

GRAND FORKS - EAST GRAND FORKS

Transit Development Plan

Appendix 4: Service Recommendations Report
July 2022





Service Recommendations

Introduction

Recommendations for service changes for each route were created based on review of previously developed service ideas, data gathered earlier in the project, and input from partner agencies, transit operators, other stakeholders, and the public. These recommendations are presented by route below with cost estimates on the following pages.

Recommendations were developed for a cost-neutral scenario, which maintains a similar level of service hours as is currently provided, as well as an added service scenario, which increases frequencies or adds additional service. Some routes also include options for microtransit replacement service, which would eliminate the existing fixed route to be replaced with a microtransit “zone.” For many routes, proposed service under each of the three scenarios is the same.

Programmatic recommendations were also developed for the system. These recommendations include strategies for improving overall service quality through schedule timing, branding, communications, and coordination with other stakeholders. Funding opportunities and prioritization strategies are also recommended.

Proposed Service Changes

This section summarizes proposed service changes to CAT routes. These service changes are summarized in the following route sheets. The map in Figure 1 shows the proposed routes and microtransit zones for future study. Route 12 is not included in this discussion, as it is not currently in service and this plan recommends discontinuing the route permanently.

Grand Forks - East Grand Forks TRANSIT DEVELOPMENT PLAN

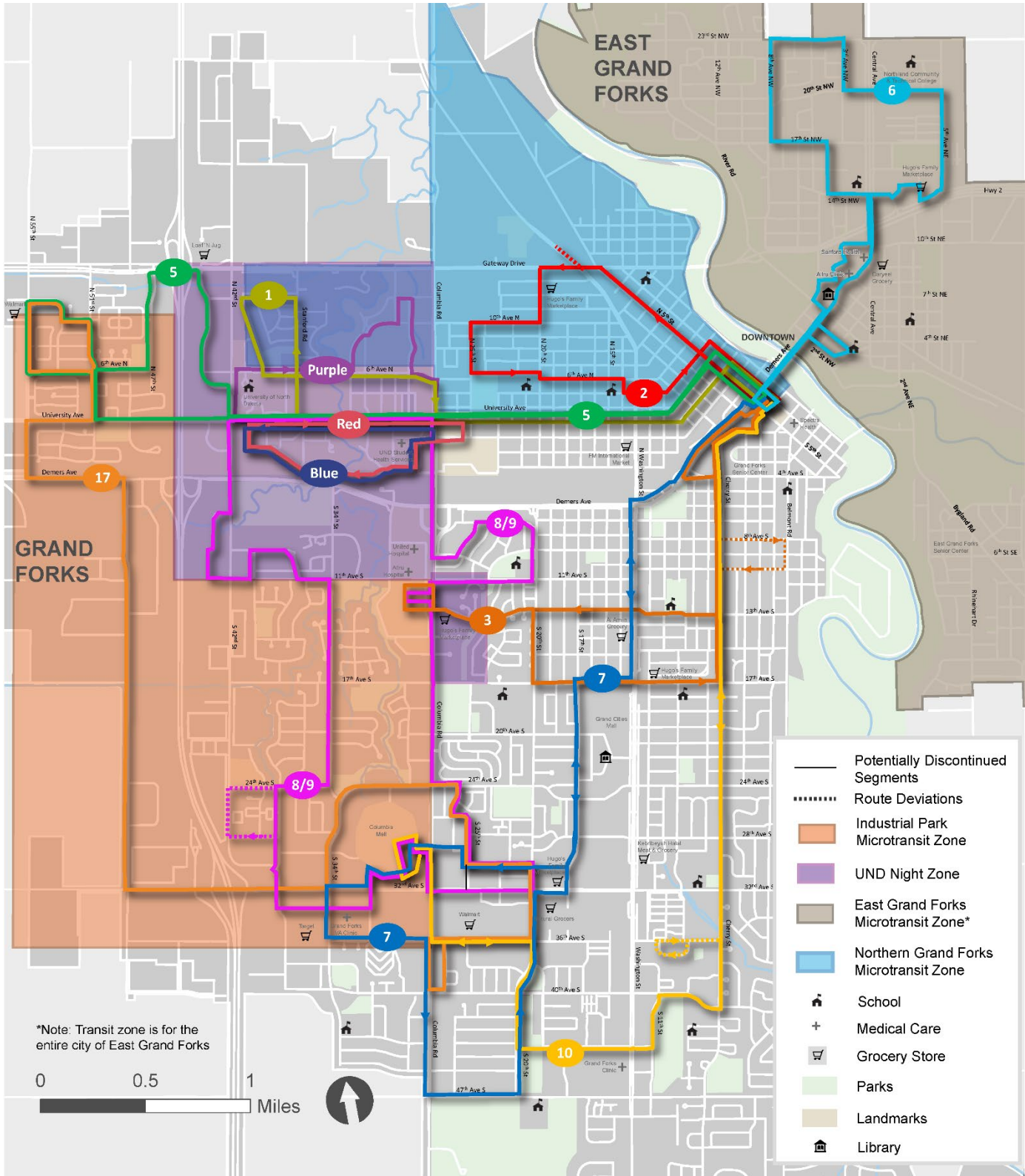
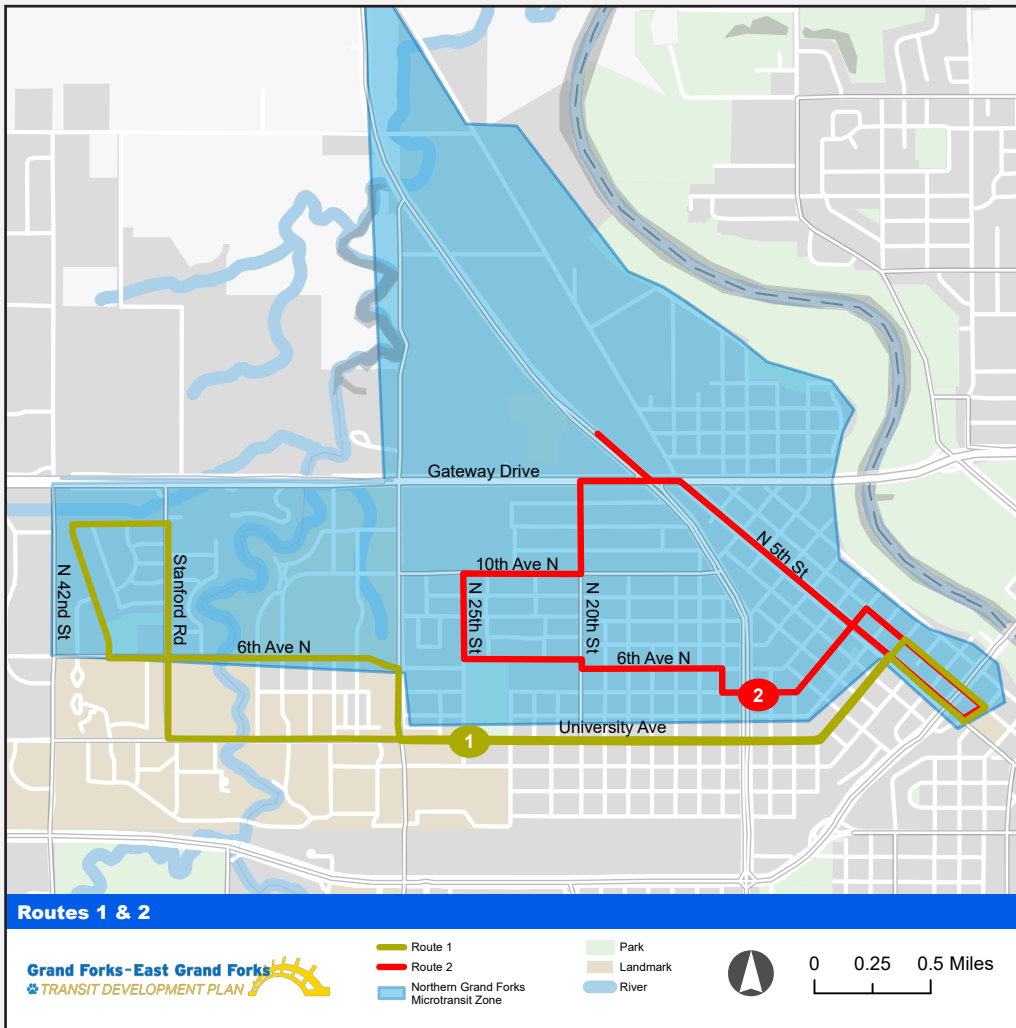


Figure 1. Proposed Routes and Microtransit Z



Key Destinations: Downtown, Salvation Army, Hamline & University, UND - Stanford Center, N 39th St Shelter, Princeton & 6th Ave N, 15th & University, YMCA, N 5th St & 10th Ave, Home of Economy, Hugo's, Valley Middle School, St. Anne's

ROUTE MAP



PROJECT OBSERVATIONS

- Provide needed access to social services and K-12 schools
- Area north of Route 2 is developing and will need access to transit in the future
- Both routes have low ridership and demand from future development is unknown

IMPROVEMENT STRATEGIES

- Could be replaced with demand-responsive microtransit
- A limited fixed-route schedule could provide school bus service as needed

RECOMMENDATIONS

- Short term - Maintain routes as they are and explore funding possibilities for fixed-route school bus service
- Medium term - Study microtransit as potential option for the future

WEEKDAY

SPAN	7:00AM – 5:30PM
FREQUENCY	60 minutes

WEEKEND

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

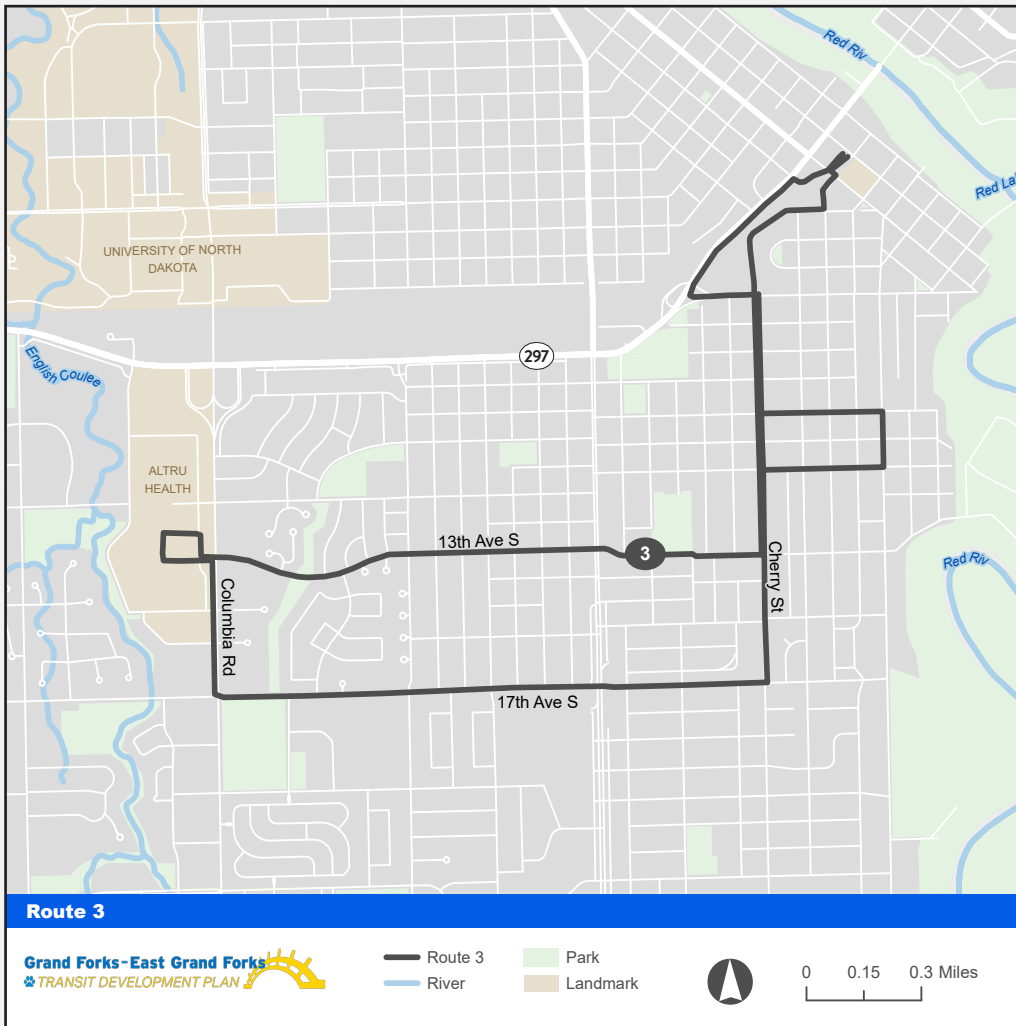
ANNUAL STATISTICS

THESE VALUES RELATE TO THE SHORT TERM RECOMMENDATIONS LISTED ABOVE

REVENUE HOURS	AVG OF 1,650 EACH	RANK 9/10 (TIE)
OPERATING COSTS	AVG OF \$151,721 EACH	RANK 9/10 (TIE)

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

ROUTE MAP



PROJECT OBSERVATIONS

- Route 3 includes a loop which is not a standard service practice and may be confusing to riders

IMPROVEMENT STRATEGIES

- Instead of a loop, Route 3 could be modified to have out-and-back service using 17th and 13th Avenues

RECOMMENDATIONS

- Short term - Service should be maintained as-is and a stop level study should be conducted to determine options to simplify the route

WEEKDAY

SPAN

6:30AM – 9:30PM

FREQUENCY

30 min. to 6PM, then 60 min.

ANNUAL STATISTICS

THESE VALUES RELATE TO THE SHORT TERM RECOMMENDATIONS LISTED ABOVE

WEEKEND

SPAN

8:00AM - 9:30PM

FREQUENCY

30 min. to 6PM, then 60 min.



REVENUE HOURS

3,990

RANK

1/10



OPERATING COSTS

\$366,977

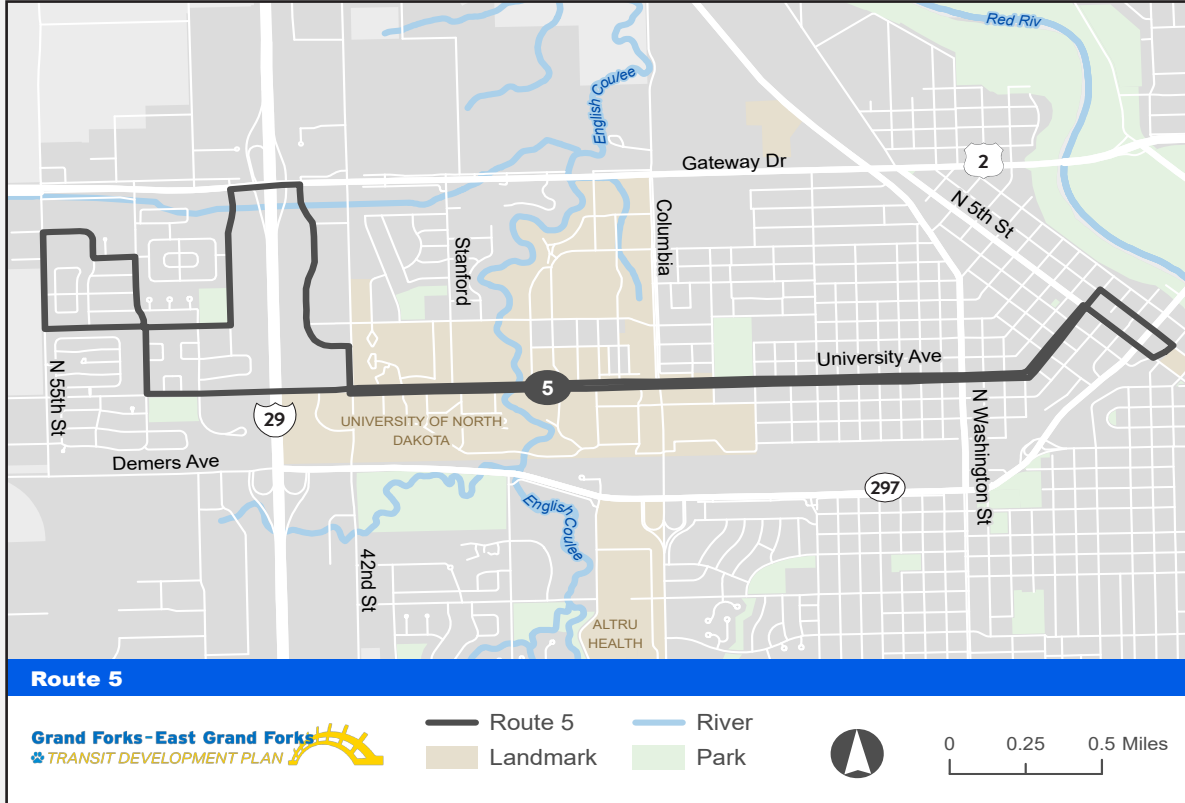
RANK

1/10



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

ROUTE MAP



PROJECT OBSERVATIONS

- Route 5 is CAT’s most popular route, serving K-12 schools, UND, and shopping destinations.
- It overlaps much of Route 1

IMPROVEMENT STRATEGIES

- Discontinuing Route 1 and shifting its service hours to Route 5 could allow Route 5 service to extend into the evening, benefitting shoppers
- Route 5 could also be modified to be more direct

RECOMMENDATIONS

- Short term - Route 5 should remain as is and funding partnerships with the school district for K-12 bussing should be explored
- Medium term - Route 5 should run twice an hour and into the evening

WEEKDAY

SPAN

6:00AM – 6:00PM

FREQUENCY

60 minutes

WEEKEND

SPAN

8:00AM - 6:00PM

FREQUENCY

60 minutes

ANNUAL STATISTICS

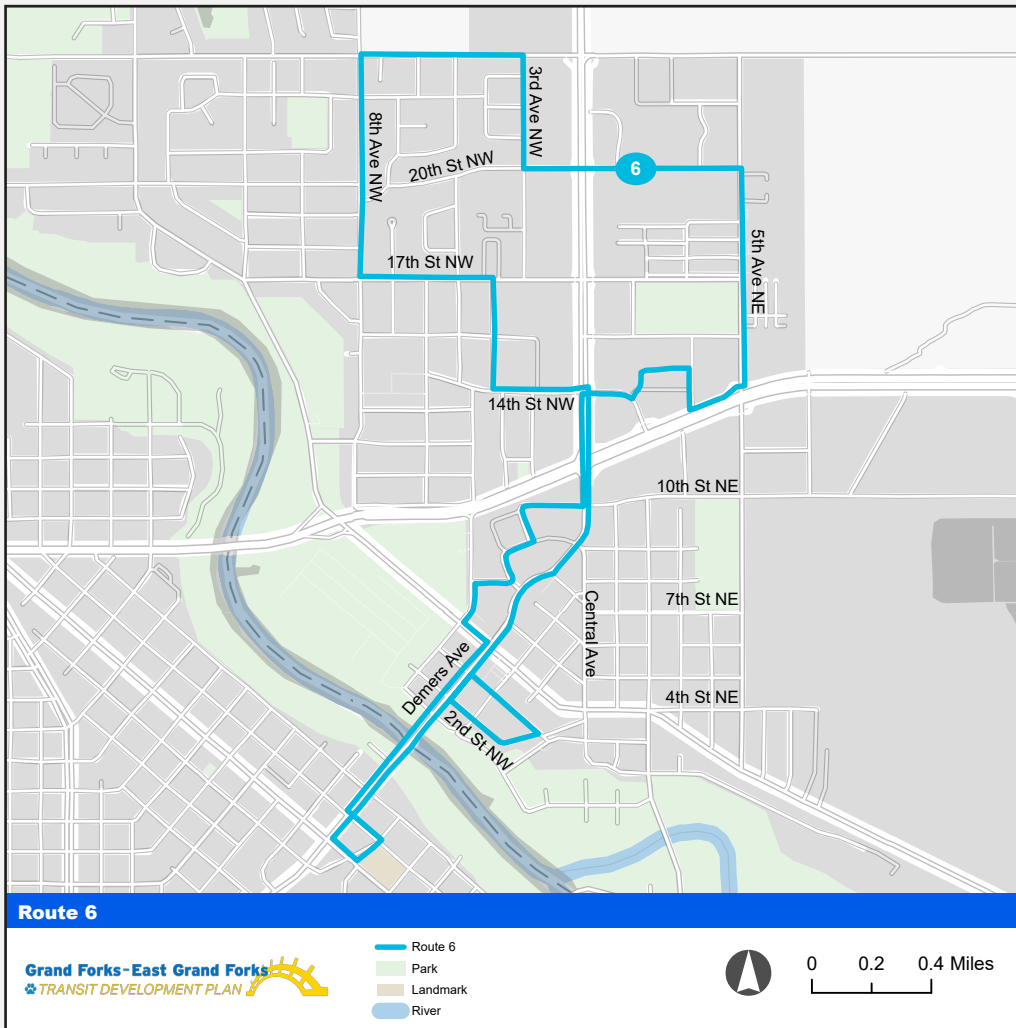
THESE VALUES RELATE TO THE SHORT TERM RECOMMENDATIONS LISTED ABOVE

REVENUE HOURS	3,453	RANK 3/10 (TIE)
OPERATING COSTS	\$317,561	RANK 3/10 (TIE)



Key Destinations: Downtown, the Link, 10th & Belmont, Hugo's, Altru - Columbia Rd, Red River High, Midtown, 17th Ave & Cherry, Cabela's, Northland College, Sunshine Terrace, Campbell Library, Town Square Apartments

ROUTE MAP



PROJECT OBSERVATIONS

- Routes 4 & 6 have significant overlap and include stretches where service is suboptimal
- Route 4 runs in a residential area with low ridership and challenging road conditions
- Both routes deviate from Demers Ave due to inadequate pedestrian connections

IMPROVEMENT STRATEGIES

- Combining Routes 4 and 6 would allow Route 6 to run more frequently at twice an hour, and the new route could be modified to serve more Route 4 destinations and avoid areas of concern

RECOMMENDATIONS

- Short term - Routes 4 and 6 should be combined and should run interlined with Route 3 to determine any schedule issues
- Options for better pedestrian connections to Demers Ave should be studied and implemented in the medium term

WEEKDAY

SPAN 6:00AM – 9:30PM

FREQUENCY 30 min. until 6PM, then 60 min.

ANNUAL STATISTICS

THESE VALUES RELATE TO THE SHORT TERM RECOMMENDATIONS LISTED ABOVE

WEEKEND

SPAN 8:00AM - 9:30PM

FREQUENCY 30 min. until 6PM, then 60 min.

REVENUE HOURS	3,964	RANK	2/10
OPERATING COSTS	\$364,585	RANK	2/10

Key Destinations: Downtown, the Link, 10th & Belmont, Hugo’s, Altru - Columbia Rd, Red River High, Midtown, 17th Ave & Cherry, Cabela’s, Northland College, Sunshine Terrace, Campbell Library, Town Square Apartments

MAP OF PROPOSED IMPROVEMENTS TO PEDESTRIAN ACCESS ON ROUTE 6



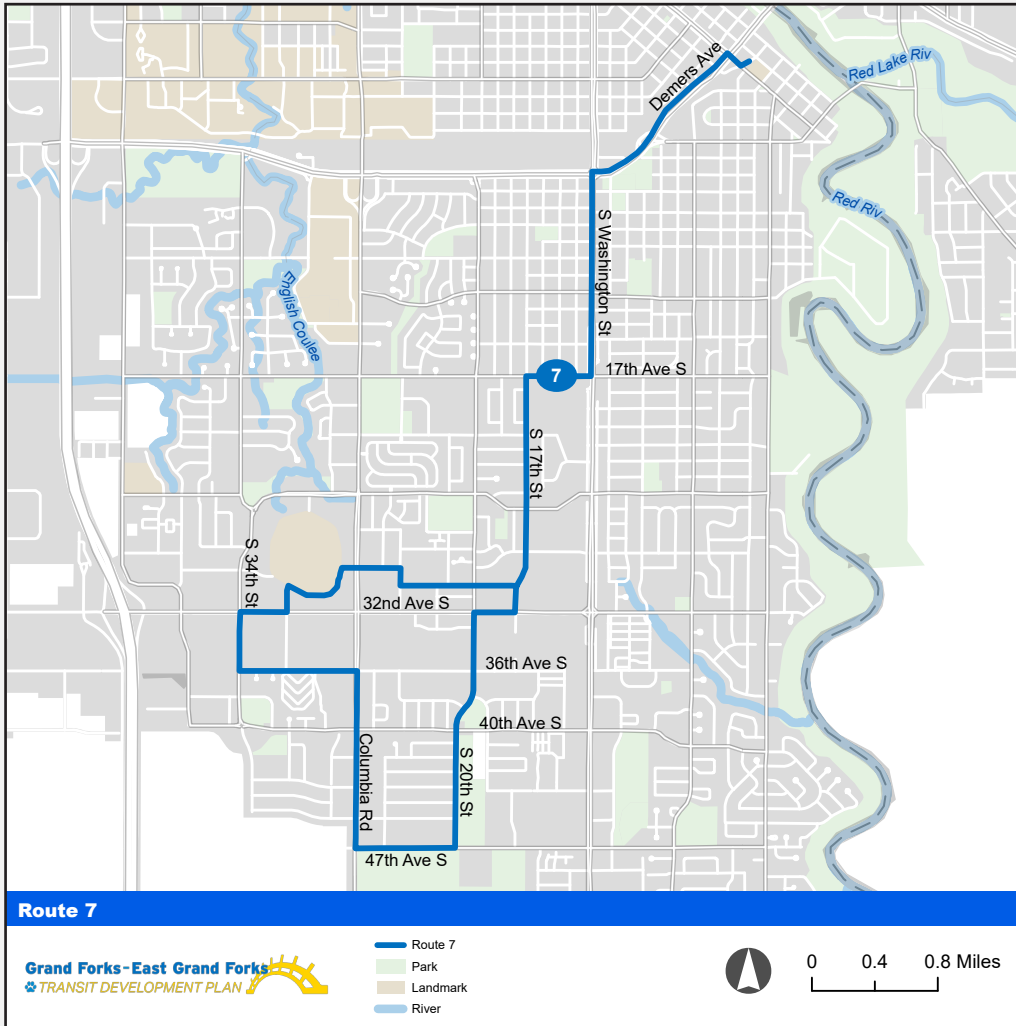
RECOMMENDATIONS, CONTINUED

Southbound Route 6 currently diverts off of Demers Ave between 10th St NE and 4th St NW because there are not safe pedestrian connections from Demers Ave to the medical facilities in this area. If pedestrian access were improved, the route could operate a more direct route with bidirectional service on Demers Ave. This map shows potential sidewalk improvements that could be made to facilitate safe pedestrian connections to these medical facilities. CAT should partner with the City of East Grand Forks to evaluate potential pedestrian improvements in this area.



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

ROUTE MAP



PROJECT OBSERVATIONS

- Route 7 is one of CAT's most popular routes
- It serves an area south of 32nd Ave that is likely to see economic growth and development, making it a good candidate for expansion
- Route 7 currently runs in an indirect loop which is not a standard service practice and can be difficult for riders to navigate

IMPROVEMENT STRATEGIES

- Route 7 could be modified to run the same route both inbound and outbound or split into two routes

RECOMMENDATIONS

- Route 7 should be modified to be more direct
- The connection to Target should be removed and transfers to routes 8 and 9 should be encouraged
- The route should provide a direct connection to the Post Office in downtown and be extended further south to reach new development on 47th Ave

WEEKDAY

SPAN

6:00AM – 6:00PM

FREQUENCY

60 minutes

WEEKEND

SPAN

8:30AM - 6:00PM

FREQUENCY

60 minutes

ANNUAL STATISTICS

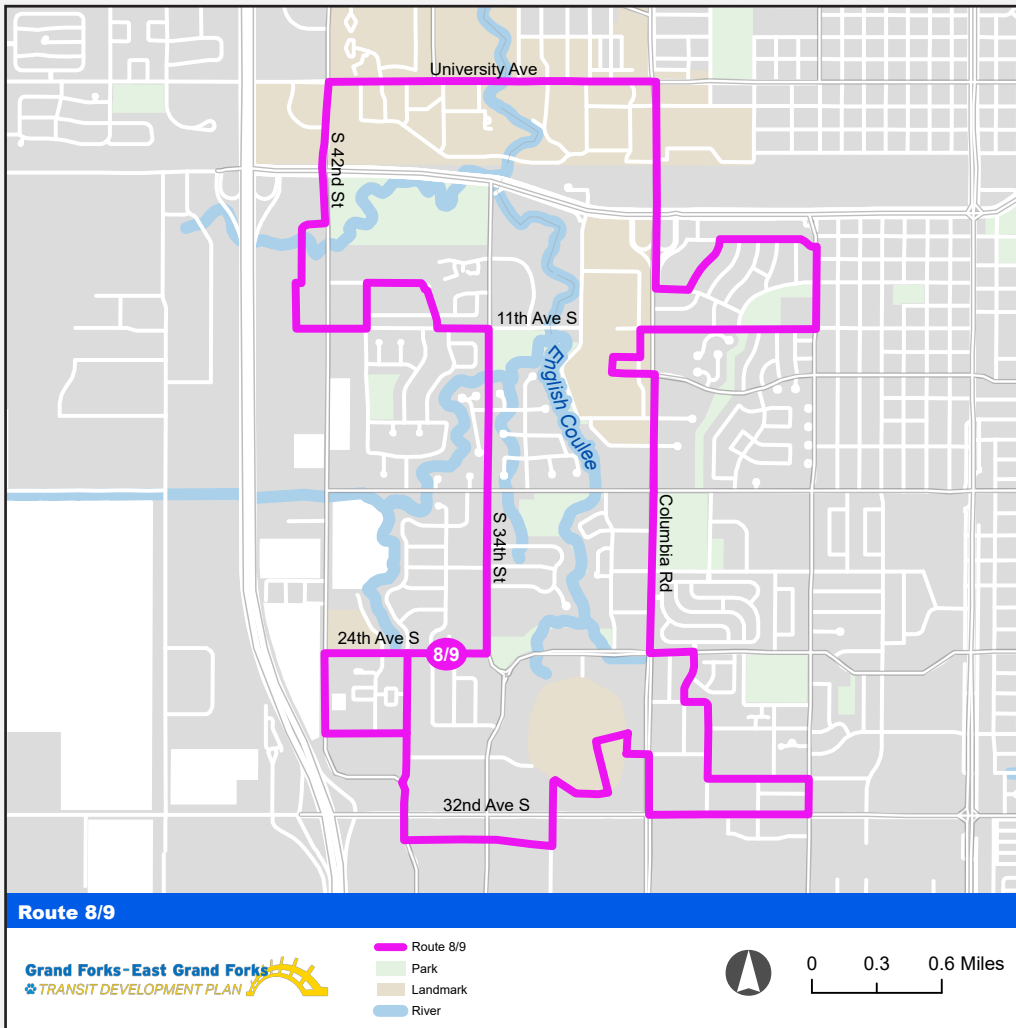
THESE VALUES RELATE TO THE SHORT TERM RECOMMENDATIONS LISTED ABOVE

REVENUE HOURS	3,453	RANK 3/10 (TIE)
OPERATING COSTS	\$317,561	RANK 3/10 (TIE)



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, UND - Stanford Center, Amberwood Apartments

ROUTE MAP



PROJECT OBSERVATIONS

- Routes 8 and 9 have significant overlap with each other and some overlap with Route 13
- These routes could also serve the post office

IMPROVEMENT STRATEGIES

- Routes 8 and 9 could be aligned
- The new route could be modified to add service on 30th and 32nd Avenues between S 20th and 25th Streets and on South 26th St and 7th Ave S as well remove service from Demers Ave

RECOMMENDATIONS

- Short term - Routes 8 and 9 should be aligned and should provide service to the Verge apartments
- Medium term - Aligned Routes 8 and 9 will provide daytime service for the area previously covered by Route 13

WEEKDAY

SPAN

6:00AM – 6:00PM

FREQUENCY

60 minutes

WEEKEND

SPAN

8:00AM - 6:00PM

FREQUENCY

60 minutes

ANNUAL STATISTICS

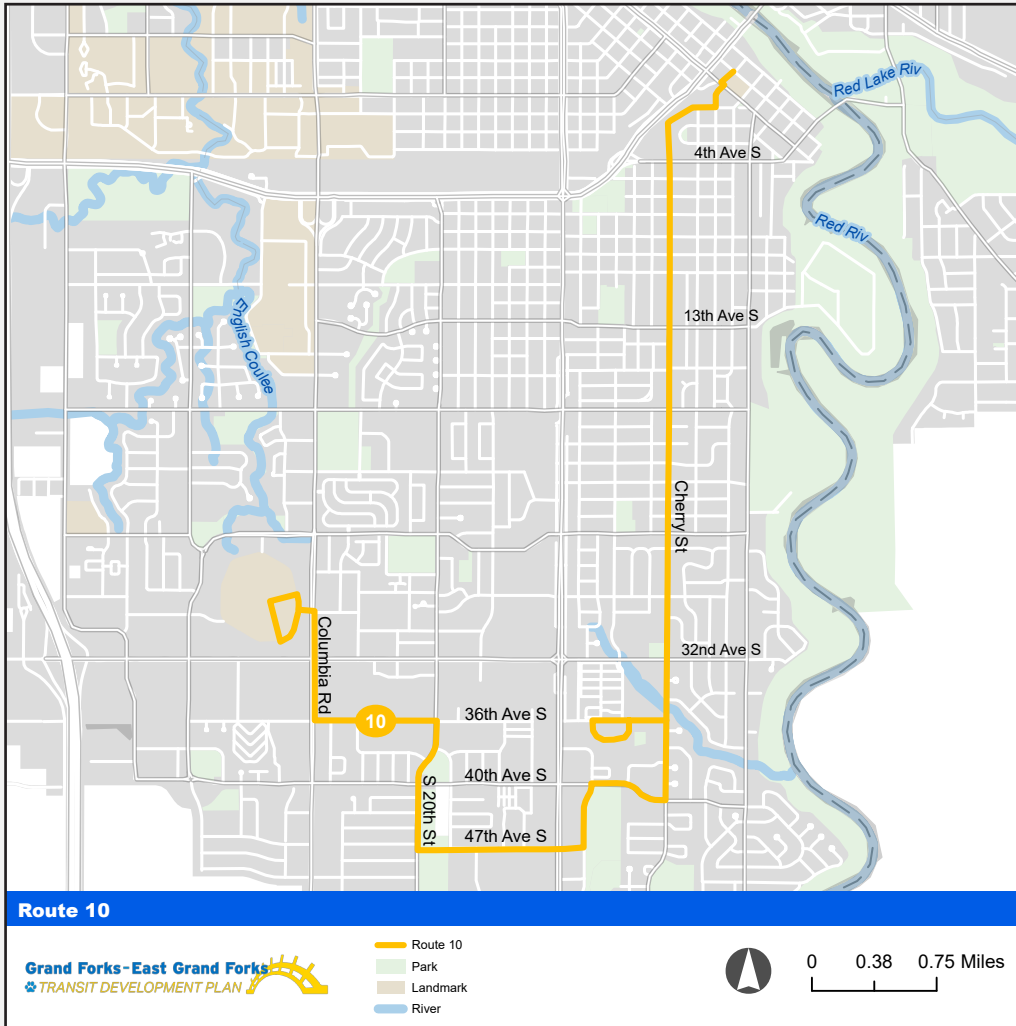
THESE VALUES RELATE TO THE SHORT TERM RECOMMENDATIONS LISTED ABOVE

REVENUE HOURS	3,453 EACH	RANK 3/10 (TIE)
OPERATING COSTS	\$317,561 EACH	RANK 3/10 (TIE)



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

ROUTE MAP



PROJECT OBSERVATIONS

- Route 10 runs in a large loop which can be confusing for riders
- It has low ridership over much of its service area

IMPROVEMENT STRATEGIES

- Shift Route 10 to a bi-directional route and provide north-south service on Cherry St

RECOMMENDATIONS

- Short term - Route 10 should shift to bi-directional service, starting downtown and ending at the Columbia Mall
- Transfer locations with Route 7 should be promoted for connections to Hugo's on 32nd and the Grand Cities Mall

WEEKDAY

SPAN

6:00AM – 6:00PM

FREQUENCY

60 minutes

WEEKEND

SPAN

8:00AM - 6:00PM

FREQUENCY

60 minutes

ANNUAL STATISTICS

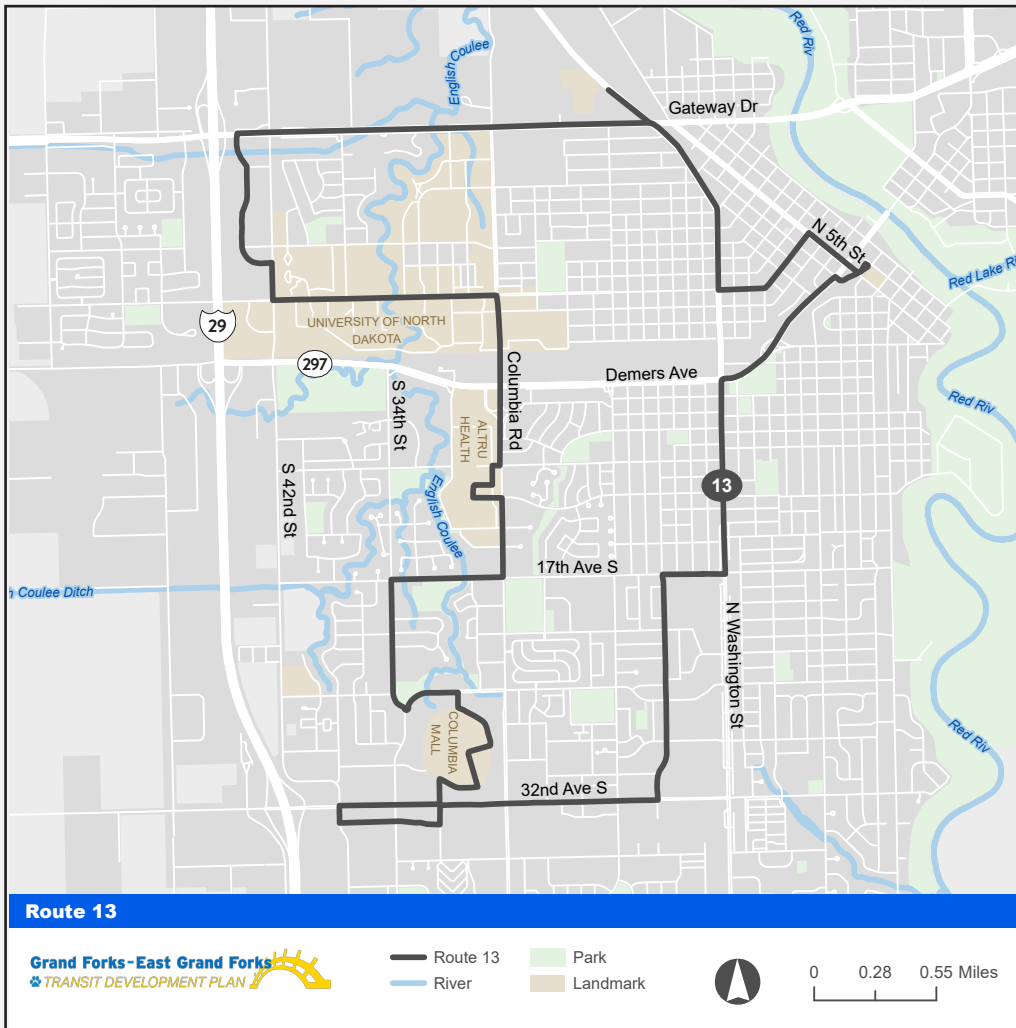
THESE VALUES RELATE TO THE SHORT TERM RECOMMENDATIONS LISTED ABOVE

REVENUE HOURS	3,453	RANK 3/10 (TIE)
OPERATING COSTS	\$317,561	RANK 3/10 (TIE)



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

ROUTE MAP



PROJECT OBSERVATIONS

- Route 13 has low ridership and a long circular route

IMPROVEMENT STRATEGIES

- The route could be converted to microtransit or discontinued in favor of routes 8/9, which serve a similar area

RECOMMENDATIONS

- Short term - Service should continue as it is today
- Medium term - The microtransit study should include replacing Route 13 with nighttime service

WEEKDAY

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

WEEKEND

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

ANNUAL STATISTICS

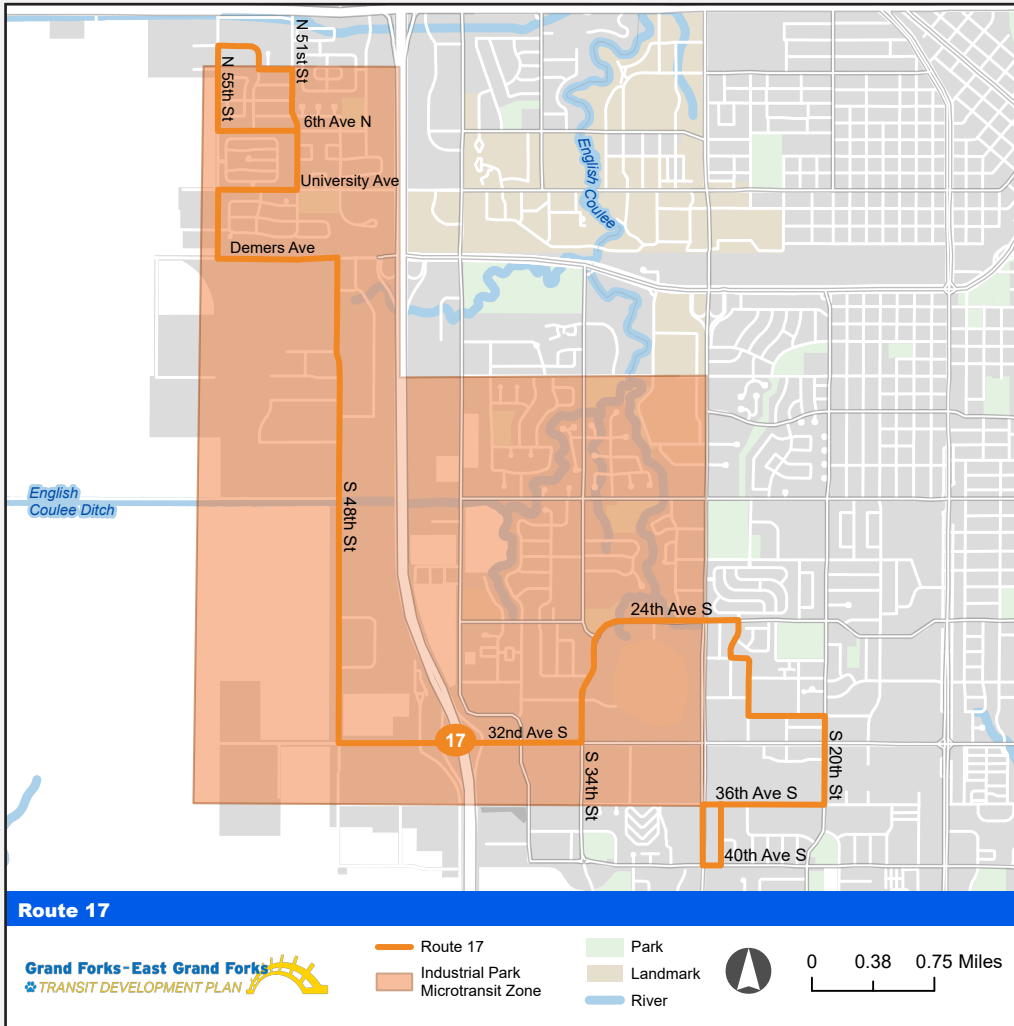
THESE VALUES RELATE TO THE SHORT TERM RECOMMENDATIONS LISTED ABOVE

REVENUE HOURS	1,228	RANK	10/10
OPERATING COSTS	\$112,951	RANK	10/10



Key Destinations: Walmart on 32nd Ave S, Walmart on Gateway Dr, Target, Columbia Mall, LM Wind Power, FedEx Ground, and other industry west of I-29

ROUTE MAP



PROJECT OBSERVATIONS

- The proposed Route 17 would serve industrial shift workers and represents a major service gap
- Past attempts to provide this service have been challenging due to shift schedules, and service has been generally unpopular

IMPROVEMENT STRATEGIES

- The previous industrial park route, which served the Columbia Mall and Walmart on the NE end, could be extended
- Connections to Routes 3, 5, and 7 could be implemented

RECOMMENDATIONS

- Short term - Funding opportunities should be pursued through public-private partnerships or other sources and service times should accommodate industrial park shift changes
- Medium term - Replacement of this route should be included in the microtransit study

WEEKDAY

SPAN 5AM – 9AM; 3PM - 8PM

FREQUENCY 60 minutes

ANNUAL STATISTICS

THESE VALUES RELATE TO THE SHORT TERM RECOMMENDATIONS LISTED ABOVE

WEEKEND

SPAN 5AM – 9AM; 3PM - 8PM

FREQUENCY 60 minutes

REVENUE HOURS	2,763	RANK	8/10
OPERATING COSTS	\$254,140	RANK	8/10



UND Campus Shuttle Service

OVERALL ISSUES AND IMPROVEMENTS SUMMARY

During public engagement and coordination, UND staff and students shared their concerns about UND bus service and ways to improve it. Staff noted low ridership. They were concerned about whether students got good value from this service and whether it is an effective use of resources. Students expressed frustration with reliability of buses and the system app, especially in cold weather.

Other factors affecting transit service include changes in parking passes and general growth on campus. Parking passes are now issued for specific lots, so students are less likely to drive across campus to get to classes or activities. UND is experiencing growth and development that does not reflect the current route system.

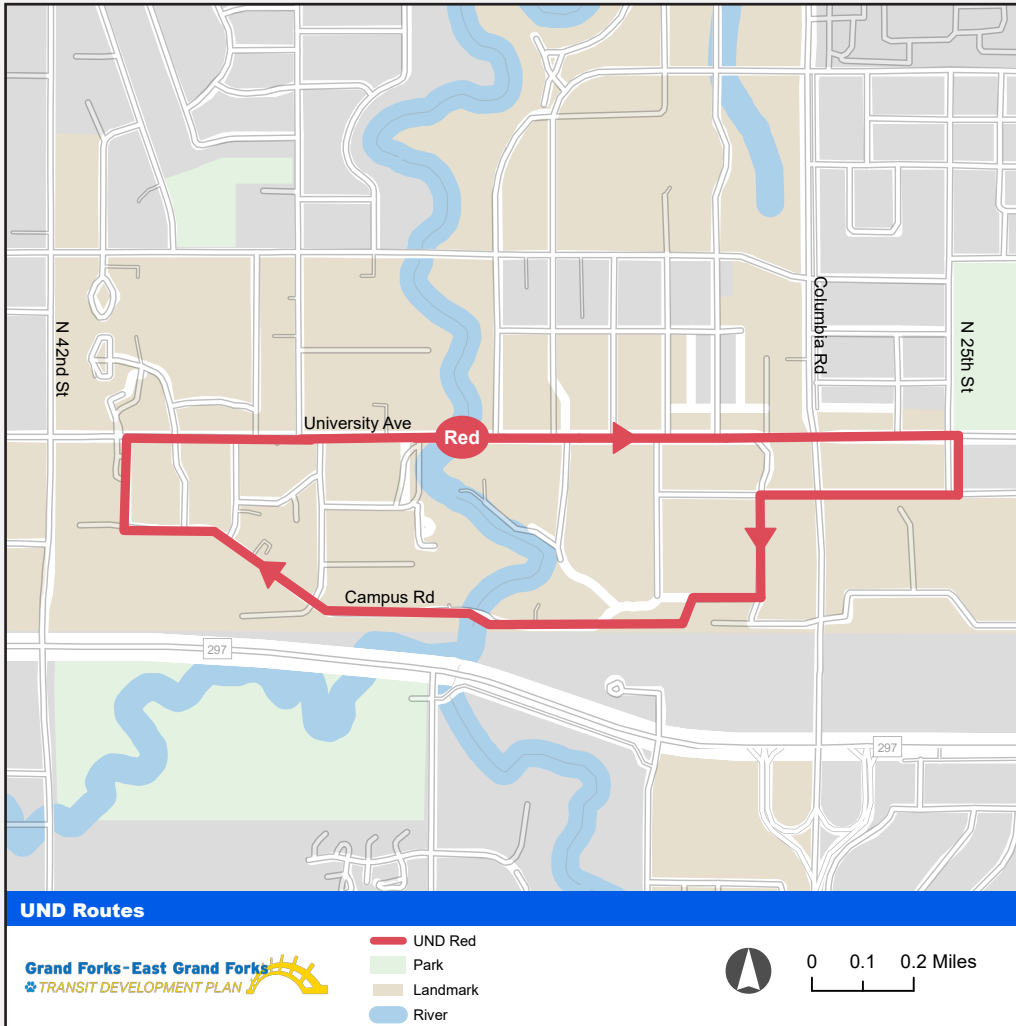
Overall, improvement ideas reflect a need to redesign routes to serve more destinations, new housing, and improve reliability. Operators and staff expressed a desire to maintain current routes and service hours as they are, which are reflected in short-term recommendations.

The proposed changes to UND service are summarized in the following route sheets.



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, Fritz Pollard Athletic Center, Memorial Stadium

ROUTE MAP



PROJECT OBSERVATIONS

- The Red Route may not serve all potential destinations on the west end of campus

IMPROVEMENT STRATEGIES

- Alter the Red Route to travel bi-directionally on University Ave as well as serve the northwestern part of campus

RECOMMENDATIONS

- Short term - Maintain Red Route service as it is today
- Medium term - Reroute to travel to 25th on the east side of campus, and re-time route schedules to reflect new traffic patterns on campus

WEEKDAY

SPAN

7:30AM – 4:30PM

FREQUENCY

15 minutes

WEEKEND

SPAN

-

FREQUENCY

-

ANNUAL STATISTICS

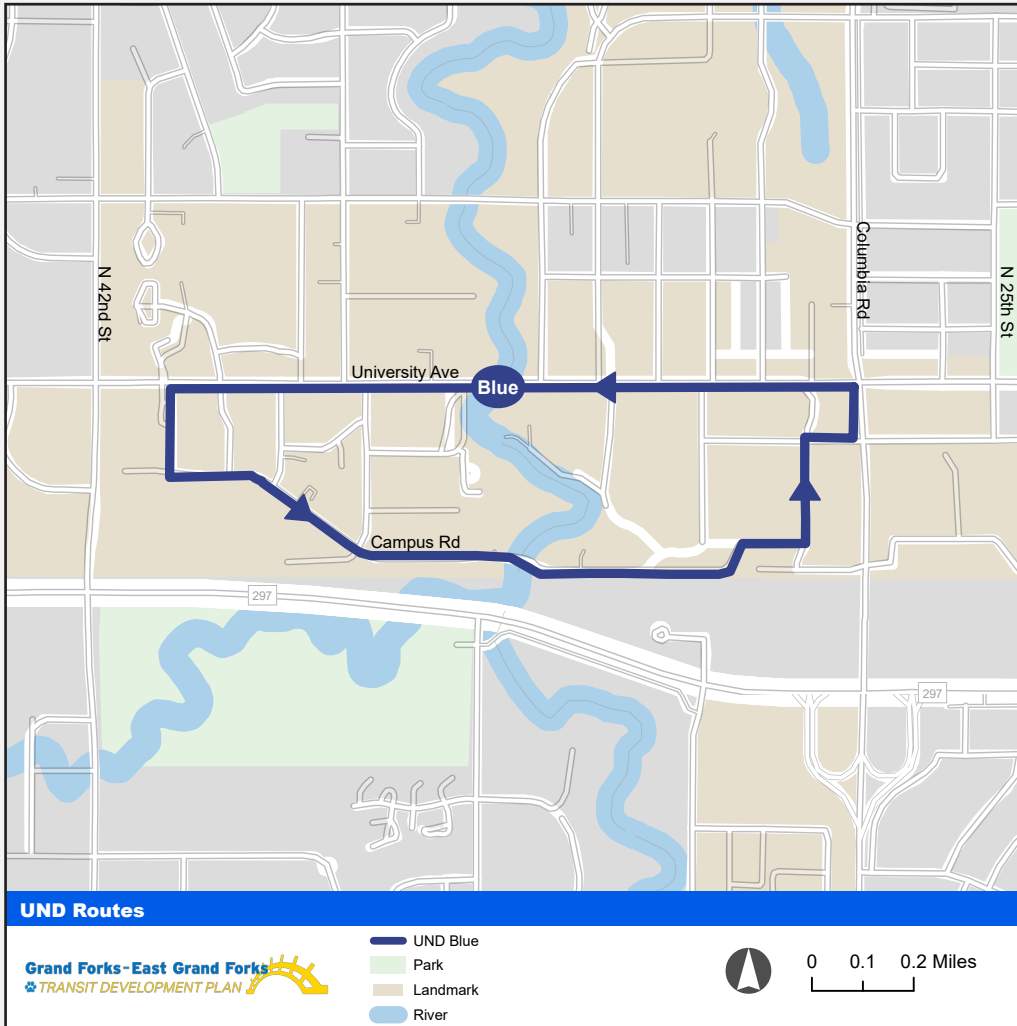
THESE VALUES RELATE TO THE SHORT TERM RECOMMENDATIONS LISTED ABOVE

REVENUE HOURS	1,530	<small>RANK</small> 1/4 (TIE)
OPERATING COSTS	\$140,729	<small>RANK</small> 1/4 (TIE)



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

ROUTE MAP



PROJECT OBSERVATIONS

- The Blue Route could better serve destinations and growth in the southern half of campus
- The loop service may be confusing to riders

IMPROVEMENT STRATEGIES

- Alter the Blue Route to travel bi-directionally on Campus Road as well as serve the northwestern part of campus

RECOMMENDATIONS

- Maintain Blue Route service as it is today

WEEKDAY

SPAN

7:30AM – 4:30PM

FREQUENCY

15 minutes

WEEKEND

SPAN

-

FREQUENCY

-

ANNUAL STATISTICS

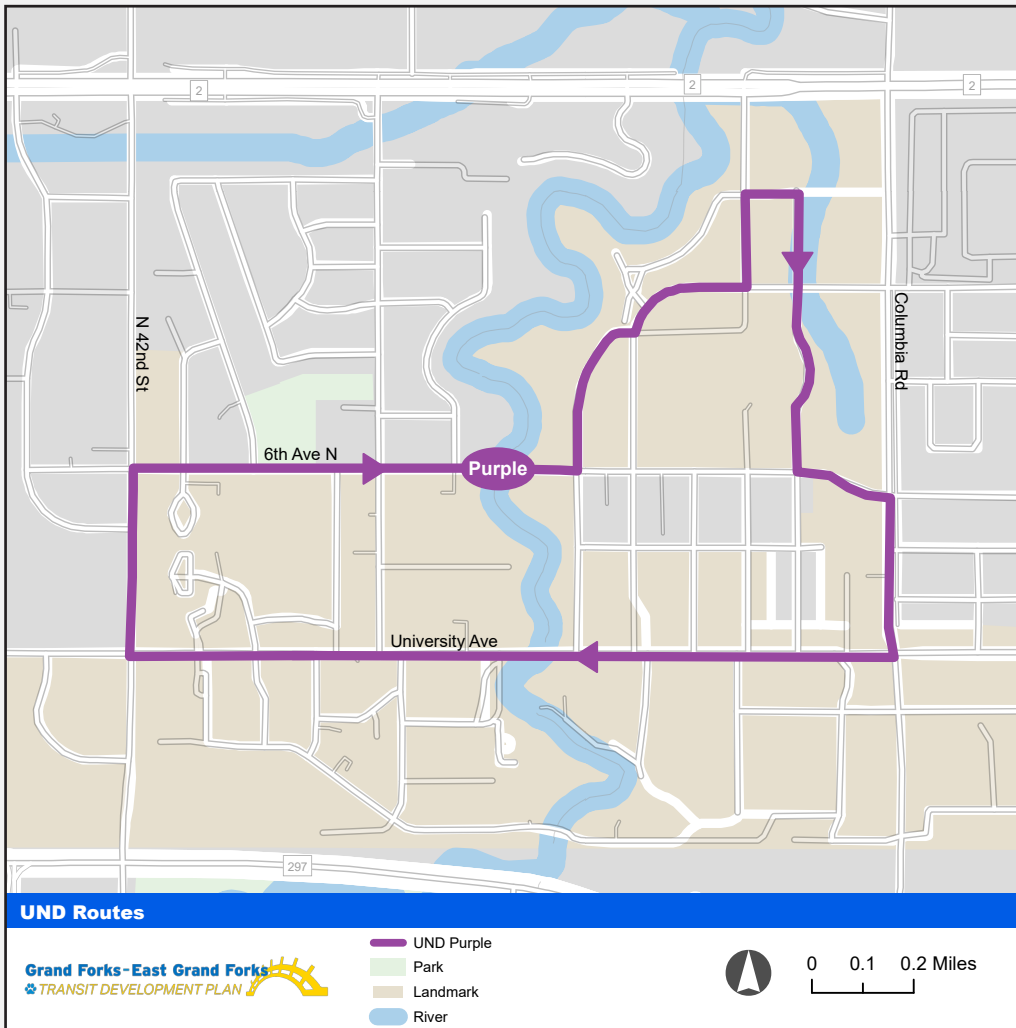
THESE VALUES RELATE TO THE SHORT TERM RECOMMENDATIONS LISTED ABOVE

REVENUE HOURS	1,530	RANK 1/4 (TIE)
OPERATING COSTS	\$140,729	RANK 1/4 (TIE)



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

ROUTE MAP



PROJECT OBSERVATIONS

- The Purple Route is the most popular route on campus but has had problems with on-time service

IMPROVEMENT STRATEGIES

- This route could be altered to serve parking near the Nursing School and remove some service on Columbia Road

RECOMMENDATIONS

- Short term - Maintain Purple Route service as it is today.
- Medium term - To improve on-time performance, consider keeping service as it is today along Columbia Road and 6th, assess ridership for the part of the route that deviates to the south to serve Odegard Hall, and remove this stop and follow University Avenue to avoid traffic concerns with the deviation and required left turn

WEEKDAY

SPAN	7:30AM – 4:30PM
FREQUENCY	20 minutes

WEEKEND

SPAN	-
FREQUENCY	-

ANNUAL STATISTICS

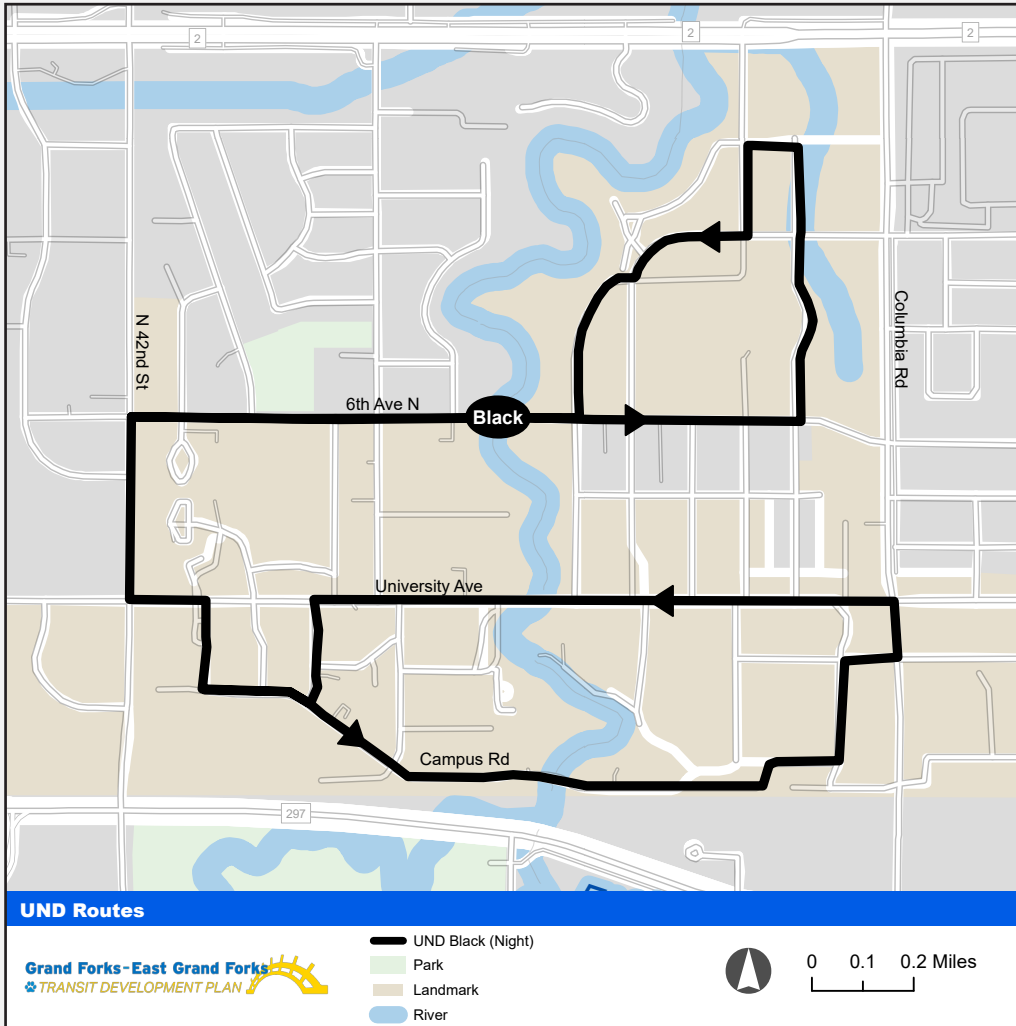
THESE VALUES RELATE TO THE SHORT TERM RECOMMENDATIONS LISTED ABOVE

REVENUE HOURS	1,530	RANK 1/4 (TIE)
OPERATING COSTS	\$140,729	RANK 1/4 (TIE)



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

ROUTE MAP



PROJECT OBSERVATIONS

- This route is long and ridership is low
- Medical school students who could use the route have labs with varying times and the route's unreliability makes it challenging to ride

IMPROVEMENT STRATEGIES

- The route could be converted to a microtransit service that would offer flexibility for classes and labs that end at various times
- It could also be altered to provide access to some shopping destinations for students

RECOMMENDATIONS

- Short term - Maintain Black Route service as it is today
- Medium term - Replace night service with a microtransit pilot and consider implementing weekend and later evening service

WEEKDAY

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

WEEKEND

SPAN	-
FREQUENCY	-

ANNUAL STATISTICS

THESE VALUES RELATE TO THE SHORT TERM RECOMMENDATIONS LISTED ABOVE

REVENUE HOURS	680	RANK	4/4
OPERATING COSTS	\$62,546	RANK	4/4



MICROTRANSIT IMPLEMENTATION

Recommendation

Determine pick-up and drop-off locations for the established zone, develop a user guide for students and a plan for dissemination/communication of the plan, and establish trial period and metrics for success. These should include quantitative metrics, such as ridership, costs, and on-time performance, and qualitative metrics, such as customer feedback and meetings with UND staff and student leadership.

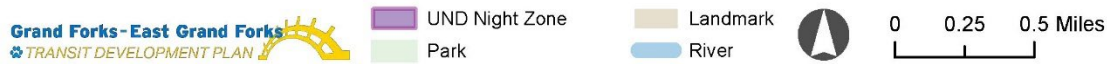
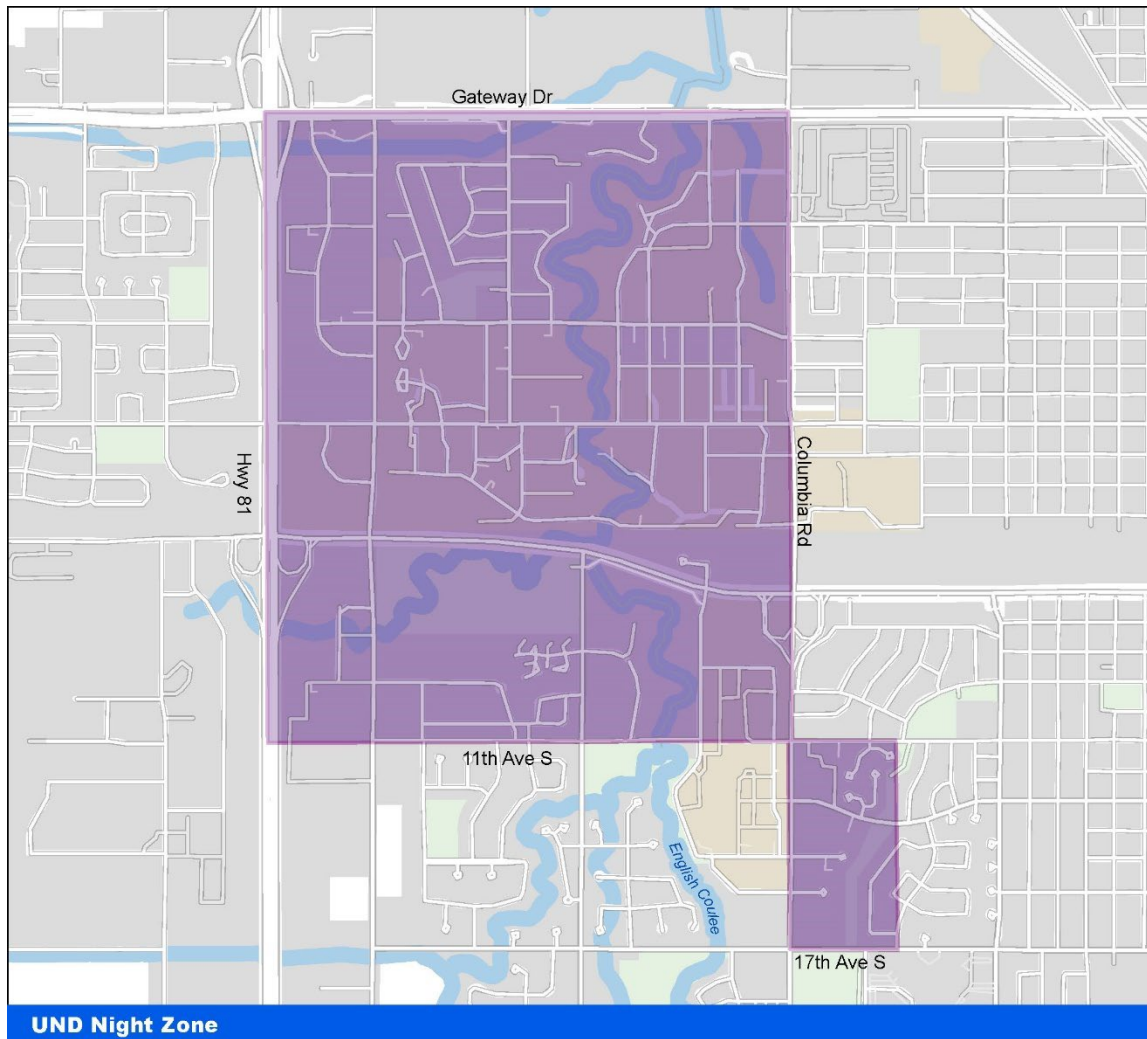


Figure 2. UND Microtransit Zone



Route Service Cost Estimates

CAT SERVICE

Route 1

Route 1 service costs and annual revenue hours remain the same in the Budget Neutral and the Added Service scenarios. In the Microtransit Replacement Service scenario, Route 1 would be eliminated and replaced with the Northern Grand Forks Daytime microtransit service.

Scenario	Annual Revenue Hours	Annual Operating Costs (2022)
Budget Neutral	1,586	\$145,857
Added Service	1,586	\$145,857
Microtransit Replacement Service	N/A – Replaced with Northern GF Daytime Microtransit	

Route 2

Route 2 service costs and annual revenue hours remain the same in the Budget Neutral and the Added Service scenarios. In the Microtransit Replacement Service scenario, Route 2 would be eliminated and replaced with the Northern Grand Forks Daytime microtransit service.

Scenario	Annual Revenue Hours	Annual Operating Costs (2022)
Budget Neutral	1,713	\$157,585
Added Service	1,713	\$157,585
Microtransit Replacement Service	N/A – Replaced with Northern GF Daytime Microtransit	

Route 3

Route 3 service costs and annual revenue hours for daytime and evening service remain the same in all three of the service scenarios.

Scenario	Service Type	Annual Revenue Hours	Annual Operating Costs (2022)
Budget Neutral	Total	3,990	\$366,977
	Daytime	3,453	\$317,561
	Evening	537	\$49,416

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Added Service	Total	3,990	\$366,977
	<i>Daytime</i>	3,453	\$317,561
	<i>Evening</i>	537	\$49,416
Microtransit Replacement Service	Total	3,990	\$366,977
	<i>Daytime</i>	3,453	\$317,561
	<i>Evening</i>	537	\$49,416

Route 4

Route 4 is eliminated in all three of the service scenarios.

Route 5

In the Added Service scenario, frequency for Route 5 would be doubled. In the Budget Neutral and Microtransit Replacement Service scenarios, service hours and costs remain the same.

Scenario	Annual Revenue Hours	Annual Operating Costs (2022)	Notes
Budget Neutral	3,453	\$317,561	60-min frequency
Added Service	6,905	\$635,122	30-min frequency
Microtransit Replacement Service	3,453	\$317,561	60-min frequency

Route 6

Route 6 service costs and annual revenue hours for daytime and evening service remain the same in all three of the service scenarios.

Scenario	Service Type	Annual Revenue Hours	Annual Operating Costs (2022)
Budget Neutral	Total	3,964*	\$366,977
	<i>Daytime</i>	3,427	\$315,169
	<i>Evening</i>	537	\$49,416
Added Service	Total	3,964	\$366,977
	<i>Daytime</i>	3,427	\$315,169

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	<i>Evening</i>	537	\$49,416
Microtransit Replacement Service	Total	3,964	\$366,977
	<i>Daytime</i>	3,427	\$315,169
	<i>Evening</i>	537	\$49,416

*Revenue hours are doubled from existing conditions because routes 4 and 6 are combined.

Route 7

Service hours and frequency remain the same in all scenarios.

Scenario	Annual Revenue Hours	Annual Operating Costs (2022)
Budget Neutral	3,453	\$317,561
Added Service	3,453	\$317,561
Microtransit Replacement Service	3,299	\$303,442.02

Route 8

Service hours and frequency remain the same in all scenarios.

Scenario	Annual Revenue Hours	Annual Operating Costs (2022)
Budget Neutral	3,453	\$317,561
Added Service	3,453	\$317,561
Microtransit Replacement Service	3,453	\$317,561

Route 9

Service hours and frequency remain the same in all scenarios.

Scenario	Annual Revenue Hours	Annual Operating Costs (2022)
Budget Neutral	3,453	\$317,561
Added Service	3,453	\$317,561
Microtransit Replacement Service	3,453	\$317,561



Route 10

Service hours and frequency remain the same in all scenarios.

Scenario	Annual Revenue Hours	Annual Operating Costs (2022)
Budget Neutral	3,453	\$317,561
Added Service	3,453	\$317,561
Microtransit Replacement Service	3,453	\$317,561

Route 12

Route 12 is discontinued in all scenarios.

Route 13

Route 13 service costs and annual revenue hours remain the same in the Budget Neutral and the Added Service scenarios. In the Microtransit Replacement Service scenario, Route 13 would be eliminated and replaced with the Grand Forks Nighttime route.

Scenario	Annual Revenue Hours	Annual Operating Costs (2022)
Budget Neutral	1,228	\$112,951
Added Service	1,228	\$112,951
Microtransit Replacement Service	N/A – Replaced with GF Night Microtransit	

Route 17

Route 17 is not implemented in the Budget Neutral scenario. It is implemented in the Added Service scenario and replaced with on-demand microtransit service in the Microtransit Replacement Service scenario.

Scenario	Annual Revenue Hours	Annual Operating Costs (2022)
Budget Neutral	N/A – Not implemented	
Added Service	2,763	\$254,141
Microtransit Replacement Service	N/A – Replaced with IP Microtransit	



UND CAMPUS SHUTTLE SERVICE

Red Route

Service hours and frequency remain the same in all scenarios.

Scenario	Annual Revenue Hours	Annual Operating Costs (2022)
Budget Neutral	1,530	\$140,729
Added Service	1,530	\$140,729
Microtransit Replacement Service	1,530	\$140,729

Blue Route

Service hours and frequency remain the same in all scenarios.

Scenario	Annual Revenue Hours	Annual Operating Costs (2022)
Budget Neutral	1,530	\$140,729
Added Service	1,530	\$140,729
Microtransit Replacement Service	1,530	\$140,729

Purple Route

Service hours and frequency remain the same in all scenarios.

Scenario	Annual Revenue Hours	Annual Operating Costs (2022)
Budget Neutral	1,530	\$140,729
Added Service	1,530	\$140,729
Microtransit Replacement Service	1,530	\$140,729



Black (Night) Route

Service hours and frequency remain the same in all scenarios.

Scenario	Annual Revenue Hours	Annual Operating Costs (2022)
Budget Neutral	680	\$62,546
Added Service	680	\$62,546
Microtransit Replacement Service	N/A – Replaced with UND Campus Night Microtransit	

Microtransit Service

Route	Annual Revenue Hours	Annual Operating Costs (2022)
Grand Forks Night	2,456	\$141,269
Northern Grand Forks Daytime	3,273	\$188,263
East Grand Forks Night	1,228	\$70,635
East Grand Forks Day	3,273	\$188,263
UND Night	956	\$55,004
Industrial Park	2,295	\$132,008

Programmatic Recommendations

This section includes strategies that could support rider experience and operations for the CAT system. These were developed through public engagement and inter-agency coordination throughout the development of the TDP.

SCHEDULE TIMING

Potential Improvement Strategies

For all routes, schedules should be reviewed for timing and customer experience, and revised as necessary.

BRANDING

Potential Improvement Strategies

Consistent branding should be implemented across websites, bus stops, and other communications tools. This includes iconography, fonts, slogans, messaging. An internal branding guide should be created to support staff.

UND branding for UND buses could include magnet clings with UND logo and colors.

Grand Forks - East Grand Forks TRANSIT DEVELOPMENT PLAN



Peer Examples of Bus Branding

University of Iowa CAMBUS

The University of Iowa's [CAMBUS](#) provides bus service throughout the campus to students, faculty, staff, visitors, and the general public. The system is operated and supervised by students. CAMBUS branding is focused on the University of Iowa's school colors.

Clean and Consistent Design. Focus branding on school colors and simple graphic elements. Create bus wraps that are consistent across the transit buses and vans.

Website Design. Maintain branding consistency across all platforms, including the university's transit webpage, by utilizing the same color scheme and design elements as the vehicles.



Figure 3. University of Iowa's CAMBUS, Jenna Galligan via the [Daily Iowan](#)

University of Minnesota-Twin Cities Campus Buses

The University of Minnesota operates two main [campus buses](#): the Campus Connector (between campuses) and the Campus Circulators (within campuses). Campus bus branding is focused on the University of Minnesota's mascot, the Golden Gopher. Riders can track buses in the GopherTrip app.

Incorporate the Mascot. Create bus wraps that depict the school mascot and utilize school colors. Icons, maps, and other graphics should be consistent with vehicle design.

Transit App. If possible, create an app that allows riders to view transit information or track buses. Maintain consistent branding in the app.



Figure 4. University of Minnesota-Twin Cities campus bus, via [UMN](#)

Minnesota State University, Mankato Campus Buses

Mankato Transit System operates several [buses](#) that serve the Minnesota State University, Mankato community, including a campus circulator. The university also operates a separate shuttle service that serves the campus area. Students, faculty, and staff can ride both systems free of charge. Recent bus wraps depict photographs of campus and students, highlighting Minnesota State University, Mankato history and student life.

Photos of Campus Life. Create bus wraps that use photographs of the campus and students. Additional icons and design elements can use school colors.

On-Board Branding. Produce posters to display inside the bus that highlight campus history, athletics, and culture.



Figure 5. Minnesota State University, Mankato campus bus, via [MSU, Mankato](#)



Branding Materials

Sticker Genius

[Sticker Genius](#) produces temporary vinyl bus graphics that can be any size and shape. The reusable bus graphic can be peeled and re-stuck 100+ times, while the removable bus graphic is repositionable a few times and removes easily.

- > Reusable bus graphic
 - > White background only
 - > 30" x 144" (Bus King): \$211.42
 - > 16" x 72" (Tail): \$67.67
- > Removable bus graphic
 - > Clear or white vinyl
 - > 30" x 144" (Bus King): \$203.73 (clear vinyl)
 - > 16" x 72" (Tail): \$65.21 (clear vinyl)



Figure 6. Sticker Genius Temporary Bus Graphic, via [Sticker Genius](#)

Premier Media Group

[Premier Media Group](#) has several vinyl decal and wrap types available for vehicles. The transit-specific removable vinyl decal is removable for up to one year.

- > Transit Removable Decal
 - > Cut options: decal cut, contour cut, bubble cut, die cut
 - > 3.5-mil matte white opaque vinyl film



Figure 7. Premier Media Group Removable Bus Decal, via [PMG](#)

Contra Vision

[Contra Vision](#) is a leading producer of transit window advertisements. They produce various short- and long-term films with varying levels of transparency. Their bus-specific products are meant for longer-term use, while their films for static surfaces are meant to be removed within a few years.

- > Contra Vision Campaign
 - > Meant for short-term use, under two years
 - > Best for glass bus shelters



Figure 8. Contra Vision Campaign Film, via [Contra Vision](#)



CUSTOMER COMMUNICATIONS

Website Improvements

By improving its online presence, CAT could make it easier for customers to ride transit and share their feedback. New website features could include:

Trip Planning. Implement trip planning options that provide information about connecting routes. Users could select a beginning and end point and a route and schedule could be provided for trip planning.

Interactive Map. Provide an interactive map that shows routes along with destinations that would be familiar to users.

Link Routematch. Include an embedded map that provides the Automatic Vehicle Location (AVL)/real-time route information provided through Routematch for the fixed route service.

Customer Feedback. Create a page that hosts a customer feedback form and all contact information, such as the customer service phone line and email.

Customer Feedback System

The ability to provide feedback easily and feel heard by CAT management is important to maintain a high level of customer satisfaction with the system. This feedback will be particularly important as CAT begins to make improvements and test new service options. Options for customer feedback could include:

Online Feedback Portal. An online feedback portal with basic information about how to contact CAT staff and an easy-to-use comment form is recommended. These comment forms should be formatted for computers and mobile devices, confirm receipt through an automated email or text reply, and provide a guarantee from CAT to review the comment within a short window (for example, 1-7 days).

Transit 311. A one-stop phone line which riders could call or text to get information and provide feedback could support riders as they navigate system changes. This service could be a simple phone line such as 311 that provides automated information like service hours, closures, and other urgent updates. It could also provide direct contact to CAT staff and give options to share feedback. A texting version would allow residents to text the number and receive a basic set of information such as service hours and closures. The text option could also allow users to alert CAT staff of any issues or to provide feedback on the service.

Marketing and Outreach. With changes to the fixed route, service spans, and features, a robust marketing effort could help with the transition and generate enthusiasm for the improvements. This outreach should involve consistent branding and ADA accessible materials. A launch could be advertised through regular CAT channels as well as Facebook advertisements and signs posted at bus stops. The website should be ready in advance of the route changes so riders can familiarize themselves with the changes before the go into effect.

Grand Forks - East Grand Forks TRANSIT DEVELOPMENT PLAN



Peer Agency Website Examples

GO Transit (Oshkosh, WI) Website

GO Transit riders can access trip planning, route schedules and maps, fare information, detours and alerts, and more on the GO Transit website. Riders can also use the GO Transit App, which has much of the same information and capabilities at a more basic level.

Easy-to-Access URL. Create a URL which will be easy to remember and create a better landing space for transit users.

Trip Planning. Implement trip planning options that provide information about connecting routes if possible. Users could select a beginning and end point and a route and schedule could be provided.

Clear Iconography. Select website icons that are easy to understand and graphically appealing to improve website use and accessibility.



Figure 9. Screenshot of GO Transit homepage

Bis-Man Transit (Bismarck, ND) Website

Bis-Man Transit riders can access information on fixed route and paratransit transit options, as well as regional transportation connections. Other website capabilities include a live bus tracker, service change announcements, civil rights information, and transit-related plans.

Contact Page. Create a page that hosts a contact form that can be used to gather customer feedback. Include all contact information, such as the customer service phone line and email.

Interactive Map. Provide an interactive map where riders can view routes, stops, and schedules, along with destinations that would be familiar to users. Implement live bus tracking if possible.

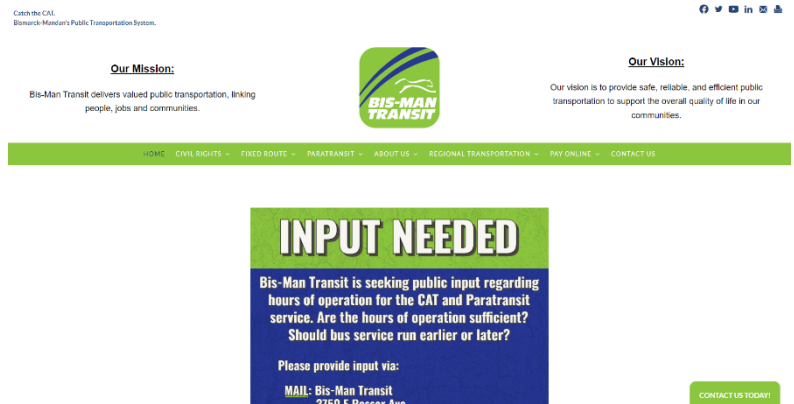


Figure 10. Screenshot of Bis-Man Transit homepage

EXTERNAL PARTNERSHIPS & COORDINATION

City Coordination

- > City partners should consider ways to include transit in conversations about economic development, site planning, roadway improvements. Consider jointly developing a guide to help employers and other activity generators to implement transit-friendly development.



- > Consider a cost sharing/fee assessment to support transit development.
- > Consider opportunities to implement and enhance pedestrian/multimodal connectivity, like the Demers Avenue pedestrian improvements for Route 6.

Service Cost Sharing

- > Identify the level of funding appropriate to reimburse CAT for service to schools
- > Consider cost sharing opportunities for Industrial Park service.

UND Coordination

- > CAT and MPO should be involved in site planning and design for major developments; this would help with operations and service planning.
- > CAT, MPO and UND should have regular meetings, perhaps on a quarterly basis, particularly in the short-term, to coordinate service needs and changes.

DEMAND-RESPONSE SERVICE

The demand-response service, which includes Paratransit and Senior Rider programs, is popular and experiencing growing demand. Programmatic recommendations that would support the coordination and manage costs of this service are included in the Coordinated Human Services Transportation Plan (CHSTP). Additional considerations that will better integrate service and use driver time more efficiently include:

- > Short-term: Consider options for shared taxis to fill some gaps in service, modify costs and provide quicker turnaround of service.
- > Medium-term: consider integration of services with the microtransit service. Demand-response services are different from microtransit service in that they provide origin-to-destination services and assistance for riders, while microtransit provides pick-up and drop-off locations within a zone. CAT's service with Routematch could be used to integrate these two services. This should be part of the microtransit study.

TAXI/RIDESHARE SERVICES

In addition to fixed-route and demand response service, CAT could subsidize the costs of taxi and ride hailing services, such as Uber and Lyft, after service hours for regular service have ended or to extend service connection of the fixed route and solve "first/last mile" issues.

Some national best practices include:

- > Make reimbursement easy by paying providers directly or creating a system that deposits reimbursement immediately.
- > Provide full reimbursement or offer a flat stipend for these services that is well communicated. Full reimbursement assures the program is not cost-prohibitive for users; offering a flat stipend will allow the agency to manage costs and offer the program to more riders.
- > Consider contracting with multiple companies to assure dependable service and options that are universally accessible under the Americans with Disabilities Act (ADA).
- > Seek companies that qualify for shared-ride service reimbursement through the Federal Transit Administration (FTA).
- > Clarify policies for users such that they cover the cancellation fees and understand boundaries of the service.



Peer Examples of Taxi/Rideshare Programs

Case studies of taxi/rideshare programs at large and small transit agencies and government entities from across the country are included for reference. They include Onondaga County, the City of Rancho Cordova, GoMonrovia, Pinellas Suncoast Transit Authority, and Minneapolis/St. Paul Metro Transit. These programs use a variety of different pricing mechanisms and funding sources to either improve service span or solve first and last mile connections to fixed route transit:

Improving Service Span or Network

- > **THE CITY OF MONROVIA, CA** has created a multimodal transportation program, GoMonrovia, by repurposing some of the city's dial-a-ride funding to offer subsidized Lyft rides and bikeshare access through LimeBike. For \$0.50 users can take a Lyft anywhere in the Monrovia service area by applying a promo code in the Lyft app. LimeBike bicycles are available to rent for \$1 for 30 minutes of use or through a monthly membership.¹
- > **MINNEAPOLIS/ST. PAUL METRO TRANSIT** has created the Guaranteed Ride Home program, a free reimbursement program for registered commuters. It is designed to minimize the instance of transit riders being "stuck at work" after working longer than expected or an emergency that runs past regular transit service hours. The program can be used by participants up to four times per year for up to \$100 of total ride reimbursements. The program is not designed to cover regular trips or errands but as a measure to provide rides in special circumstances.²
- > **ONONDAGA COUNTY, NY** and **JOBSPPlus!** created a partnership with Lyft designed to help get people who met income requirements additional support to travel to work. They provide free rides to three area companies looking to hire and to childcare if needed. The pilot was paid for by the publicly funded JOBSPlus! organization and is designed to alleviate transportation-related barriers for jobseekers. Although this group of riders also receives free bus passes, the hope was to provide improved access to these specific destinations.³

First and Last Mile/Transit Connections

- > **THE CITY OF RANCHO CORDOVA, CA** launched "Free \$5 to Ride," a pilot program subsidizing trips to/from the Sacramento Regional Transit District (SacRT) light rail stations in the city. This is a partnership with Lyft and was supported by a \$75,000 grant from Sacramento Area Council of Governments (SACOG). The program was designed to make it cheaper and easier to access SacRT light rail stations.⁴
- > **PINELLAS SUNCOAST TRANSIT AUTHORITY (PSTA)** has created the Direct Connect program is designed to help riders with first mile/last mile service connections in Pinellas County, which includes St. Petersburg and Clearwater, FL. There are three operators that provide trips through the program – Uber (rideshare), Taxi United (taxi), and an additional service that accommodates wheelchairs. For the Uber bookings, a link on the PSTA website allows users to add their Uber account to the PSTA app. The account linking results in an additional Uber service offering (i.e., Direct Connect) as long as trips start or end at one of 26 designated points in the county. These designated points are considered transfer points to the fixed-route system. The system does not require PSTA staff to make Uber bookings, but PSTA staff can monitor trips in real time. Those who cannot use the mobile app, need to make a cash payment, or those who require non-ambulatory service can call in and request Direct Connect service through the other two providers.

¹ <https://learn.sharedusemobilitycenter.org/overview/gomonrovia-monrovia-ca-2018/>

² <https://www.metrotransit.org/guaranteed-ride-home>

³ <https://learn.sharedusemobilitycenter.org/overview/onondaga-county-partners-with-lyft-for-welfare-rides-to-work-syracuse-new-york-2019/>

⁴ <https://learn.sharedusemobilitycenter.org/overview/city-of-rancho-cordova-lyft-partner-for-free-5-to-ride-rancho-cordova-ca-2019/>



Funding Recommendations

As CAT works to expand and streamline the system, recommendations are provided for funding shared mobility services.

FTA FUNDING FOR SHARED MOBILITY SERVICES

In response to increasing interest from the transit industry for partnering with ride-hailing companies, the FTA has clarified policy regarding reimbursement for ridesharing services. The FTA identifies that “shared-ride” services are reimbursable if the service is not for the exclusive use of individuals or private groups: *“A recipient passing funds through to a taxi company or shared mobility operator should request documentation from the company to assure the company is providing shared-ride service.”*

Additionally, ride-splitting or dynamic carpooling as is provided by a number of ride-hailing companies (e.g. UberPOOL or Lyft Shared) is considered a shared-ride service, so long as the contract with the company allows both the drivers and the passengers to accept additional riders if they are identified along the trip.⁵ Mobility management is an eligible capital expense and can coordinate mobility services with other alternatives or traditional public transportation. Funding for shared mobility operators may be available in places where federal public transportation law allows for funding of operating expenses (small urban and rural areas), or for reverse commute, job access, and ADA paratransit services. It also may be available under the Enhanced Mobility of Seniors and Individuals with Disabilities (Section 5310) program.

CAT could potentially use this mechanism to fund the after-fixed route hours rideshare program. CAT should follow guidance from FTA and use the following steps to set up the program. When identifying contractors that can provide the mobility service:

- 1. Contract with companies that can assure they provide shared-ride service reimbursable by the FTA.** Companies like Lyft and Uber have been used by transit agencies throughout the country. Traditional taxi service is also an option used in many places. They should be able to provide documentation that makes them eligible under FTA guidelines. The service they provide must allow for riders to share the ride, although not every trip needs to be a shared ride for a service to be a shared ride operator.⁶
- 2. Investigate opportunities for partnership which include joint marketing, integration of schedules or travel operations systems on the website or payment systems.** Contractors should be able to integrate their platform with existing transit. The shared ride service could provide connections to CAT and other systems, which reduce the length of the shared ride portion of the trip. This system could help manage costs while still providing excellent service and connectivity.
- 3. Provide equivalent service that is ADA accessible.** The mobility contractor must have ADA accessible vehicles available that have the same service characteristics as non-ADA accessible vehicles. These characteristics include response time, fares, geographic area, hours and days, restrictions or priorities based on trip purpose, availability of information and reservations capability, and any other constraints on capacity or service availability.⁷ If the cost of service provision for accessible vehicles is greater, CAT must offset those costs. Some agencies use their demand-response vehicles to service this need. Lyft and other companies have made accessible options available on their app which may qualify for this purpose, however there should be assurance that these companies can provide equal wait times for rides between vehicle types.

⁵<https://www.transit.dot.gov/regulations-and-guidance/shared-mobility-faqs-eligibility-under-fta-grant-programs>

⁶ <https://www.transit.dot.gov/regulations-and-guidance/shared-mobility-faqs-eligibility-under-fta-grant-programs>

⁷ https://www.transit.dot.gov/regulations-and-guidance/shared-mobility-faqs-americans-disabilities-act-ada#ada_4



RECOMMENDED FURTHER STUDIES

Airport Connectivity Study: Consider options to collaborate with public and private partners to provide regular service to the airport. Collaborate with airport to determine ideal scheduling.

ADA Improvements Study: Updates to capital and communications. Examples of capital improvements include ADA pads and shelters. Examples of communications improvements include websites and other media in ADA-accessible formats.

Rideshare Alternatives Study: Investigate use of federal funding for rideshare reimbursement.

Industrial Park Service Study: Review existing research on this service area. Develop ridership estimates and proposed cost sharing.

Microtransit Study: A microtransit study should be conducted in the short term for implementation of microtransit options in the long term. The study should include costs, a transition/education plan, anticipated ridership, fare review, a plan for integration with demand-response service, and a review of peer agency best practices.

The following table and map show proposed microtransit service ideas that could be inputs for this microtransit study.

Microtransit	Vehicles	Hours per Day	Weekday Revenue Hours	Hours	Vehicles	Saturday Revenue Hours	Annual Revenue Hours
GF Night (Replaces Route 22)	2	4	8	4	2	8	2,456
Northern GF Daytime (Replaces Routes 1 and 2)	1	11	11	9	1	9	3,273
EGF Night (Added Service in Addition)	1	4	4	4	1	4	1,228
EGF Day (Replaces Route 12)	1	11	11	9	1	9	3,273
UND night (Replaces UND Black/Night service)	1	5	5	0	0	0	956
Industrial Park Area Zone	1	9	9	0	0	0	2,295

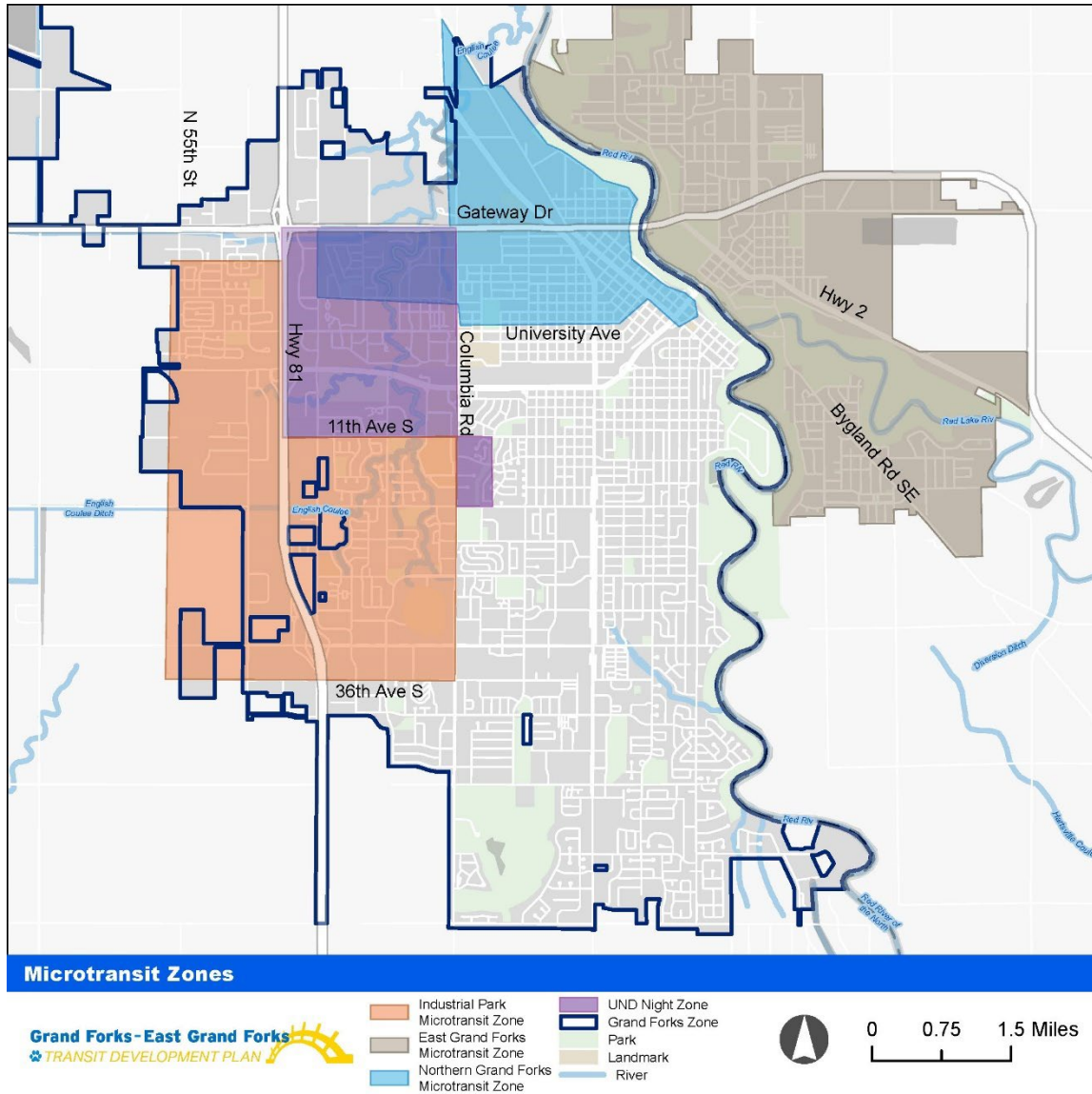


Figure 11. Microtransit Zones for Further Study



SERVICE RECOMMENDATIONS BUDGET SCENARIOS

	Service Conditions	Approximate Total Annual Revenue Hours	Cost based on 2022 Cost per Revenue Hour	Difference from Existing Condition
Budget Neutral*	<ul style="list-style-type: none"> > Replaces route 4 service with route 6 Service > Includes route modifications listed above > Assumes Route 12 is eliminated as it is today 	36,500	\$3,300,000- \$3,400,000	Estimated to be budget neutral (same costs as existing services)
Added Service*	<ul style="list-style-type: none"> > Add service hours for an industrial park route which would run 5-9AM and 3-8PM Monday-Friday > Add 11 daily revenue hours to either increase frequency or span for Route 5 	<p>Adds around 2,700 revenue hours for the industrial park route</p> <p>Doubles revenue hours for the Route 5</p> <p>Total added annual revenue hours: 5,900</p>	\$3,850,000- 3,950,000	Estimated \$540,000 added to budget from existing conditions
Microtransit Implementation**	<ul style="list-style-type: none"> > Uses the assumptions in Error! Reference source not found. 	Includes about 13,500 revenue hours for microtransit in place of fixed route services	\$3,350,000- 3,500,000	Estimated \$60,000 added to budget from existing conditions



Prioritization and Implementation

Service recommendations have been categorized into short- and long-term and aligned with broader plan goals.

SHORT TERM

Could be implemented immediately

CAT Service

Routes 1 and 2: Routes should be maintained as they are and funding possibilities for fixed-route school bus service should be explored.

Goals supported: Fiscal Sustainability and Efficient System Management

Route 3: Service should be maintained as-is. A stop-level study should be conducted to determine options to simplify the route.

Goals supported: Service Quality

Routes 4 and 6: Routes 4 and 6 should be combined and the new Route 6 should run interlined with Route 3 to determine any schedule issues. Options for better pedestrian connections between medical facilities and Demers Avenue should be studied.

Goals supported: Multimodal Connectivity, Service Quality, Equity

Route 5: Route 5 should remain as it is today, and funding partnerships with the school district for K-12 bussing should be explored.

Goals supported: Fiscal Sustainability and Efficient System Management

Route 7: Route 7 should be modified to be more direct. The connection to Target should be removed and transfers to routes 8 and 9 should be encouraged instead. The route should provide a direct connection to the Post Office from downtown. Route 7 should also be extended further south to reach new development on 47th Avenue.

Goals supported: Community Connectivity, Service Quality

Routes 8 and 9: Routes 8 and 9 should be aligned and should provide service to the Verge apartments.

Goals supported: Community Connectivity

Route 10: Route 10 should shift to bi-directional service, starting downtown and ending at the Columbia Mall. Transfer locations with Route 7 should be promoted for connections to Hugo's on 32nd and the Grand Cities Mall.

Goals supported: Community Connectivity

Route 12: Route 12 should be discontinued as fixed-route service and converted to microtransit service, providing connection to Route 6 for inter-city transportation.

Goals supported: Community Connectivity

Route 13: Service should continue as it is today.



Goals supported: Service Quality

Route 17: Funding opportunities for this route should be pursued through public-private partnerships or other sources. Service in this area should run between 5AM-9AM and 3PM-8PM to accommodate industrial park shift changes.

Goals supported: Equity, Fiscal Sustainability and Efficient System Management

UND Campus Shuttle Service

All routes: Maintain service as it is today.

MEDIUM TERM

Could be implemented before the next TDP

CAT Service

Routes 1 and 2: Microtransit should be studied as a potential option for the future.

Goals supported: Community Connectivity, Service Quality, Fiscal Sustainability and Efficient System Management

Routes 4 and 6: Implement better pedestrian connections between medical facilities and Demers Avenue.

Goals supported: Multimodal Connectivity, Equity

Route 5: Route 5 should run twice an hour and into the evening.

Goals supported: Equity

Routes 8 and 9: Aligned routes 8 and 9 should replace Route 13 for evening service.

Goals supported: Service Quality

Route 12: Replacement of Route 12 daytime and evening service should be included in the microtransit study.

Goals supported: Community Connectivity, Service Quality, Fiscal Sustainability and Efficient System Management

Route 13: The microtransit study should include replacing Route 13 with nighttime service.

Goals supported: Community Connectivity, Service Quality, Fiscal Sustainability and Efficient System Management

Route 17: Replacement of this route should be included in the microtransit study.

Goals supported: Community Connectivity, Service Quality, Fiscal Sustainability and Efficient System Management

UND Campus Shuttle Service

Grand Forks - East Grand Forks TRANSIT DEVELOPMENT PLAN



Red Route: Reroute to travel to 25th on the east side of campus, and re-time route schedules to reflect new traffic patterns on campus.

Goals supported: Service Quality

Purple Route: To improve on-time performance, consider keeping service as it is today along Columbia Road and 6th, assess ridership for the part of the route that deviates to the south to serve Odegard Hall, and remove this stop and follow University Avenue to avoid traffic concerns with the deviation and required left turn.

Goals supported: Service Quality

Black (Night) Route: Replace night service with a microtransit pilot and consider implementing weekend and later evening hours.

Goals supported: Equity, Service Quality