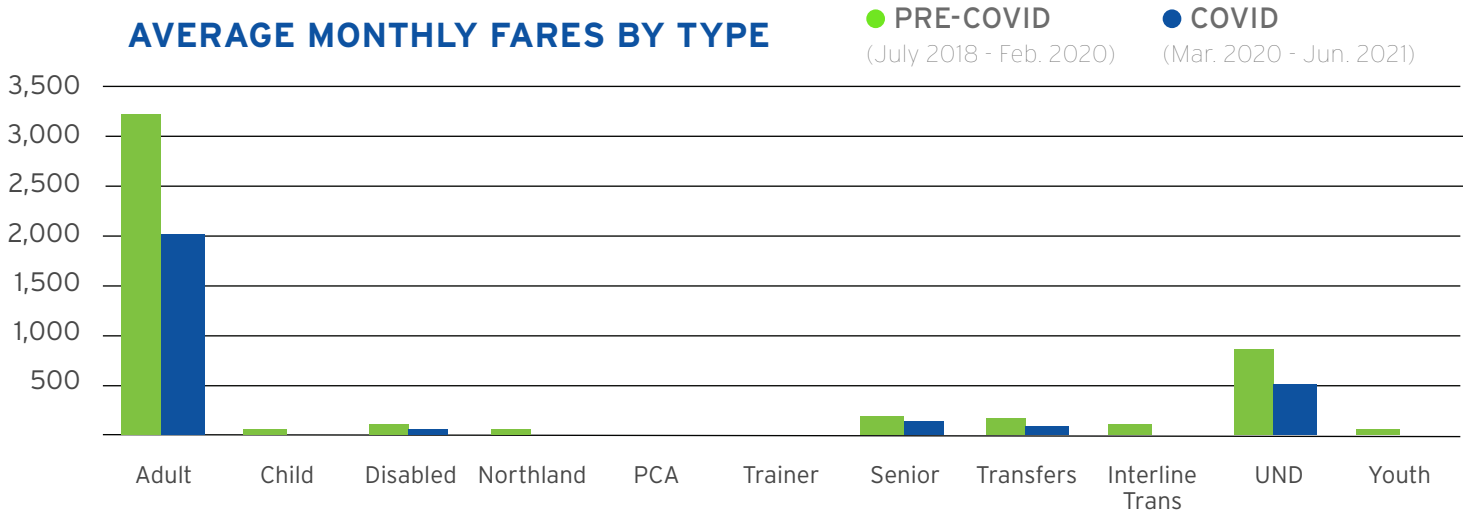
AVERAGE DAILY STATISTICS

	PRE-COVID		COVID	
TOTAL BOARDINGS	19.7	RANK 11/12	8.7	RANK 11/12
PASSENGERS PER HOUR	5.0	RANK 9/12	2.2	RANK 9/12
PASSENGERS PER MILE	0.4	RANK 9/12	0.2	RANK 11/12
PASSENGERS PER TRIP	5.0	RANK 4/12	2.2	RANK 5/12

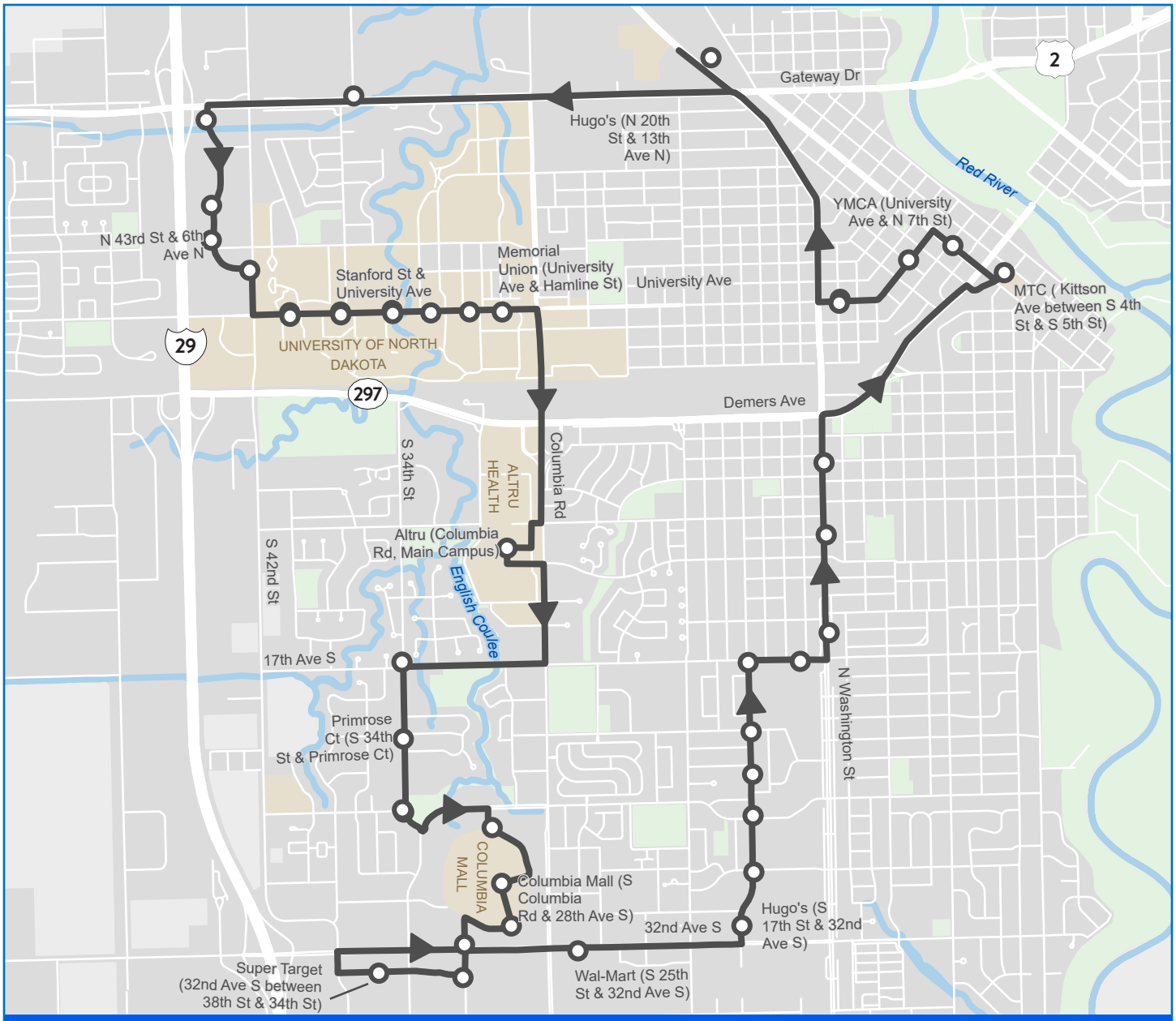
ANNUAL RIDERSHIP TREND



AVERAGE MONTHLY FARES BY TYPE



ROUTE MAP



Route 13 (also Route 22)

Grand Forks-East Grand Forks TRANSIT DEVELOPMENT PLAN

Bus Stop
Route 13 (also 22)
River
Park
Landmark

0 0.25 0.5 Miles

ROUTE ANALYSIS

STRENGTHS

- Serves important destinations including several shopping destinations, Downtown and UND

WEAKNESSES

- Low ridership

OPPORTUNITIES

- Opportunity to consolidate with other routes to improve efficiency of system or operate as on-demand

Grand Forks-East Grand Forks
TRANSIT DEVELOPMENT PLAN

ROUTE 14

UND Red Route- Runs only Fall and Spring Semesters

Key Destinations: Odegard Hall, University Place, Chester Fritz Auditorium, Johnstone/Gamble, Chester Fritz Library, Memorial Union, East Parking Lot, Witmer, Upson I, Hughes Fine Arts, Central Receiving

	WEEKDAY
SPAN	7:30AM – 4:30PM
FREQUENCY	15 minutes

	WEEKEND
SPAN	-
FREQUENCY	-

AVERAGE ANNUAL STATISTICS

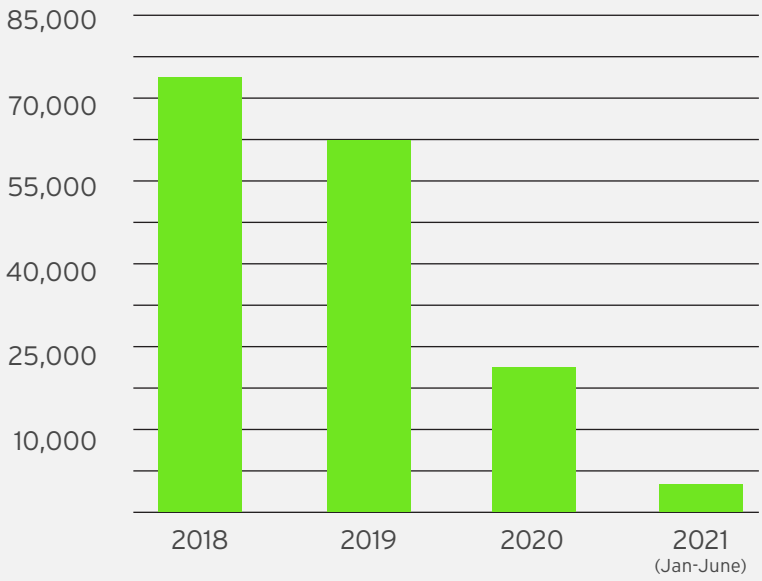
	COVID (AVG. FEB. 2020-JUN. 2021)	
REVENUE HOURS	1,530	RANK 1/4 (TIE)
REVENUE MILES	12,629	RANK 2/4
OPERATING COSTS	$140,729	RANK 1/4 (TIE)

	PRE-COVID	COVID
RIDERSHIP	82,785	8,451

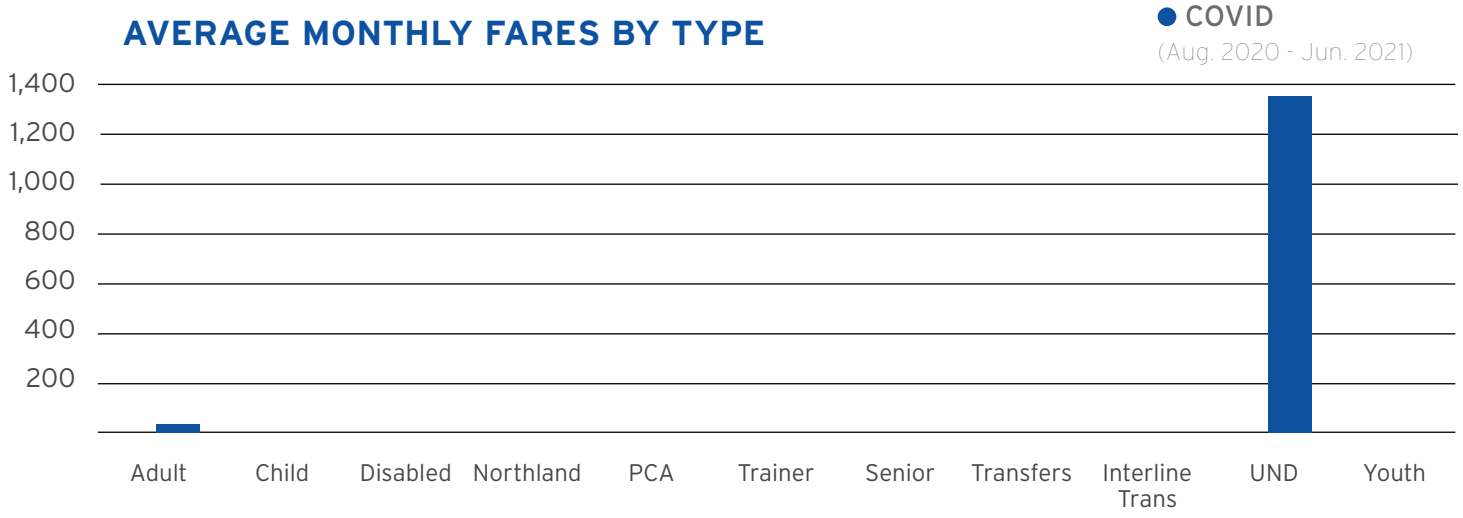
AVERAGE DAILY STATISTICS

	PRE-COVID	COVID
TOTAL BOARDINGS	459.9 RANK 1/4	46.9 RANK 2/4
PASSENGERS PER HOUR	54.1 RANK 1/4	5.5 RANK 2/4
PASSENGERS PER MILE	6.6 RANK 2/4	0.7 RANK 2/4
PASSENGERS PER TRIP	13.5 RANK 2/4	1.4 RANK 3/4

ANNUAL RIDERSHIP TREND



AVERAGE MONTHLY FARES BY TYPE



* UND routes operate on regular scheduled class days during Spring and Fall semesters; no existing pre-COVID data on monthly fares by type

ROUTE MAP

UND Red Route 1

Grand Forks-East Grand Forks TRANSIT DEVELOPMENT PLAN

Bus Stop
UND Red Route 1
Landmark
River
Park

0 0.1 0.2 Miles

ROUTE ANALYSIS

STRENGTHS

- Ranked 2nd in UND routes for passengers per mile, per revenue hour, and total daily boardings

WEAKNESSES

- Ridership rank decreased among UND routes during COVID

OPPORTUNITIES

- Increased ridership between 2020 and 2021

Grand Forks-East Grand Forks
TRANSIT DEVELOPMENT PLAN

ROUTE 15 UND Purple Route - Runs only Fall and Spring

Key Destinations: Odegard Hall, Gallery Apartments, Stanford Rd, Wellness Center, Medical School, Bookstore, Memorial Union, Christus Rex, Hancock/Bek, Wilkerson, State St/University Ave

	WEEKDAY	WEEKEND
SPAN	7:30AM – 4:30PM	-
FREQUENCY	20 minutes	-

AVERAGE ANNUAL STATISTICS

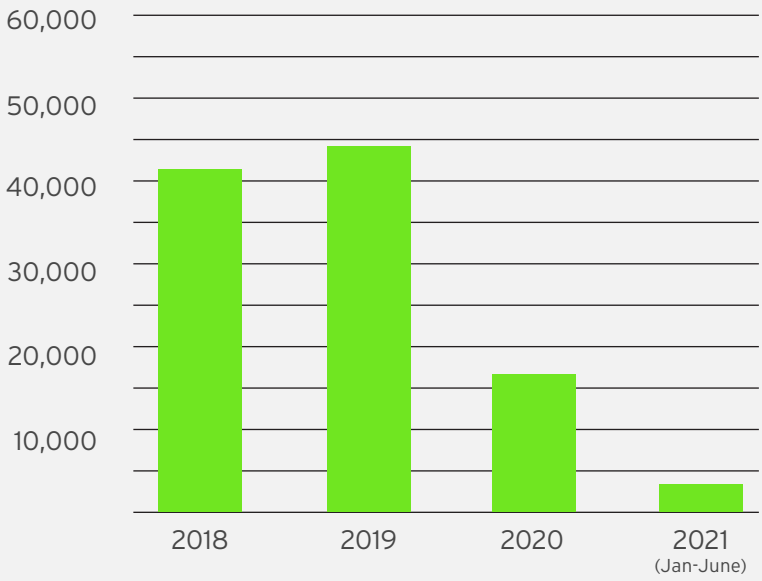
	COVID (AVG. FEB. 2020-JUN. 2021)	
REVENUE HOURS	1,530	RANK 1/4 (TIE)
REVENUE MILES	21,191	RANK 1/4
OPERATING COSTS	$140,729	RANK 1/4 (TIE)

RIDERSHIP	PRE-COVID	COVID
	52,578	8,917

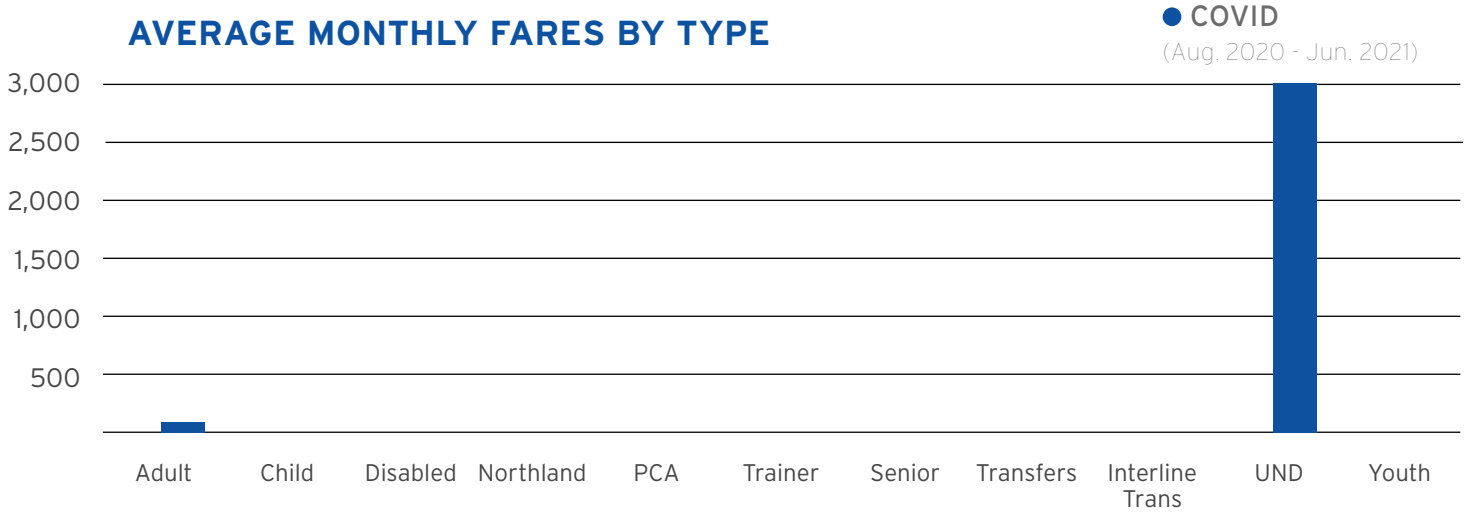
AVERAGE DAILY STATISTICS

	PRE-COVID	RANK	COVID	RANK
TOTAL BOARDINGS	292.1	3/4	49.5	1/4
PASSENGERS PER HOUR	34.4	3/4	5.8	1/4
PASSENGERS PER MILE	2.5	3/4	0.4	3/4
PASSENGERS PER TRIP	8.6	4/4	1.5	2/4

ANNUAL RIDERSHIP TREND

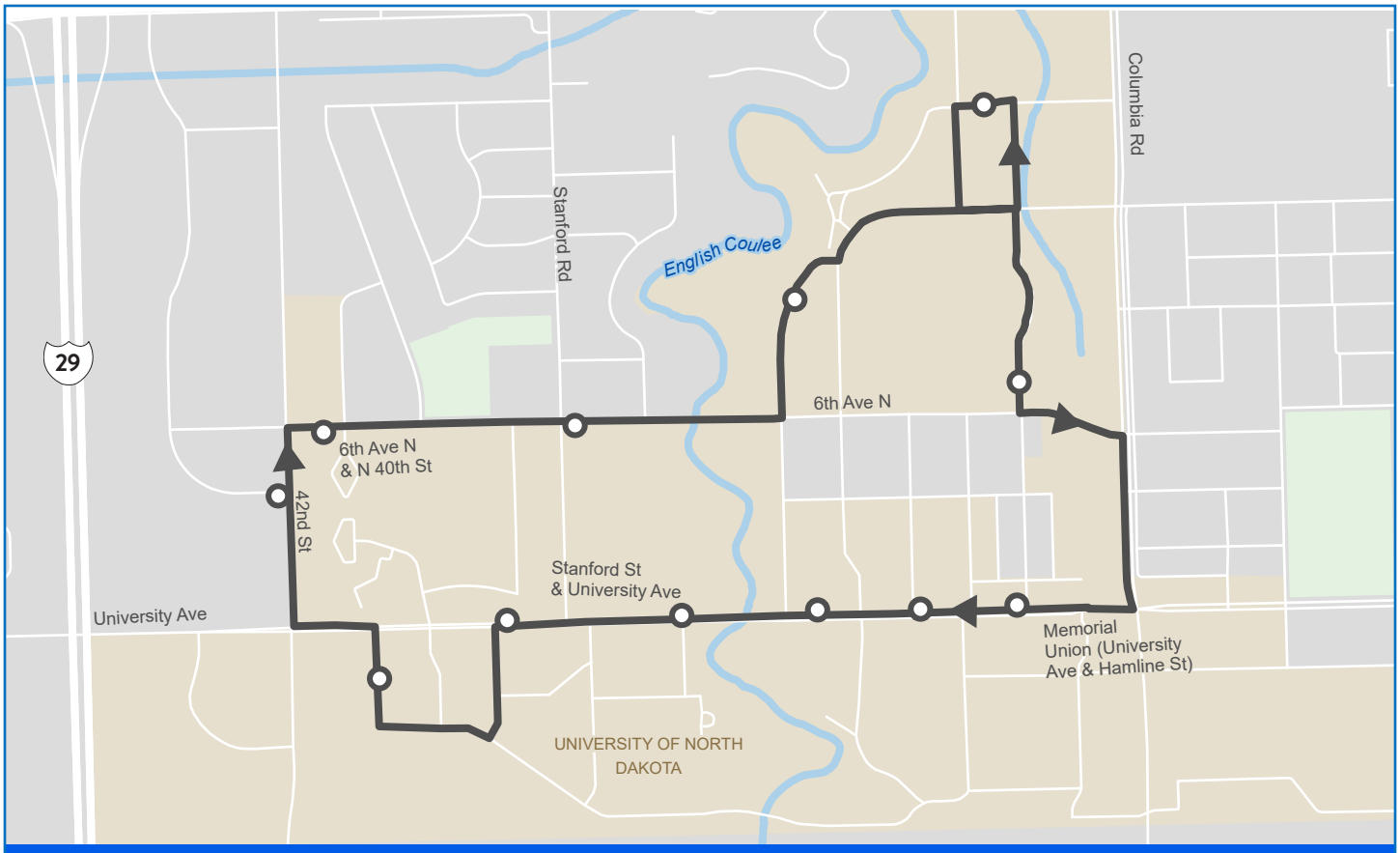


AVERAGE MONTHLY FARES BY TYPE



* UND routes operate on regular scheduled class days during Spring and Fall semesters; no existing pre-COVID data on monthly fares by type

ROUTE MAP



UND Purple Route 4

Grand Forks-East Grand Forks
TRANSIT DEVELOPMENT PLAN

Bus Stop
UND Purple Route 4
Landmark
River
Park

0 0.1 0.2 Miles

ROUTE ANALYSIS

STRENGTHS

- Since COVID, best ridership and daily performance among UND routes

WEAKNESSES

- Very dependent on UND students

OPPORTUNITIES

- High performing route that should maintain service

Grand Forks-East Grand Forks
TRANSIT DEVELOPMENT PLAN

ROUTE 16 UND Blue Route - Runs only Fall and Spring

Key Destinations: Odegard Hall, Central Receiving, Hughes Fine Arts, Steam Plant, Upson I, Hyslop, Memorial Union, Christus Rex, Hancok/Bek, Wilkerson, State St/University Ave

	WEEKDAY*
SPAN	7:30AM – 4:30PM
FREQUENCY	15 minutes

	WEEKEND
SPAN	-
FREQUENCY	-

AVERAGE ANNUAL STATISTICS

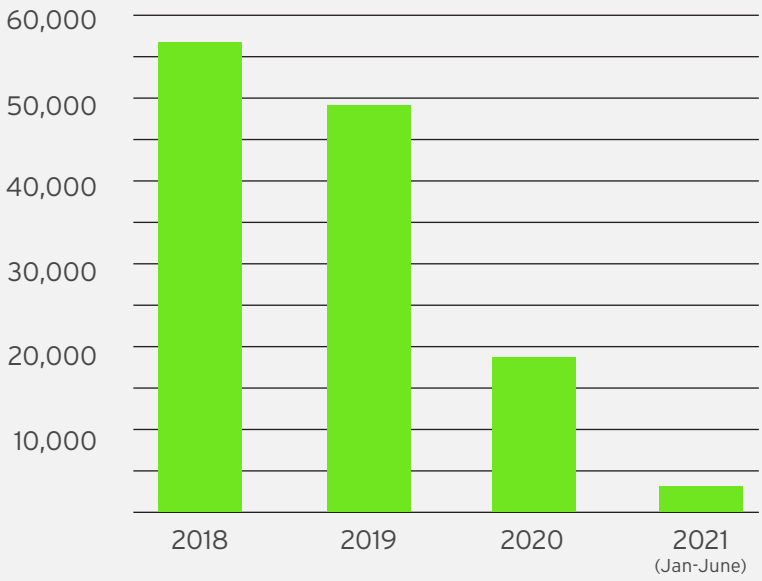
	COVID (AVG. FEB. 2020-JUN. 2021)	
REVENUE HOURS	1,530	RANK 1/4 (TIE)
REVENUE MILES	9,687	RANK 2/4
OPERATING COSTS	$140,729	RANK 1/4 (TIE)

	PRE-COVID	COVID
RIDERSHIP	64,785	7,398

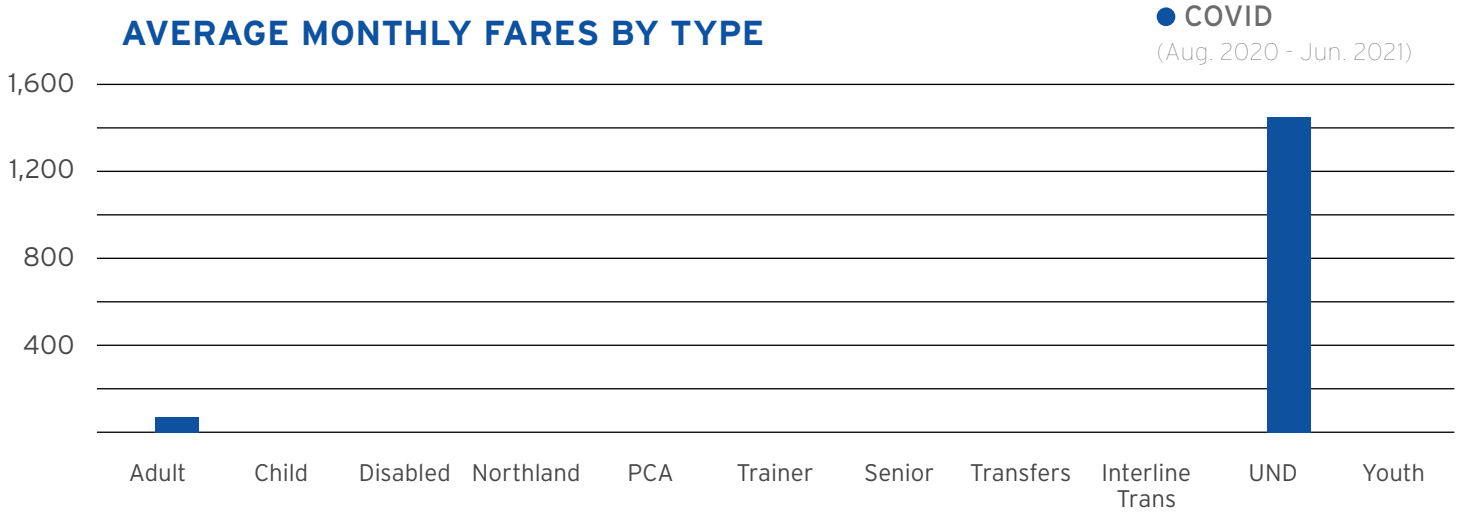
AVERAGE DAILY STATISTICS

	PRE-COVID	COVID
TOTAL BOARDINGS	359.9 RANK 2/4	41.1 RANK 3/4
PASSENGERS PER HOUR	42.3 RANK 2/4	4.8 RANK 3/4
PASSENGERS PER MILE	6.7 RANK 1/4	0.8 RANK 1/4
PASSENGERS PER TRIP	14.1 RANK 1/4	1.6 RANK 1/4

ANNUAL RIDERSHIP TREND



AVERAGE MONTHLY FARES BY TYPE



* UND routes operate on regular scheduled class days during Spring and Fall semesters; no existing pre-COVID data on monthly fares by type

ROUTE MAP

UND Blue Route 2

Grand Forks-East Grand Forks TRANSIT DEVELOPMENT PLAN

Bus Stop
UND Blue Route 2
River
Landmark
Park

0 0.1 0.2 Miles

ROUTE ANALYSIS

STRENGTHS

- High passengers per mile and trip compared to other UND routes

WEAKNESSES

- Low passengers per hour and total daily boardings compared to other UND routes

OPPORTUNITIES

- Could review route to see if any changes could lower revenue miles

Grand Forks-East Grand Forks
TRANSIT DEVELOPMENT PLAN

ROUTE 25

UND Night Route - Runs only Fall and Spring

Key Destinations: Odegard Hall, Central Receiving, Hughes Fine Arts, Steam Plant, Upson I, Hyslop, Memorial Union, Christus Rex, Hancok/Bek, Wilkerson, State St/University Ave, State St/6th Ave, Medical School, Wellness Center, Stanford Rd, Gallery Apartments

	WEEKDAY
SPAN	5:00PM – 10:00PM
FREQUENCY	30 minutes

	WEEKEND
SPAN	-
FREQUENCY	-

AVERAGE ANNUAL STATISTICS

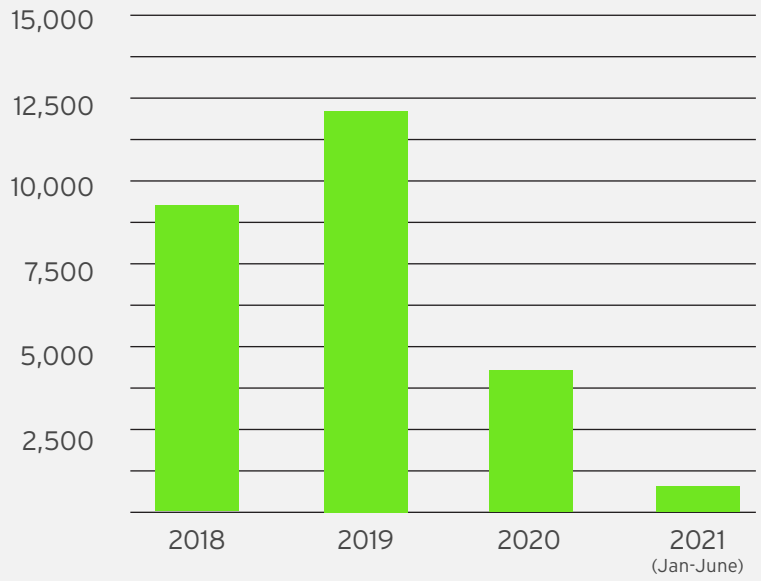
	COVID (AVG. FEB. 2020-JUN. 2021)	
REVENUE HOURS	680	RANK 4/4
REVENUE MILES	7,006	RANK 4/4
OPERATING COSTS	$62,546	RANK 4/4

	PRE-COVID	COVID
RIDERSHIP	13,266	1,763

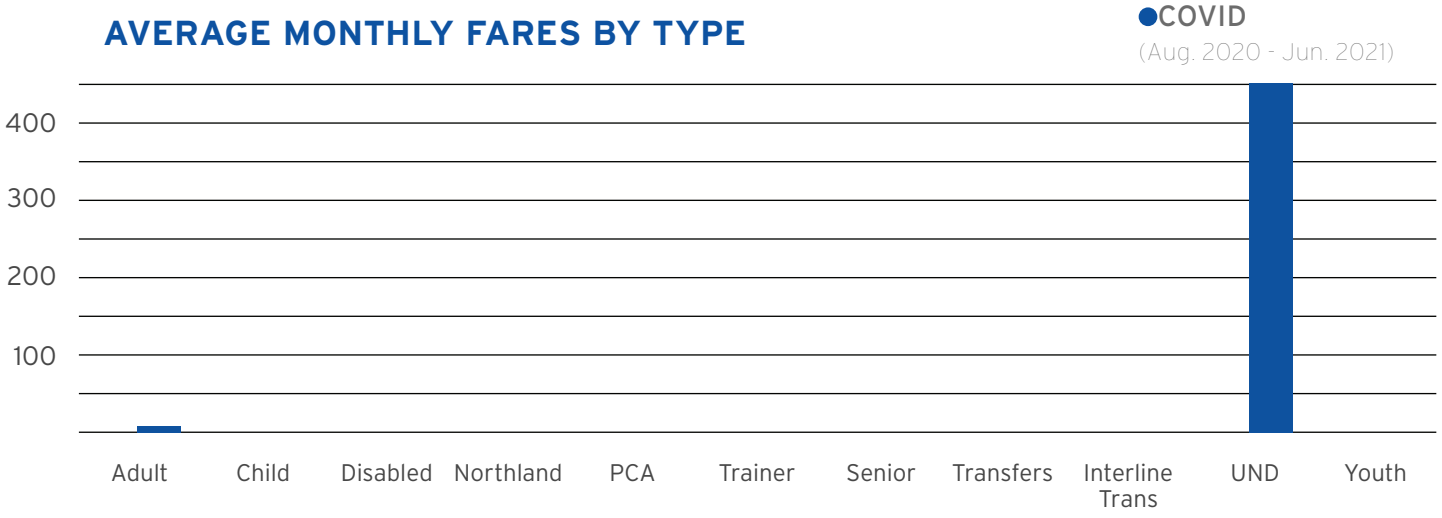
AVERAGE DAILY STATISTICS

	PRE-COVID		COVID	
TOTAL BOARDINGS	92.1	RANK 4/4	12.2	RANK 4/4
PASSENGERS PER HOUR	19.5	RANK 4/4	2.6	RANK 4/4
PASSENGERS PER MILE	1.9	RANK 4/4	0.3	RANK 4/4
PASSENGERS PER TRIP	9.8	RANK 3/4	1.3	RANK 4/4

ANNUAL RIDERSHIP TREND



AVERAGE MONTHLY FARES BY TYPE



* UND routes operate on regular scheduled class days during Spring and Fall semesters; no existing pre-COVID data on monthly fares by type

ROUTE MAP

UND Night Route

Grand Forks-East Grand Forks
TRANSIT DEVELOPMENT PLAN

Bus Stop
UND Night Route
Landmark
River
Park

0 0.1 0.2 Miles

ROUTE ANALYSIS

STRENGTHS

- Low revenue hours

WEAKNESSES

- Low ridership and lowest performing UND route

OPPORTUNITIES

- Evening service is valued and adding a connecting service to other CAT routes may help improve ridership and service for UND

Key Takeaways

Several key takeaways can be drawn from this analysis.

- Route 2 and Route 12 have very low ridership, which may indicate that these areas could be better served by an alternative transit service.
- Routes 3, 5, 7, and 10 maintained higher ridership compared to other routes, which indicates a continued high demand for service along these routes.
- Night service has very low ridership, particularly on UND night route and Route 6 ridership, which may indicate that this time of day could be better served by an alternative transit service.

Overall, the COVID-19 pandemic has impacted the performance of all routes, with some routes having been more impacted than others. Some routes, such as Routes 1 and 5 and Routes 4 and 6 operate in very similar areas and may provide opportunities for route consolidation. These routes will be studied further in the Recommendations section of this plan.

Transit Asset Management

CAT has a fleet of 26 vehicles, as shown in Table 14 and Table 15. The fleet is comprised of 14 fixed route vehicles and 12 demand response vehicles. All vehicles are accessible and feature bicycle racks. These vehicles are stored at the City Bus Garage and Administrative Office.

The fixed route fleet includes 12 heavy-duty buses and two light-duty cutaway buses. The average age of the fleet is 5.8 years. This is slightly newer on average than the national average fleet age for buses, which is 7.4 years.[8] The conditions of the vehicles range between “Good” and “Excellent.” Fixed route vehicles have a remaining service life ranging between 19 percent and 100 percent of the built service life.

The demand response fleet includes 11 light-duty minivans and one light-duty van. The average age of the fleet is 2.9 years, which is similar to the national average of 2.7 years.[9] The conditions of the vehicles range between “Good” and “Excellent.” Demand response vehicles have a remaining service life ranging between 19 percent and 100 percent of the built service life.

In addition to vehicles, CAT also several other capital assets, including heavy machinery, fare collection equipment, lighting, and cleaning tools necessary to maintain the CAT fleet in good condition and working order. Table 16 details the non-fleet assets. The condition of the equipment ranges from “Good” to “Excellent”, and the average cost of the assets is $40,372.42. Federal grants, most notably Section 5339 funds, were used to purchase the equipment.

CAT has 49 bus shelters at stops, which provide a glass enclosed structure with benches that protects riders from the weather elements. CAT has made several recent investments to improve facilities. In 2020, phase one of a two-part plan to improve the Cities Area Transit administrative, operations, and maintenance building was completed. More detail about the transit centers is provided in the Transit Hub Analysis, and additional information on transit asset management is found in the Transit Asset Management section of the plan.

[8] National Transit Database. National Transit Summaries and Trends 2019. Available online: https://www.transit.dot.gov/ntd
[9] Ibid.

Table 14: Fixed Route Fleet Inventory

Fleet ID	Vehicle Type	Make/Model	Vehicle Year	Current Mileage	Useful Life (Months)	Actual Service (Months)	Remaining Months	Useful Life (Mileage)	Remaining Life (Mileage)
105	Bus	New Flyer D35LFR	2010	376,053	168	144	24	500,000	25%
106	Bus	New Flyer D35LFR	2010	404,746	168	144	24	500,000	19%
103	Bus	New Flyer DE35LFR	2010	372,799	168	156	12	500,000	25%
104	Bus	New Flyer DE35LFR	2010	381,397	168	156	12	500,000	24%
192	Cutaway Bus	Dodge Promaster	2016	39,937	120	84	36	150,000	73%
191	Cutaway Bus	Dodge Promaster	2016	36,312	120	84	36	150,000	76%
183	Bus	New Flyer Xcelsior	2018	58,805	168	60	108	500,000	88%
185	Bus	Xcelsior	2018	43,503	168	60	108	500,000	91%
193	Bus	Alexander Dennis Enviro - 200	2019	23,797	168	48	120	500,000	95%
194	Bus	Alexander Dennis Enviro - 200	2019	19,713	168	48	120	500,000	96%
201	Bus	New Flyer XD35	2020	5,563	168	36	132	500,000	99%
202	Bus	New Flyer XD35	2020	5,261	168	36	132	500,000	99%
203	Bus	New Flyer XD35	2020	4,944	168	36	132	500,000	99%
215	Bus	Dodge Promaster	2021	79	168	108	60	150,000	100%
Average				126,636	161	86	75	425,000	72%

Table 15: Demand Response Fleet Inventory

Fleet ID	Vehicle Type	Make/Model	Vehicle Year	Current Mileage	Useful Life (Months)	Actual Service (Months)	Remaining Months	Useful Life (Mileage)	Remaining Life (Mileage)
172	Minivan	Dodge Grand Caravan	2017	76,622	96	96	0	100,000	23%
171	Minivan	Dodge Grand Caravan	2017	83,542	96	96	0	100,000	16%
196	Minivan	Braun Entervan	2019	12,290	96	60	36	100,000	88%
181	Minivan	Dodge Grand Caravan	2017	52,805	96	84	12	100,000	47%
182	Van	Ford Transit	2018	40,520	96	84	12	100,000	59%
198	Minivan	Braun Entervan	2019	19,845	96	60	36	100,000	80%

Fleet ID	Vehicle Type	Make/Model	Vehicle Year	Current Mileage	Useful Life (Months)	Actual Service (Months)	Remaining Months	Useful Life (Mileage)	Remaining Life (Mileage)
197	Minivan	Braun Entervan	2019	11,383	96	60	36	100,000	89%
195	Minivan	Braun Entervan	2019	14,087	96	60	36	100,000	86%
211	Minivan	Chrysler Voyageur	2021	1,435	96	48	48	100,000	99%
212	Minivan	Chrysler Voyageur	2021	2,890	96	48	48	100,000	97%
213	Minivan	Chrysler Voyageur	2021	20	96	48	48	100,000	100%
214	Minivan	Chrysler Voyageur	2021	14	96	48	48	100,000	100%
Average				26,288	96	66	30	100,000	74%

Table 16: Capital Equipment Inventory

DOT ID	Name	Equipment Type	Manufacturer	Production Year	Condition Rating	Funding Program	Total Cost	Federal Share	Local Share
101	2 - Man Scissors Lift	Shop Equipment	Skyjack	2019	Excellent	Section 5339 Urban	$12,912	80%	20%
102	Brake Mate Lifting Machine	Shop Equipment	Vehicle Inspection Systems, Inc	2019	Excellent	Section 5339	$13,459	80%	20%
103	Bus Wash	Bus Wash	Navigator	2017	N/A	Section 5339	$115,559	80%	20%
104	Fare Collection Equipment	Fareboxes	Genfare	2017	Good	Section 5339 Urban	$34,705	80%	20%
105	Fare Collection Project Costs	Fareboxes	RouteMatch	2016	Good	Section 5339 Urban	$36,350	80%	20%
106	Fare Collection System	Fareboxes	RouteMatch	2016	N/A	Section 5339 Urban	$86,840	80%	20%
107	Fare Collection System	Fareboxes	RouteMatch	2016	Good	Section 5339 Urban	$50,491	80%	20%
108	LED Shop Lights	Shop Equipment	RAB Lighting	2016	Good	Section 5339 Urban	$9,774	80%	20%
109	Tennant Floor Sweeper	Floor Sweeper	Tennant	2020	Excellent	Section 5339	$34,644	80%	20%
1010	Vane Air Compressor	Shop Equipment	Chaigo Pnuematic	2020	Excellent	Section 5339 Urban	$8,990	80%	20%
Average							$40,372		

Transit Hub Analysis

CAT currently operates a main downtown transit hub, the Metro Transit Center (MTC) and a less formal Midtown Transit Center. The MTC is located on the 400 block of South Kittson Avenue. The Midtown Transit Center is located at the north end of the Grand Cities Mall on 17th Avenue South.

To establish the baseline for developing a more detailed transit hub analysis, an existing facility inventory was developed for both the MTC and Midtown Transit Center. The following assessment is based on field visit and walk through conducted in October 2021.

Metro Transit Center

The MTC was constructed in 1999 and serves as the central transfer point of the overall CAT system (Figure 29). Routes 1, 2, 3, 4, 5, 7, and 12 transfer at the MTC. The facility is staffed from 6:30 AM to 5:30 PM Based on a walk through with CAT staff, the following issues were identified regarding the MTC:

- Loitering and other unsafe activities occur on this site; MTC is somewhat invisible within the downtown context due to a lack of “eyes” on the facility. Site lighting is inadequate and presents potential safety issues.
- The pavement/sidewalk adjacent to the building is unlevel and does not appear to be ADA accessible.
- Roof slope causes sliding, ice, and rain to dump on passenger areas creating hazardous conditions.
- The public address system does not work, rest areas are a maintenance nuisance and are not ADA accessible.
- The office area is undersized and doesn’t provide for a full view of the site, lacks an IT closet, the counter height varies inside the office and is not likely ADA accessible. Staff doesn’t like the ability of passengers to see inside of the office under current conditions.

Figure 28: Photos of the Metro Transit Center (MTC)

Midtown Transit Center – Grand Cities Mall Site

The Midtown Transit Center is currently served by Routes 3 and 7 during the day and Route 13 in the evening. There is currently just a shelter on the site which is adjacent to 17th Avenue (Figure 30).

The following assessment was provided based on an October 2021 walkthrough:

- The facility is not current staffed and lacks “eyes” on the facility given its general relationship to surrounding land uses.
- The current shelter is in poor condition, not well lit, and appears to accumulate liter.
- Pavement conditions adjacent to the shelter are in poor conditions.

- As currently designed, the site is not well suited for transit use given the relationship of adjacent roadway and mall parking.
- The site itself is not well marked as a transit stop/center.

Opportunities exist to improve and modify the current condition to allow for a more formal transit center at the Midtown Transit Center location. Future modifications to accommodate a more formal and enhanced transit center will require coordination with the mall ownership. Initial outreach was made to mall ownership as part of the facility site visit and feedback was positive regarding a range of possible coordination points to upgrade and expand this site into a more formal and staff transit center.

Figure 29: Location and Photos of the Midtown Transit Center—Grand Cities Mall Site

Existing Plan Integration

The Grand Forks and East Grand Forks Area has several local, regional, and statewide policies. The following is a summary of the plans and how they may inform the TDP.

North Dakota Long Range Transportation Plan, Transportation Connection (June 2021)

North Dakota Department of Transportation (NDDOT)

This plan covers a 25-year horizon of transportation needs in the state across all modes, including transit. The plan identifies opportunities for transit agencies to increase their transportation demand management (TDM) activities, such as partnering with large employers and universities to offer transit passes and to coordinate transit service with bike and carshare services. This plan also addresses the potential long-term impacts of the COVID-19 pandemic on transit agencies, noting that, as the pandemic ends, transit agencies may need to launch marketing campaigns and outreach efforts to identify customer expectations and travel demand.

Grand Forks Downtown Action Plan (December 2019)

City of Grand Forks

This plan focuses on street and urban design proposals for the downtown area. This plan includes a proposed wayfinding system for downtown Grand Forks that would include CAT "transit hubs" as a destination, but recommendations for bus stop design and amenities are not addressed in this plan.

North Dakota Moves Active & Public Transportation Plan (April 2019)

The North Dakota Department of Transportation (NDDOT)

The purpose of this plan is to identify existing and emerging needs for the future of biking, walking, and public transit in the state. The plan includes recommendations for how NDDOT and local communities can update their design guidelines, policies, and programming for these modes.

In this plan, NDDOT evaluated North Dakota's existing public transit systems, including Cities Area Transit, focusing on three performance areas: service performance, ridership, and cost-effectiveness. Based on projected population changes by 2040, the plan identified network gaps in Cities Area Transit's service for both revenue miles and hours per capita. This plan also addresses

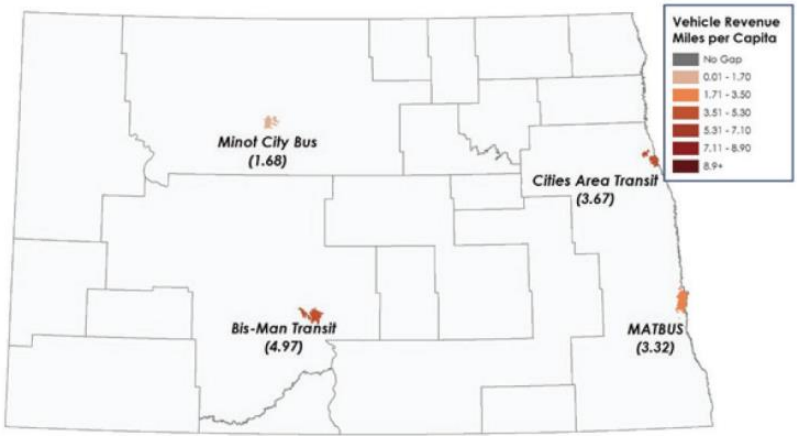


Figure 30: 2040 Transit Service Gaps by Urban Public Transit Service Area (Vehicle Revenue Miles per Capita) (NDDOT)

funding and backlog management scenarios to address public transit asset management needs across the state, recommends bus stop design and amenity guidelines, recommends winter maintenance guidelines, and highlights the importance of considering the relationship between transit and automated vehicles, shared mobility, and other emerging technologies.

2045 Metropolitan Transportation Plan (2019)

Grand Forks-East Grand Forks Metropolitan Planning Organization

The 2045 Metropolitan Transportation Plan is an assessment of and plan for the transportation network in the Grand Forks-East Grand Forks metropolitan area, including streets and highways, the transit network, and bicycle and pedestrian facilities.

Supporting and expanding transit service is part of plan goals related to economic competitiveness, accessibility and mobility, environment and quality of life, connectivity, and safety. Compliance with these goals will shape how the region's transit network develops. Selected transit-related plan objectives are listed below:

- Provide transit service within 1/4 mile of residential areas and to major activity and employment centers.
- Operate 40 percent of fixed routes at 30-minute headways.
- Encourage transit travel time to be competitive with auto, no more than three times auto travel.
- Maintain and improve regional air quality.
- Reduce travel time and improve access jobs and community destinations.
- Assure transportation disadvantaged communities are served and included in decision making.
- Improve access to transit via sidewalks, multi-use paths and dedicated bicycle facilities around transit stops.
- Expand transit service hours to better serve existing and future potential users.

Greater Minnesota Transit Investment Plan (2021)

Minnesota Department of Transportation

The Minnesota Department of Transportation (MnDOT) conducts a Greater Minnesota Transit Investment Plan that is updated every four years. The 2021 plan focuses on transit technology improvements. The process involves an assessment of transit needs in Greater Minnesota, community input regarding these needs, strategic direction, and performance measures for transit in Greater Minnesota, and a financial outlook with prioritized strategies. This plan pertains to East Grand Forks.

Some of the trends affecting transit in Greater Minnesota that are noted in the plan are that transit technology is rapidly evolving, smaller agencies operate with limited technology improvements, there is a lack of specifications and standards to support interoperability, there is a national need to develop fundamental support for DOTs and transit agencies, and there is not yet a common framework for discussing transit technology. The plan includes four long-term goals and six mid-term strategies for strategically improving transit technology in Greater Minnesota. They include:

- Long-term goals:
  - Transit services are valued by their communities
  - All riders get where they need to go, when they need to get there, for whatever reason
  - Transit systems are financially stable and sustainable
  - Transit systems equitably meet people's needs across communities
- Mid-term strategies:

- Build community mobility
- Improve rider experience
- Deliver safe, reliable, and predictable transit service
- Improve operational efficiency and accuracy
- Make data-driven decisions
- Make informed, rigorous system decisions

The plan then lists several focus areas for the transit technology plan, along with 10 detailed technology and management solutions.

Grand Forks 2045 and 2050 Land Use Plan (2016, 2022)

Grand Forks-East Grand Forks Metropolitan Planning Organization and the City of Grand Forks

Many of the goals, objectives, and policies in the 2045 and 2050 plans, highlight the relationship between land use and transportation. The 2045 plan included a multimodal transportation analysis to align future land uses and investments in the transportation network. This analysis identifies two major corridors, South Washington Street and South Columbia Road, on which CAT should realign fixed routes to provide more legible, direct service. That plan also provides specific service extension criteria for CAT, which account for the relationship between land use and transit service. For example, that plan recommends that within a quarter mile of service extensions there should be a minimum of 15 intersections, 750 households, or 375 jobs. The City of Grand Forks finalized the 2050 plan in mid-2022. This plan highlights activation areas for growth including the northwest and west of the city where there is currently job growth and industrial land use. These areas include 6,788 developable acres. The city is expected to add nearly 35,000 people by 2050. The plan identifies important street corridors to consider for future growth including: Gateway Drive, University Avenue, S 42nd Street, 32nd Avenue S and S Washington Street.

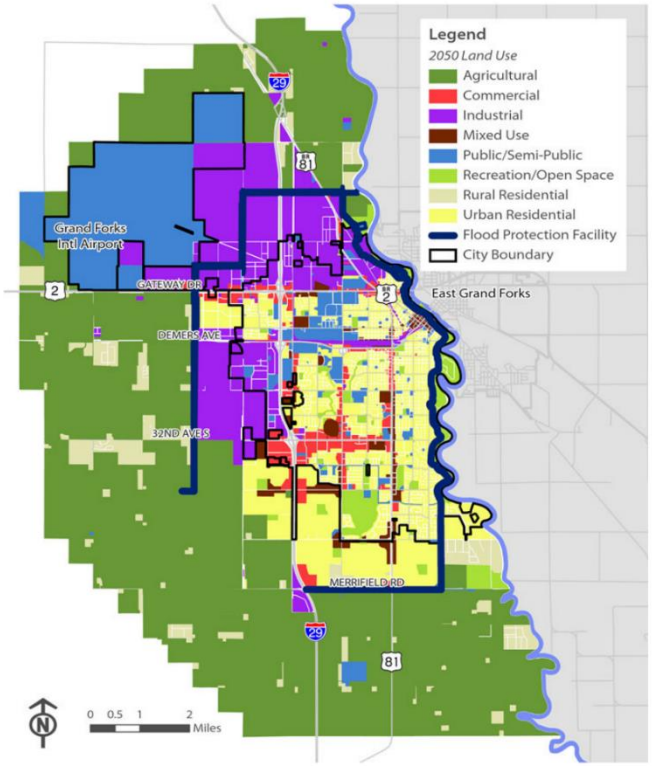


Figure 31 Grand Forks 2050 Land Use Map

East Grand Forks 2050 Land Use Plan (Nov. 2021)

Grand Forks-East Grand Forks Metropolitan Planning Organization and the City of East Grand Forks

This update of the City of East Grand Fork's comprehensive plan outlines land use goals, policies, and implementation strategies through 2050. The plan mentions the relationship between transit and land use. The future land use section of the plan includes a detailed study of three area concept plans (Figure 32). These locations are mostly outside of the city's current boundaries and could potentially be annexed. The proposed concepts for each location mention that transit service should be extended to serve the areas as the city grows outward.

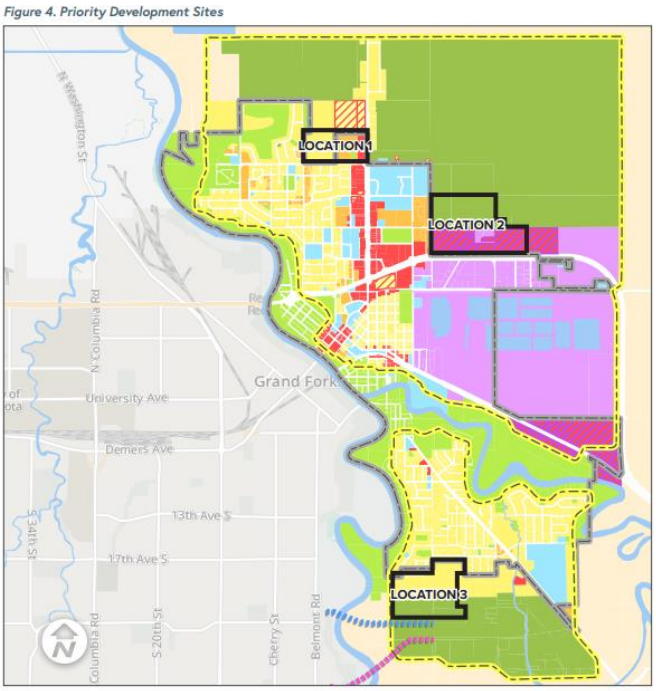


Figure 32: Priority Development Sites (Source: East Grand 2050 Land Use Plan)

Grand Forks-East Grand Forks Downtown Transportation Study (October 2019)

Grand Forks-East Grand Forks Metropolitan Planning Organization

This study used a multimodal levels of service approach to evaluate the transportation system in downtown Grand Forks and East Grand Forks. For this analysis, the MPO determined the transit level of service for each street based on service frequency. They found that CAT's level of service is acceptable on the corridors that it serves directly (**Error! Reference s ource not found.**).

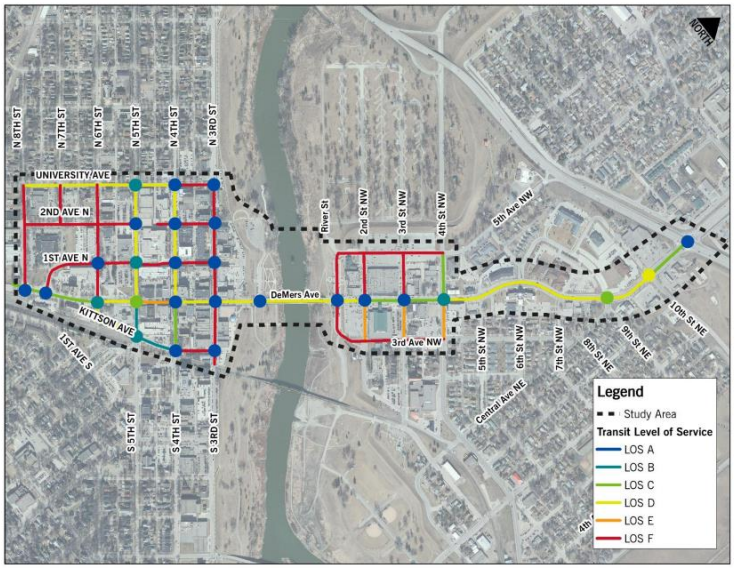


Figure 33: Transit Level of Service (Source: Grand Forks-East Grand Forks Downtown Transportation Study)

City of Grand Forks Downtown Parking Study (June 2019)

Grand Forks-East Grand Forks Metropolitan Planning Organization

This study evaluates existing and projected parking demand in downtown Grand Forks and discusses how multimodal trips, including trips by transit, will influence future parking demands in the area. The plan proposes five strategies for transit in downtown Grand Forks that could shift trips to transit, helping to improve the management of the parking environment downtown. These recommendations for CAT are:

- Conduct a pilot of a high-frequency circulator route to connect the downtowns or to run along 3rd and 4th Street.
- Implement marketing strategies to attract choice riders.
- Seek partnerships to establish park-and-rides on high-frequency routes serving downtown.
- Evaluate travel demand management (TDM) partnerships with businesses to encourage employees to use transit to reduce parking demand downtown.
- Explore partnerships between CAT and downtown event centers to provide free or reduced cost rides to events downtown.

Alternatives Analysis Report: US 2/US 81 Skewed Intersection Study (June 2019)

Grand Forks-East Grand Forks Metropolitan Planning Organization

The purpose of this study is to evaluate intersection design alternatives for the intersection of US 2/Gateway Drive and US 81/Washington Street in Grand Forks. This report addresses unsafe pedestrian conditions in this area and delays caused by train crossings. The existing and future conditions report of this study notes that CAT Route 2 runs along US 2/Gateway but does not have stops at this intersection. The report mentions that CAT had not reported issues with delays at this intersection due to the train. Improvements at this intersection could potentially affect travel time and reliability for CAT routes, although this does not seem to be a major issue for CAT currently.

MN 220 N Corridor Study (June 2019)

Grand Forks-East Grand Forks Metropolitan Planning Organization

The purpose of this corridor study of MN 220N/ Central Ave in East Grand Forks is to identify existing and future transportation issues on the corridor and to develop alternatives to address these issues. Most of the study corridor is in the city's commercial corridor and residential neighborhoods, but the corridor does extend into an area with rural land uses. This study identified this area as a location for future urban development. This study notes that multiple CAT routes run on this corridor and there are multiple bus stops. The study's recommendations for improving transit accessibility on the corridor include:

- Provide transit stop signing, concrete pads, and benches at the four existing transit stops on the corridor.
- Coordination with CAT to reevaluate transit routes and service as future development occurs within the portion of the corridor that is currently rural.

Near Southside Historical Neighborhood Traffic Study (October 2018)

Grand Forks-East Grand Forks Metropolitan Planning Organization

The purpose of this study is to explore traffic calming and safety countermeasures in the City of Grand Forks Near Southside Historic Neighborhood. The study identifies safety and accessibility hazards for transit riders accessing bus stop locations (e.g., lack of marked crosswalks and curb ramps). One recommendation from this study is for the MPO to conduct a regionwide bus stop/pedestrian safety analysis to identify issues facing transit network users. The plan recommends that analysis include walkability and bikeability assessments.

Community Profile and Transit Propensity

This section looks at various demographics for the Grand Forks and East Grand Forks area. It also reviews employment and community characteristics for the area. Finally, it assesses areas of transit propensity to determine potential growth areas for the city.

Community Profile

The Grand Forks-East Grand Forks Metropolitan Planning Organization Environmental Justice Program Manual (2015) (EJ) identifies CAT's responsibility to incorporate EJ into its plans, projects, and activities. This includes considering whether any characteristics associated with CAT's service may "…hinder or make transit services more accessible to low-income, minority, or vulnerable disabled populations." It indentifies people who are Black, Hispanic, Asian, American Indian and Alaskan Native, Native Hawaiian and other Pacific Islander as minority popluations that should be considered in this area and more detail is provided below regarding these groups. This section reviews current demographics for Grand Forks and East Grand Forks using the American Community Survey (ACS) Summary data for 2015-2019 at the block group level.

Population Density

Population density is highest near UND and along Washington Street between Demers Avenue and 32nd Avenue. Population density is an indicator for where transit may be successful in serving more people.

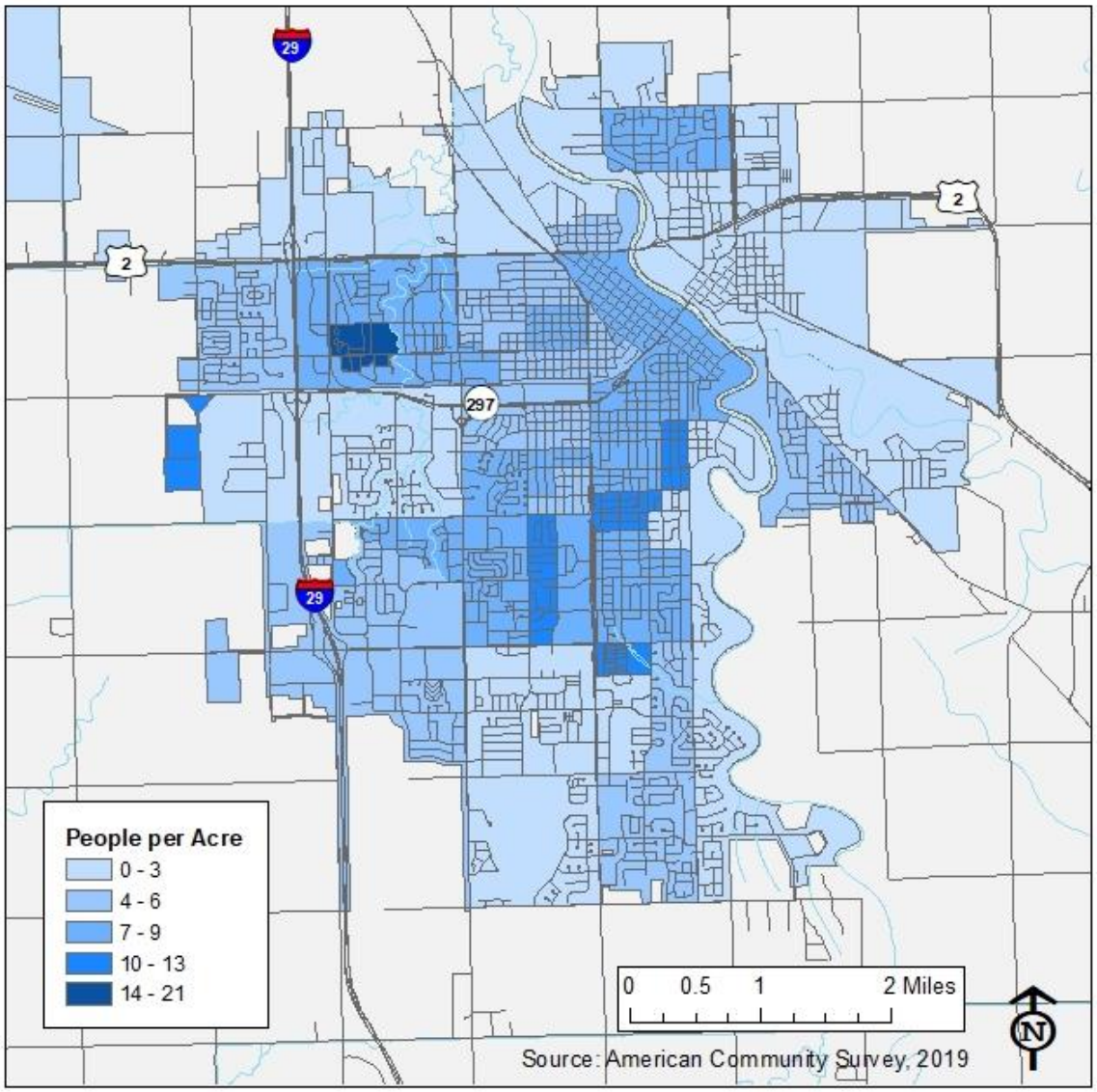


Figure 34: People per Acre (ACS 5-Year Estimates, 2015-2019)

Race and Ethnic Demographics

Black, Asian, American Indian and Alaskan Native, Native Hawaiian and other Pacific Islander are minority popluations that are relevant to the EJ manual and are also known as non-white, communities of color. The cities of Grand Forks and East Grand Forks are 85 percent and 89 percent white, respectively. The areas with the fewest people of these communities of color are located along the river in the southeast portions of Grand Forks and East Grand Forks, while the highest concentrations of people of color are found along Gateway Drive, 32nd Avenue, Columbia Road, and near Central Park.

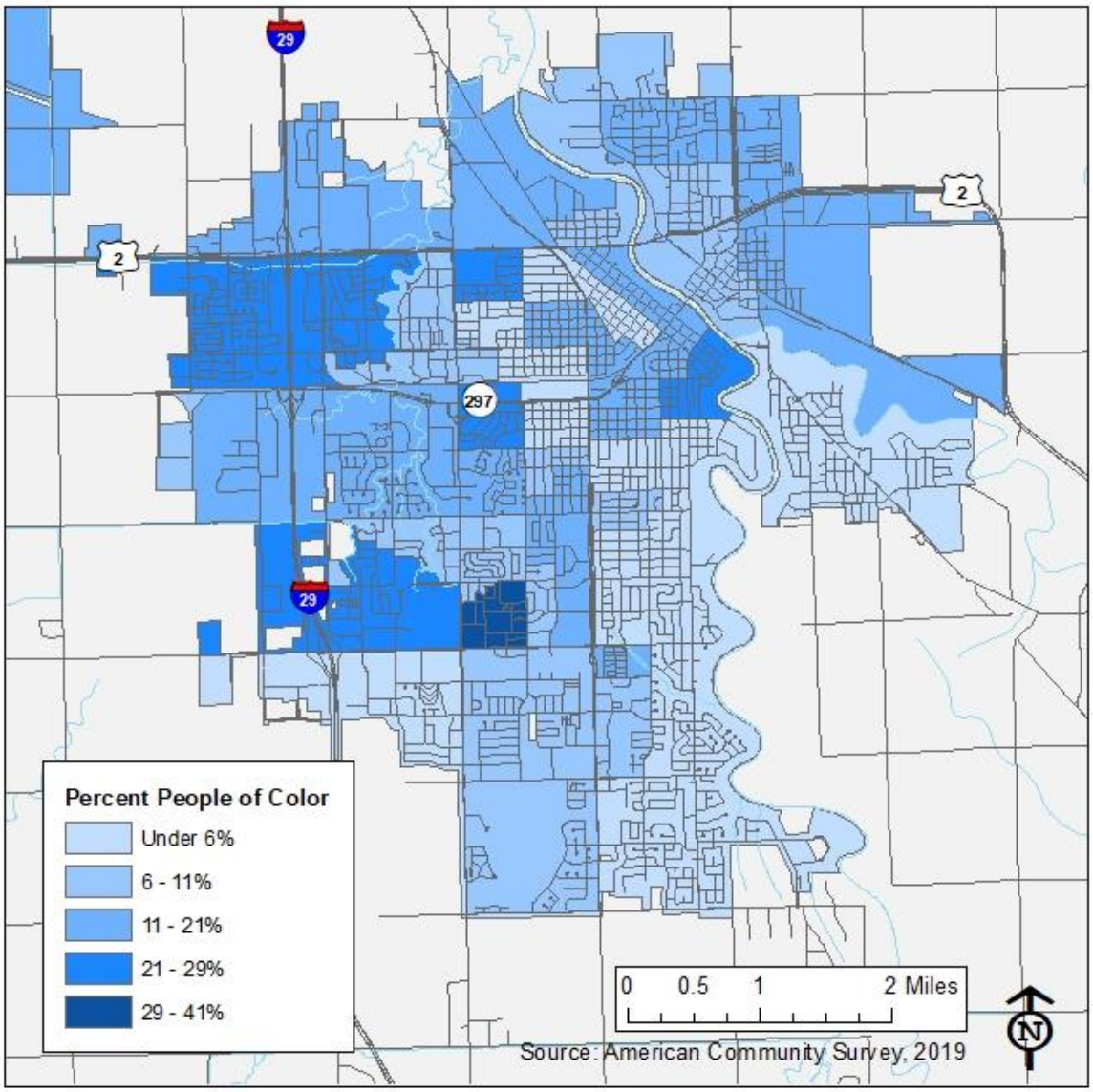


Figure 35: Percent People of Color (Minority Populations) (ACS 5-Year Estimates, 2015-2019)

The EJ manual also identifies the Hispanic community as a minority population. Residential patterns for Hispanic populations are similar to people of color populations, but a higher density of Hispanic and Latino people can be found in block groups in the northern portion of East Grand Forks.

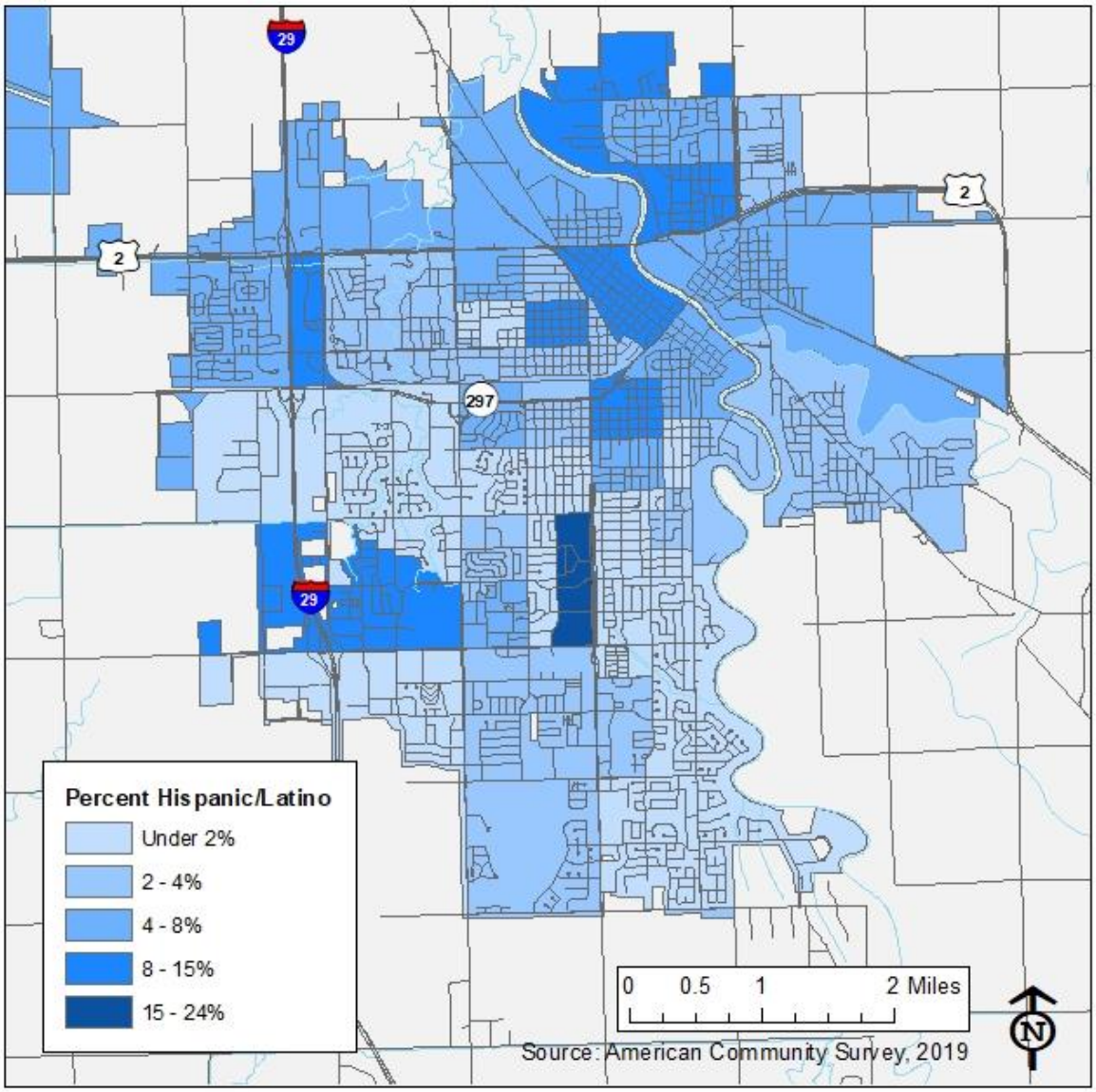


Figure 36: Percent Hispanic/Latino (ACS 5-Year Estimates, 2015-2019)

Low-Income Households

Low-income communities are also included as priority populations for consideration in planning according to the EJ manual. The percentage of households earning under 185 percent of the poverty line, an indicator of low income, is highest in western Grand Forks between 48th Street and Columbia Road, especially around the university, in downtown Grand Forks, downtown East Grand Forks, and the northern part of East Grand Forks.

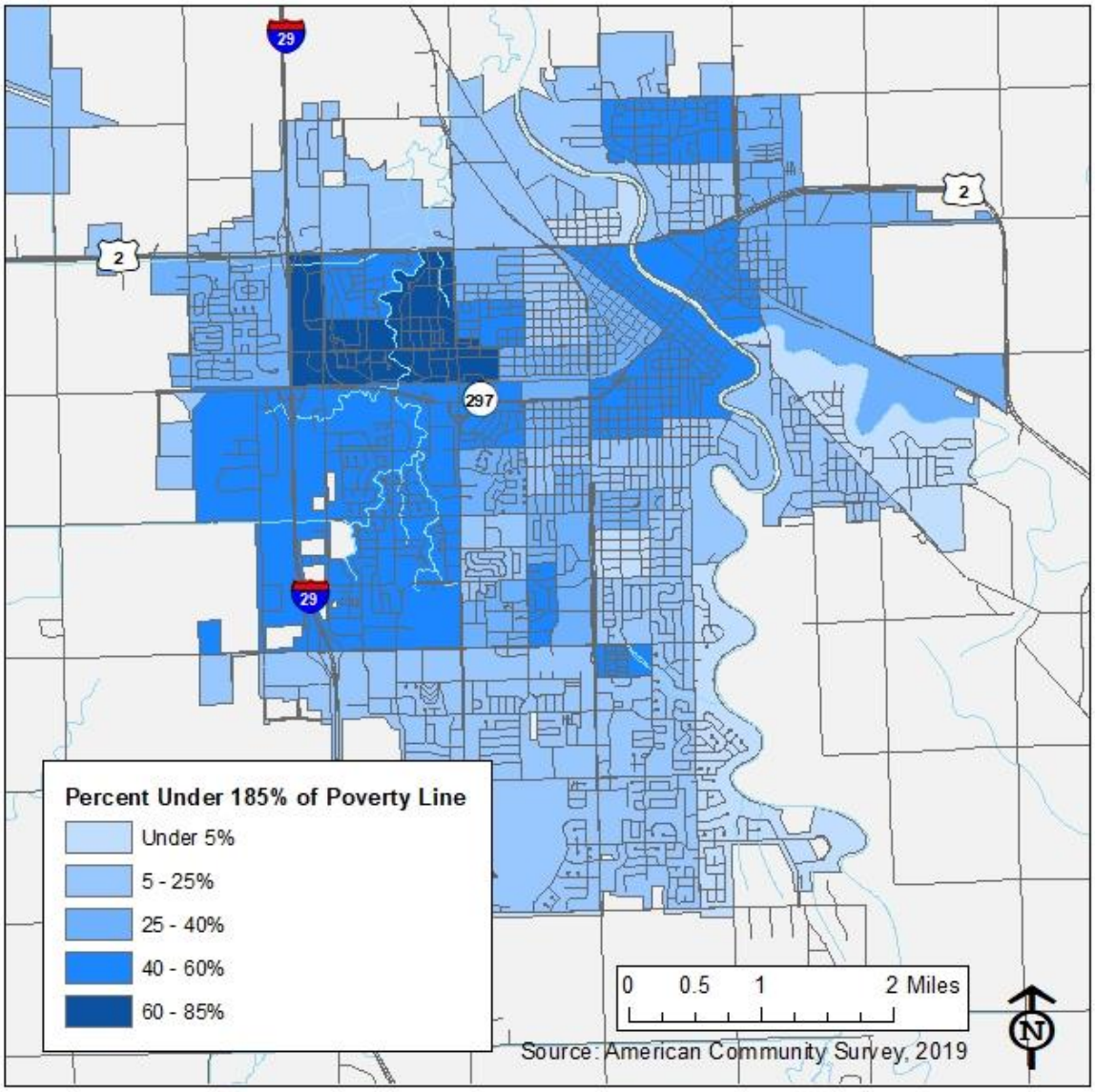


Figure 37: Percent Under 185% of the Poverty Line (ACS 5-Year Estimates, 2015-2019)

Median Household Income

Median household income tend to be higher in northern and southern Grand Forks, particularly along the river in southeast Grand Forks and in southern East Grand Forks. These block groups overlap with higher concentrations of white residents.

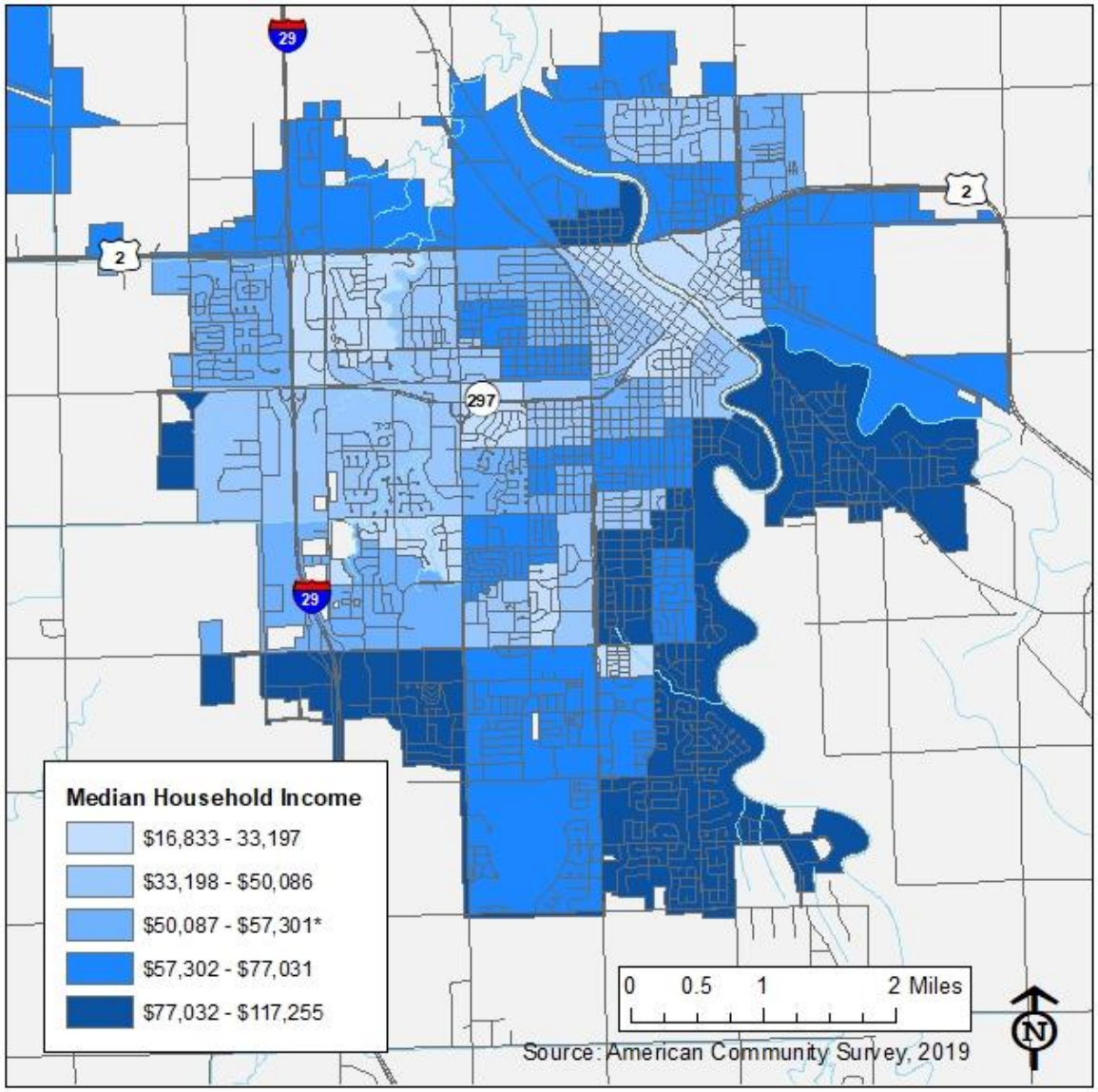


Figure 38: Median Household Income (ACS 5-Year Estimates, 2015-2019)

*Median income for Grand Forks-East Grand Forks

People of Driving Age per Vehicle

The ratio of people of driving age to vehicles is relatively low in Grand Forks, indicating that most drivers have a vehicle available to them. The area with the highest ratio of people of driving age per vehicle is near UND, which likely reflects students who do not have a vehicle with them at school.

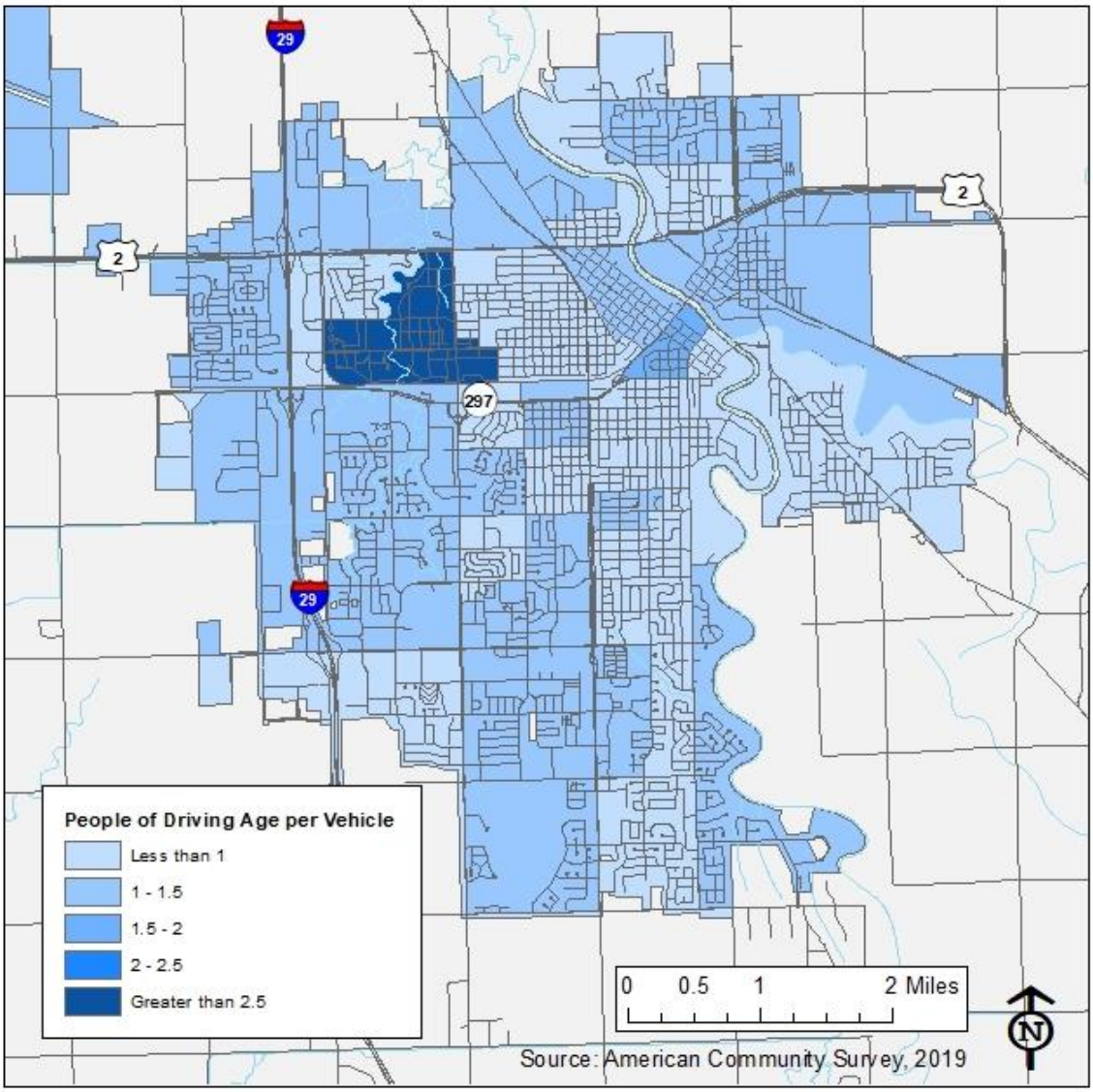


Figure 39: People of Driving Age per Vehicle (ACS 5-Year Estimates, 2015-2019)

Disability

East Grand Forks has a higher percentage of households where at least one resident has a disability. In Grand Forks, households with a disabled member are clustered near Washington Street, similar to population density patterns. People with disabilities may be less likely to drive and more likely to rely on transit.

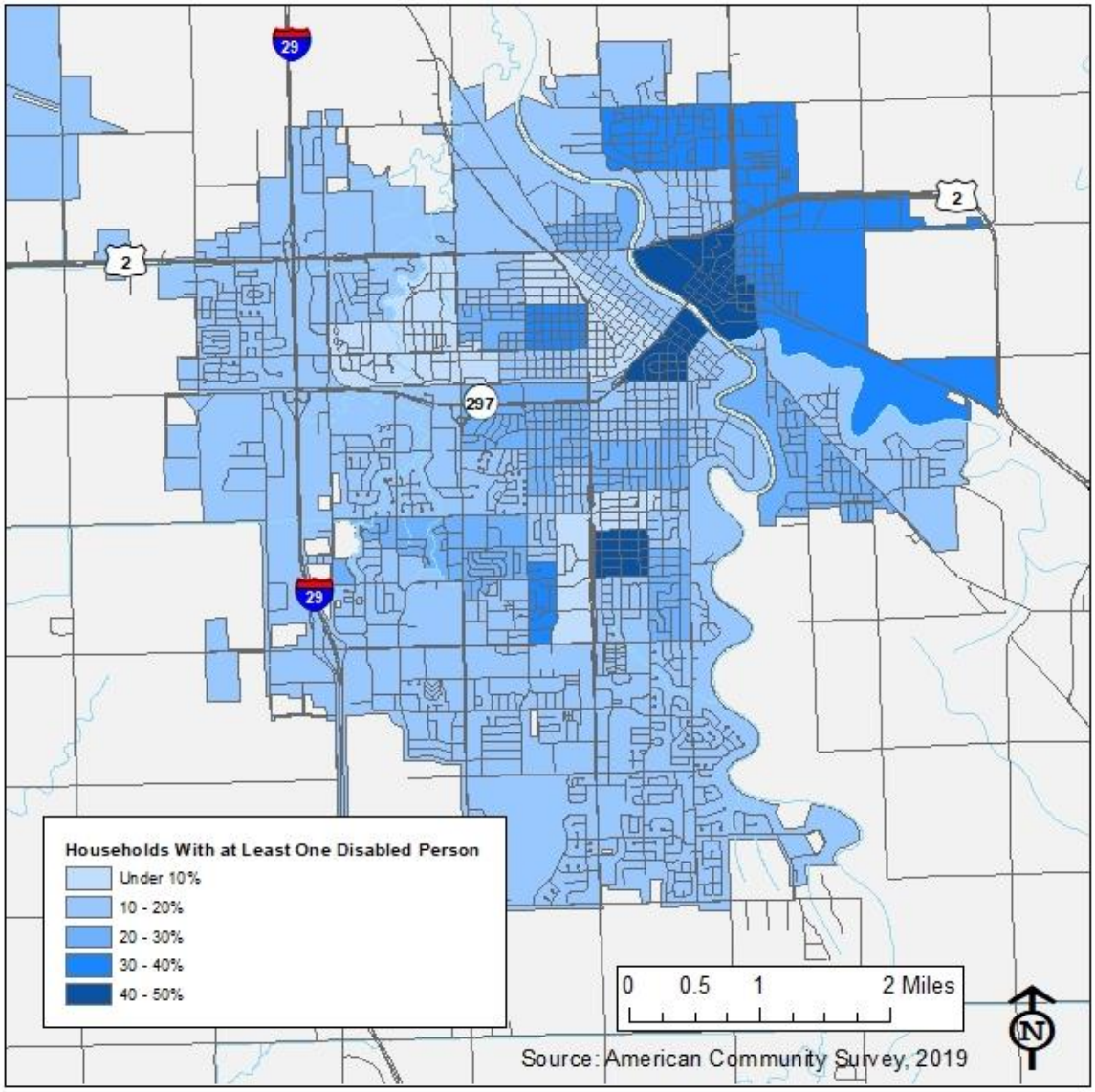


Figure 40: Households with at Least One Disabled Person (ACS 5-Year Estimates, 2015-2019)

Employment

This section reviews employment patterns in the Grand Forks-East Grand Forks area, including the overall job density in both cities, the low wage job density, and the home locations of those working the industrial park.

Job Density

Job density is highest in Grand Forks. It is highest near UND and the shopping area near Columbia Road and 32nd Avenue South where there are over 1,500 jobs in each area. Another major area includes the industrial park on the west side of Grand Forks. The largest dot in the lower part of Grand Forks, which shows 1,5001-3,519 employees, is the Grand Forks School District building, which employs staff and teachers that are actually scattered throughout the city. East Grand Forks has overall lower job concentrations, with some job density near downtown Grand Forks (Figure 41). There is also one spot with 201-500 employees, which represents the East Grand Forks processing area for American Crystal Sugar Company.

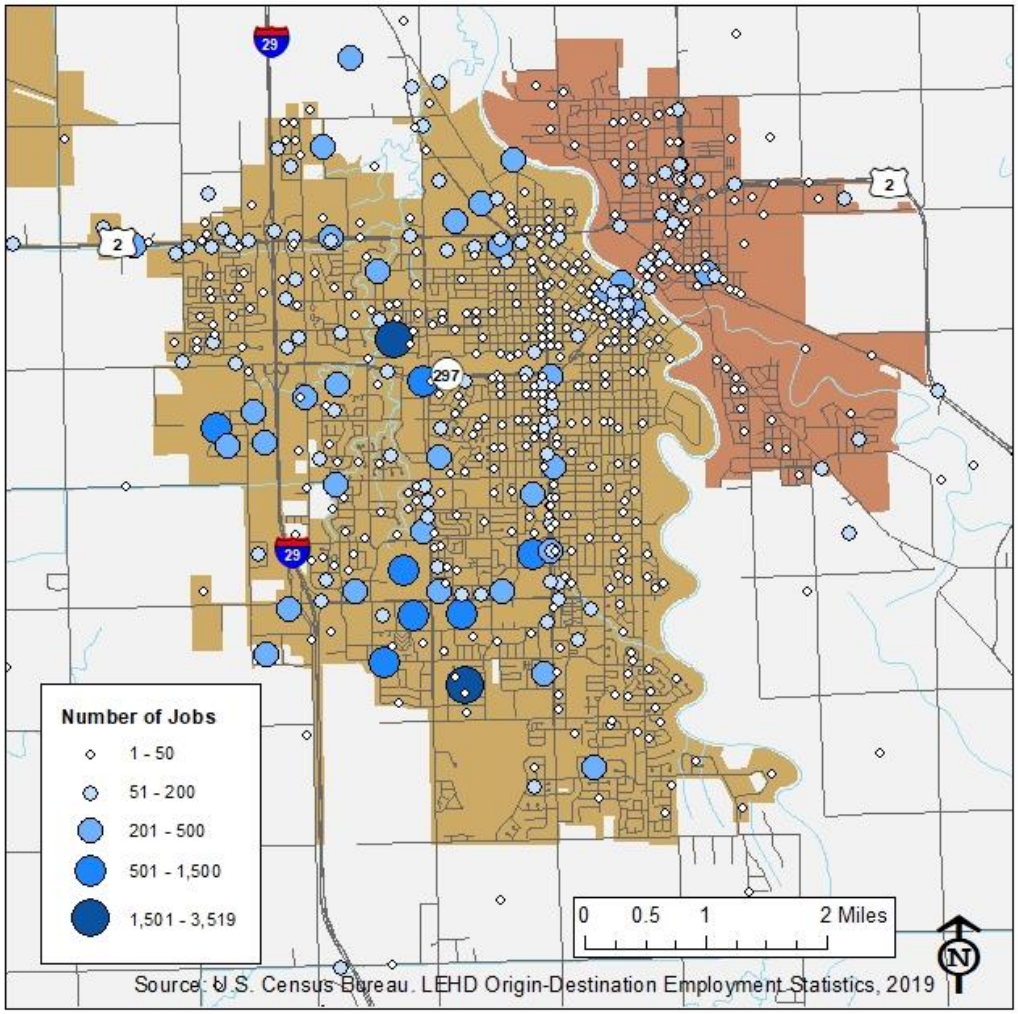


Figure 41: Job Density in the Grand Forks-East Grand Forks area

Low Wage Job Density

Low wage jobs (defined as jobs earning $1,250 per month or less) are densely located in a number of locations along Columbia Road and 32nd Avenue. These jobs likely reflect the retail and service sector jobs along corridors. A lower concentration of these jobs can be seen on South Washington Street (Figure 42).

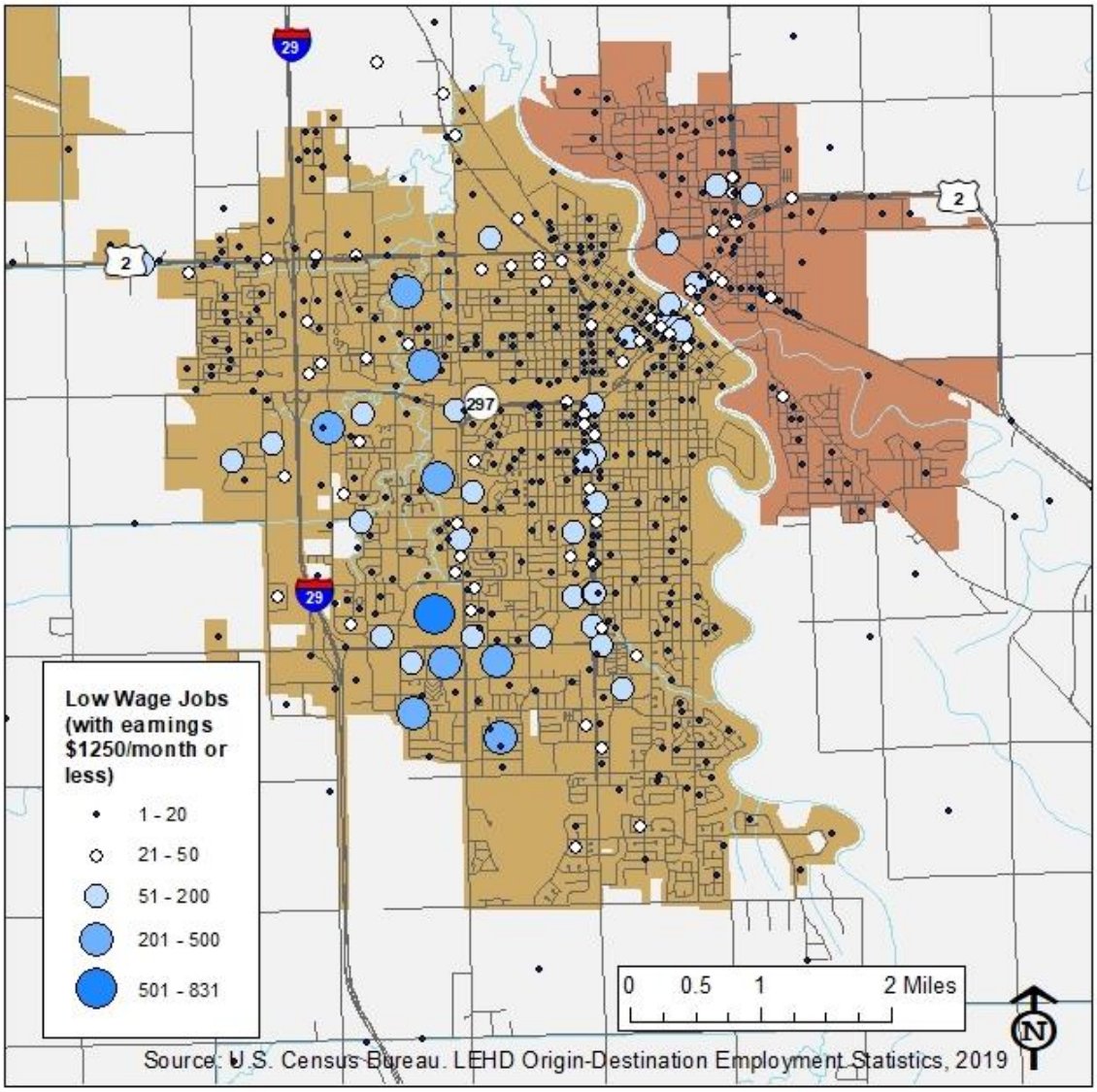


Figure 42: Low Wage Jobs

Industrial Park Jobs

Over 2,000 jobs are located in the industrial park in the western part of Grand Forks. Over 70 percent of these workers commute from less than 10 miles from their employer (U.S. Census LEHD Origin-Destination Employment Statistics, 2019). These workers have a greater tendency to live along 32nd Avenue or between Columbia Road and Washington Street (Figure 43).

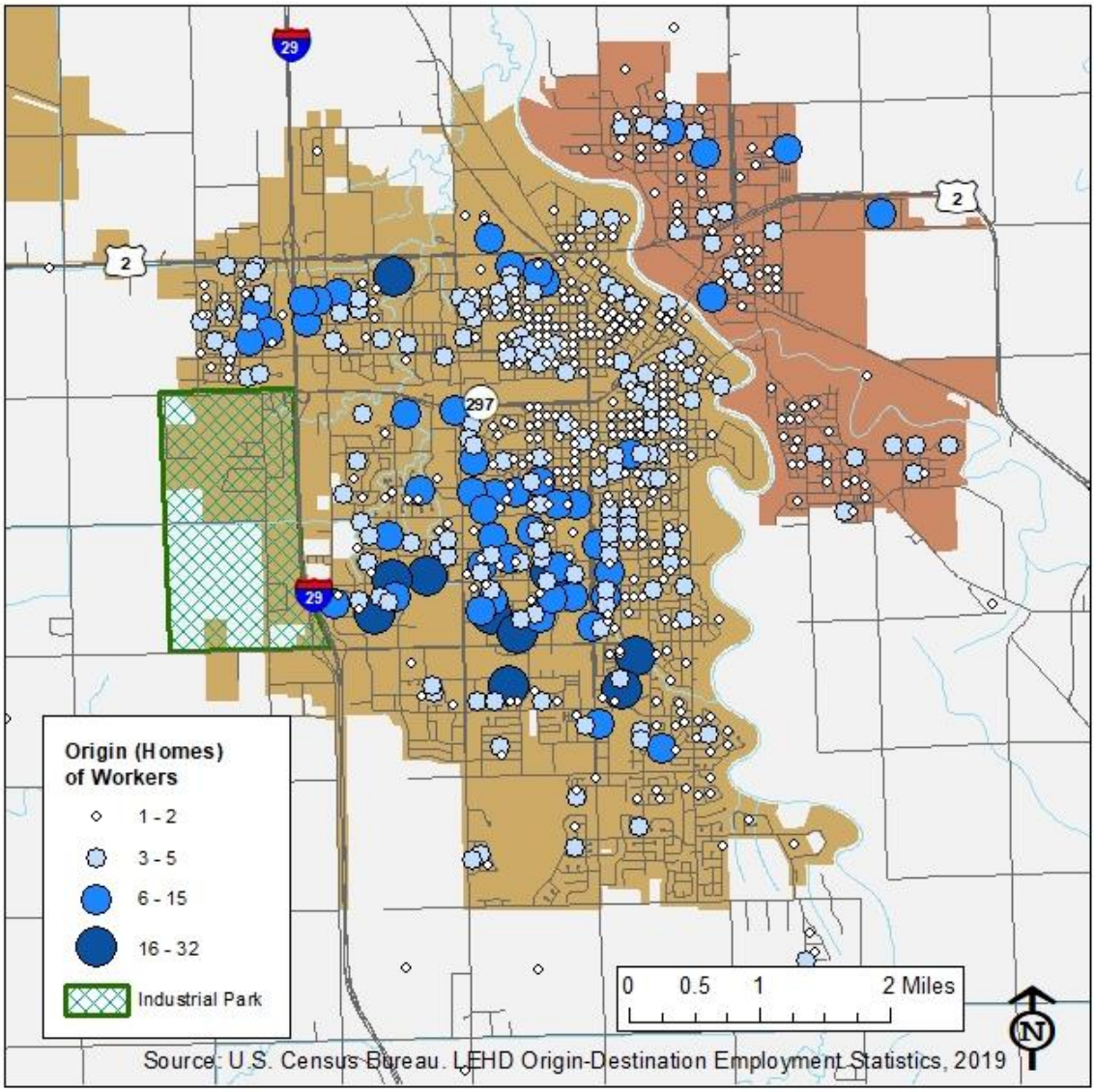


Figure 43: Home Locations of Industrial Park Workers

Land Use

Grand Forks and East Grand Forks are required to update their land use plans every five years. Planned land use can be an indicator of where growth will occur in both housing and employment. The City of East Grand Forks adopted its 2050 Land Use Plan in November 2021. The City of Grand Forks adopted the 2050 plan in the Spring of 2022.

Grand Forks

The most recent land use map is the 2050 Future Land Use map (Figure 44) from the Grand Forks Future Land Use Plan (2022). This map shows two mainland uses for the city: urban residential and agriculture. This map also includes an expansion of industrial land use in the western part of the city. There is also planned growth for the urban residential area in the southern section of the city.

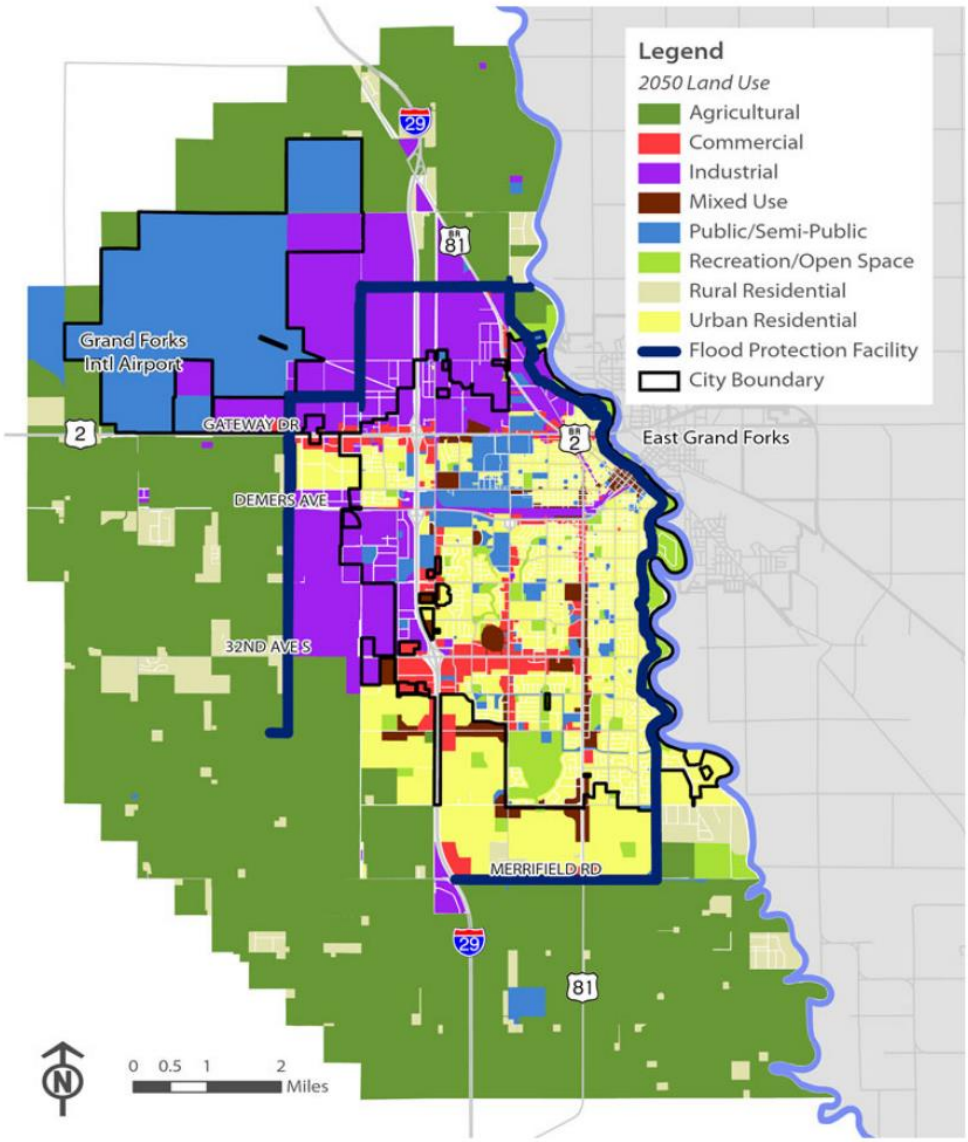


Figure 44: 2050 Grand Forks Future Land Use

East Grand Forks

East Grand Forks latest land use map (Figure 45) is documented in the 2050 Land Use Plan (2021). The map shows some growth in low density residential areas to the north and more industrial area to the east.

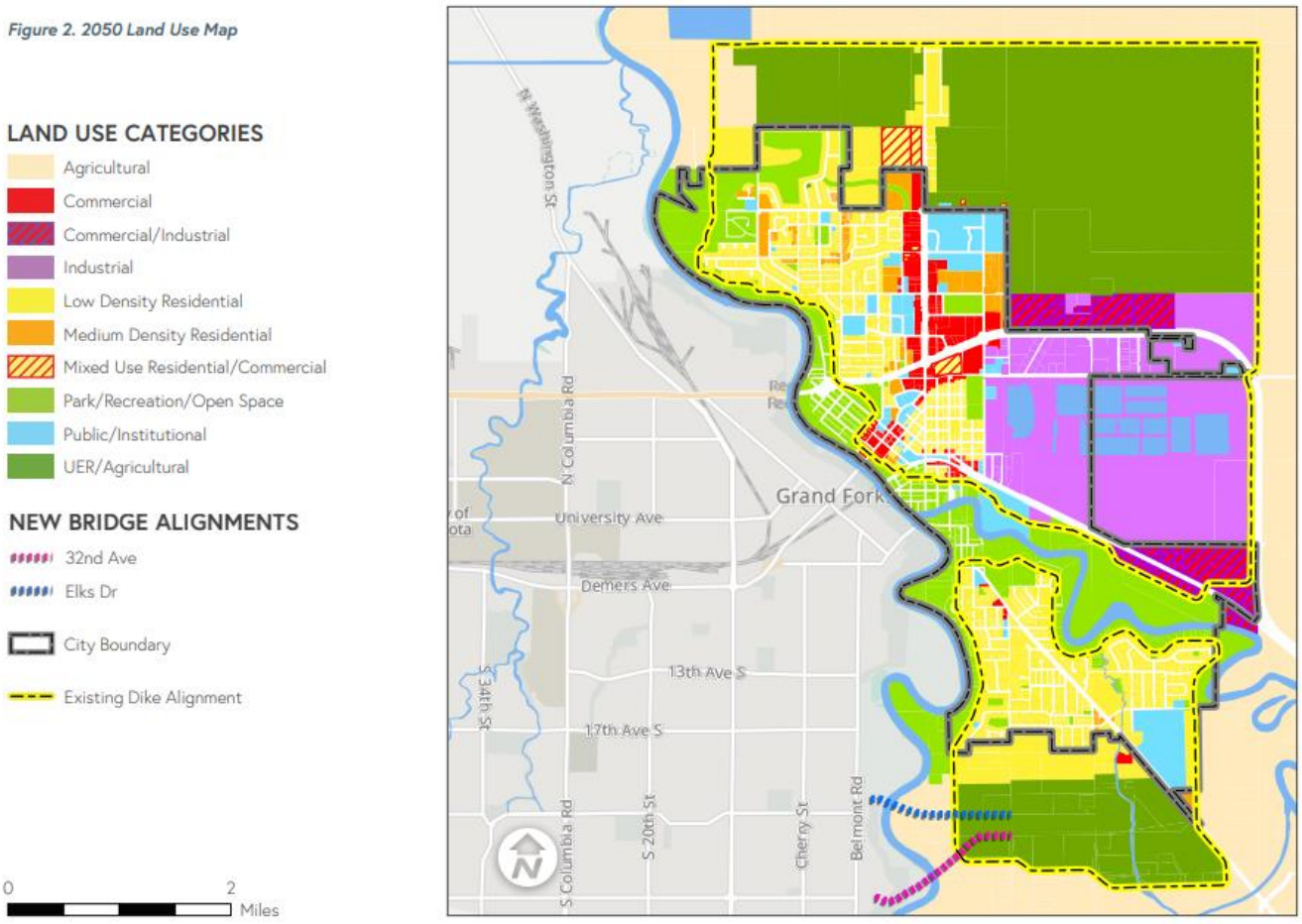


Figure 45: 2050 East Grand Forks Future Land Use

Transit Propensity

Within the Grand Forks and East Grand Forks, population is spread relatively evenly across the area, with the exception of a few areas. People living in the area around UND and residential areas south of UND are more likely to have higher demand for transit based on their characteristics (lower incomes, less access to vehicles, more people with disabilities). The cities are car-rich with a relatively high proportion of automobiles to drivers, although car access is lower around UND.

Job density is highest in the industrial area and in the commercial and shopping areas along Columbia Rd and 32nd Avenue. Low wage jobs are also concentrated in the commercial and shopping area and on Washington Street. While Columbia Road and Washington Street are currently served by transit, there may be an opportunity to improve service along these corridors.

Similarly, UND has multiple routes running through and around its campus, but because population density, low-income residents, communities of color, and people without access to cars are concentrated around UND, this area should be prioritized for service. Because CAT service is mostly hourly and daytime service, even areas with good geographic coverage, where multiple routes visit per hour, may not provide service at a level that meets people's needs.

Transit gaps exist northwest of UND, at the airport, and in the industrial park. The airport, not shown on these maps, is northwest of the city and is not currently served by transit. Limited service to the airport could be explored for higher travel times, or a partnership with other transit services could have potential to serve this need including a partnership with UND. Initial public engagement has indicated the need for more service to the northwest and industrial areas of the city to provide job access. If a service to the airport is pursued, this could potentially also serve jobs in the northwestern part of Grand Forks. People currently working in the industrial district are predominantly commuting from nearby areas within Grand Forks. More engagement will be done to explore how these transit gaps could be addressed in a cost-effective manner. This may include partnership with local employers that want to provide more transit opportunities to attract workers.

Transit Funding Baseline Analysis

Revenue Profiles

An evaluation of local, state, and federal funding was completed based on the Transportation Improvement Programs (TIPs) for the Grand Forks – East Grand Metropolitan Planning Organization (GF-EGF MPO). The first year in each TIP was evaluated for the years 2017 to 2021 and used to provide an annual average based on the five years of inputs for both operational and capital funding. Funding has been split out for the Grand Forks and East Grand Forks system separately. This provides for the ability to understand the unique funding mixes for each part of the whole system. This existing/baseline condition will be used to support future financial forecasting to support the plan recommendations.

Table 17: System Revenue Profile CAT System – (By Source)

	East Grand Forks		
	Revenue	**% City**	**% of System**
Local	$119,000	15%	3%
State	$502,000	62%	12%
Federal	$191,000	24%	4%
Subtotal	**$812,000**		**19%**

	Grand Forks		
	Revenue	**% City**	**% of System**
Local	$1,426,000	41%	33%
State	$249,000	7%	6%
Federal	$1,770,000	51%	42%
Subtotal	$3,445,000		81%
Total	**$4,257,000**		**100%**

Note: State funding for East Grand Forks includes MN State Transit Formal Funds.

Expense Profile

An evaluation of Grand Forks Budget Performance Reports was conducted based on the years 2018-2021. This evaluation provides a baseline expense profile for each component of CAT. Expenses were isolated into three primary categories: Labor, Operations & Maintenance (O&M), and Capital.

Table 18: Expense Profiles for the CAT System

Fixed Route			
Account*	**Cost Center**	**Total**	
400,401, 402	Labor	$1,785,326	
410, 415, 420-460	O & M	$728,056	
		$2,513,056	Subtotal – Operations
700	Capital	**$1,053,650**	Subtotal – Capital
Demand Response			
Account*	**Item**	**Total**	
400-402	Labor	$292,206	
410, 415, 430-460	O & M	$169,326	
		$461,532	Subtotal – Operations
700	Capital	$179,683	Subtotal – Capital
		$641,215	**Total – Dial-a-Ride**
		$4,208,247	**Total**

** Grand Forks Budget Performance Reports (2018-2021).*

Stimulus Funding

Recent one-time awards from the CARES Act and ARPA were excluded from the financial analysis. East Grand Forks currently has approximately $110,000 in unused ARPA funds and no remaining CARES funds. Grand Forks currently has $600,0000 in ARPA and $750,000 in remaining CARES funds. Assumptions regarding expenditures of these funds will be coordinated into the development of TDP financial forecasts.

Summary

The variation between expenses and revenues is less than two percent and is considered an accurate depiction of the existing condition for the purposes of the TDP. The baseline revenue and expense profiles can be used to develop financial forecasting to support the TDP recommendations. Best practices suggest a four percent inflation factor on costs and a 1.5 percent inflation factor for revenues; however, with the recent signing of the Infrastructure Investment and Jobs Act (IJAA), revenue projections will need to be developed in coordination with evolving guidance from both MnDOT and NDDOT.