



PREPARED FOR BISMARCK-MANDAN MPO

MOBILITY 2017

TRANSIT ROADMAP FOR BISMARCK AND MANDAN

Final Report

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in association with
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EXECUTIVE SUMMARY

THE MOBILITY 2017 PLAN

The purpose of this Transit Development Plan (TDP), otherwise known as *Mobility 2017: Transit Roadmap for Bismarck and Mandan*, is to undertake a comprehensive review of transit services to ensure the bus network keeps up with demand, addresses the diversity of needs, and is sustainable.

Capital Area Transit (CAT) and Bis-Man Paratransit provide local service in the Bismarck and Mandan area. The transit operation started in 1990, providing door-to-door service for persons with disabilities, and was shortly thereafter expanded to serve seniors. Since its inception, the Bis-Man Paratransit service has offered access 24 hours a day, seven days a week and has been managed by the Central NoDak Development Corporation. The service provides approximately 170,000 annual passenger trips.

Recommendations

This report provides a variety of recommendations impacting various facets of transit planning, service monitoring, and operations. Key recommendations are as follows:

- The agency should adopt performance standards, collect data to evaluate performance of existing services, and use standards as a way of making policy decisions about existing routes and future service investments.
- Fixed-route services should be expanded in terms of service frequency and in some cases, service span, to better match demand with service availability. Some resources should be shifted from paratransit services to fixed-route operations to offer a more equitable distribution of service. No regular fixed route should operate less often than every 60 minutes during the service day.
- In low density areas with poor transit ridership, service can be eliminated. In some cases, general public demand-response service could be offered, or a deviated fixed route could operate serving the needs of both the general public and paratransit riders.
- Service should focus on being more time sensitive. Bus routes should be adjusted to provide more direct, two-way service wherever possible for residents of Bismarck and



A passenger boards a CAT bus. CAT offers good coverage of the Bismarck-Mandan area, but ridership is low and some routes are circuitous. The plan identifies strategies to make transit an integral part of the local transportation network and build ridership.

Mandan. The majority of trips should be able to be taken with only one transfer (see the recommended service map on Page ES-9).

- A central transit facility/transfer location is recommended in place of the current two transit centers on the north and south sides of Bismarck.
- Transit service should only be provided to communities or entities outside of Bismarck and Mandan that provide funding for the service.
- The agency should consider different paratransit certification criteria to be consistent with ADA requirements. This could include transitioning the system away from offering service to anyone age 60 or older, or charging premium fares for non-ADA-eligible riders.
- Paratransit should ideally operate within the same area as fixed-route service and at similar service hours. Late-night and early morning service can be discontinued or offered as a premium service at a higher fare.
- Marketing and the public's understanding of transit service availability can be improved. One key consideration is to modify the system name so that Bis-Man Transit is not seen as both the agency name and the paratransit operation name. The name of the fixed route system could remain CAT, while the paratransit operation could be changed to something that suggests it is a complement to CAT rather than the primary transit operation.

THE REGION

The Bismarck-Mandan metropolitan area is located in central North Dakota, where Interstate-94 meets the Missouri River. The city of Bismarck, located on the eastern bank of the Missouri, is the state capital as well as the county seat of Burleigh County. According to the 2010 U.S. Census, the population of Bismarck is 61,300. To the west of the Missouri River, Mandan has an estimated population of 18,300. The combined metropolitan area, including adjacent communities, is home to 109,000 residents.

Today, Bismarck is a regional center of government, health care, education, and retail. Recently, Bismarck experienced considerable population and employment growth in its northern neighborhoods, mostly due to new and expanding retail centers along or north of I-94. Between 1990 and 2010 population growth remained relatively stable, at or around 10% per decade.

BIS-MAN TRANSIT

The Bis-Man Transit Board provides policy oversight for public transit within the service area — both CAT and Bis-Man Paratransit service — but does not hire any staff. Program management is provided under contract by the Central NoDak Development Corporation. As the broker, it is responsible for administration of the transit service, provision of facilities, personnel and equipment, raising funds as match to federal funds, soliciting proposals for service providers, monitoring compliance with those providers, marketing the service, certifying Bis-Man Paratransit-eligible riders and other administrative activities.

Direct services are provided under contract by Taxi 9000, which is responsible for direct service provision, including scheduling, dispatch, and vehicle maintenance.

Capital Area Transit (CAT)

CAT provides extensive coverage throughout the Bismarck and Mandan area with a total of 12 fixed routes. Ten of the routes operate in Bismarck and two routes serve Mandan with connections to Bismarck. The twelve routes are essentially six route pairs that are distinguished by the area they serve:

- Routes A1 and A2 originate at Kirkwood Mall and serve east Bismarck, including the Senior Center, Bis-Man Transit, Bismarck High School and St. Alexius Medical Center.
- Routes B1 and B2 originate at Kirkwood Mall and serve west central and south Bismarck, including Crescent Manor (the “High Rise”), United Tribes Technical College (UTTC), the South Wal-Mart and Bismarck Civic Center.
- Routes C1 and C2 originate at Gateway Mall and serve north central and northwest Bismarck, including the North Wal-Mart.
- Routes D1 and D2 originate at Gateway Mall and serve north and northwest Bismarck, including Arrowhead Plaza, the YMCA, Bismarck State College (BSC), and the Pinehurst Shopping Complex (Kohl’s, Lowe’s)
- Routes E1 and E2 connect Kirkwood Mall with Gateway Mall and provide service to central Bismarck and the State Capitol Complex.
- Routes M1 and M2 provide service primarily in Mandan with connections to Bismarck at Bismarck State College and Kirkwood Mall.

Most of the routes in the system operate every hour during the peak periods and every two hours during the midday period. The exceptions are Routes E1/E2 which operate every 30 minutes during peak periods and hourly during the midday period, and Routes M1/M2 which operate every two hours throughout the day.

While boardings over the past four years have averaged about 10,500 per month, ridership is trending slightly upwards overall. Routes E1 and E2 in Bismarck and Routes M1 and M2 in Mandan are the highest ridership and productivity routes in the system. Routes C1 and C2 have the lowest average boarding and productivity in the system, followed by Routes B1 and D1.

While farebox revenues increased by 71% between 2005 and 2009, the farebox recovery on CAT has only increased by 31% due to steadily rising operating costs. It should be noted that the farebox recovery ratio experienced on CAT is well below what would typically be experienced on other similar systems around the country. The number of passengers per revenue hour has



Many bus stops have nice amenities and are clearly marked, such as at the North Wal-Mart (above). Some shelters have been placed in areas with very low boardings and should be moved elsewhere, such as the shelter north of Ft. Lincoln Elementary School — an area with almost no transit ridership (below).



steadily been increasing, and grew by about 53% between 2005 and 2009. The number of passengers per revenue mile also increased between 2005 and 2009 (by about 30%.)

BIS-MAN PARATRANSIT

Bis-Man Paratransit provides door-to-door service that is available 24 hours per day, seven days per week. During 2010, it provided 171,652 rides on 29 buses that are part of its fleet.

Paratransit services are provided in compliance with the Americans with Disabilities Act (ADA); in fact, services far exceed the minimum requirements of the ADA, which stipulate that complementary paratransit must be offered during the same hours of service as the fixed route, and within $\frac{3}{4}$ mile of existing fixed route services. Services operate throughout the greater Bismarck-Mandan area, as well as to Lincoln and the University of Mary, and provide access for persons with disabilities and anyone age 60 or older.



Bis-Man Paratransit is a premium service, offering service 24 hours a day, seven days a week to people with disabilities and anyone age 60 and older.

Between 2005 and 2006, ridership remained very steady; however, beginning in 2007, it began to decline. During this same period of time, operating expenses increased by 43%. The farebox recovery ratio, while also having declined, is still very impressive at nearly 25% — significantly higher than farebox recovery on CAT.

The cost per passenger has steadily increased over the past five years, having grown by 60% during this period of time. However, at a cost of under \$10 per trip, the service is very cost-effective compared to other public transit systems around the country. The same points can be made of cost per hour. Although it has steadily increased, at \$37 per hour the service is quite cost-effective,

compared with many other transit systems (average \$50 to \$75 per hour for transit systems of a similar size).

In 2009, the operating budget to support paratransit totaled \$1,637,620, which represents 62% of the agency's total operating costs. In addition to fares, which cover about 25% of operating costs, sources of funds used to support the system include the Cities of Bismarck and Mandan, Federal Transportation Administration (FTA) funding, including JARC and New Freedom, and revenues from various social service agencies.

PUBLIC INPUT

Stakeholder Comments

Stakeholders were asked to share their perspectives on major transportation challenges facing the Bismarck-Mandan region. According to stakeholders, the most important challenges include a lack of awareness of current public bus services, increasing congestion, and the overall dependence on the automobile for many people.

Many acknowledged the limitations of public transit within the region and the perception that it is not used by commuters, but rather serves transit-dependent populations and older adults. As

fixed route service is relatively new to Bismarck, some interviewees pointed out the need for increased marketing and awareness of the services.

The main concerns expressed with paratransit service quality have to do with scheduling, namely the 45-minute window riders may have to wait, and some people are on the vehicle for a long time.

Regarding fixed routes, stakeholders said services should be extended later in the evening, on weekends, and to serve Lincoln and the University of Mary. There were some other specific needs that came up, such as providing more direct services to UTTC.

Positive feedback was received about CAT and Bis-Man Paratransit management: they are helpful, easy to work with, able to meet needs, a good community partner for some of the agencies serving persons with disabilities, and they offer friendly, personalized service.

Based on the feedback from stakeholders, a number of transportation needs were identified, which generally fall into one of the following three categories:

- Service expansion
- Improving existing services
- Awareness and comfort of existing service

Community Surveys

The community survey consisted of an “intercept” survey that was conducted one-on-one at various locations in Bismarck and Mandan, as well as an on-line survey. The community survey was developed to better understand typical travel habits and destinations for various trip purposes (work, shopping, school, etc.), as well as to understand what factors would encourage respondents to use transit (or use it more often). The intercept survey and online survey asked the exact same questions and were evaluated together.

FOR SURVEYOR USE Date: _____ Location: _____ CAT Ticket:

To help plan for transit service in Bismarck and Mandan, we are conducting a short survey on transportation choices and preferences. We plan to use this confidential information to help CAT/Bis-Man Transit create a Transit Development Plan. This survey should take approximately 5-7 minutes to complete. To thank you for completing the survey, the surveyor will offer you a ticket for a free ride on CAT to use yourself or give to a family member or friend.

About you and your commute

1) What is your home ZIP Code? _____ (Check here if you don't know)
2) What are the closest cross streets to your home? _____ and _____

3) Are you currently employed or in school? (check all that apply)

Employed (full or part time): Name of Employer: _____
City: _____ ZIP Code: _____

School/College/University (full or part time): Name of School: _____
City: _____ ZIP Code: _____

Other (please indicate) _____ (skip to Question 6)

4) For work/school, what is your primary mode of transportation? (If you work AND go to school, please provide information about primary activity: work OR school.)

Drive Alone Public Transit N/A
 Walk/Bike Carpool/Vanpool Other _____

5) On a typical day, how long does it take you to travel from your home to your place of work or school? (If you work AND go to school, please provide information about primary activity: work OR school.)

0-10 Minutes 11-20 Minutes 21-30 Minutes 31-40 Minutes 40-60 Minutes More than 1 hour Don't commute on a regular basis

Public Transportation Options

6) Does CAT public transportation currently serve the neighborhood where you live?
 Yes No Don't know

7) Have you used public transportation in the past six months?
 Yes → *if YES: Answer 7a and 7b*

7a. Which service(s) have you used? (Mark all that apply)

CAT (Capital Area Transit) Other (Which system(s)? Where?) _____
 Bis-Man Paratransit _____

7b. How often do you ride public transportation? (Check only one)

5 or more days/week A few days a month
 2-4 days a week Less than once a month

No → *if NO: Why have you not used public transportation? (Mark all that apply)*

Prefer to drive Public transportation is too expensive
 Get rides from others Public transportation is not safe
 Travel times on bus are long Not enough information about public transportation/confusing
 Not available near my home Other _____
 Doesn't go where I need it Doesn't go when I need it

Community surveys were conducted on-line and in person at locations throughout the Bismarck-Mandan area. Persons who completed a survey received a voucher for a free transit trip.

Perhaps unsurprisingly, the vast majority (83%) of survey respondents drive alone to access either their places of employment or school. Approximately 5% walk or bike as their primary mode of travel to and from work or school, and another 5% take some form of public transit.

When asked if CAT served their neighborhood, 42% of survey respondents were certain that it did, while 25% were certain that it did not. One-third (33%) of respondents were unsure as to whether or not their neighborhood is served by a CAT bus route.

Survey participants were presented with a list of potential service changes, new amenities, and other factors and asked if these would encourage

them to use CAT. An increase in gasoline prices, route changes that would provide service closer to respondents' homes, an increase in service frequency and service hours, and new CAT routes to various destinations in the metropolitan area were those survey respondents said are most likely to encourage them to switch to transit.

On-Board Passenger Surveys

Surveys were conducted on CAT and Bis-Man Paratransit buses over the course of a week in June 2011. The survey was designed to gauge existing riders' behavior about how they access transit and where they go, as well as perceptions about overall service quality and service needs.

CAT Riders

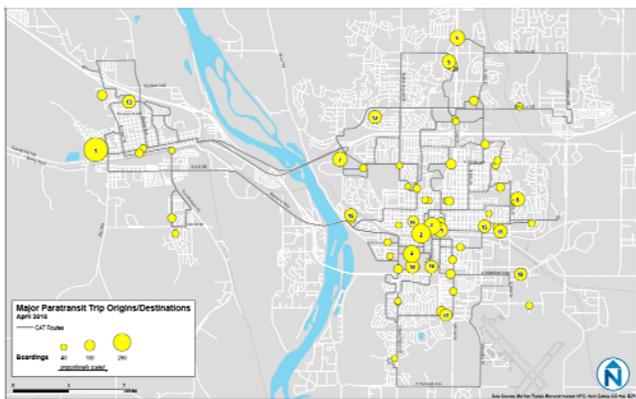
The findings showed that most CAT riders are transit dependent. A total of 44% of respondents live in households that make less than \$10,000 collectively, and 79% of respondent households make less than \$30,000 annually. More CAT riders do not have a valid driver's license than those who do: 54% do not possess a license, while 46% do.

Most people use the bus for work trips, followed by shopping trips. When asked how they would make their current trip if CAT service were not available, one in four respondents answered that they would have to walk. Twenty one percent would be able to secure a ride from someone else, while 17% would have to call a taxi.

The preferred service improvement is the initiation of Sunday service, chosen by 39% of respondents. Later service in the evenings is second, given by 34% of respondents. Third is an increase in service frequency, marked by 19% of respondents.

Bis-Man Paratransit Riders

Bis-Man Paratransit provides service for any individual over the age of 60, as well as people with disabilities at any age. Forty-eight percent (48%) of respondents were under 50 years old and are presumably all eligible for service based on disability status. Persons age 80 or older represent 23% of respondents, and 20% of respondents were between age 70 and 79.



Most paratransit destinations are in areas served by fixed routes. Many paratransit riders said they could use CAT for at least some of their trips.

The majority of individuals who rely on paratransit in the Bismarck-Mandan area come from low income households: 59% of respondents live in households that earn less than \$10,000 per year.

While 43% of respondents said they cannot use CAT due to a permanent disability, 57% indicated that they are able to use CAT.

The vast majority — 76% of survey respondents — did not have a car available to them to make their trip. Only 14% did, while 10% would be able to use a car, but with inconvenience to others.

A majority of survey respondents rate

highly the convenience of service, the overall service quality, the skill and courtesy of dispatch officers, the general safety of the buses, and the ease of understanding the service.

The survey results illustrate some opportunities to improve marketing, routing and service hours on CAT, and address issues related to service policies and convenience for riders of Bis-Man Paratransit. The results also suggest that transit has some flexibility to make changes to service policies and operating parameters.

WHAT IS THE ROLE OF TRANSIT IN THE BISMARCK-MANDAN AREA?

Transit planning faces an unavoidable tradeoff between two competing goals: **Coverage** and **Productivity**. When the CAT route network was designed in Bismarck and Mandan, according to staff, it was designed to provide maximum coverage of the area. Considering projected ridership growth and existing service that does not necessarily meet demand, the focus of this plan is to implement some changes with the goal of increasing productivity. Planning strategies that support increased productivity include the following:

- A less complex fixed-route system
- Service reliability and on-time performance
- Improved fixed-route service frequencies in key ridership areas
- A reduced service area for fixed routes and paratransit
- A paratransit operation that complements the fixed-route network



Bis-Man Transit's adopted Mission statement is "to provide high quality, reliable, convenient and safe public transit services in an efficient manner."

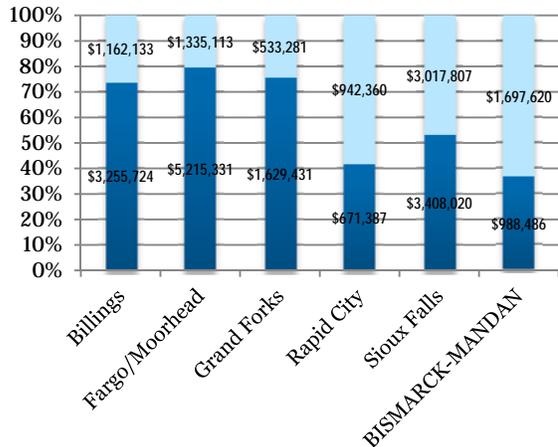
Based on the agency's mission and these strategies, a revised set of goals and objectives were defined for the agency. The goals are as follows:

- Goal 1: Provide quality transportation services to the public
- Goal 2: Provide reliable transportation services
- Goal 3: Maximize the effectiveness of service for Bis-Man Transit's ridership markets
- Goal 4: Provide safe and secure transportation services
- Goal 5: Provide transportation services in an efficient manner
- Goal 6: Increase the visibility and elevate the image of transit in the Bismarck-Mandan area

Performance Indicators

Performance indicators can play a critical role as part of transit system oversight. Currently, there is no formal process in place for either fixed-route or paratransit that results in establishment of

service and performance standards, tracking and monitoring actual performance in relation to stated goals, and reporting on subsequent findings to the Bis-Man Transit Board or the MPO TAC or Policy Board. As a result, both the CAT and Bis-Man Paratransit services may not be achieving their full potential, and/or there may be opportunity to improve the methodology by which performance measures are established, collected, tracked, and reported. The plan recommends performance measures and standards to be adopted that articulate the policies and priorities of the transit system.



Most peer agencies spend a greater proportion of their resources on fixed route services than Bis-Man Transit does. Dark blue represents fixed route expenditures; light blue represents paratransit expenditures.

While both performance and design standards need to reflect the best thinking of agency staff members, it is critically important that they be understood and adopted by the Bis-Man Transit Board. Once adopted, these policies give decision-makers a rationale for supporting or rebuking proposed service changes; they also offer transparency for Bismarck and Mandan residents, allowing them to understand the basis for transit service decision-making. By having adopted standards, they can be written into approved service and operating policies, and offer Bis-Man Transit a good justification for implementing route changes or discontinuing service. The adoption process can sometimes be eased when members of the Board understand that standards inform, but do not dictate, decisions.

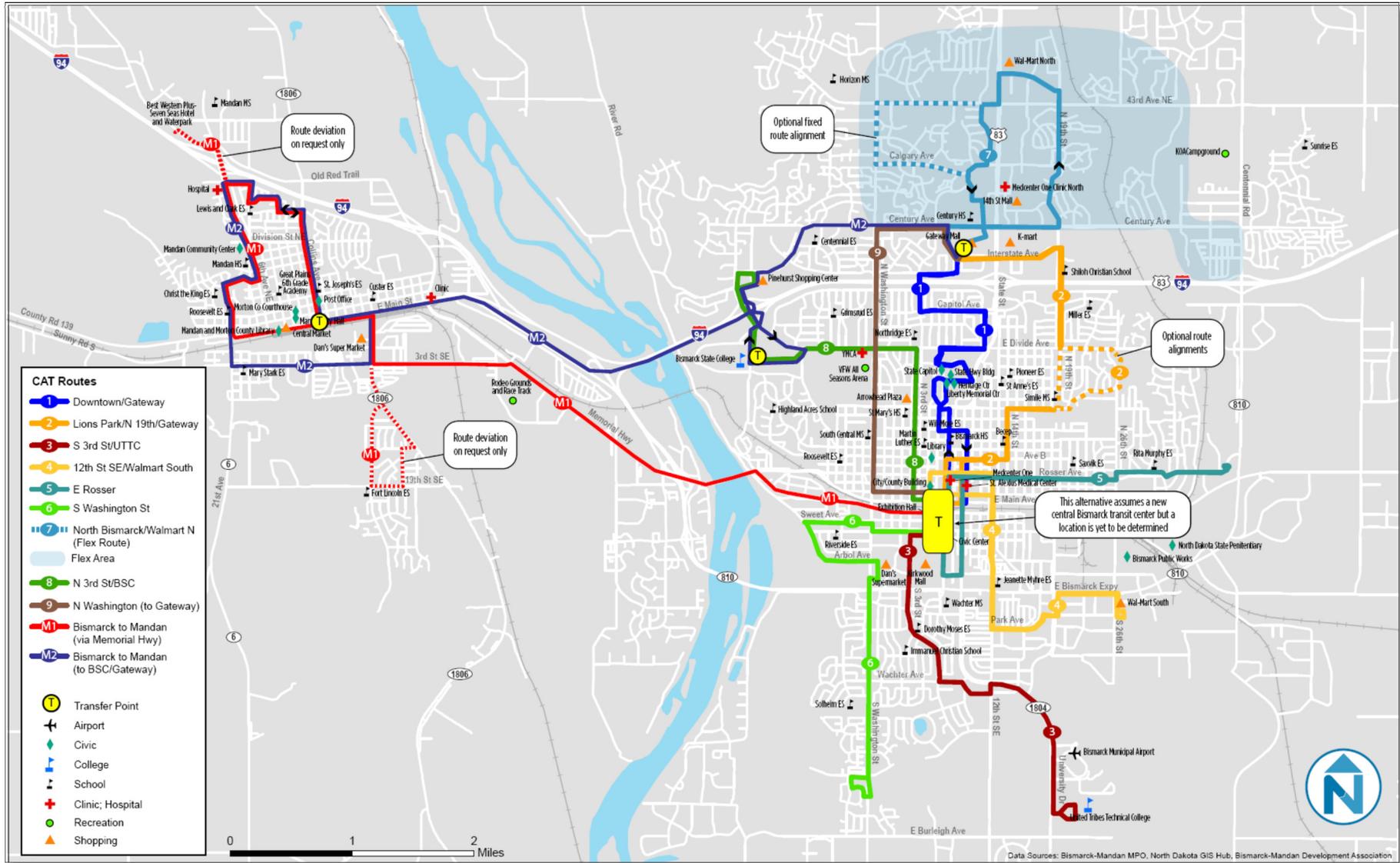
Standards will need to be periodically revisited and updated as operating conditions and Bis-Man Transit’s priorities evolve, as well as when financial conditions change. While there are benefits from maintaining a consistent set of standards, it is a good idea to consider whether they continue to reflect the community’s priorities.

Peer Considerations

Several of Bis-Man Transit’s peers were evaluated, including Billings, Fargo-Moorhead, Grand Forks, Rapid City, and Sioux Falls. Compared with some of the agency’s peers, CAT service has a lower operating cost per capita, with the exception of Rapid City. The peer information also shows CAT’s operating cost per passenger is significantly higher than any other peer, while Bis-Man Paratransit’s operating cost per passenger is among the lowest, with only Grand Forks, ND having a lower operating cost per passenger.

This information is useful because it shows that investment in, and performance of, transit in the Bismarck-Mandan area is somewhat out of step with other systems in similar communities. All of the peers have a higher proportion of total expenses going to fixed routes compared with dial-a-rides, and four of the five peers spend more than 50% of their resources on general public fixed-route service, compared with Bis-Man Transit, which spends about 36% of operating dollars on CAT fixed-route transit services.

Recommended Expanded Service Scenario



TRANSIT SERVICE RECOMMENDATIONS

Fixed-Route Service Recommendations

Alternatives were developed (1) that assume no significant change in funding (status quo) but assume different levels of service restructuring and (2) an expansion in funding for fixed-route service in Bismarck and Mandan in line with a significant service restructure. The recommended alternative calls for a service expansion with the following objectives

- Increase funding; improve service headways. Although the proposed route structure could be implemented with no change in funding, the recommendation is to shift a greater level of resources into the operation of fixed-route service to allow for better frequencies (minimum of 60 minutes midday, 30 minutes peak)
- Match service levels with demand. The focus is on enhancing ridership rather than providing coverage throughout the region.
- Eliminate one-way loops. Bi-directional service provides the most direct routing and eliminates confusion associated with service that is provided in only one direction.
- Minimize or eliminate double transfers. With the exception of one route in north Bismarck, all routes would pulse into and out of a single transfer location.
- De-emphasize service to elementary and middle schools, allowing for school tripper service if necessary.

Future service expansions could include later service hours, Sunday service, or new routes to the University of Mary and Lincoln, with dedicated funding for those services. Service to Lincoln, for example, can be provided if financially supported by the City of Lincoln. Service to the University of Mary could be provided if a student fee were assessed to pay for the provision of expanded service.

It should be noted that the recommended service assumes a single transit center in central Bismarck. In the interim, this central location is assumed to be at the north entrance to Kirkwood Mall where existing services connect. However, a new central transit center that is exclusively for CAT is envisioned as an important element in the plan. Siting of the facility could be done as a separate transit center siting study or possibly as part of a comprehensive downtown transportation plan that looks at integrating transit, parking policy, pedestrian and bicycle access, and roadway design.

There are a number of important benefits to locating the transit center in downtown Bismarck:

- Because Bismarck is largely developed in a radial pattern around downtown, a new transit center in this area would allow most routes to be designed so that the round trip travel times are about the same. This ensures that all (or most) routes in Bismarck can be timed from a central point, facilitating connections between routes and minimizing wait times.
- In addition to the main transfer location between routes, the downtown transit center as envisioned would serve as the most prominent transit facility in the region.
- Transit can and should play a central role in revitalizing downtown Bismarck – both by bringing people downtown and by focusing new development in this area
- As envisioned in the recommendations, a secure and dedicated passenger transfer facility will also ensure that the CAT system is able to grow. The current transfer centers at Kirkwood and Gateway Malls are not permanent facilities and are limited in terms of available space.



Kirkwood Mall functions as a transit center but has limited space. A new transit center would ideally be developed in downtown Bismarck.

Bis-Man Paratransit Service Recommendations

One of the ways to improve CAT fixed route service is to shift some resources away from paratransit to the fixed routes. The recommendations assume that enhancing CAT will benefit everyone, including many current users of Bis-Man Paratransit:

- People who are able to use CAT should use CAT; Bis-Man Paratransit should be considered a service or safety net limited to those whose disability prevents their use of CAT.
- Any cost savings resulting from curtailing the use of Bis-Man Paratransit by those who can use CAT should be dedicated to improving CAT.
- Any changes to Bis-Man Paratransit should be rolled out simultaneously with improvements to CAT and should be presented to the public as a comprehensive service enhancement plan.
- Revisions to Bis-Man Paratransit service policies or eligibility criteria should be phased in over time.

- Bis-Man Paratransit/CAT staff should develop a comprehensive public outreach and media campaign to inform and educate members of the public of proposed changes before and during the time any revisions are implemented, as well as closely informing its own Board of Directors of the tradeoffs involved.

Specific recommendations are as follows:

- Maintain the high quality of service offered by Bis-Man Paratransit.
- Bis-Man Paratransit is encouraged to revise certification criteria to be consistent with ADA requirements. This means that eligibility for Bis-Man Paratransit should be based on whether or not the applicant has a disability that prevents use of fixed-route transit service.
- Bis-Man Paratransit should revise the eligibility process by which applications are reviewed and certified, and should consider an in-person assessment to carefully and thoroughly document whether or not the applicant is able to use CAT and, if not, what conditions or circumstances prevents use of CAT. Some individuals may be deemed conditionally eligible, and could use Bis-Man Paratransit some of the time rather than all of the time.
- Bis-Man riders' eligibility status does not expire. It is reasonable to expect users of the service to recertify their eligibility status every few years.
- Bis-Man Paratransit should complement CAT. It should ideally operate within the same service area. Service to Lincoln and the University of Mary should be funded by these entities in order to continue to be provided.
- One alternative that would allow Bis-Man Paratransit to provide service where or when CAT does not operate would be to consider such trips as "premium service" and charge a premium fare.
- It is recommended that the transit system invest in the purchase of several (three or four) wheelchair-accessible taxi vehicles in order to provide more flexibility to the fleet and to improve mobility options for residents and visitors of the Bismarck-Mandan area.

The plan recognizes that not all of the recommended actions may be deemed desirable by Bis-Man Transit staff. Regardless of which actions are taken, efforts should be made to estimate the potential cost savings should fewer people, over time, be considered eligible to use Bis-Man Paratransit, and if service hours and the service area are refined to be more in line with CAT. The cost savings should be directed to CAT to improve service to all members of the public, including those who currently use Bis-Man Paratransit but could and would use CAT if it operated more frequently or if the routes were more direct.

FINANCIAL PLAN

Operating and capital costs have been projected for the next five years under two different scenarios. One scenario assumes there are no changes made to the overall budgets or allocation between CAT and Bis-Man Paratransit. The second assumes that CAT headways are improved as recommended, with a gradual reduction in paratransit service. It also assumes new services to Lincoln and the University of Mary by 2016. The analysis shows that additional revenues would be required to ramp up the CAT service. The Financial Plan reviews capital requirements and potential funding opportunities.

ADVANCING THE ROLE OF TRANSIT

Implementation of the new service recommendations provides an opportunity for Bis-Man Transit to focus on its identity and the marketing resources that it provides. Marketing strategies and actions should improve the visibility and usefulness of the transit services provided in Bismarck-Mandan area. Staff follow and implement a robust marketing plan to build ridership on CAT, and based on ridership increases, it suggests some of the efforts are working. Ongoing monitoring of the effectiveness of the marketing plan is encouraged and staff should continue to tweak programs and services to reach target markets. Specific opportunities for Bis-Man Transit include the following:

- The flexible use of the name Bis-Man Transit to represent the agency and the paratransit service affects the public's understanding of CAT. The agency is encouraged to reevaluate the names of the two transit operations, perhaps keeping the name of the fixed route system CAT, and change the name of the paratransit operation to CAT Paratransit (or another variant sometimes used for paratransit operations, such as CAT Lift, CAT Access, Dial-a-CAT, etc.).
- Maintain the comprehensiveness of the CAT brochure. With a simpler route structure, the brochure may be better able to communicate the services available to the public.
- A more straightforward naming convention for the CAT routes would name each route by number and the major streets or neighborhood where the bus travels.
- The agency may consider whether full bus wraps are appropriate as the CAT system is trying to build community recognition.
- The agency website is attractive, friendly, and easy to understand. Opportunities to ensure it is accessible to members of the public, updated and allows for real-time travel trip planning should be considered, including the use of Google Transit.
- Focus CAT advertising on newspapers and other print media where detailed information about the available services can be provided, unless the advertising is focused on special events of the introduction of new or revised services, when other media might be appropriate.
- The agency is encouraged to continue to offer its personalized travel training program, which should provide greater utility with a revised route network that makes it easier for individuals to do trip planning on their own.
- Bis-Man Transit should also focus community engagement efforts specifically on major employers, the general public, and college students. Opportunities exist for a citizen's advisory committee that represents a diversity of transit markets; offering incentives for major employers to partner (e.g.,



Marketing should build upon CAT's successes and find new ways to meaningfully engage the public in decision making.

advertising opportunities in a new shelter installed by an employer, employee bus pass program); sponsorship of special events; and working with colleges to develop pass programs so that students have an incentive for using transit to travel to campus.

Recommendations are also described for plan refinement, a multi-stage process that will require Bis-Man Transit to carry out a number of service and operational tasks. Bis-Man Transit staff is directed to review the components of the recommended service plan and make necessary modifications. This modified service plan should then be presented to the public, City Commissions and the MPO Board.

1 INTRODUCTION

OVERVIEW OF THE MOBILITY 2017 PLAN

Capital Area Transit (CAT) and Bis-Man Paratransit provide local service in the Bismarck and Mandan area. The transit operation started in 1990, providing door-to-door service for people with disabilities, and was shortly thereafter expanded to serve seniors. Since its inception, Bis-Man Paratransit has offered access 24 hours a day, seven days a week and has been managed by the Central NoDak Development Corporation. The service provides approximately 170,000 annual passenger trips.

In May 2004, a new fixed route transit system was implemented to expand transit options to the general public and provide an alternative for people using Bis-Man Paratransit to ride the bus without making an advanced reservation for service. The new service, known as CAT, provides about 130,000 annual passenger trips on 12 fixed-route bus lines designed to operate primarily as community circulators, traveling throughout the Bismarck-Mandan urban area and providing service within and adjacent to most residential areas.

CAT and Bis-Man Paratransit operate using a mix of federal and state funds, with local matching funds coming from Bismarck and Mandan property taxes, as well as funds from the Missouri Slope Areawide United Way, RSVP+, Mandan Golden Age Services, Burleigh County Senior Adults Program, and other organizations. The service has continued to expand, work with community partners, and update its policies and services to better meet the needs of the community.

The purpose of this Transit Development Plan (TDP), otherwise known as *Mobility 2017: Transit Roadmap for Bismarck and Mandan*, was to undertake a comprehensive review of transit services to ensure the bus network keeps up with demand, addresses the diversity of needs and is sustainable. The plan includes an analysis of existing transit services, development of transit performance standards, service alternatives and recommendations, and a capital and financial plan. Some of the specific areas of focus for this plan include a determination of the appropriate allocation of resources between Bis-Man Paratransit and CAT services; opportunities for changes to the CAT route network, including a potential relocation to a downtown Bismarck transit center; and opportunities for changes to paratransit eligibility and service characteristics.

STUDY PROCESS

This study was conducted in three separate phases. The first phase was an evaluation of existing conditions. This included stakeholder interviews, surveys, service maps, an analysis of demographic data, and a preliminary identification of service opportunities. Public meetings were held to share the findings and solicit input from the community.

The second phase included definition of performance goals and standards, as well as service enhancements and alternatives, and some information about Bis-Man Transit's peers for comparative purposes.

This report represents the final phase which, in addition to the previous efforts, includes service recommendations, a financial and capital plan, and strategies to enhance marketing and outreach. The results from a second round of public meetings, conducted in early December, will be incorporated in the Final Report.

Oversight for this study was provided by the Bismarck-Mandan Metropolitan Planning Organization (MPO), along with Bis-Man Transit staff. The study was reviewed and input was provided by the MPO Technical Advisory Committee, Policy Board and the Bis-Man Transit Board.

LITERATURE REVIEW

The consulting team conducted a brief overview of recent studies that are relevant to the Mobility 2017 Plan.

Transit Development Plan (April 2007)

The previous Transit Development Plan was conducted in 2006 and 2007 and finalized in April 2007. While the plan included many of the same elements as the current plan, it also included a peer review of other comparable transit operations. Key recommendations from the previous TDP can be summarized as follows:

- **Increase ridership.** The TDP pointed out that there are a variety of both external and internal forces that impact ridership. Recommendations for increasing ridership that are within Bis-Man Transit's control include fare changes and innovations, marketing and information programs, service improvements, improved amenities and partnerships to improve coordination.
- **Shift non-ADA riders to CAT.** This recommendation focused on the need to better utilize CAT as much as possible, especially for non-ADA trips. Specific recommendations included charging a higher fare for non-ADA trips on paratransit and a lower fare on CAT.
- **Address paratransit no-shows.** The TDP acknowledged that no-shows are relatively low (between 1-2%) but that continued efforts should be made to minimize no-shows and miscommunications.
- **System management recommendations.** This recommendation related to obtaining better system performance data on a regular basis. Specifically, on-off counts, on-time performance, and transfer data were noted as essential for better understanding the service and making service adjustments.
- **Service recommendations.** Several specific service recommendations were made, including the elimination of large one-way loops, revisions to Routes A1 and A2, monitoring of performance on Route C2 (the lowest performing route) and reducing transfers systemwide.
- **Financial recommendations.** This recommendation related to the allocation of administrative staff time to the Section 5309 program, which has a lower local match requirement than Section 5307.

- **Transit planning recommendations.** This recommendation noted that there is strong middle and high school ridership potential for the CAT system and as such suggested working with schools to better promote CAT, adjust CAT schedules to better meet bell times, explore the opportunity of coordinating with or replacing yellow school bus service in Mandan, and participating in the Safe Routes to School program.
- **Marketing improvements.** A number of specific marketing recommendations were made in the last TDP, including:
 - Conduct annual on-board passenger surveys
 - Conduct a random-sample general population survey every five years
 - Address concerns related to route directness and travel times on the bus
 - Add bus stop signs

Transit Management Alternatives Study (January 2011)

The purpose of the Transit Management Alternatives Study was to identify potential options to the current practice of contracting administrative services. The analysis looked at whether it would be appropriate to shift administration of transit to the City of Bismarck, and evaluated different departments where the function could be carried out. Ultimately, the study recommended maintaining the existing administrative structure in which Central NoDak Development Corp. runs the transit operation while the city owns the bus facility and fleet, which are used by Taxi 9000, the service operator. The assessment found that some of the funding provided by local nonprofit organizations may be at risk if the service were shifted to a city department.

The study provided a proposed approach to staffing, if the operation were to be shifted to the City of Bismarck, as well as potential Board structure.

Bismarck-Mandan Long Range Transportation Plan – 2035

The 2010-2035 Bismarck-Mandan Long Range Transportation Plan (LRTP) provides the blueprint for the area's transportation planning process over the next 25+ years. The transportation planning process is a collaborative effort between Bismarck, Mandan, Burleigh County, Morton County, Lincoln, the North Dakota Department of Transportation (NDDOT), Bis-Man Transit and other state/Federal agencies, where the multimodal transportation system was evaluated and a set of recommendations are made.

The plan includes a set of recommendations, roadway improvements, bicycle infrastructure investments, pedestrian, freight, transportation demand management (TDM) and trail improvements. It also includes transit service recommendations, including those outlined in the 2007 TDP and the following identified in the LRTP specifically for 2035 (Figure 1-1).

Figure 1-1 Transit Alternatives and Planning-Level Cost Estimates

Transit Alternative	Overview	Planning Level Cost (2009\$)
Expand Fixed Route to 71 st / US 83	Provide service extension of 2 miles into future growth area.	Operations Cost: \$40,000 / year. Capital Cost: \$90,000 (dedication of 30% of a new bus).
26th St/Calgary Avenue	Short ¼ mile route extension into future growth area.	Operations Cost: \$7,000 / year. No Significant Capital Costs.
Expand Fixed Route to Lincoln	Requires significant extension of current service approximately 4.5 miles.	Operations Cost: \$90,000 / year. Capital Cost: \$210,000 (dedication of 70% of a new bus).
Expand Fixed Route in North Mandan	Minor expansion into future growth area – likely an additional ¼ mile or so.	Operations Cost: \$7,000 / year. No Significant Capital Costs.
University of Mary Service	Extension of current service approximately 3 miles. Likely a partnership with U Mary.	Operations Cost: \$60,000 / year. Capital Cost: \$150,000 (dedication of 50% of a new bus).

Source: Table 9, Page 109, 2010-2035 Long Range Transportation Plan

2 COMMUNITY PROFILE AND DEMOGRAPHIC OVERVIEW

INTRODUCTION

The Bismarck-Mandan metropolitan area is located in central North Dakota, where Interstate-94 meets the Missouri River. The city of Bismarck, located on the eastern bank of the Missouri, is the state capital as well as the county seat of Burleigh County. According to the 2010 U.S. Census, the population of Bismarck is 61,300. To the west of the Missouri River, Mandan has an estimated population of 18,300. The combined metropolitan area, including adjacent communities, is home to 108,800 individuals.

Today, Bismarck is a regional center of government, health care, education, and retail. Recently, Bismarck experienced considerable population and employment growth in its northern neighborhoods, mostly due to new and expanding retail centers along or north of I-94. Between 1990 and 2010 population growth remained relatively stable, at or around 10% per decade.

CAT fixed-route transit service is available in both cities. Bis-Man Paratransit provides 24-hour door-to-door service for all residents age 60 and older and people with disabilities who live within the city limits of Bismarck and Mandan, as well as service to Lincoln and the University of Mary.

This chapter provides a summary of existing population and demographic data.

MAJOR EMPLOYERS AND TRANSIT GENERATORS

Figures 2-1 and 2-1 present the largest employers and trip generators in the area. The largest employer in the metropolitan area is the State of North Dakota, with 4,400 employees in its central Bismarck location. Medcenter One, the St. Alexius Medical Center, the City of Bismarck, and the United States Federal Government are also large downtown employers, as are the stores located in Kirkwood Mall. Outside of downtown and the mall area, employment is clustered around retail centers, such as the South Wal-Mart and Sam's Club retail center near the Bismarck Expressway, Gateway Mall, and Pinehurst Square Shopping Center near I-94, which contains big box stores such as Kohl's and Lowe's. Bismarck State College (BSC), Aetna, the Basin Electric Power Cooperative, and the Missouri Slope Lutheran Care Center are other large Bismarck employers located outside of the downtown area, mostly along or near existing CAT transit routes to the north, east, and south.

In Mandan, large employers are mostly located outside of the downtown area, and include the Housing Industry Training (HIT) Administration Office, NISC, the Tesoro Refinery, and Cloverdale Foods Co. Located off of I-94, both NISC and Cloverdale Foods Co. are the largest employers in the area that do not have direct or nearby CAT transit access. Downtown Mandan's largest employers are the City of Mandan and Morton County, which employ approximately 280 people combined. The Bismarck and Mandan Public School systems also employ numerous

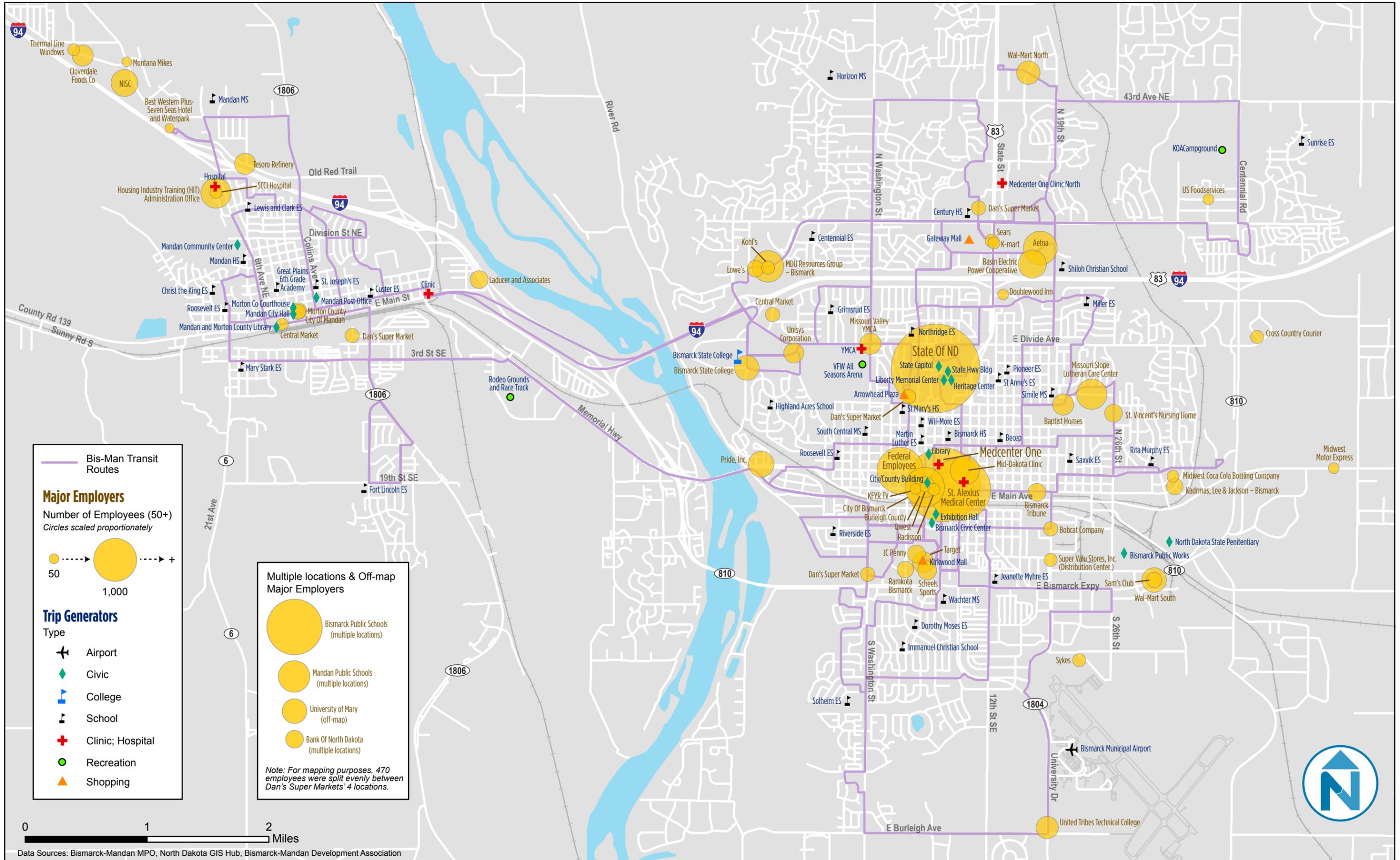
people at various locations throughout the greater metropolitan area, as does the Bank of North Dakota.

Figure 2-1 Bismarck-Mandan Area Major Employers (400+ Employees)

Sector	Company	Number of Employees
Government	State of North Dakota	4,400
Healthcare	Medcenter One	3,038
Healthcare	St. Alexius Medical Center - Bismarck	2,176
Education	Bismarck Public Schools	1,714
Government	The U.S. Federal Government	1,200
Government	City of Bismarck	864
Energy	Dakota/Great Plains Gasification Plant	700
Telecommunications	Aetna	618
Education	Mandan Public Schools	572
Energy	MDU Resources Group - Bismarck	537
Healthcare	Missouri Slope Lutheran Care Center	530
Education	Housing Industry Training (HIT)	501
Energy	North American Coal - Coteau Mine	500
Telecommunications	Coventry Healthcare	475
Retail	Dan's Super Markets	470
Healthcare	Mid-Dakota Clinic	465
Energy	Basin Electric Power Cooperative	459
Education	University of Mary	435

BSC and the University of Mary represent potential transit generators, as students in other communities are a traditionally transit-dependent population, and the schools employ 334 and 435 people, respectively. See the final section of this chapter for maps of BSC and University of Mary student and staff home locations.

Figure 2-2 Bismarck-Mandan Area Major Employers



Data Sources: Bismarck-Mandan MPO, North Dakota GIS Hub, Bismarck-Mandan Development Association

EXISTING AND PROJECTED POPULATION AND EMPLOYMENT GROWTH

Existing Population Characteristics

Population densities are highest in and around the downtowns of Bismarck and Mandan. In Bismarck, the neighborhoods surrounding the State Capitol Building and Hillside Park average 5,000 people per square mile and greater. Densities are also high both north and south of I-94 along North Washington Street, as well as in the areas to the north and south of the East Bismarck Expressway, along South Washington Street. In Mandan, densities are highest in the area bound by Collins Avenue and 6th Avenue NW, and lowest in areas along the banks of the Missouri. In Bismarck, densities are lowest in the areas north of 43rd Avenue NE, east of Centennial Road, and south of the airport. These areas are decidedly rural in character. Figure 2-3 presents the residential densities of the Bismarck-Mandan metropolitan area.

The minimum population density needed to support regular, all-day local fixed route transit is typically considered to be between 2,000 and 3,000 persons per square mile. All areas that meet this threshold are already served by CAT. CAT also provides transit service to many areas that do not meet this threshold. It should be noted, however, that population density is not the only measure for likelihood of transit use. Various demographic characteristics, as well as employment density and employment growth reflect an area's potential demand for public transit. Furthermore, some transit service can provide access to lower density, more rural areas via flexible routes and schedules that better meet limited demand.

Existing Employment Characteristics

As described in sections above, the Bismarck-Mandan metropolitan area is a regional center of government, health care, and retail. Employment is concentrated in downtown Bismarck as well as in various commercial areas along I-94 and the East Bismarck Expressway. Downtown Mandan also exhibits a high density of employment, primarily comprised of small businesses. Figure 2-4 displays the job density of the metropolitan area.

Projected Population Growth

By the year 2035, the Bismarck-Mandan MPO anticipates that household growth will be highest in locations outside of already urbanized Bismarck and Mandan, to the north, east, and south of the downtowns of both cities. More specifically, the areas north of I-94 will see the highest rates of growth, along U.S. Route 83 in Bismarck, and along State Route 1806 in Mandan. Other areas with anticipated high growth rates include land to the west of Bismarck Municipal Airport along East Burleigh Ave and South Washington Street, the areas immediately east and west of the East Bismarck Expressway, areas in the southeast corner of Bismarck, land along both sides of the Missouri River south of I-94, and areas to west of Highway 1806 in Mandan. See Figure 2-5 for a map of projected 2035 household growth.

Projected Employment Growth

Like household growth, by the year 2035 employment growth will, for the most part, be concentrated in locations outside of both downtowns. The areas north of I-94 are expected to see

high rates of growth, along U.S. Route 83 in Bismarck, and along State Route 1806 in Mandan. Unlike household growth, however, some employment growth is anticipated in areas to the immediate southeast of downtown Bismarck. Growth is also anticipated to be high in eastern parts of Bismarck, along the East Bismarck Expressway and points further east. See Figure 2-6 for a map of projected 2035 employment growth.

DEMOGRAPHIC DATA

Population groups that rely most heavily on public transportation include those with a decided lack of other travel options. Persons with disabilities, seniors, low-income residents, and students are examples of such groups, all four of which exist in the Bismarck-Mandan area. Most commonly, these groups are considered to be transit dependent, due to their lack of other means of transportation.

Low-Income Populations

In an auto-oriented environment such as the Bismarck-Mandan metropolitan area, vehicle ownership is a reasonable proxy for income status and use of public transportation. Households that lack access to a car most likely cannot afford to own a car, as opposed to choosing not to own one. Lack of vehicle ownership typically correlates to a high use of public transportation.

Median household income is mapped in Figure 2-7. The census block groups with the lowest median household income, defined as those earning a combined \$15,000 to \$30,000 annually, are those that include large portions of downtown Bismarck, downtown Mandan, and the neighborhoods north of Bismarck Municipal Airport. These households are those that are most likely to ride transit for both work and non-work trips. Conversely, the block groups with the highest median household income, defined as those earning over \$90,000 per year, are in the suburban and rural areas in the northwest portion of Bismarck. These households are least likely to ride transit.

Households without a Vehicle

As illustrated in Figure 2-8, the percent of workers over 16 with no available private vehicle is highest in downtown Bismarck and the neighborhoods immediately to the south. This concentration of individuals who lack access to a car encompasses some of the areas with the lowest median household incomes in the metropolitan area. Conversely, car ownership is highest in the more rural areas to the northeast and south of Bismarck, and to the north of Mandan. In the higher-growth, higher-income areas northwest of downtown Bismarck, between 2% and 3% of workers over the age of 16 lack access to a private vehicle. The same is true for areas east of Bismarck and south of Mandan.

Seniors

Individuals over the age of 65 typically comprise a transit-dependent population because many are either unable to drive, choose not to, or lack access to a private vehicle. As such, many seniors depend on transit or paratransit for trips such as shopping, medical appointments, and other errands. As shown in Figure 2-9, while seniors reside throughout the metro area, in Bismarck the block groups with the largest percentage of seniors are located in areas adjacent to the State Capital Building and north of I-94 to the west of State Street. In Mandan, seniors are concentrated in pockets immediately west of 6th Avenue NE and along Collins Avenue, south of I-94.

The provision of transit service is especially important in areas with high concentrations of senior populations, as they typically depend on transit for lifeline services.

Youth

Younger individuals, particularly students, tend to use public transportation at greater rates than the general population. In Bismarck, youth populations are located mostly in the rural peripheral areas to the north and east of downtown. Various concentrations of younger residents exist in Mandan, and, to a lesser extent, in the more suburban areas of Bismarck. See Figure 2-10 for a map of residents under the age of 18 by Census block group.

BSC AND UNIVERSITY OF MARY STUDENT/STAFF ADDRESSES

As Bismarck is the home of BSC, University of Mary, the United Tribes Technical College and a campus of Rasmussen College, there exists a relatively large student population that, arguably, may be more willing to ride transit.

Figure 2-11 presents the home address locations for students of Bismarck State College. While various students reside in the more rural areas of the metropolitan region, the vast majority live in the more densely inhabited neighborhoods of Bismarck and Mandan, along existing CAT routes. As Bismarck State College itself is served by CAT transit, most of its students (and staff) have the viable option of taking transit to and from work or school, although few actually do.

Similarly, students and staff of the University of Mary live in areas already served by CAT. Some, however, reside in more rural areas not served by transit. The University of Mary Center for Accelerated and Distance Education (CADE or Butler Center) has direct transit service to its downtown Bismarck location. However, the University of Mary main campus, located six miles south of Bismarck, has no transit service. Any attempt to decrease car mode share at the University of Mary will require the creation of a new route or rerouting of an existing route. Figure 2-12 displays the faculty, staff, and student home locations for persons going to both University of Mary campuses.

Figure 2-3 Bismarck-Mandan Area Existing Residential Densities

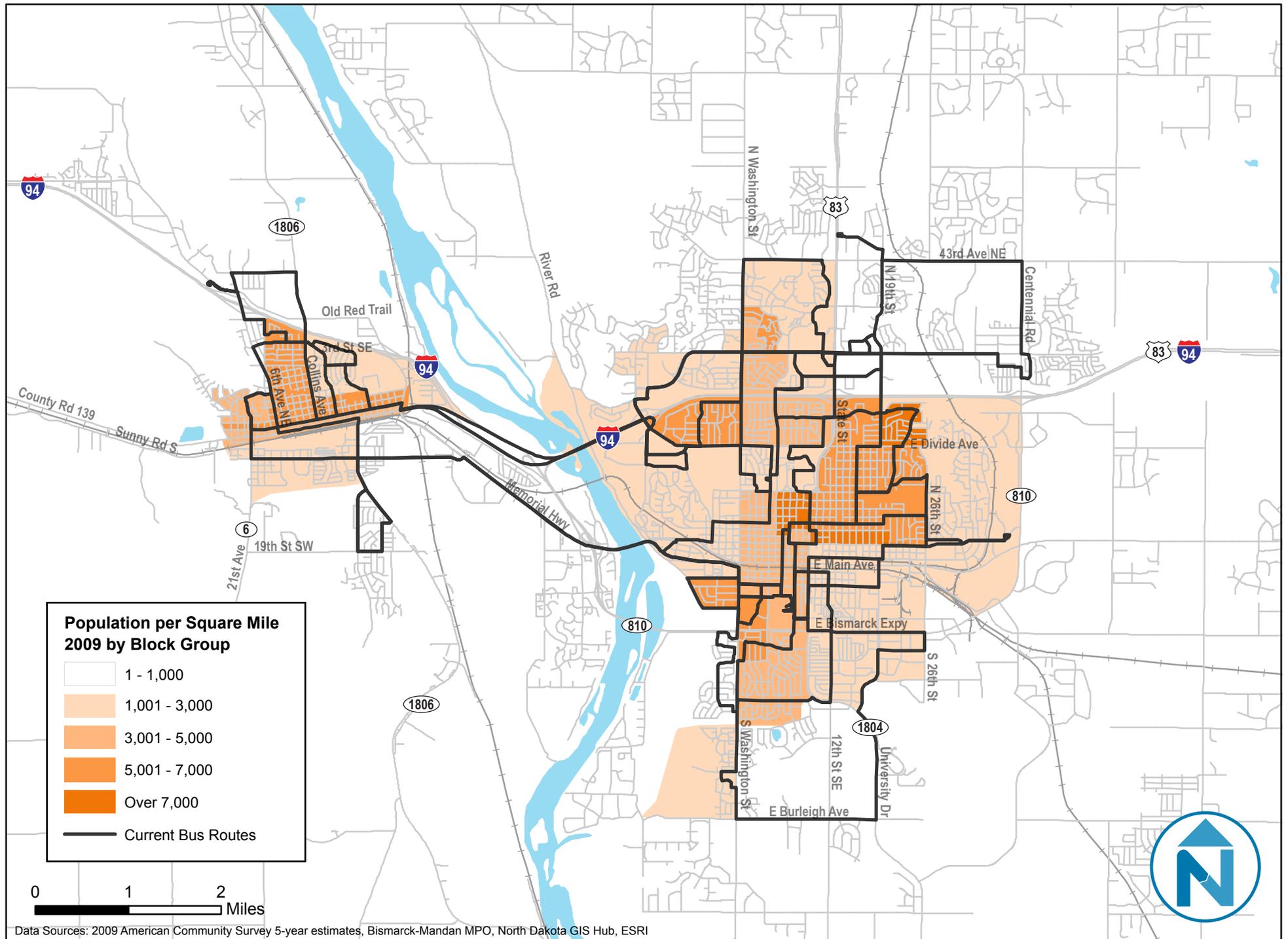


Figure 2-4 Bismarck-Mandan Area Existing Employment Densities

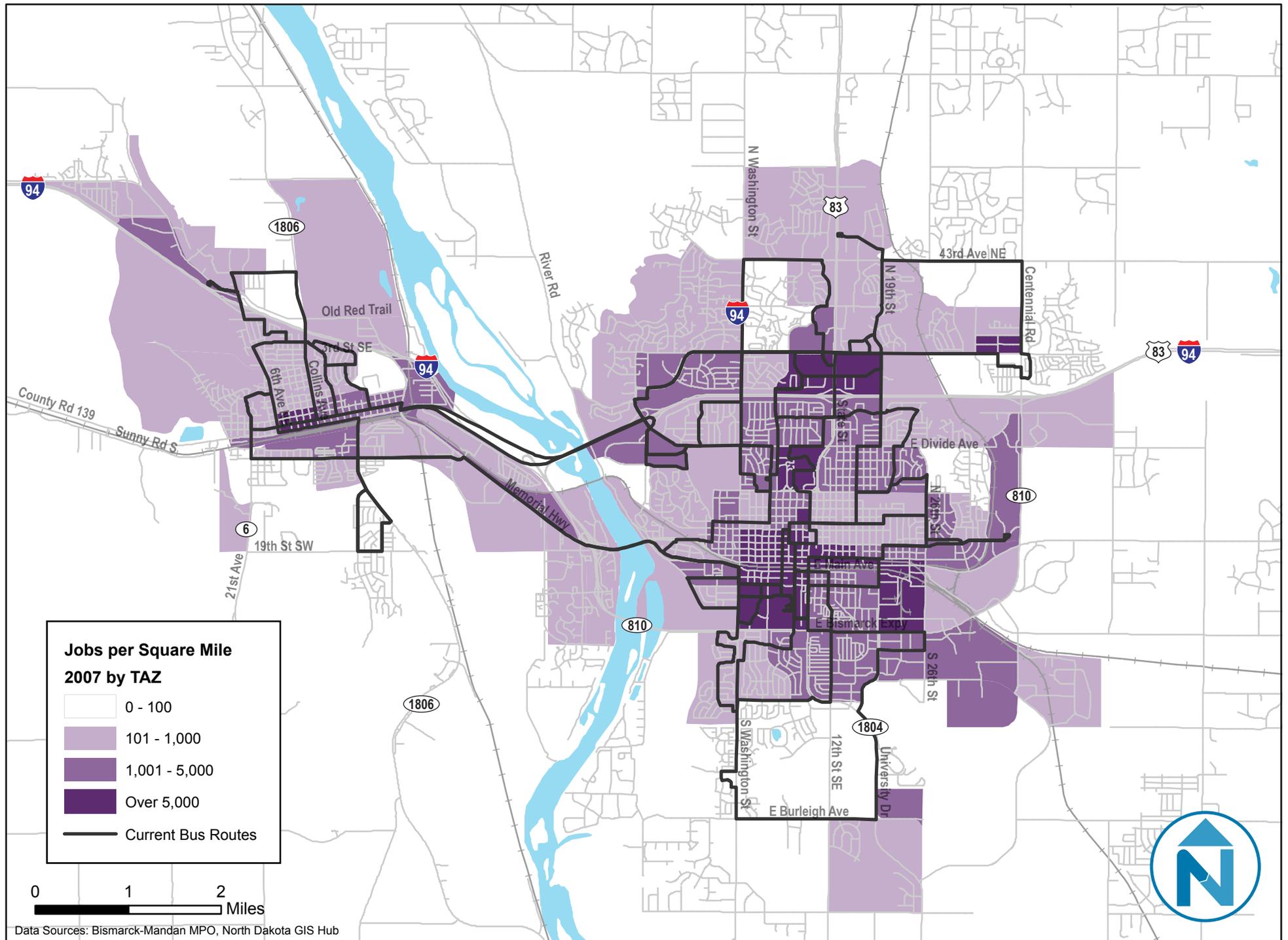


Figure 2-5 Bismarck-Mandan Area Future (2035) Residential Growth

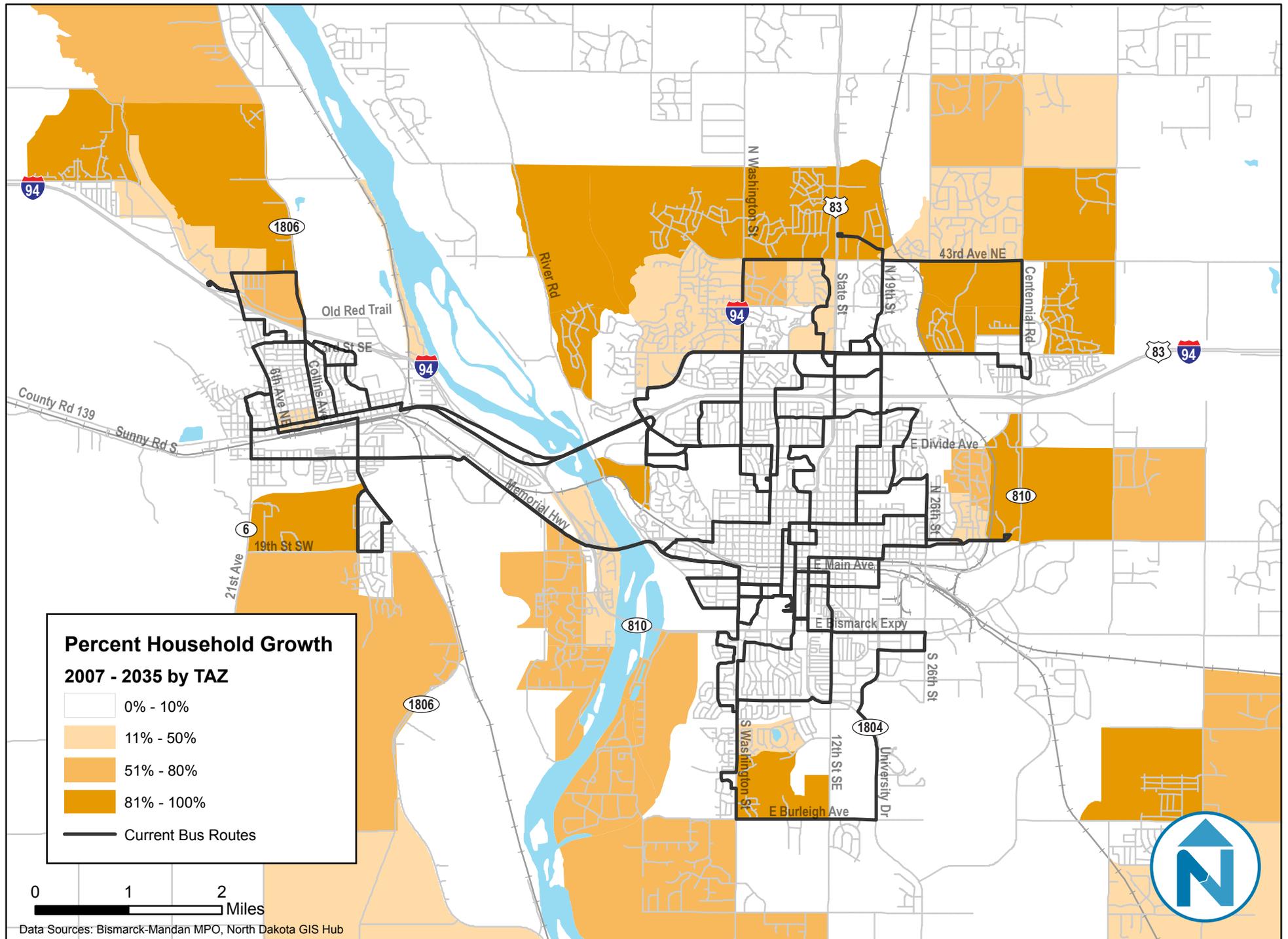


Figure 2-6 Bismarck-Mandan Area Future (2035) Employment Growth

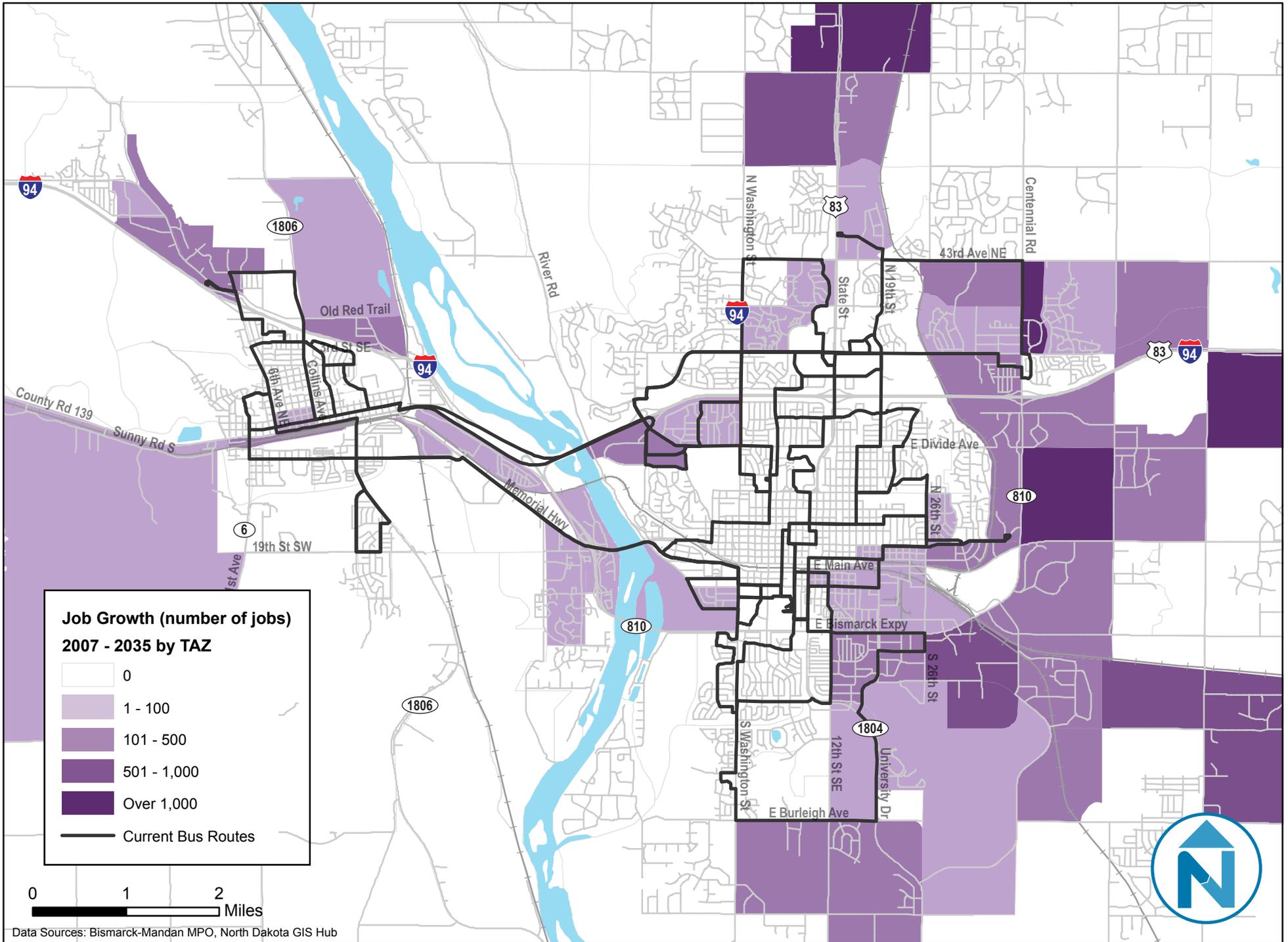


Figure 2-7 Bismarck-Mandan Area: Median Household Income

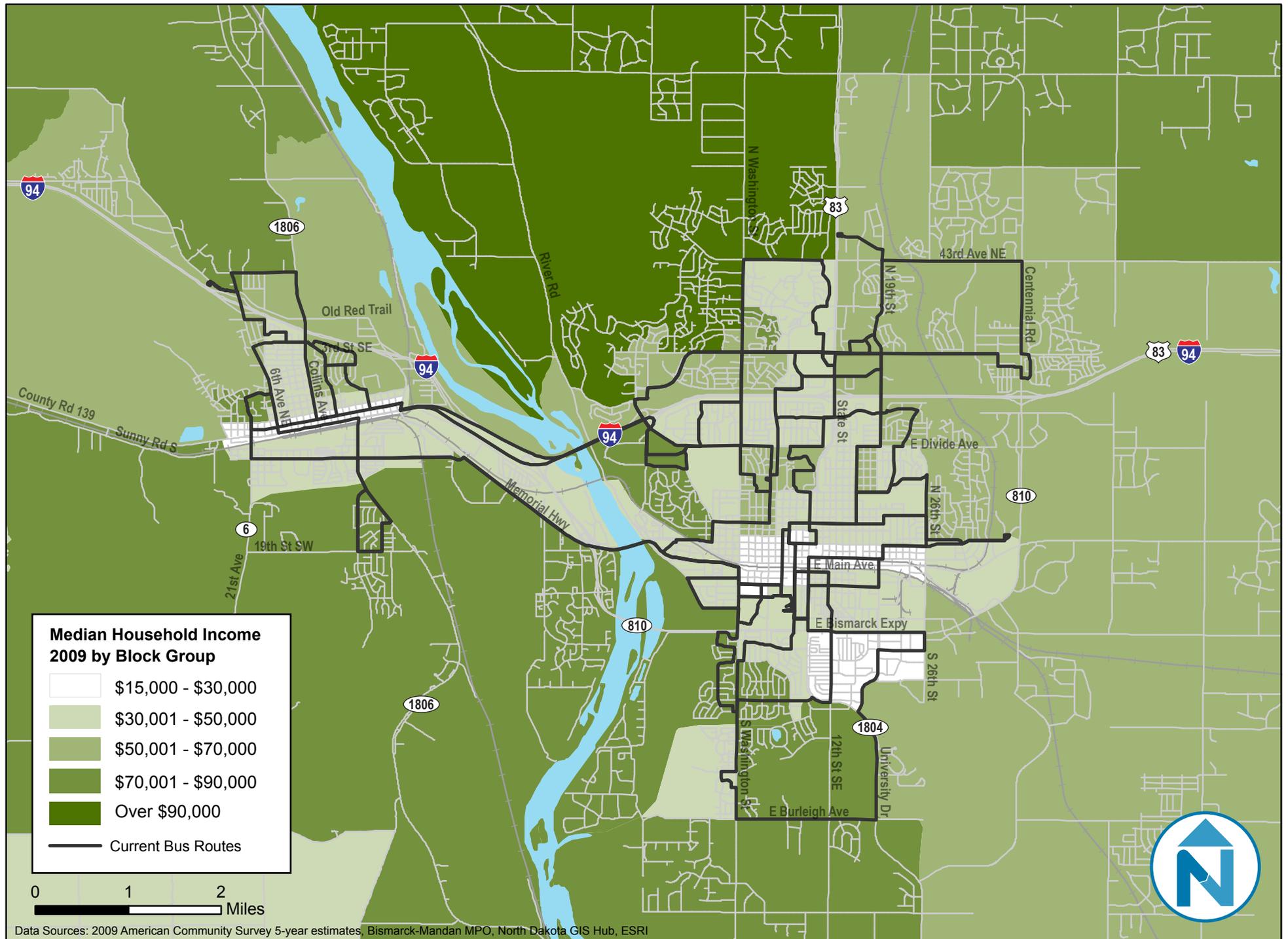


Figure 2-8 Bismarck-Mandan Area: Households without a Vehicle

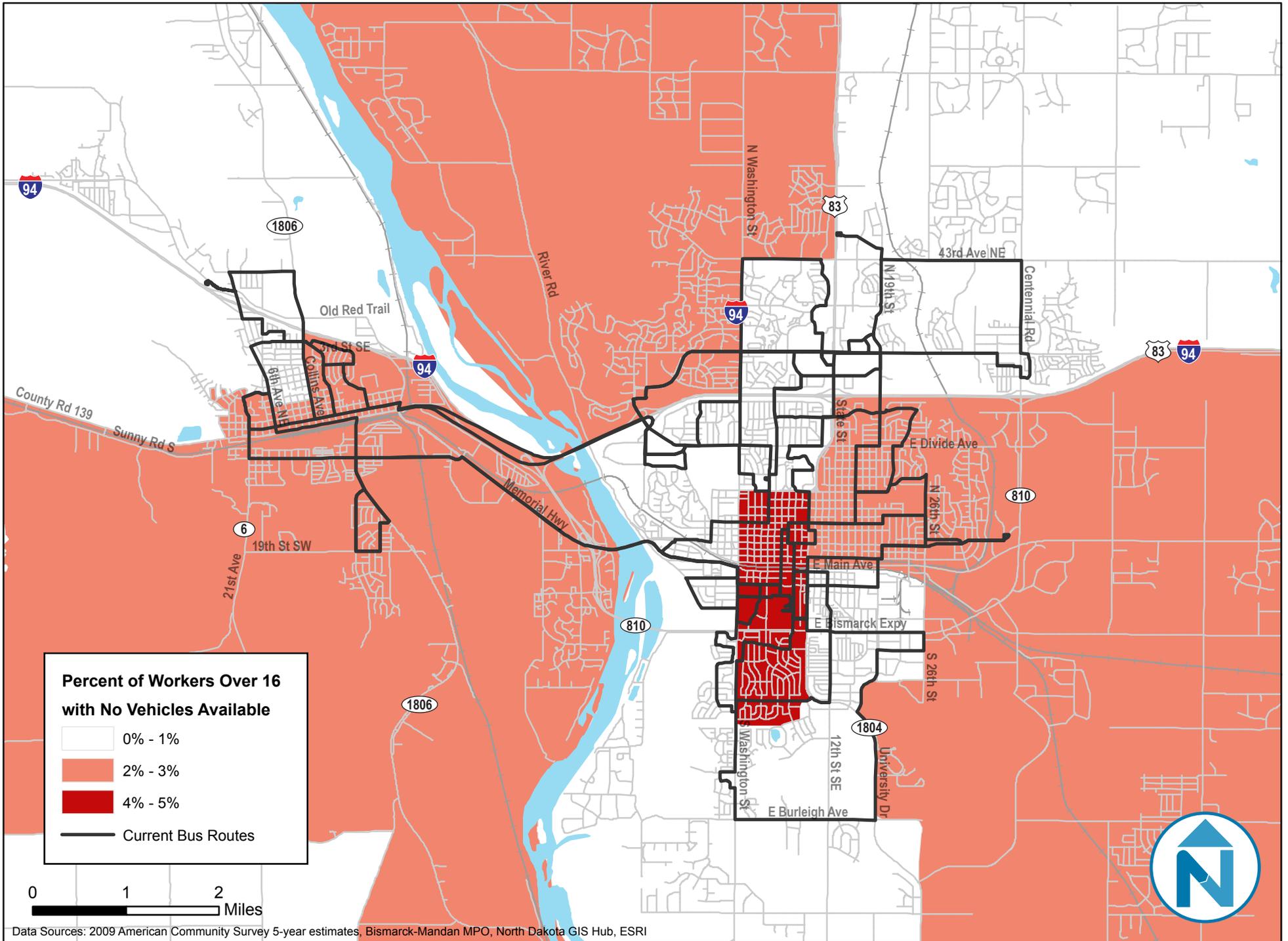


Figure 2-9 Bismarck-Mandan Area: Seniors

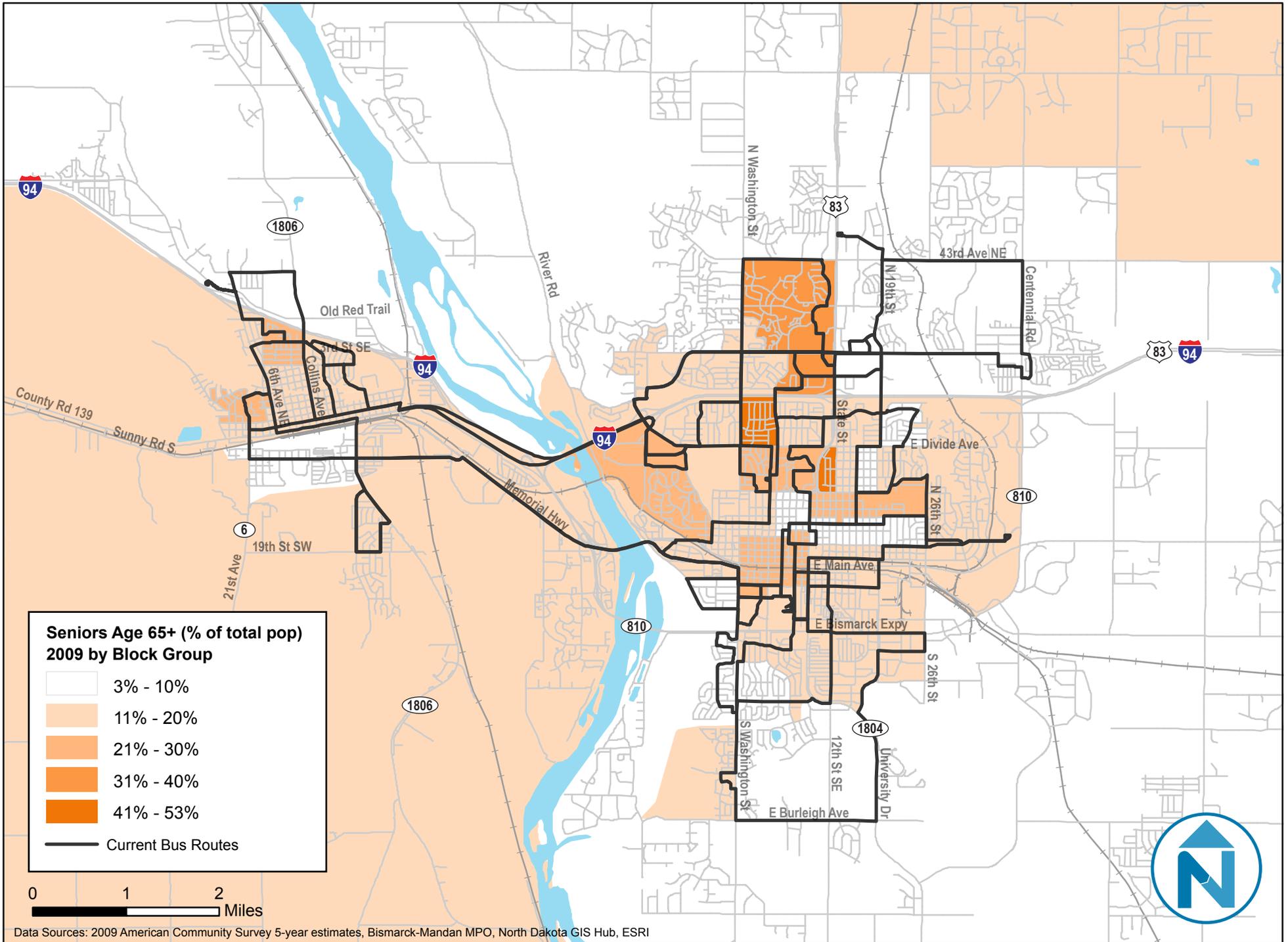


Figure 2-10 Bismarck-Mandan Area: Youth

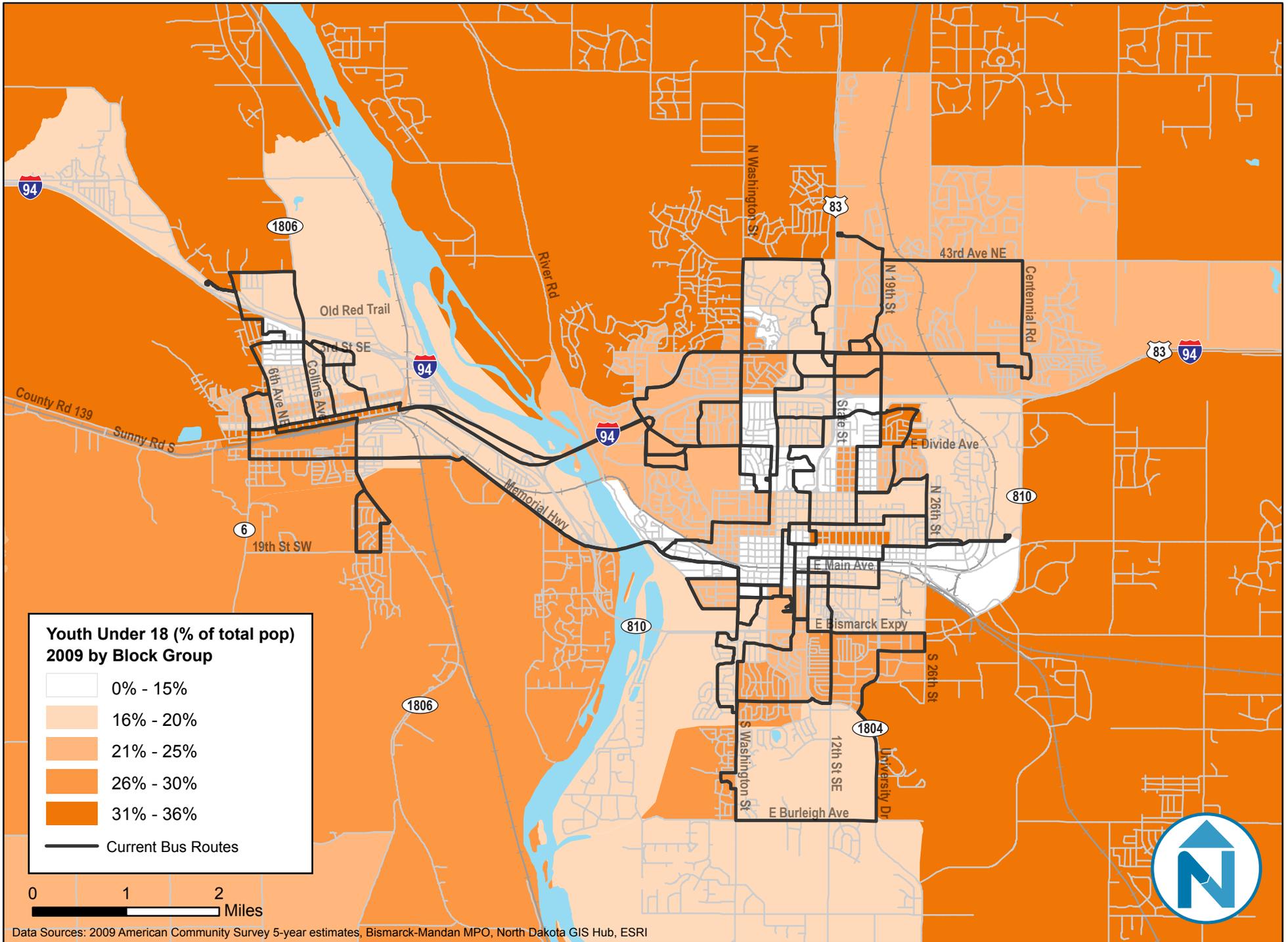
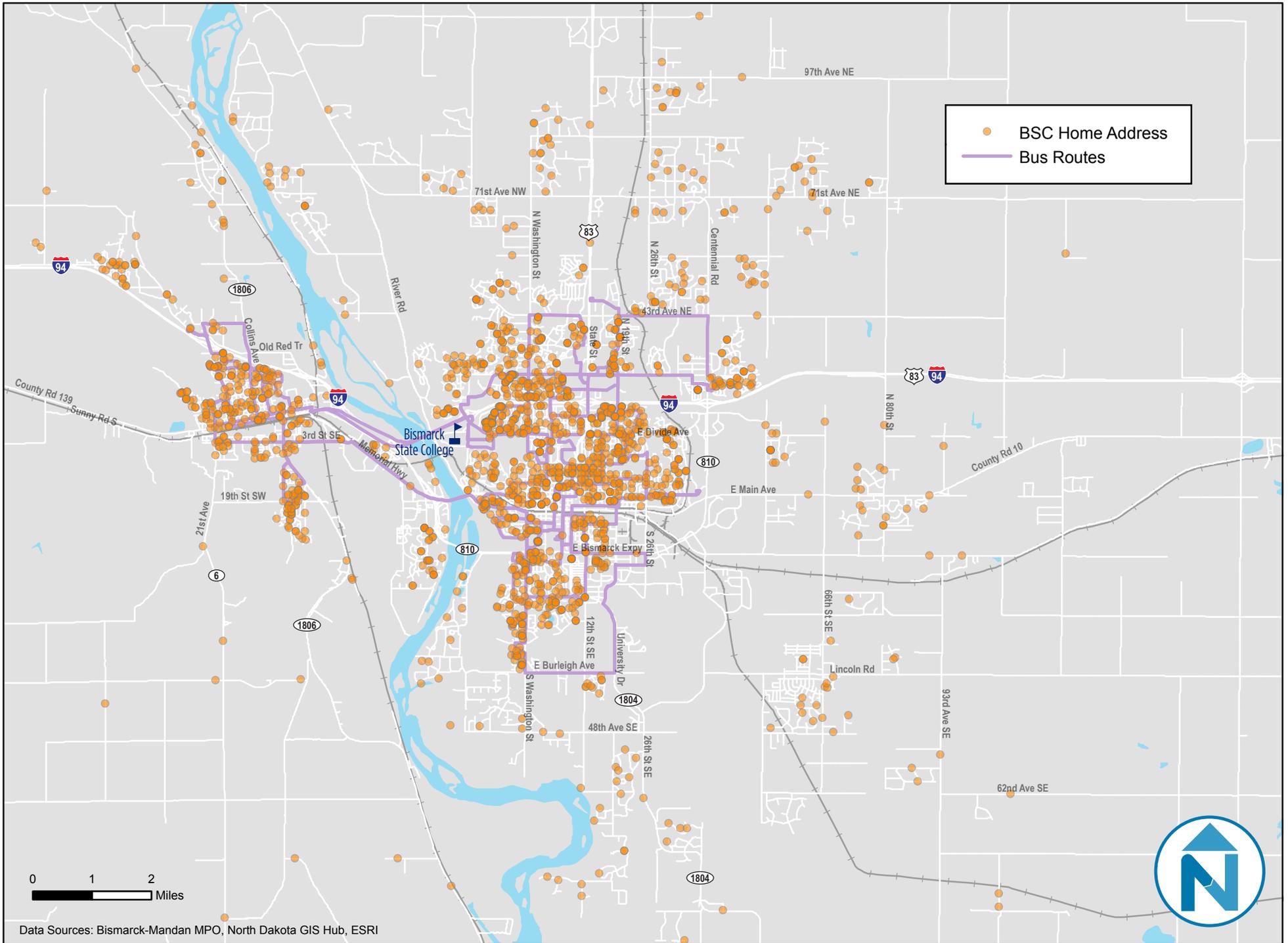
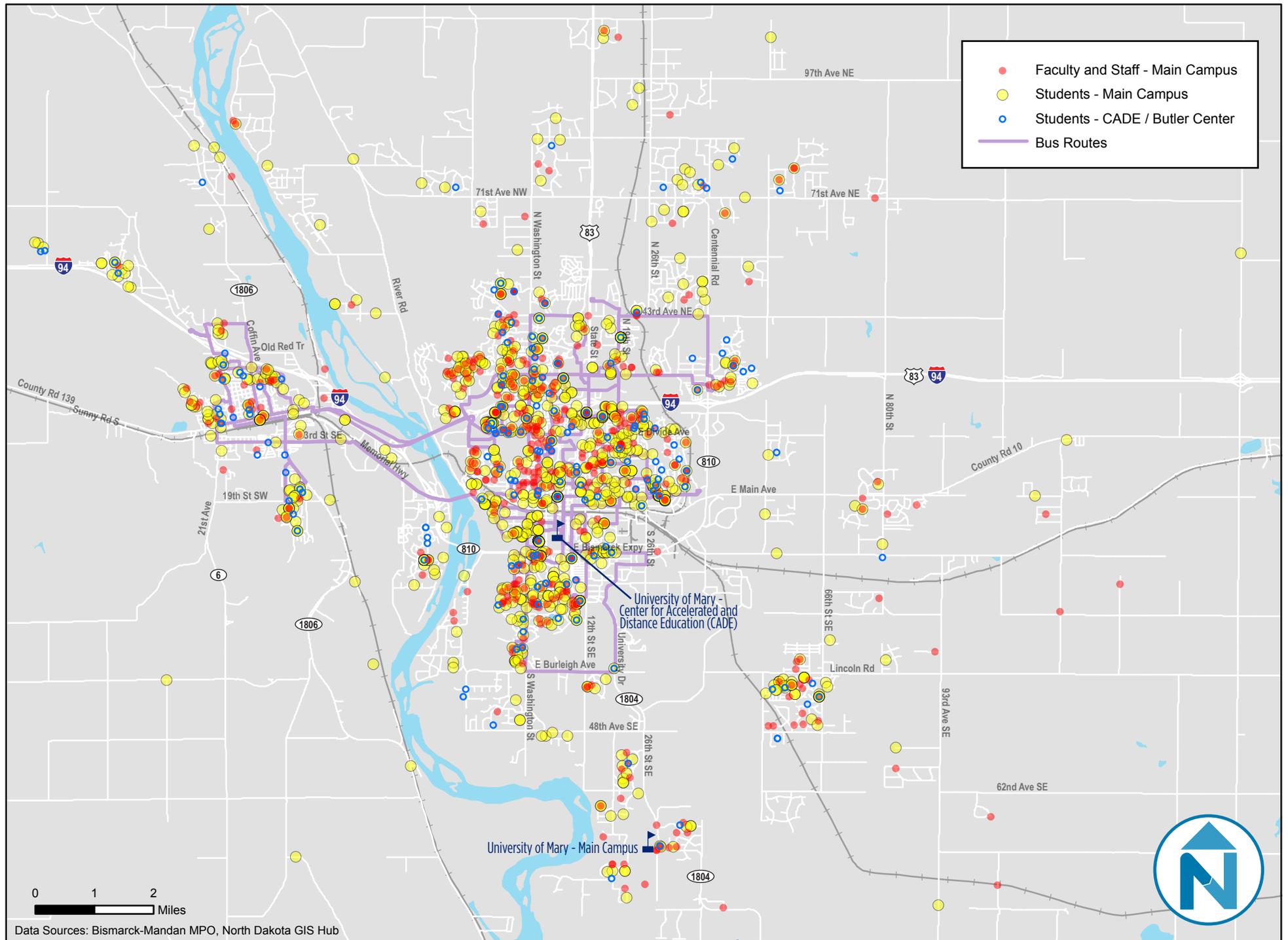


Figure 2-11 Bismarck State College Student Addresses



Data Sources: Bismarck-Mandan MPO, North Dakota GIS Hub, ESRI

Figure 2-12 University of Mary Addresses



3 EXISTING TRANSPORTATION SERVICES

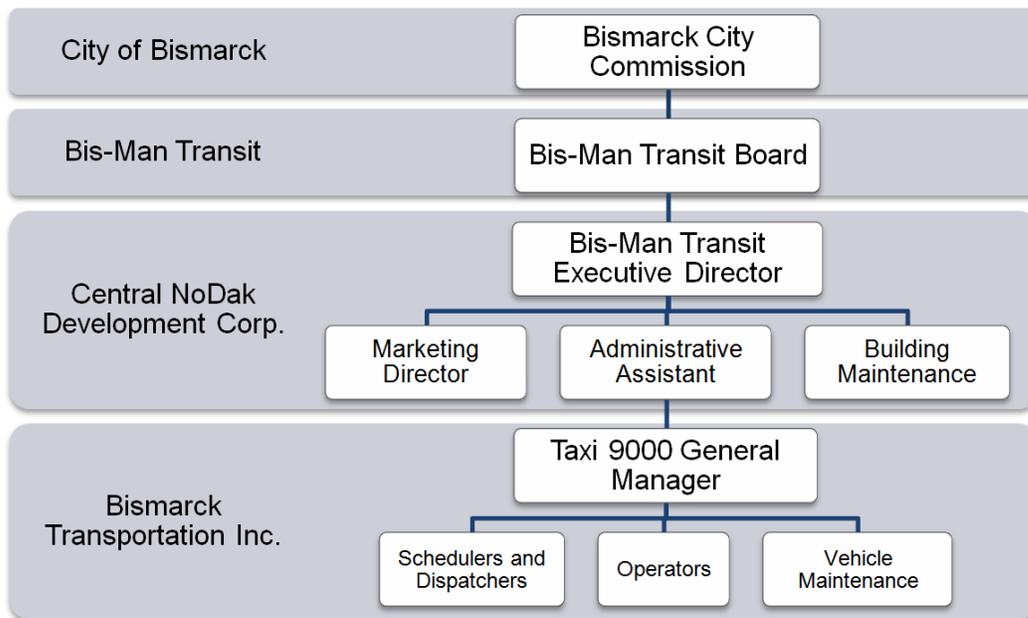
This chapter provides an overview of Capital Area Transit (CAT), the fixed route service in the Bismarck and Mandan area, and Bis-Man Paratransit, the door-to-door operation.

BIS-MAN TRANSIT ORGANIZATION

The Bis-Man Transit Board provides policy oversight for public transit within the service area — both CAT and Bis-Man Paratransit service — but does not hire any staff. Program management is provided under contract by the Central NoDak Development Corporation. As the broker, it is responsible for administration of the transit service, provision of facilities, personnel and equipment, raising funds as match to federal funds, soliciting proposals for service providers, monitoring compliance with those providers, marketing the service, certifying Bis-Man eligible riders and other administrative activities.

Direct services are provided under contract by Taxi 9000, which is responsible for direct service provision, including scheduling, dispatch, and vehicle maintenance.

Figure 3-1 Transit Organizational Structure



VEHICLE FLEET

A summary of Bis-Man Paratransit’s and CAT’s current fleet is shown in Figure 3-2. All vehicles except one are equipped to accommodate wheelchairs. The Gillig buses used for CAT are kneeling low-floor buses with wheelchair ramps.

Figure 3-2 Bis-Man Transit Fleet (July 2011)

Vehicle No.	Year	Manufacturer	No. Seated Passengers	Service	Wheelchair Lift?	Odometer (7/1/2011)	Vehicle Replacement Standard
30	2004	Ford	16	Paratransit	Yes	205,256	5-7 years/ 150,000 to 200,000 miles
31	2004	Ford	16	Paratransit	Yes	177,364	
32	2004	Ford	16	Paratransit	Yes	191,057	
33	2002	Ford	18	Paratransit	Yes	226,166	
34	2002	Ford	18	Paratransit	Yes	206,444	
35	2002	Ford	18	Paratransit	Yes	193,675	
36	2010	Chevy	17	Paratransit	Yes	16,276	
37	2010	Chevy	17	Paratransit	Yes	9,950	
38	2010	Chevy	17	Paratransit	Yes	16,661	
39	2009	Chrysler T&C	6	Paratransit	No (Van)	46,742	5 years/100,000 miles
40	2005	Ford	18	Paratransit	Yes	138,218	5-7 years/ 150,000 to 200,000 miles
41	2005	Ford	18	Paratransit	Yes	164,024	
42	2005	Ford	18	Paratransit	Yes	125,171	
43	2009	Chevy	17	Paratransit	Yes	64,418	
44	2009	Chevy	17	Paratransit	Yes	68,437	
45	2009	Chevy	17	Paratransit	Yes	70,012	
46	1998	Ford	15	Paratransit	Yes	334,064	
47	2010	Chevy	16	Paratransit	Yes	35,964	
48	2010	Chevy	16	Paratransit	Yes	47,061	
49	2010	Chevy	16	Paratransit	Yes	41,298	
50	2002	Ford	15	Paratransit	Yes	277,525	
51	2002	Ford	15	Paratransit	Yes	306,285	
52	2002	Ford	15	Paratransit	Yes	303,987	
54	2000	Ford	15	Paratransit	Yes	266,307	
57	2001	Ford	15	Paratransit	Yes	278,919	
58	2001	Ford	15	Paratransit	Yes	271,298	
401	2004	Gillig	25	CAT	Yes	335,101	10-12 years/ 350,000 to 500,000 miles
402	2004	Gillig	25	CAT	Yes	313,911	
403	2004	Gillig	25	CAT	Yes	298,243	
601	2006	Gillig	25	CAT	Yes	228,906	
602	2006	Gillig	25	CAT	Yes	238,212	
701	2007	International	18	CAT	Yes	107,270	5-7 years/ 150,000 to 200,000 miles
702	2007	International	18	CAT	Yes	107,413	
1001	2010	Gillig	25	CAT	Yes	26,581	10-12 years/ 350,000 to 500,000 miles
1002	2010	Gillig	25	CAT	Yes	22,931	
1003	2010	Gillig	25	CAT	Yes	30,815	

Source: Bis-Man Transit; Vehicle Replacement Standard guidelines based on Federal Transit Administration (FTA) guidelines

CAPITAL AREA TRANSIT (CAT)

Included in this section is a description of each fixed route, CAT fare structure and fleet inventory, and ridership statistics. Ridership data includes monthly and annual trends as well as boarding and alighting data by stop. Finally, operating data for the past five years is presented along with an evaluation of performance measures to better understand how the system is changing.

Overview and Major Destinations

CAT provides extensive coverage throughout the Bismarck and Mandan area with a total of 12 fixed routes. Ten of the 12 routes operate in Bismarck and two routes serve Mandan with connections to Bismarck. The twelve routes are essentially six route pairs that are distinguished by the area they serve. Each route pair and their major destinations are summarized below.

- **Routes A1 and A2:** These routes originate at Kirkwood Mall and serve east Bismarck. Major destinations along the routes include the Senior Center, the Bis-Man Transit office, Missouri Slope, Bismarck High School, St. Alexius Medical Center, Medcenter One, downtown Bismarck and the Bismarck Civic Center. The primary transfer location on these routes is Kirkwood Mall with a secondary transfer location near Simle Middle School (between Routes A1 and C1).
- **Routes B1 and B2:** These two routes originate at Kirkwood Mall and serve west central and south Bismarck. Major destinations along these two routes include Crescent Manor (“High Rise”), Riverside Park, United Tribes Technical College, the South Wal-Mart and Bismarck Civic Center. The primary transfer location on this route is Kirkwood Mall.
- **Routes C1 and C2:** These two routes originate at Gateway Mall and serve north central and northwest Bismarck. Major destinations along the routes include Simle Middle School, 14th Street Mall, and North Wal-Mart. Route C1 also provides service to a significant amount of multifamily housing south of Gateway Mall (on N. 8th Street) and on E. Capital Avenue east of State Street. The primary transfer location on these routes is Gateway Mall with a secondary transfer location at Simle Middle School (between Routes C1 and A1).
- **Routes D1 and D2:** These routes originate at Gateway Mall and serve north and northwest Bismarck. Major destinations along these routes include Northbrook Mall, Arrowhead Plaza, the YMCA, Bismarck State College, Pinehurst Square Shopping Complex (Kohl’s, Lowe’s) and Century High School. The primary transfer location on these routes is Gateway Mall with secondary transfer locations at Arrowhead Plaza (between Routes D1 and E2) and Bismarck State College (between Routes D1/D2 and M1/M2).
- **Routes E1 and E2:** These routes connect Kirkwood Mall with Gateway Mall and provide service to central Bismarck. Major destinations along these routes include the Bismarck Civic Center, downtown Bismarck, Medcenter One, Bismarck High School, the State Capitol Complex, Job Service North Dakota, K-Mart, Arrowhead Plaza and Crescent Manor (referred to as the “High Rise”). There are two primary transfer locations on this route: Kirkwood Mall and Gateway Mall with a secondary transfer at Arrowhead Plaza (between Routes E2 and D1).
- **Routes M1 and M2:** These two routes provide service primarily in Mandan with connections to Bismarck at Bismarck State College and Kirkwood Mall. Major destinations on these routes include Burlington Mall, Mandan Senior High School,

Mandan Community Center, Medcenter One, downtown Mandan, and Bismarck State College. There are two primary transfer locations on these routes: Kirkwood Mall and Bismarck State College.

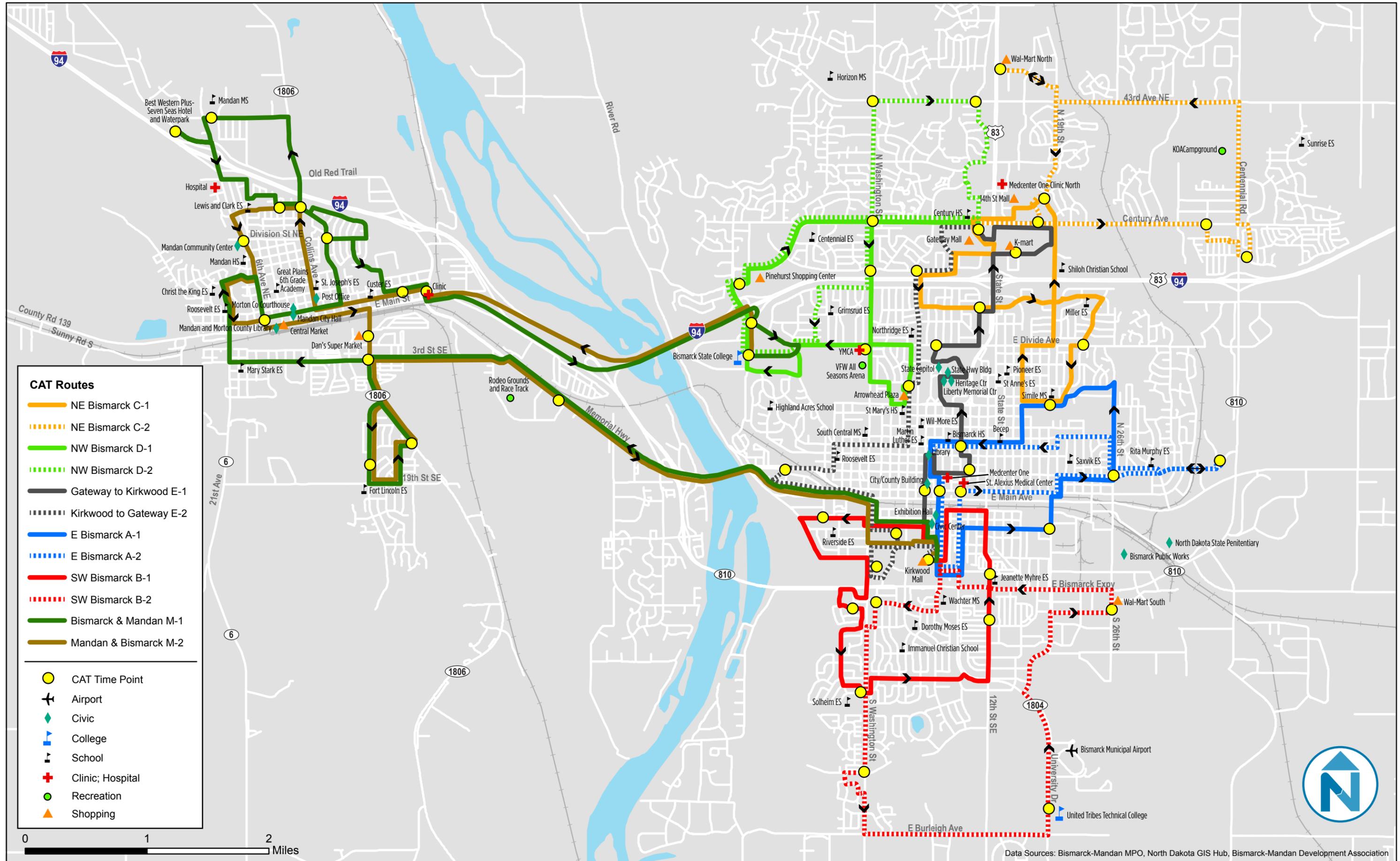
Figure 3-3 summarizes operating characteristics on the CAT system. Most of the routes in the system operate every hour during the peak periods and every two hours during the midday period. The exceptions are Routes E1/E2 which operate every 30 minutes during peak periods and hourly during the midday period, and Routes M1/M2 which operate every two hours throughout the day. CAT requires 7 buses to maintain operations during peak periods and four buses during the midday period. While service hours vary by route, the CAT system generally operates from approximately 6:30 AM to 6:30 PM.

Figure 3-3 Weekday Service Characteristics

Route	Peak Frequency (Min.)	Peak Buses	Midday Frequency (Min.)	Midday Buses	Service Span
A1	60	0.5	120	0.25	7:00 AM - 6:25 PM
A2	60	0.5	120	0.25	6:41 AM - 6:41 PM
B1	60	0.5	120	0.25	7:00 AM - 6:25 PM
B2	60	0.5	120	0.25	6:30 AM - 5:55 PM
C1	60	0.5	120	0.25	6:11 AM - 6:25 PM
C2	60	0.5	120	0.25	6:38 AM - 6:38 PM
D1	60	0.5	120	0.25	6:30 AM - 5:55 PM
D2	60	0.5	120	0.25	7:00 AM - 6:25 PM
E1	30	1	60	0.5	6:30 AM - 6:55 PM
E2	30	1	60	0.5	6:30 AM - 6:55 PM
M1	120	0.5	120	0.5	7:00 AM - 6:00 PM
M2	120	0.5	120	0.5	6:08 AM - 6:55 PM
Total	-	7	-	4	-

Figure 3-4 shows the alignment of all CAT routes in Bismarck and Mandan. While CAT provides good coverage in both cities, it is important to note that with the exception of a few segments, most service on the CAT system is provided in one direction only (as shown by the arrows). As such, many passengers must travel the entire length of the route in order to make a round trip, or in some cases, use another route.

Figure 3-4 CAT System Overview



Fares

Figure 3-5 below summarizes the fare structure on CAT. Seniors, students, individuals with disabilities and Medicare card holders receive a discounted fare on CAT. The Punch Tickets are issued only for demand-response transit users but can be redeemed on CAT. All transfers between routes are free.

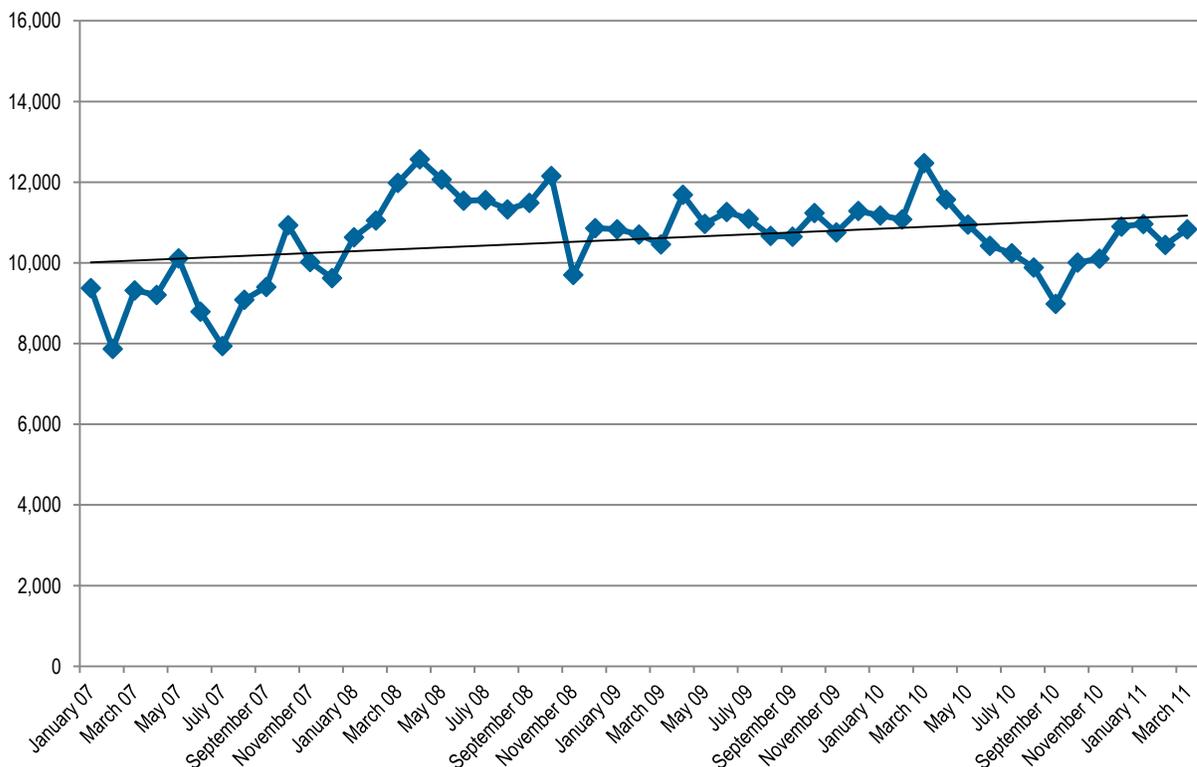
Figure 3-5 CAT Fare Structure

Fare Category	Cash	30 Day Pass	Transfers	Punch Ticket
Adult	\$1.25	\$30.00	Free	\$10.00
Senior (60+), Students (K-12) Individuals with Disabilities, Medicare Card Holder	\$0.50	\$20.00	Free	\$10.00

CAT Ridership Summary

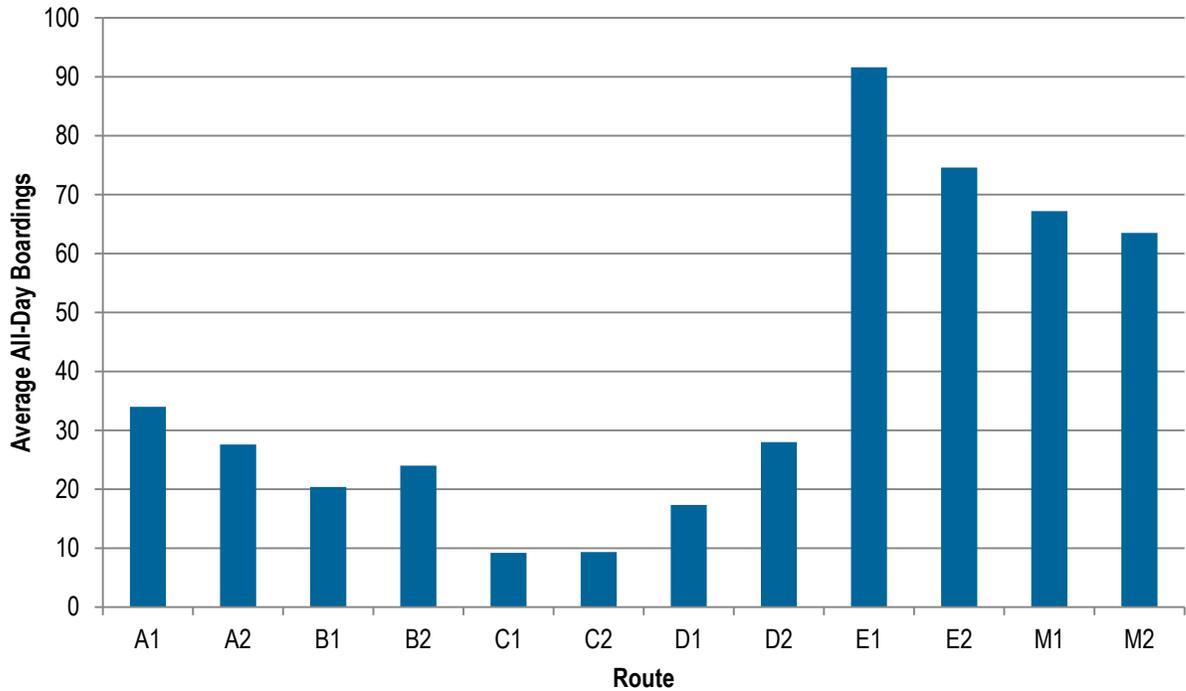
Figure 3-6 shows monthly ridership on CAT between January 2007 and March 2011. While boardings over the past four years have averaged about 10,500 per month, ridership is trending slightly upwards overall. Although there are clear fluctuations in ridership, with a monthly high of about 12,500 boardings and a low of just under 7,000 boardings, there does not appear to be strong seasonal variation. It should be noted that the decline in ridership between March and September 2010 could be attributable to the economy overall, though North Dakota has largely been shielded from the economic downturn which has had dramatic impacts on national transit ridership.

Figure 3-6 Monthly CAT Ridership, January 2007-March 2011



Based on a sample week in late March 2011, Figure 3-7 shows average weekday boardings on all CAT routes while Figure 3-8 shows average productivity (passenger boardings per revenue hour). It is clear from this data that Routes E1 and E2 in Bismarck and Routes M1 and M2 in Mandan are the highest ridership and productivity routes in the system. Routes C1 and C2 have the lowest average boarding and productivity in the system, followed by Routes B1 and D1.

Figure 3-7 Weekday Average All-Day Boardings by Route (Based on data collected by CAT during one-week period in March 2011)



Boardings and alightings by stop were collected on CAT services during May 2011. Maps that illustrate total boardings and alightings for each of the routes are included in Appendix A, while 3-9 illustrates systemwide boardings and alightings for an average weekday at locations along each of the routes. The map shows that boardings and alightings are concentrated at several key destinations in the Bismarck-Mandan area and that many portions of many of the routes, including Routes B2, C2, and D2, as well as portions of M1 and M2, have little or no ridership along some segments.

Figure 3-8 Weekday Average Productivity (Passengers per Revenue Hour) by Route
(Based on data collected by CAT during one-week period in March 2011)

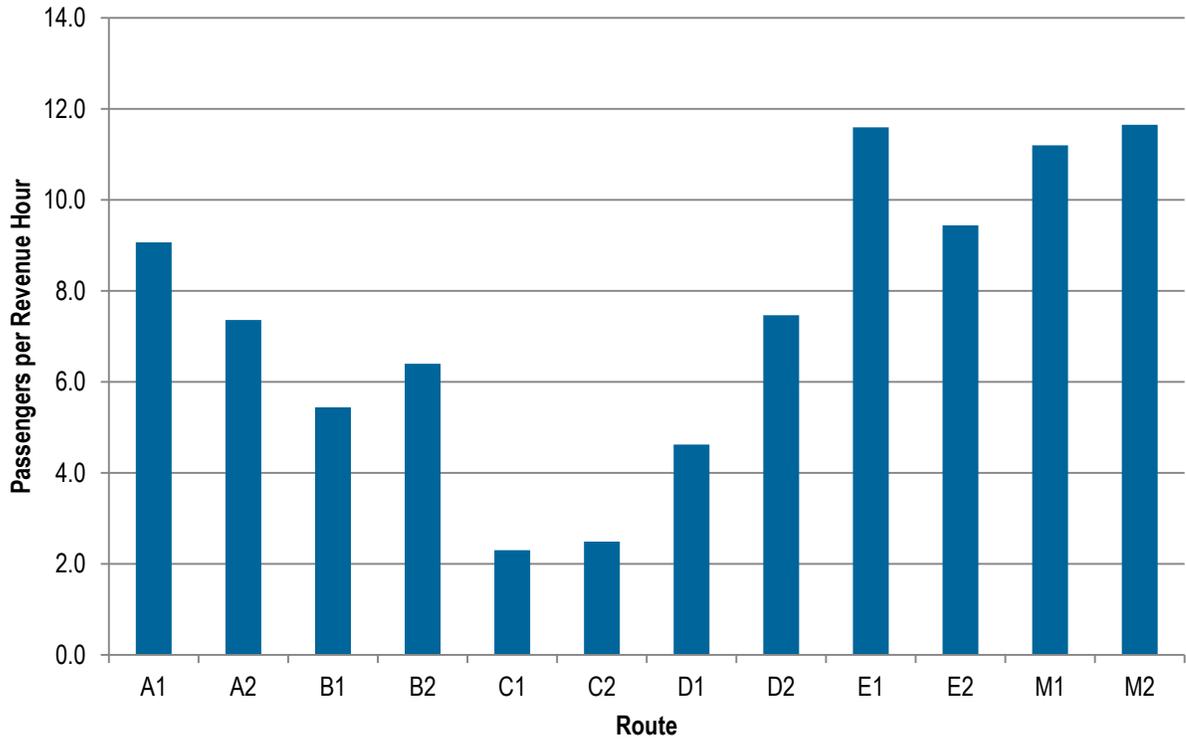
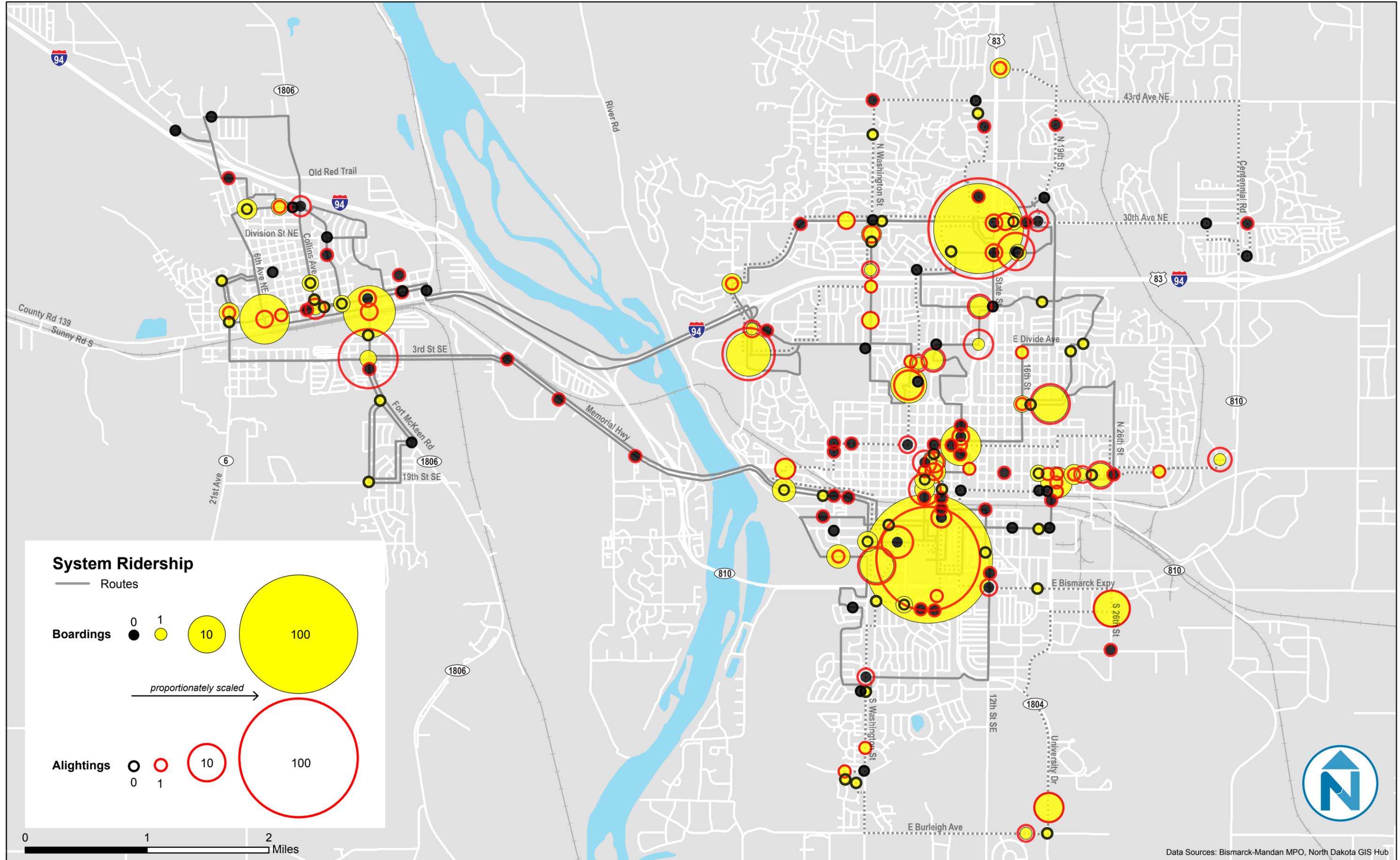


Figure 3-9 Average Daily Systemwide Boardings and Alightings by Stop



Based on one complete weekday sample of all runs for each route, collected by Bis-Man Transit staff, May 2011

CAT Driver Feedback

In addition to the ridecheck and on-board passenger surveys, discussed in Chapter 5, a survey was administered to CAT drivers to allow them to provide specific feedback about the service.

Because drivers are the most familiar with daily operations, they are an excellent resource for identifying where transportation needs are not being met or operational conditions are an issue.

Key findings from this review include:

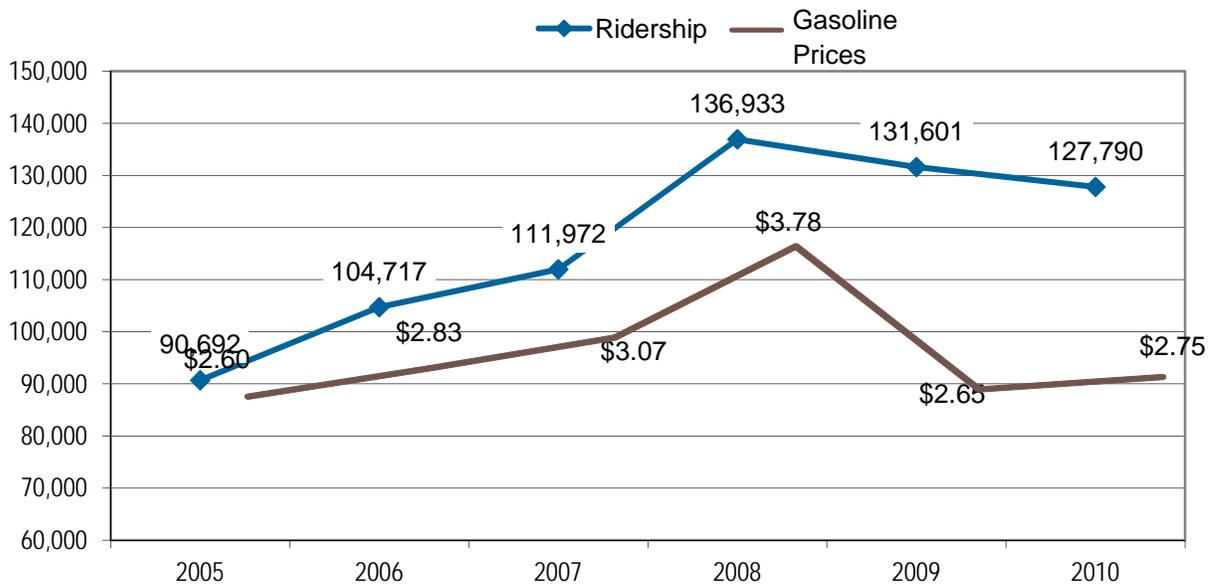
- Route B2 has the greatest on-time performance problem, with many drivers saying it has difficulty staying on schedule. Routes A1, B1, M2 and D2 also were noted by a few drivers to have on-time performance issues, though not as often as Route B2. One driver suggested an alternate routing that utilized S. 12th Street directly to UTTC and back to the South Wal-Mart on the Bismarck Expressway.
- Later service was suggested on all routes until about 9:00 PM.
- Sunday and holiday service was suggested on all routes.
- One driver suggested that the CAT system eliminate flag stops. It was pointed out that many passengers take advantage of the current system and flag the bus down in the middle of the block. This practice was also observed with passengers flagging the bus down in the middle of a parking lot.
- One driver suggested that the marquis consistently show the route number (e.g., A1) at all times along with the major streets served and the destination.
- One driver suggested that voice announced stops would be helpful for passengers and reduce pressure on drivers to announce stops.

CAT Performance Summary

Figure 3-11 shows operating data and performance indicators on CAT for years 2005 through 2009 from the National Transit Database. Key findings from this data include:

- Ridership grew steadily between 2005 and 2008 but fell slightly in 2009, as shown in Figure 3-10. Recent data from 2010 confirms that ridership continues to decline slightly on CAT. This decline in ridership could be partially explained by the economic downturn, even though North Dakota was largely spared from the dramatic ridership declines seen in other regions. Ridership trends also show some correlation with gasoline prices, with the highest annual ridership in 2008, when gasoline prices were highest.

Figure 3-10 CAT Annual Ridership (2005 – 2010)



Note: Gasoline prices are average August price per gallon of regular unleaded gasoline in State of North Dakota. Gasoline price source: gasbuddy.com

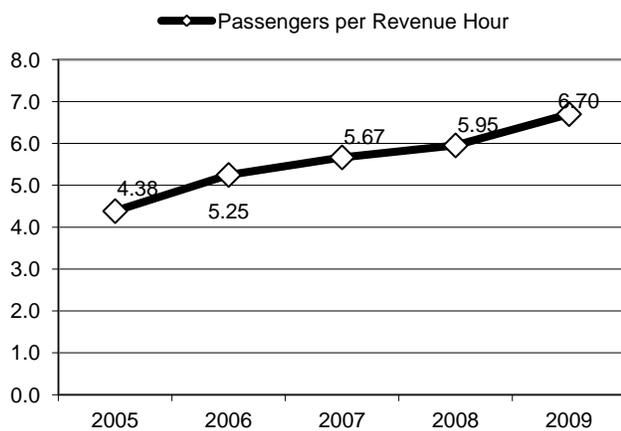
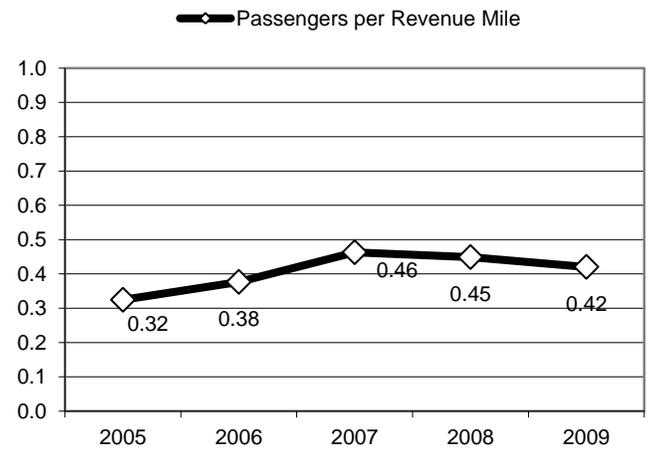
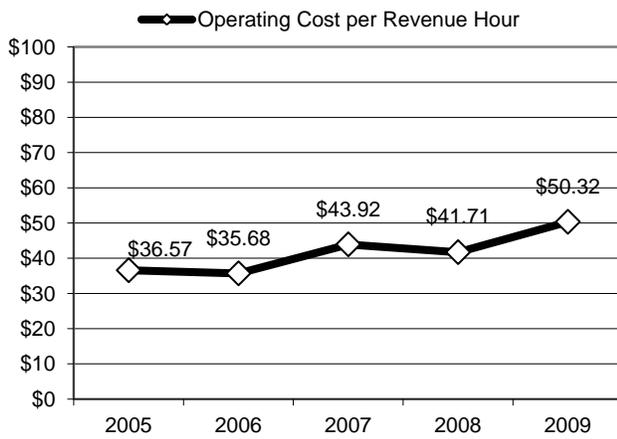
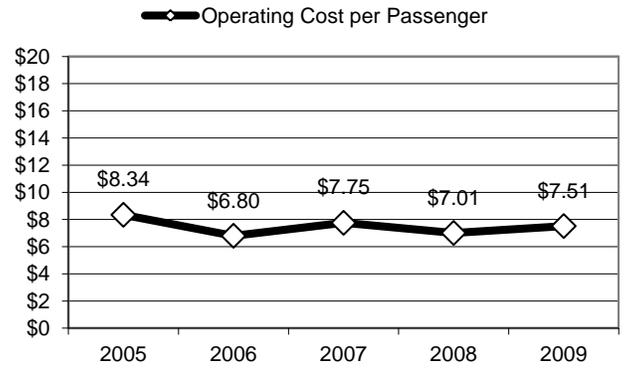
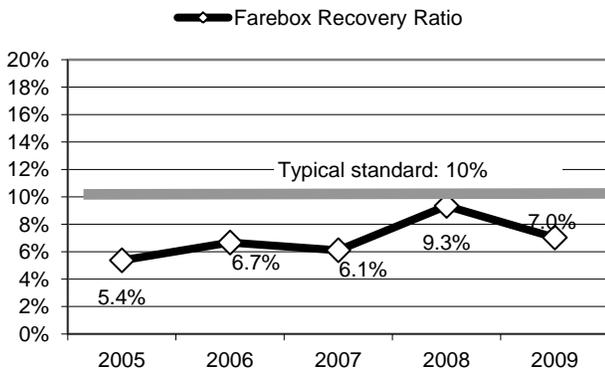
- While farebox revenues have increased by 71% between 2005 and 2009, the farebox recovery on CAT has only increased by 31% due to steadily rising operating costs, which grew by 30% between 2005 and 2009. It should be noted that the farebox recovery ratio experienced on CAT is well below what would typically be experienced on other similar systems around the country.
- The average fare per rider is relatively low (\$0.53 in 2009), which could indicate a high percentage of discounted fares and/or use of monthly passes, or a significant number of transfers. It should be noted that fares were increased in 2009, and are not recommended to increase again until the outer years of this plan.
- As noted above, productivity on CAT (as measured by passengers per revenue hour and passengers per revenue mile) is relatively low. However, the number of passengers per revenue hour has steadily been increasing, and increased by about 53% between 2005 and 2009. The number of passengers per revenue mile also increased between 2005 and 2009 (by about 30%.)

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Figure 3-11 CAT Performance Data 2005–2009

	2005	2006	2007	2008	2009	Change				
						2005 - 2006	2006 - 2007	2007 - 2008	2008 - 2009	2005 - 2009
Operating Data										
Ridership	90,692	104,717	111,972	136,933	131,601	15.5%	6.9%	22.3%	-3.9%	45.1%
Revenue Hours	20,686	19,952	19,760	23,000	19,643	-3.5%	-1.0%	16.4%	-14.6%	-5.0%
Revenue Miles	279,561	278,131	241,867	305,000	313,080	-0.5%	-13.0%	26.1%	2.6%	12.0%
Operating Costs	\$756,454	\$711,920	\$867,956	\$959,245	\$988,486	-5.9%	21.9%	10.5%	3.0%	30.7%
Farebox Revenue	\$40,640	\$47,479	\$53,001	\$89,615	\$69,530	16.8%	11.6%	69.1%	-22.4%	71.1%
Performance Indicators										
Cost Efficiency										
Operating Cost per Revenue Hour	\$36.57	\$35.68	\$43.92	\$41.71	\$50.32	-2.4%	23.1%	-5.1%	20.7%	37.6%
Operating Cost per Revenue Mile	\$2.71	\$2.56	\$3.59	\$3.15	\$3.16	-5.4%	40.2%	-12.4%	0.4%	16.7%
Cost Effectiveness										
Operating Cost per Passenger	\$8.34	\$6.80	\$7.75	\$7.01	\$7.51	-18.5%	14.0%	-9.6%	7.2%	-9.9%
Farebox Recovery Ratio	5.4%	6.7%	6.1%	9.3%	7.0%	24.1%	-8.4%	53.0%	-24.7%	30.9%
Average Fare per Passenger	\$0.45	\$0.45	\$0.47	\$0.65	\$0.53	1.2%	4.4%	38.3%	-19.3%	17.9%
Average Subsidy per Passenger	\$7.89	\$6.35	\$7.28	\$6.35	\$6.98	-19.6%	14.7%	-12.7%	10.0%	-11.5%
Service Efficiency										
Passengers per Revenue Hour	4.38	5.25	5.67	5.95	6.70	19.7%	8.0%	5.1%	12.5%	52.8%
Passengers per Revenue Mile	0.32	0.38	0.46	0.45	0.42	16.1%	23.0%	-3.0%	-6.4%	29.6%

Figure 3-12 CAT Performance Indicators



BIS-MAN PARATRANSIT

Demand response public transit has operated in the Bismarck area since 1990 under the auspices of the Bis-Man Transit Board, which was formally incorporated as a private nonprofit entity in 1987. At first, services were limited to individuals with developmental disabilities but the system quickly expanded and began offering door-to-door service that was, and still is, available 24 hours per day and seven days per week. During 2010, it provided 171,652 rides on 29 buses that are part of its fleet.

Paratransit services are provided in compliance with the Americans with Disabilities Act (ADA); in fact, services far exceed the minimum requirements of the ADA, which stipulate that complementary paratransit must be offered during the same hours of service as the fixed route, and within ¾ mile of existing fixed route services. Trips are provided for any purpose, and there is no restriction on the number of trips an individual may take. The ADA requires there be no capacity constraints or trip denials. Bis-Man Paratransit exceeds the minimal requirements in most policy areas. Figure 3-13 illustrates ADA requirements compared to Bis-Man Paratransit policies and practices.

Figure 3-13 ADA Service Policies

Policy Category	ADA Minimal Requirement	Bis-Man Paratransit Policy	Bis-Man Paratransit Practice
Eligibility for paratransit	Disability that prevents independent use of fixed route transit	Any one age 60 or older; persons of any age with a disability	Exceeds ADA
Hours of service	Same as fixed route	24 hours per day	Exceeds ADA
Service area	Within ¾ mile of fixed routes	Cities of Bismarck, Mandan and Lincoln; serves University of Mary; service provided within two miles of Bismarck and Mandan city limits	Exceeds ADA
Level of service	Curb-to-curb (or higher level if needed)	Door-to-door	Exceeds ADA
Advance reservation time	The day before trip request; up to 7 days in advance	The day before trip request; up to 14 days in advance	Exceeds ADA
Trip by Trip/Conditional eligibility	Encouraged	No trip-by-trip eligibility for those who are conditionally eligible	Exceeds ADA
No shows	Allows penalties, including suspension of service for repeated no-shows	Penalties and/or suspension imposed for repeated no-show violations	Consistent with ADA
Trip denials/capacity constraints	Not allowed	No trip denials	Consistent with ADA
Fares	Up to twice fixed route fare	One-way fare is \$2.50, compared to CAT fare of \$1.25	Consistent with ADA

Bis-Man Paratransit Performance Summary

Figure 3-14 provides an overview of Bis-Man Paratransit operating characteristics for the five-year period for which complete data is available, 2005-2009. These characteristics are useful to assess system performance trends over time, and also to compare performance with other small urban systems. Furthermore, it is helpful to compare actual system performance with established productivity goals. Key findings from review of this data include:

- Between 2005 and 2006, ridership remained very steady; however, beginning in 2007, it began to decline. (Bis-Man Paratransit reports a slight increase in ridership between 2009 and 2010 which is not reflected in the data.) This change may be explained by the initiation of fixed route transit during the same period of time. This trend is illustrated in Figure 3-15.
- During this same period of time, operating expenses increased by 43%.
- The farebox recovery ratio, while also having declined, is still very impressive at nearly 25% – significantly higher than farebox recovery on CAT, which did not exceed 10% for any of the five years shown.
- Bis-Man Paratransit staff indicates the system has not established or adopted formal system productivity goals.
- Arguably, passenger trips per hour is the most significant indicator of service efficiency for a demand response system, because it reflects the ability of dispatchers and schedulers to make most efficient use of vehicles by “grouping” passenger trips. Bis-Man Paratransit’s rate of trips per hour has remained fairly steady, fluctuating between 3.5 and 3.8 over the five year period.
- Passengers per revenue mile has remained constant over the five year period; most recently at .27.
- The cost per passenger has steadily increased over the past five years, having increased 60% during that period of time. However, at a cost of under \$10 per trip, the service is very cost-effective compared to other public transit systems around the country.
- The same points can be made of cost per hour. Although it has steadily increased, at \$37 per hour the service is quite cost-effective, compared with many other transit systems (average \$50 to \$75 per hour for transit systems of a similar size).

In 2009, the operating budget to support paratransit totaled \$1,637,620, which represents 62% of Bis-Man Paratransit and CAT’s total operating costs. In addition to fares, which cover about 25% of operating costs, sources of funds used to support the system include the Cities of Bismarck and Mandan, Federal Transportation Administration (FTA) funding, including JARC and New Freedom, and revenues from various social service agencies.

Several indicators are examined to measure service efficiency, including number of passenger trips provided, passengers per revenue hour, and passengers per revenue mile. Other indicators are considered to evaluate cost effectiveness, including system operating costs, farebox recovery, operating cost per passenger, and operating cost per hour. These are shown in Figure 3-15.

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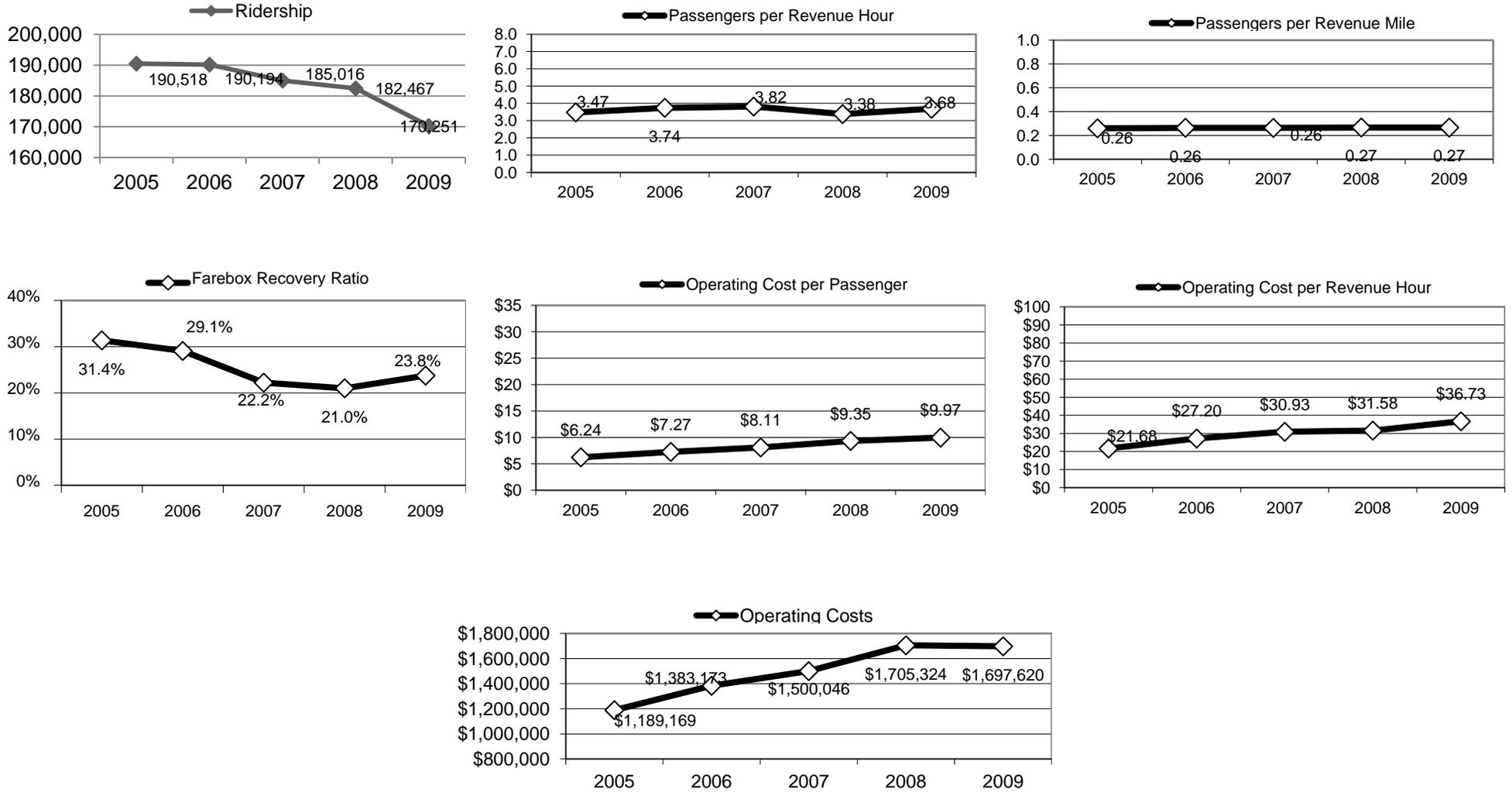
Figure 3-14 Bis-Man Paratransit Performance Data 2005-2009

						Change				
	2005	2006	2007	2008	2009	2005 - 2006	2006 - 2007	2007 - 2008	2008 - 2009	2005 - 2009
Operating Data										
Ridership	190,518	190,194	185,016	182,467	170,251	-0.2%	-2.7%	-1.4%	-6.7%	-10.6%
Revenue Hours	54,842	50,861	48,494	54,000	46,218	-7.3%	-4.7%	11.4%	-14.4%	-15.7%
Revenue Miles	734,010	719,656	702,152	685,165	640,881	-2.0%	-2.4%	-2.4%	-6.5%	-12.7%
Operating Costs	\$1,189,169	\$1,383,173	\$1,500,046	\$1,705,324	\$1,697,620	16.3%	8.4%	13.7%	-0.5%	42.8%
Farebox Revenue	\$373,242	\$402,516	\$333,526	\$358,458	\$403,464	7.8%	-17.1%	7.5%	12.6%	8.1%
Performance Indicators										
Cost Efficiency										
Operating Cost per Revenue Hour	\$21.68	\$27.20	\$30.93	\$31.58	\$36.73	25.4%	13.7%	2.1%	16.3%	69.4%
Operating Cost per Revenue Mile	\$1.62	\$1.92	\$2.14	\$2.49	\$2.65	18.6%	11.2%	16.5%	6.4%	63.5%
Cost Effectiveness										
Operating Cost per Passenger	\$6.24	\$7.27	\$8.11	\$9.35	\$9.97	16.5%	11.5%	15.3%	6.7%	59.8%
Farebox Recovery Ratio	31.4%	29.1%	22.2%	21.0%	23.8%	-7.3%	-23.6%	-5.5%	13.1%	-24.3%
Average Fare per Passenger	\$1.96	\$2.12	\$1.80	\$1.96	\$2.37	8.0%	-14.8%	9.0%	20.6%	21.0%
Average Subsidy per Passenger	\$4.28	\$5.16	\$6.30	\$7.38	\$7.60	20.4%	22.3%	17.1%	3.0%	77.5%
Service Efficiency										
Passengers per Revenue Hour	3.47	3.74	3.82	3.38	3.68	7.6%	2.0%	-11.4%	9.0%	6.0%
Passengers per Revenue Mile	0.26	0.26	0.26	0.27	0.27	1.8%	-0.3%	1.1%	-0.2%	2.3%

Source: National Transit Database

MOBILITY 2017: TRANSIT ROADMAP FOR BISMARCK & MANDAN | FINAL REPORT
BISMARCK-MANDAN MPO

Figure 3-15 Bis-Man Paratransit Performance Indicators



Bis-Man Key Origins and Destinations

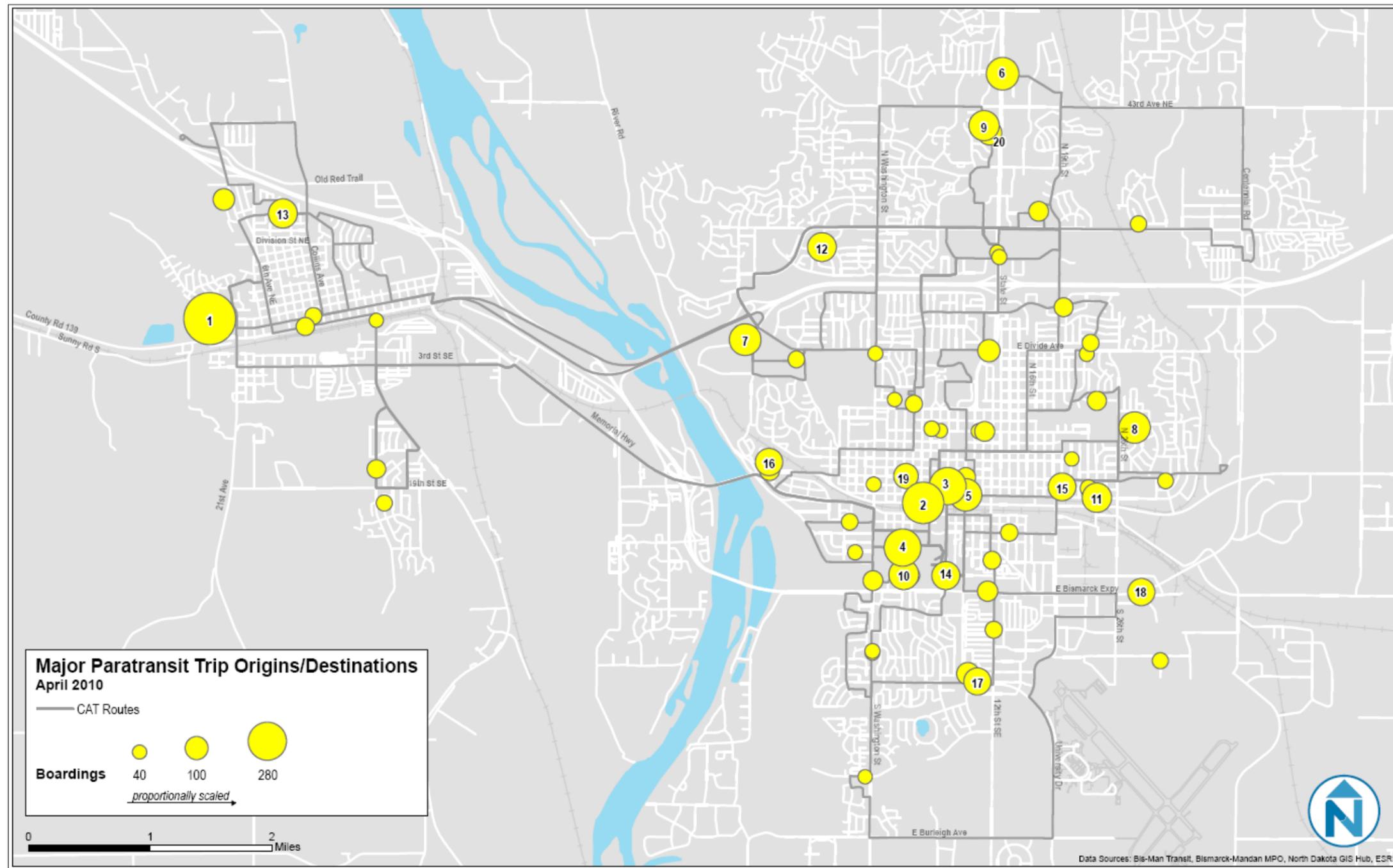
An analysis was conducted of the primary origins and destinations for the month of April 2010.

By a large margin, HIT represents the most requested passenger pick-up and drop-off location, with more than 500 passenger boardings in a one-month period. The next most requested destination is the Patterson Hotel in downtown Bismarck, which is a senior housing facility, followed by Medcenter One, the Crescent Manor “High Rise” apartments at 2nd and Indiana, and St. Alexius Medical Center. Other major destinations include both Wal-Mart stores, Target and other stores at Kirkland Mall, predominately senior housing facilities in Bismarck and Mandan, the Bismarck Senior Center and the two Pride facilities. Locations with 40 or more pick-ups for the month of April are shown in Figure 3-16.

It should be noted that many of the boardings and alightings are at locations that are either on or are adjacent to CAT fixed routes. Presumably, Bis-Man Paratransit’s eligibility criteria allow seniors who might otherwise use fixed route services to ride paratransit instead. The data suggests opportunities to group some of the trips to certain destinations.

Figure 3-16 Bis-Man Paratransit: Primary Trip Ends (April 2010)

Top 20 Trip Ends			
Number on Map	Site	City	# Boardings and Alightings
1	HIT, Inc.	Mandan	532
2	Patterson Place Senior Housing	Bismarck	336
3	Medcenter One	Bismarck	267
4	High Rise Apartments	Bismarck	267
5	St. Alexius Medical Center	Bismarck	204
6	Wal-Mart (North)	Bismarck	208
7	Enable, Inc	Bismarck	198
8	Marillac Manor	Bismarck	195
9	Alberta Heights Apartments	Bismarck	178
10	Kirkwood Park Apartments	Bismarck	177
11	Northland PACE Senior Services	Bismarck	168
12	Ithica Heights	Bismarck	163
13	Liberty Heights Apartments	Mandan	165
14	Kirkwood Mall	Bismarck	152
15	Bismarck Senior Center	Bismarck	150
16	Pride Inc Life Skills	Bismarck	147
17	Pride Inc Life Skills	Bismarck	145
18	Wal-Mart (South)	Bismarck	144
19	Post Office	Bismarck	120
20	Breton Heights Apartments	Bismarck	114



Bis-Man Paratransit Eligibility Process

Eligibility for Bis-Man Paratransit is open to anyone age 60 years or older, and for persons with a disability of any age. The Policies and Procedures Guide provides information about using both CAT and Bis-Man Paratransit, and also describes the certification process for Bis-Man Paratransit.

In particular, Section 3 of the Guide provides information on the paratransit eligibility criteria and ADA paratransit eligibility. According to the guide, paratransit eligibility is based on “a functional, rather than medical, model.” However, actual practice is not consistent with this description.

Persons age 60 or older are required to provide proof of their age, which could be any government-issued form of identification, such as a copy of a birth certificate, or Medicare card. Persons who are applying on the basis of disability status are required to receive “certification” from a referring individual, who may be a physician or a human service agency representative acting on the applicant’s behalf.

The paper application is submitted to Bis-Man Paratransit staff, who review the application for completeness and determine eligibility status. An application must be complete before it is processed. No further follow-up is required, such as an in-person interview, functional assessment, or consultation with a medical specialist familiar with the applicant’s condition. While the application form includes questions that focus on the applicant’s ability to use fixed routes (i.e., “Are you able to climb three 12 inch steps using a handrail?”), the determination is based solely on the presence of a disability, and not whether the disability prevents use of fixed-route transit.

Persons are determined eligible on a temporary or a permanent basis, depending on whether or not their condition is expected to change. For example, a person who has broken his or her leg may be determined eligible on a temporary basis. For those determined eligible on a permanent basis, there is no expiration of their eligibility status.

Eligible persons are also entitled to receive service for all trips they request; no one is determined conditionally eligible, meaning they can use fixed-route service for some of their trips, and are eligible for paratransit only for those trips for which they cannot use fixed routes.

During the month of June 2011, a total of 47 new applications were received. Of these, 28, or 60%, were eligible by virtue of their age (although some of them may have had a disability), and the remaining 40% were eligible strictly because of a disability. No one was denied service; in fact, denials rarely if ever occur. This is explained in part because some people “self-screen” or do not apply for the service once they understand the eligibility requirements.

As pointed out previously, Bis-Man Paratransit’s service characteristics far exceed the requirements of the ADA; this is particularly true for paratransit eligibility. Naturally, there are pros and cons associated with this approach, and it is important to reiterate stakeholder and human service agency support of Bis-Man Paratransit’s liberal policies and the overall satisfaction with the program. Some of the perceived advantages and disadvantages of the current certification process are indicated in Figure 3-17.

Figure 3-17 Perceived Advantages and Disadvantages to Bis-Man Certification Process

Perceived Advantages	Perceived Disadvantages
Easy to administer and rules are understandable	Preliminary evidence suggests over 50% of persons are certified based on age, and may be able to use CAT
Long standing tradition of liberal eligibility; change is difficult and may not be supported	Resources directed to Bis-Man Paratransit, possibly at the expense of improving fixed route
Service is well regarded and appreciated by the community	Does not meet intent of ADA to “mainstream” people on to fixed routes when they are able to use them

Travel Training

Over the past few years, CAT staff has taken a proactive stance to encourage more people to use fixed routes by providing training, outreach activities and otherwise informing members of the public of services provided by CAT, and how to use them. In particular, a goal is to encourage some persons currently using Bis-Man Paratransit to transition to using CAT if they do not have a disability that prevents their use of CAT.

The transit agency’s marketing director is responsible for conducting a “train the trainer” workshop, intended to train staff from various social service agencies so that they, in turn, can teach their customers and clients about using public transportation. Agencies such as Vocational Rehabilitation, HIT, PRIDE, Experience Works, and RSVP have received the training. In addition, the marketing director will provide one-on-one training if requested. A link on CAT’s webpage (How to Ride) provides information on using the bus and also allows the reader to download a “How to Ride” brochure. According to the marketing director, the main barrier preventing people from using public transit, perhaps for the first time, is the “overwhelming” amount of information needed to be understood, including visuals such as maps and schedules. In addition, many people have fears of missing their bus, or not being certain they will know where to get off.

Although it is difficult to quantify how many people who previously used Bis-Man Paratransit are now using CAT, there is some evidence this is occurring given the increase in CAT ridership and corresponding decrease in paratransit ridership since fixed-route services were initiated.

Bis-Man Paratransit Driver and Dispatcher Feedback

In addition to the ridecheck and on-board passenger surveys, discussed in Chapter 5, a survey was administered to Bis-Man Transit drivers and dispatchers to allow them to provide specific feedback about the service. Because these individuals are the most familiar with daily operations, they are an excellent resource for identifying where transportation needs are not being met or operational conditions are an issue. Key findings from this review include:

- Many reported no difficulties with the service; that it is “good as it is.”
- On-time performance was recognized as a challenge; to address this, drivers suggested that customers be better informed about their responsibilities, and that the dispatcher clarify which door or entrance they are to meet the customer, particularly at the mall.
- Some drivers mentioned the need to remind customers there is a limit to the number of grocery bags they can bring onto the bus.
- Several suggested an inconsistent work ethic among drivers, or that the burden is not equally shared among all.
- Some expressed difficulty with the current radio system, and one suggested transitioning entirely to a paper manifest with only occasional radio call-in when needed.

OTHER TRANSPORTATION PROVIDERS

United Tribes Technical College

The United Tribes Technical College offers several separate transportation services for students in the Bismarck-Mandan area. The three separate services include:

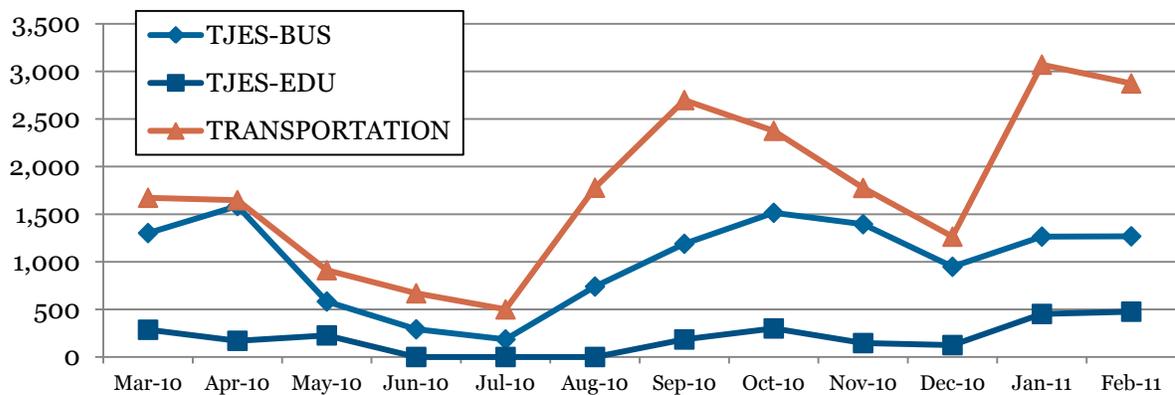
- **TJES – Bus.** School transportation for students at Theodore Jameson Elementary School (TJES)
- **TJES – FACE/EDU.** Transportation for adult participants and dependants for the Family and Child Education (FACE) program
- **Transportation.** Transportation for students attending classes at the United Tribes Technical College

Transportation for UTTC students is offered Monday through Friday on a regular hourly schedule throughout the Bismarck and Mandan area. Demand-response service is also provided after 5:00 PM for shopping and recreation. Holiday and weekend service is provided during the same hours as the evening service (5:00 PM until 10:00 PM). While the routes change every semester based on enrollment, a regular stop is provided hourly at Washington Court Apartments (Washington Street and Arbor Avenue).

The TJES services are provided primarily with a single 54-passenger bus as well as two sedans and one SUV. Transportation for UTTC students is provided with six vehicles. Operation and maintenance of all transportation services is provided directly by UTTC.

Annual ridership for the three services (from March 2010 until February 2011) is about 40,500 trips with the Transportation program offering the greatest number of rides.

Figure 3-18 TJES One-Year Ridership



West River Transit

West River Transit is a nonprofit organization that provides general public rural transportation services to a six county area in Central North Dakota. The six counties include Burleigh County, Morton County, Oliver County, Mercer County, Grant County and McLean County. Limited service is provided to Bismarck from all counties, though service is typically offered only one or two days per week and from some communities only one or two times per month.

All services provided by West River Transit require a 24-hour advance reservation. Curb-to-curb service is provided on all routes. Service is provided on weekdays only with 14 wheelchair accessible vehicles.

Fares on West River Transit are charged by the round trip and vary depending on the starting and ending location. West River Transit accepts cash, checks and punch cards, and donations are also accepted in addition to the fare. Passengers are also allowed to make interim stops along the route as long as the driver is able to accommodate the stop. Bis-Man Paratransit/CAT and West River Transit do not coordinate services at this time, although a regional coordination pilot project will be carried out within the coming year in the area and may include some coordination between Bis-Man Transit and other providers. Any future transit facility development should consider integrating boarding/layover spaces for West River Transit buses, as well as other rural transit operators that serve Bismarck.



Regional and Intercity Transit

Rimrock Stages (Trailways) provides regional intercity bus service from the bus depot at 3750 E. Rosser Avenue in Bismarck. The facility is open from 10:00 AM to 5:00 PM and 2:00 AM to 6:00 AM weekdays and 3:00 PM to 5:00 PM on weekends to accommodate passengers taking the afternoon trips. Eastbound trips (toward Fargo) leave the facility at 2:50 AM and 3:30 PM, while westbound services (to Billings) depart at 4:50 AM and 4:30 PM.

Other buses travel northbound to Minot at 4:30 PM every day except Thursday and Saturday. Southbound service is available at 5:00 AM on Mondays and Thursdays.

Other services are provided by different operators, providing service into the Bismarck-Mandan area from Dickinson and surrounding counties.

4 STAKEHOLDER FEEDBACK

The Bismarck-Mandan Transit Development Plan was initiated with an on-site visit by the consulting team in April 2011. During this visit, a number of key stakeholders were interviewed in person, and some interviews were conducted later by telephone. A wide range of stakeholders with an interest in public transit were contacted, including those representing public agencies, human service agencies, private nonprofit agencies, school districts, and representatives from the business community. For the most part, these stakeholders were suggested by Bis-Man Transit or the Bismarck-Mandan MPO staff.

Those interviewed were asked to elaborate on the role their organization plays in providing or arranging for transportation, the budget and level of service provided, if available, and any perception or experience with unmet transportation needs or gaps in service specific to their clientele. They were also asked to comment on the balance of resources between funding that is available to support the fixed route service (CAT) compared to Bis-Man Paratransit.

The intention of this summary is to present the array of concerns voiced by political leaders, representatives of advocacy and community booster organizations, businesses and property owners, as well as community members. It is important to note that their feedback reflects the views, opinions, and perceptions of those interviewed and that the resulting information was not verified or validated for accuracy of content. A total of 16 interviews were completed, as shown in Figure 4-1.

Figure 4-1 Stakeholders Interviewed

Position	Agency/Organization
Staff	Bismarck Chamber of Commerce
Transportation Specialist	Northland PACE
Member	City of Bismarck, Planning Commission
Member	Bis-Man Board of Directors
Business Development Manager	City of Mandan
Executive Director & Staff	Center for Independent Living
Vice President Student & Campus Services	United Tribes Technical College
Executive Director	Bismarck Senior Center
Planner	Bismarck Mandan MPO
4 Staff Members	Bismarck State College
Bus Operations Staff	Bismarck Public Schools
Transit Section Staff	North Dakota DOT, Office of Transit

Position	Agency/Organization
Superintendent and Transportation Director	Mandan Schools
University President and Vice President for Student Development	University of Mary
Staff	Mandan Golden Age Center
Staff	RSVP

MAJOR TRANSPORTATION CHALLENGES FACING THE BISMARCK-MANDAN AREA

Stakeholders were asked to share their perspectives on major transportation challenges facing the Bismarck-Mandan region. According to stakeholders, the most important challenges include a lack of awareness of current public bus services, increasing congestion, and the overall dependence on the automobile for many people.

Many acknowledged the limitations of public transit within the region and the perception that it is not used by commuters, but rather serves transit-dependent populations and older adults. As fixed-route service is relatively new to Bismarck, some interviewees pointed out the need for increased marketing and awareness of the services.

Figure 4-2 Sample Stakeholder Comments about Key Challenges

Lack of Awareness of Transit Services	Volunteers through RSVP don't take transit; they prefer Bis-Man Paratransit because they are familiar with it.
	Transit Marketing Director has done a good job, but more outreach is needed.
	Is there a way to better rework the routes, and provide information so it's easier to access and understand where to purchase tickets?
	Understanding the CAT system is difficult, especially for seniors. They are intimidated by transfers.
Auto-Centric Mindset	Using public transit is "not inherent in the culture;" people would use it if they understood it.
	Most people access campus by car. People will drive from one end of the parking lot to the other.
	Around here, people are too used to getting in their cars.
Limitations of Public Transit	Lincoln would be a good destination for fixed-route (several comments)
	Transit can't meet all the needs; transit doesn't go everywhere.
	Transit isn't convenient for "choice riders."

STRENGTHS AND WEAKNESSES OF CAT AND BIS-MAN PARATRANSIT

Many of the stakeholders interviewed have had direct experience working with or using the Bis-Man paratransit service, but fewer have direct experience using CAT. Many interviewees indicated that Bis-Man Paratransit offers a very high quality of service for anyone age 60 or older. Unlike many paratransit programs throughout the country, eligibility is not based on disability status. Therefore, the service offered exceeds the requirements established by the ADA, which requires public transit operators to provide complementary paratransit for persons who have a disability that prevents their independent use of the fixed-route service.

Stakeholders representing human service agencies, such as senior centers, the Center for Independent Living, RSVP and PACE, expressed support for the level of paratransit services and indicated their customers' reliance on the service. None of the human service agencies interviewed indicated their clients use fixed-route service, even though it is accessible and can be used by many persons with disabilities. All stated they believe the balance of resources should not be changed between paratransit and transit.

At the same time, many stakeholders are of the opinion that some people who use paratransit are capable of taking the fixed-route service.

Paratransit is a very convenient service, especially in the winter when it becomes more difficult to drive. Paratransit ridership confirms this finding as it is significantly higher in the winter months.

The main concerns expressed with paratransit service quality have to do with scheduling, namely the 45-minute window riders may have to wait, and some people are on the vehicle for a long time.

With regard to fixed routes, stakeholders said services should be extended later in the evening, on weekends, and to serve Lincoln and the University of Mary. There were some other specific needs that came up, such as providing more direct services to United Tribes Technical College.

Positive feedback was received about CAT and Bis-Man Paratransit management: they are helpful, easy to work with, able to meet needs, a good community partner for some of the agencies serving persons with disabilities, and they offer friendly, personalized service.

Figure 4-3 Strengths and Weaknesses: Sample Stakeholder Comments

General Issues	Stakeholder Comments	
	Strengths	Weaknesses
Availability and reliability of service; Temporal and spatial gaps in service	<ul style="list-style-type: none"> • We're happy to have it! • Transit reaches most essential destinations within Bismarck. • Glad that CAT is around – it should have been done a long time ago! 	<ul style="list-style-type: none"> • CAT should serve Lincoln and the University of Mary. • CAT service is infrequent. • CAT service is complex and not convenient for commuters. • CAT service should operate earlier in the day and later at night. • There should be a downtown transit center. • A lot of the employers in town are not aware of public transit.
Quality of local paratransit service	<ul style="list-style-type: none"> • Anyone age 60 and older is eligible to use paratransit. • Bis-Man Paratransit has an excellent relationship with many social service agencies. • Service is very convenient, especially during winter months with inclement weather. • When I call to schedule the transportation with the schedulers at Bis-Man Paratransit, their computer systems are quick and efficient. The staff seems well-trained and familiar with what they're doing. 	<ul style="list-style-type: none"> • Some people using Bis-Man Paratransit could use CAT. • Some people are on the vehicle too long. • Door-to-door service is advertised but not all drivers are offering door-to-door service. • People have to wait a long time for their ride. • Drivers are not always aware of the special requests of the rider, such as if the rider has a walker, needs to use the lift, or needs a front seat.
Regional coordination	<ul style="list-style-type: none"> • The major transit facility is shared by three operators. • Discussions are underway between United Tribes Technical College and CAT to coordinate/consolidate services. • Several regional forums promote coordination and communication regarding transit issues. 	<ul style="list-style-type: none"> • There is really no coordination taking place in Bismarck and Mandan.

General Issues	Stakeholder Comments	
	Strengths	Weaknesses
Appearance, Customer Service and Amenities	<ul style="list-style-type: none"> • Buses are clean. • Drivers provide friendly, personalized service. • It's nice to have an indoor waiting area at Kirkwood Mall. 	<ul style="list-style-type: none"> • There's a lack of public information. I don't see the maps of the transit system throughout the community. • People think transit is for the elderly only. • Where are the bus stops? I don't see them around town. • The buses are so covered up with advertisements, you can't see if there's anyone in them. • There's no reason that the transit center can't be open longer hours so people don't have to wait outside.

PRIMARY TRANSPORTATION NEEDS AND STAKEHOLDER-RECOMMENDED SERVICES

Based on this review of existing conditions, as well as feedback from stakeholders, a number of transportation needs were identified, which generally fall into one of the following three categories:

- Service expansion
- Improving existing services
- Awareness of and comfort of existing services

Service Expansion

Expansion of service. Among possible service extensions, service to Lincoln and to University of Mary was suggested. According to stakeholders, CAT headways and travel times are poor: the system is not designed for commuters, college students, or people making time-sensitive trips. Service is spread too thin and routes serve locations with few or no riders.

Extended hours of service. Some stakeholders mentioned the need for longer hours of operation; for the service to begin operating earlier in the morning, and go later in the evening. The opinion was expressed that such improvements are needed if the service is to be considered a viable commute option.

Improve Existing Services

More direct service. In addition to straighter routes, more frequent service is a common request. Trips taking a long time from pick-up to drop-off discourage transit use.

Need for improved infrastructure. Some passengers cited the need for more transit amenities, such as bus benches or shelters. Improved signage is also needed. Shelters are installed and maintained by the system, but stakeholders noted they are not always in the right place.

Awareness and Comfort of Existing Services

Marketing information. Many stakeholders acknowledged the challenge of “changing the mind set” of Bismarck and Mandan residents who do not currently use public transit. Several noted that more proactive marketing campaigns have been initiated, such as ads on television. Others, however, pointed out the need for improved marketing and customer awareness. Some expressed the opinion that bus wraps (advertising) may obscure the buses too much, so there is no sense of who is using them and whether people ride. Finally, having the paratransit system known as “transit” is confusing to many people.

Bismarck serves as a hub for regional transit providers (i.e., West River Transit), but there is little or no formal mechanism for coordinating among the operators. A locally developed Coordinated Public Transit Human Services Transportation Plan was developed and submitted in May 2011 which provides direction for increased transportation coordination in the region.

Figure 4-4 Sample Stakeholder Comments about Some of the Short-Term Needs and Service Priorities

Service Expansion	During the legislative session, CAT should consider using the malls as a park and ride and operate to the state capitol.
	University of Mary and Lincoln have expressed interest in better transit.
	Service in Mandan needs to be extended beyond Seven Seas.
	CAT needs to go more places. People don't use transit because it doesn't come to their neighborhood.
Improving Existing Services	Employers would like for service to operate earlier in the morning and later at night to encourage workers without cars to use transit.
	Bus service after school is needed to get high school students to sports facilities. The bus schedules don't consider "bell times."
	Something needs to be done to make the [CAT] service less complicated.
	The main complaint with paratransit is the pick-up window. It's really long.
	The most important thing is to run the CAT bus more often and make the routes more direct.
Awareness and Comfort of Existing Services	Even in the summer, many seniors won't use CAT because it is perceived as complex and difficult to use.
	Opportunities exist to work with major employers. Employers aren't aware that transit could be used by their staff.
	Bus stops and shelters are needed in more locations.
	I wasn't aware of the difference between the CAT and Bis-Man Paratransit. People need to know that it's not just for elderly people.
	The bicycle racks on the buses is a good thing. People need to know they can bike and use the bus to get where they're going.

5 SURVEYS AND INPUT FROM PUBLIC OUTREACH

As the direct beneficiaries of CAT and Bis-Man Paratransit, existing transit riders are among the most important stakeholders in the formation of a transit plan. Similarly, it is important to know how the broader community values transit services to understand how and where they travel for work, shopping and medical services.

To support the data review in the previous chapters, the following efforts were conducted as part of this plan to assess public perceptions and determine some of the opportunities for transit in Bismarck and Mandan:

- **Community surveys.** The community survey consisted of an “intercept” survey that was conducted one-on-one at various locations in Bismarck and Mandan, as well as an on-line survey. The community survey was developed to better understand typical travel habits and destinations for various trip purposes (work, shopping, school, etc.), as well as to understand what factors would encourage respondents to use transit (or use it more often). The intercept survey and online survey asked the exact same questions and were evaluated together.
- **Onboard passenger surveys.** Surveys were conducted on CAT and Bis-Man Paratransit buses over the course of a week in June 2011. The survey was designed to gauge existing riders’ behavior about how they access transit and where they go, as well as perceptions about overall service quality and service needs.
- **Other public input tools.** The project included a website for downloading information and providing comments about the Mobility 2017 project, as well as two rounds of public outreach meetings.

A description of the methodology used for these efforts and the findings from them are provided in the sections that follow.

COMMUNITY SURVEYS

Overview and Methodology

The consulting team distributed a survey to solicit input from the general public and to get a better sense of travel patterns and preferences travel in the Bismarck-Mandan area. The survey was designed to elicit input from residents with varying types of commuting habits, but particularly those who may not currently ride either CAT or Bis-Man Paratransit.

A total of 242 responses were collected, 154 of which were collected in person at various locations around the Bismarck area including the Bismarck Public Library, the Morton Public Library, Bismarck State College, United Tribes Technical College, the State Capitol Complex, the North

Dakota DOT, the YMCA, Gateway Mall, and Dan’s Supermarket in Mandan. Persons who completed the survey were offered a ticket for a free ride on CAT. The remaining 88 surveys were conducted online via the website www.transitsurvey.info (using a Survey Monkey web form). Survey respondents were offered an opportunity to enter a contest to win a \$50 Amazon gift card, which was awarded June 14, 2011. Surveys conducted in person and those conducted online presented respondents with the exact same set of questions. A copy of the survey instrument can be found in Appendix B.

While the limited number of responses means that survey results cannot be considered statistically significant, the data chronicled in the following sections provides a general picture of transportation patterns and preferences in the Bismarck-Mandan metropolitan area. The location of survey distribution (both in person and online) did not provide a fully random sample of residents; however, the data does present some interesting insights, especially regarding the travel habits and perceptions of those who are not regular transit users.

Summary of Findings

Demographic Profile of Respondents

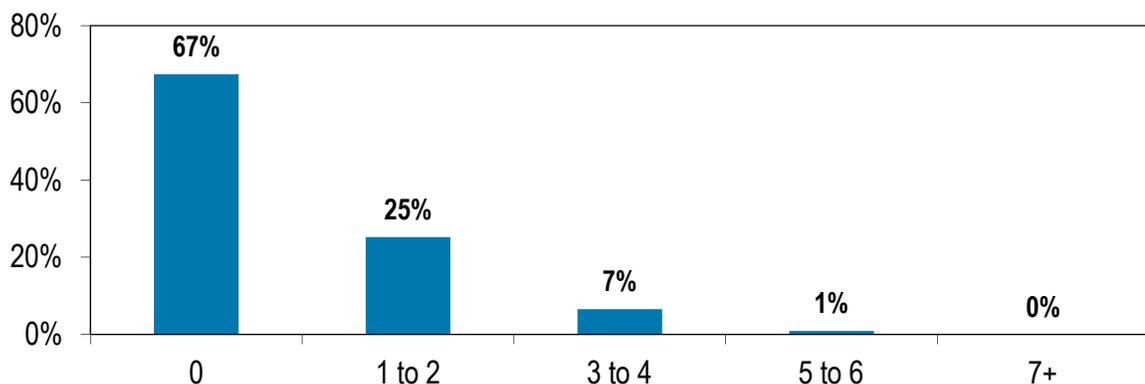
Gender

Of the 242 total surveys administered, 221 of the survey respondents listed their gender. A total of 61% of respondents identified themselves as female, while the remaining 39% of respondents identified themselves as male. This represents a slightly skewed selection of the general population; as of the 2000 U.S. Census, 51.6% of Bismarck’s residents were female and 48.4% male.

Age

The survey questions regarding age pertained to household-specific data. Respondents were asked to mark down both the number of persons age 16 years or younger living in their household, and the number of persons age 60 years or older living in their household. Figure 5-1 presents the number of persons age 16 or under living in respondent households. The majority of respondents (67%) do not have anyone age 16 or under in their household, though one-quarter of respondents (25%) have either one or two children at home age 16 or less. Only 8% of survey respondents have three or more children living at home.

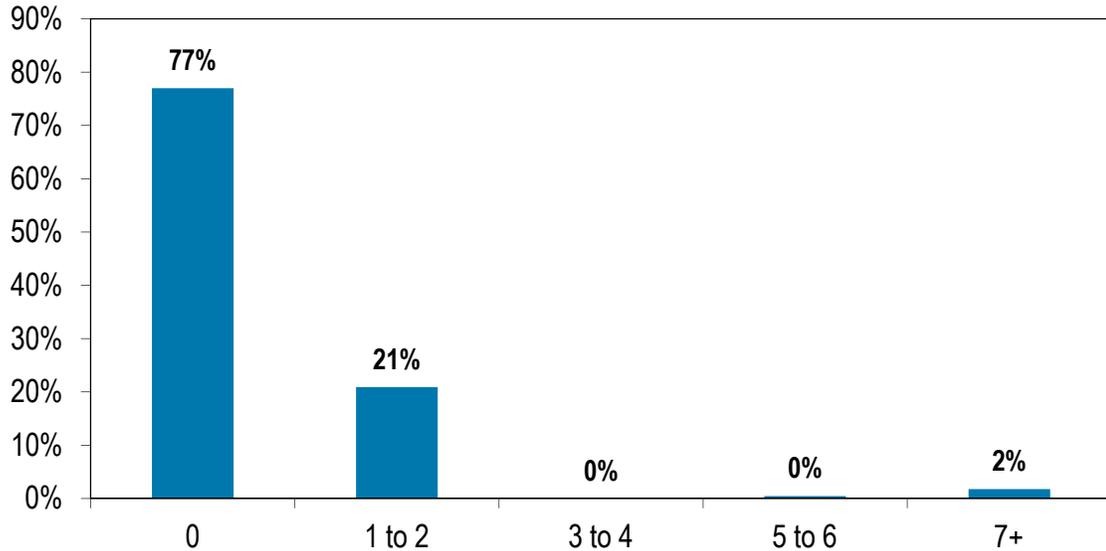
Figure 5-1 Persons in Household Age 16 and Under



N=230

Similarly, the majority of survey respondents (77%) do not have anyone age 60 or older in their household. About 21% of respondents have one or two older adults (possibly including themselves), and only 2% have more than two individuals age 60 or older in their household.

Figure 5-2 Persons in Household Age 60 or Higher

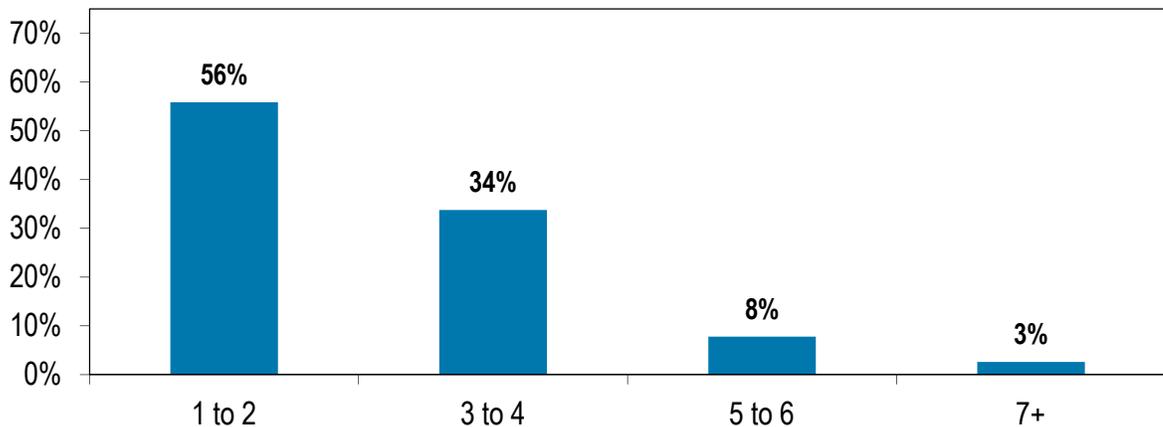


n=230

Household Size

Survey respondents tend to live by themselves or with one other individual (56%). One-third of respondents (34%) live in households comprised of three to four individuals, while 8% of respondents live in households comprised of five to six individuals.

Figure 5-3 Number of Persons in Household

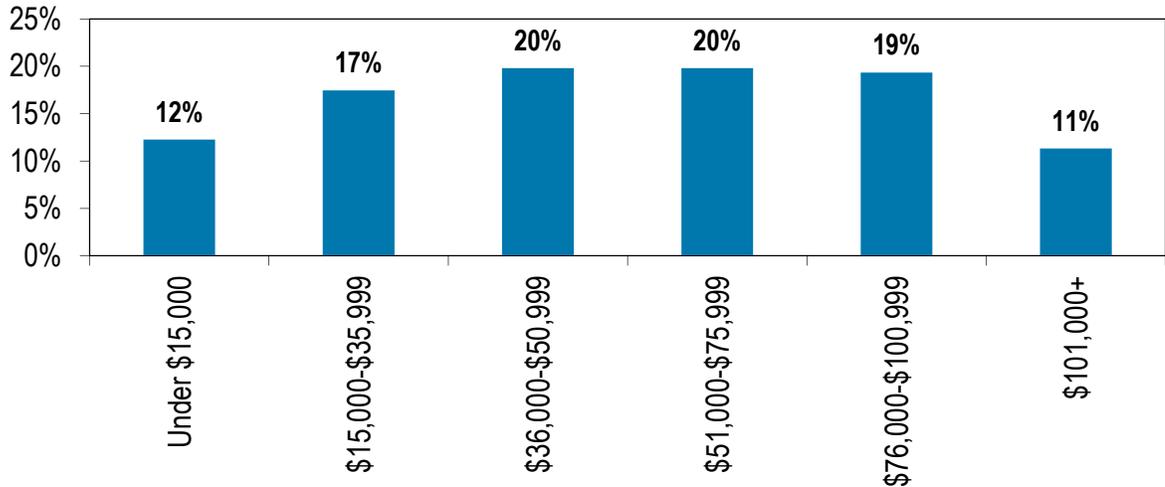


n=231

Household Income

Of the respondents who provided their household income (212 out of 242 surveys), only 12% came from households that earn less than \$15,000 per year. Household incomes were relatively evenly distributed among survey respondents, with 17% of survey respondents in households with combined incomes between \$15,001 to \$35,999, 20% with incomes between \$36,000 and \$50,999 per year, another 20% with incomes between \$51,000 to \$75,999 per year, and 19% with household incomes between \$76,000 and \$100,999.

Figure 5-4 Household Income

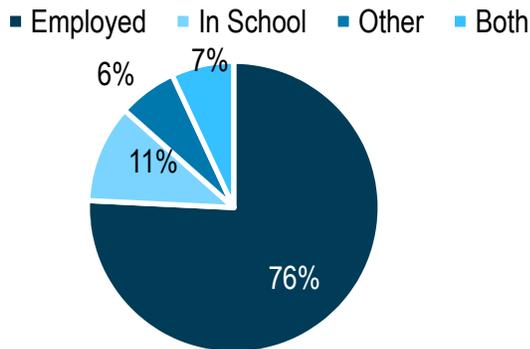


n=212

Employment Status

The vast majority of survey respondents (76%) are employed either full time or part time and are not currently attending school. Conversely, 11% of survey respondents are full-time students who do not work; 7% of respondents are employed part time or full time while also attending school. Approximately 6% of respondents are neither employed or in school; these respondents indicated they are retired or unemployed.

Figure 5-5 Employment Status



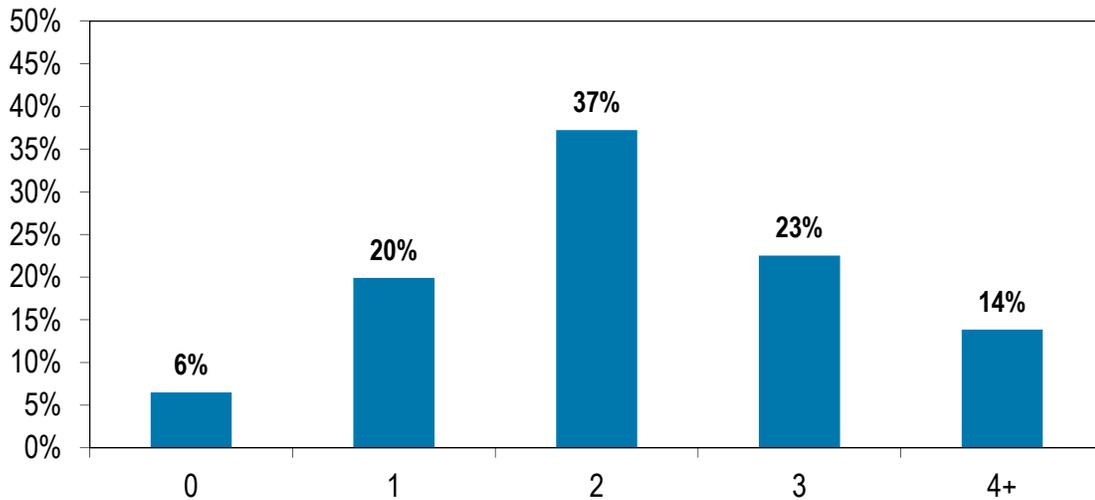
n=231

Commute Patterns

Number of Cars in Household

As shown in Figure 5-6, the largest percentage of survey respondents (37%) lives in households with two vehicles. Only 6% of respondent households have no car, while 20% of respondent households have only one automobile. Approximately 23% live in a household with three cars, while 14% of respondents have access to four or more vehicles.

Figure 5-6 Number of Cars in Household

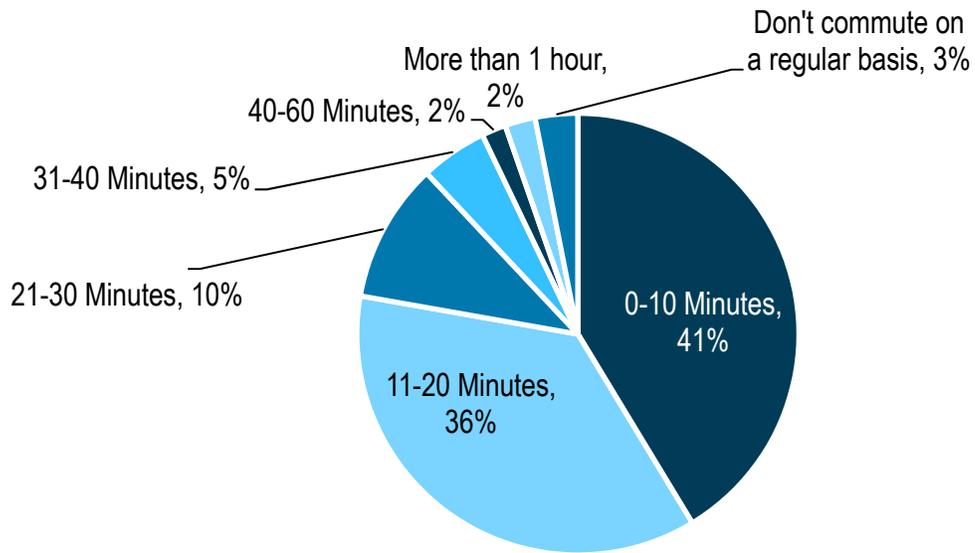


n=231

Commute Length

Survey respondents have a short commute to work or school. Approximately 77% of respondents can reach either their job or school in less than 20 minutes, and 87% of respondents have commutes of less than 30 minutes.

Figure 5-7 Length of Commute

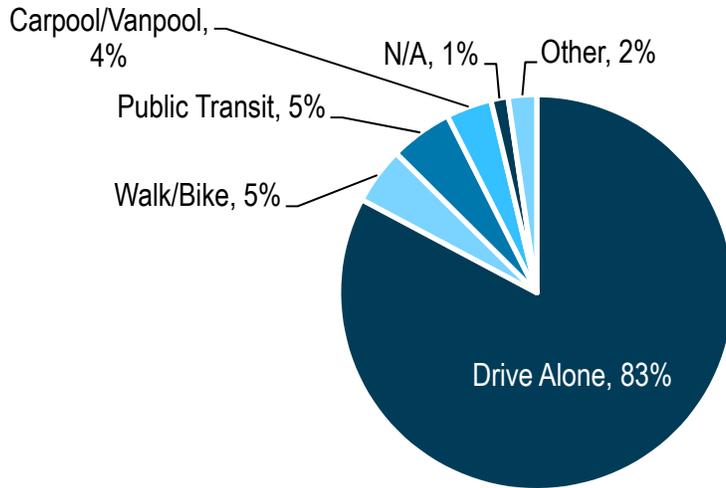


n=225

Primary Mode of Travel

Perhaps unsurprisingly, the vast majority (83%) of survey respondents drive alone to access either their places of employment or school. Approximately 5% walk or bike as their primary mode of travel to and from work or school, and another 5% take some form of public transit. About 4% carpool (or vanpool) with at least one other person.

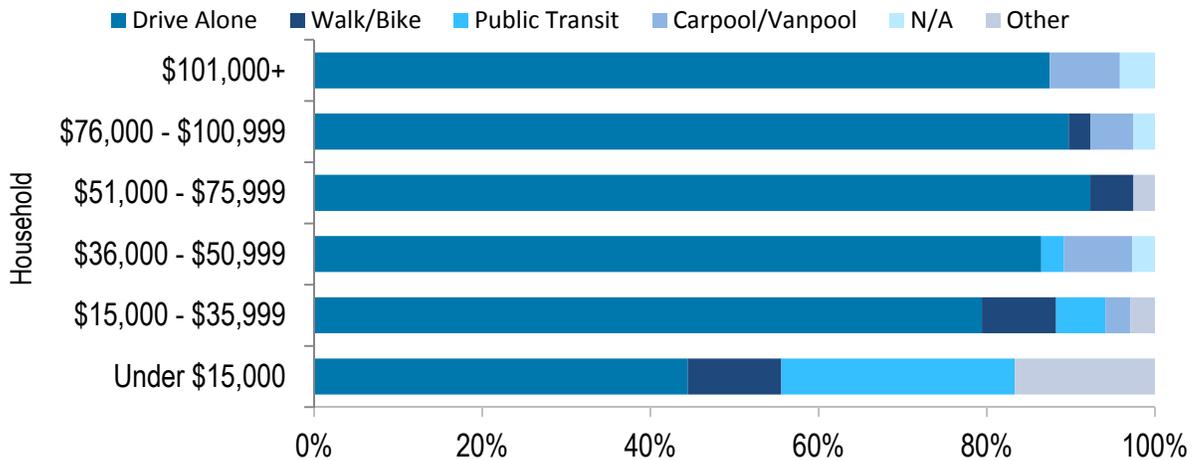
Figure 5-8 Primary Mode of Travel to/from Work or School



n=215

Also unsurprising is the breakdown of commute mode by income level. Mirroring trends seen nationwide, survey respondents in lower income brackets use non-auto modes more often than those in higher income brackets. Individuals making under \$15,000 per year are those most likely to walk/bike, take transit, or use some other means of non-car travel to access work or school. Those making between \$15,000 and \$35,999 per year are second most likely to use transit or commute on foot or via bicycle. See Figure 5-9 for a mode-split breakdown for each income bracket.

Figure 5-9 Primary Mode of Travel to/from Work/School by Household Income



n=215

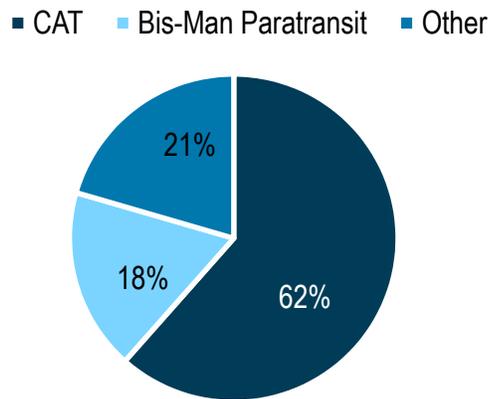
Public Transit Use in Past 6 Months

Of the 232 respondents who answered questions relating to their frequency of transit use, only 18% had used transit in the past six months, meaning 82% had not.

Of the survey respondents who used transit within six months of the survey period, 62% used CAT, while 18% and 21% used Bis-Man Paratransit or some other form of public transportation, respectively.

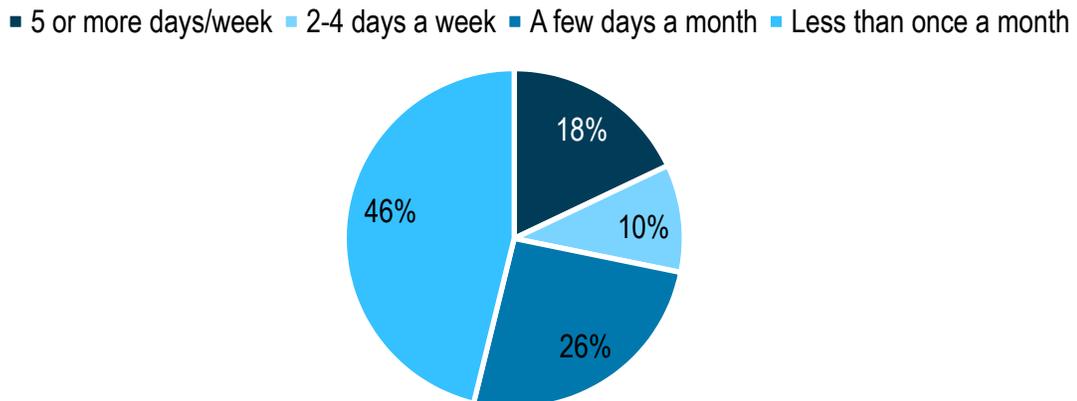
Among respondents who used transit within six months of the survey period, the largest group (46%) had used transit at a rate of less than once a month. Only 18% had taken transit five or more days a week.

Figure 5-10 Type of Transit Used



n=39

Figure 5-11 Frequency of Transit Use



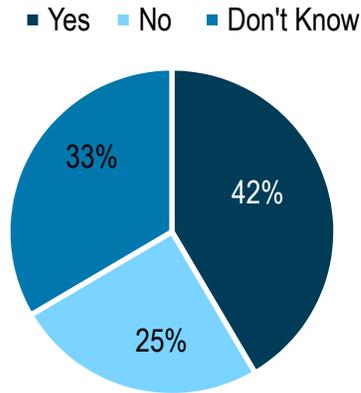
N=39

Perceptions of CAT

Awareness of Neighborhood CAT Service

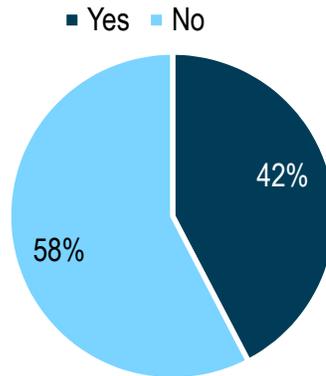
When asked if CAT served their neighborhood, 42% of survey respondents were certain that it did, while 25% were certain that it did not. One-third (33%) of respondents were unsure as to whether or not their neighborhood is served by a CAT bus route. Furthermore, more survey respondents did not know that CAT buses are equipped with bike racks than those who did (58% vs. 42%).

Figure 5-12 Awareness of Neighborhood CAT Service



n=236

Figure 5-13 Awareness of Bike Racks on CAT Buses



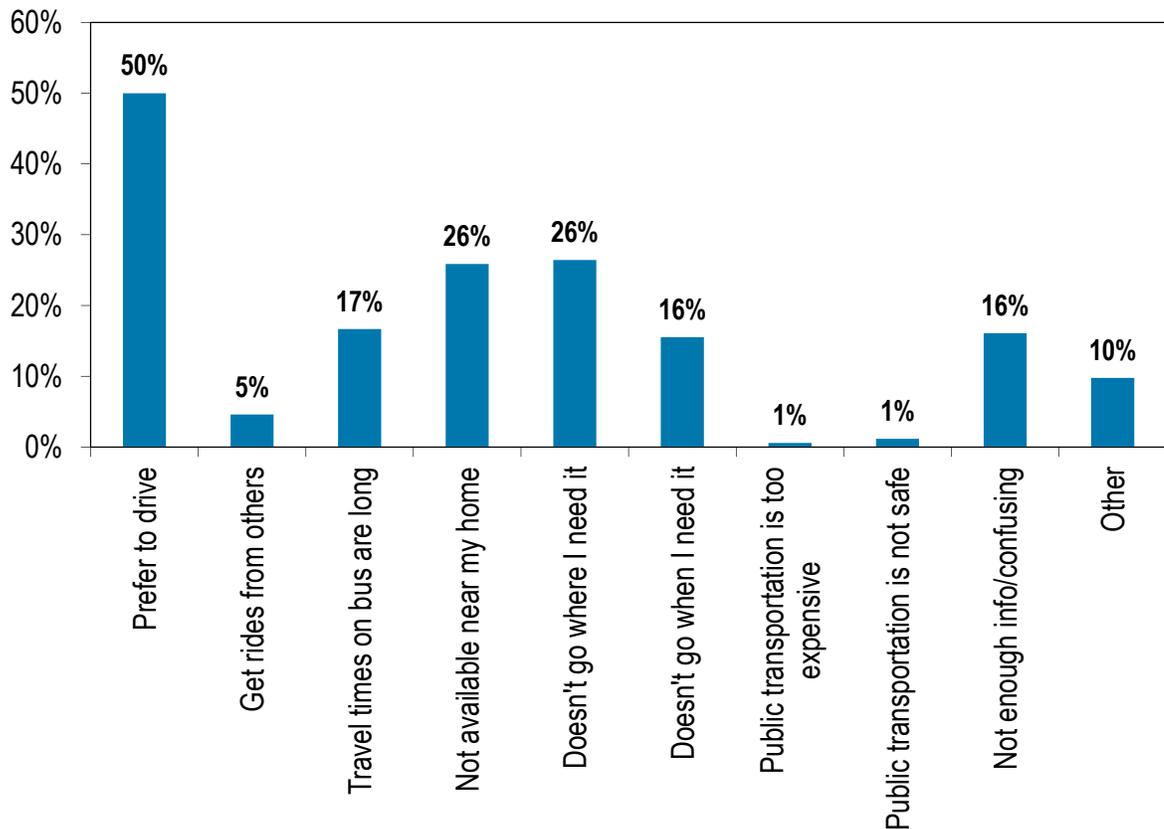
n=236

Reasons for not Taking Transit

Of the survey respondents who had not taken transit within six months of the survey period, 50% listed “prefer to drive” as a reason why they didn’t use transit. The second most popular choices were “not available near my home” and “doesn’t go where I need it,” both of which were noted by 26% of the respondents who had not taken transit in the past six months. Long transit trip times, insufficient service hours, and a lack of service information were also popular responses, given by 17%, 16%, and 16% of respondents, respectively. The least frequent reasons for not taking transit

were “get rides from others,” the high cost of transit, and the relative safety of transit. Approximately 10% of respondents said they do not ride transit due to some other reason not listed in this survey. Some listed their need to drive children to/from school as this other reason, while others listed their need to take care of elderly parents or other scheduling concerns. In this question, respondents were allowed to give more than one response.

Figure 5-14 Reasons for not Taking Transit



Changes That Would Encourage CAT Use

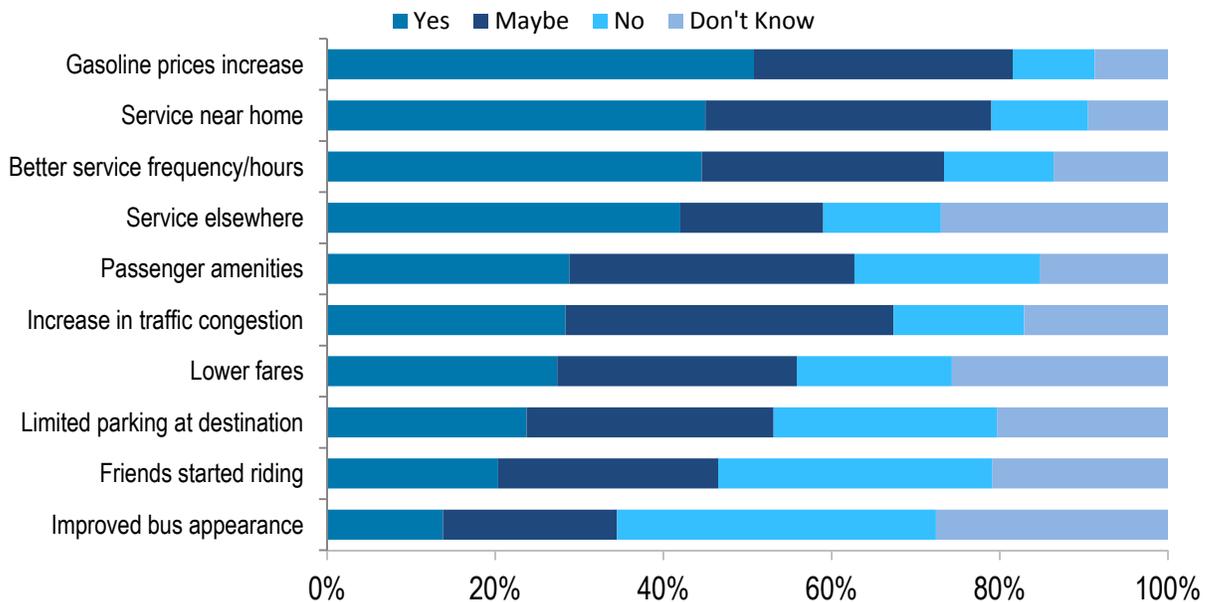
Survey participants were presented with a list of potential service changes, new amenities, and exterior factors and asked if these changes, amenities, and factors would encourage them to use CAT. Respondents could rank these changes on a scale of one to three, with 1 meaning the changes would not encourage them to take transit, 2 meaning it might cause them to consider taking transit, and 3 meaning it would cause them to strongly consider taking transit.

As shown in Figure 5-15, an increase in gasoline prices, route changes that would provide service closer to respondents' homes, an increase in service frequency and service hours, and new CAT routes to various destinations in the metropolitan area were those with the highest average scores and thus are those that would most likely cause survey respondents to switch to transit. The lowest scoring options were if parking were limited at destinations, if other people they knew started taking transit, and if the appearance of buses were improved.

Some respondents indicated that if transit went to some other destinations, they might consider riding the bus. Following is a list of the specific destinations that respondents listed as those that CAT would need to serve in order to encourage their use of transit. It should be noted that some of these are already served by CAT:

- Down Main Street
- Fargo
- More places in Bismarck, more buses, shorter routes
- My house
- Northeast part of town
- Places outside North Dakota
- The east side of the Capitol
- University of Mary
- UTTC
- YMCA and Daycare
- Ft. Lincoln
- Kirkwood Mall and St. Alexius
- Lincoln
- Wilton, ND

Figure 5-15 Changes That Would Encourage CAT Use



ON-BOARD PASSENGER SURVEYS

Overview and Methodology

On-board surveys to solicit input from current transit and paratransit riders were distributed aboard CAT's various routes and aboard Bis-Man Paratransit vehicles. The surveys asked some of the same or similar questions, but were tailored to be specific to either fixed-route transit riders or paratransit riders. As such, the analysis of survey results is presented separately in the following sections. Demographic data of survey respondents is presented first, followed by the travel patterns and transit use characteristics of respondents, then passenger satisfaction with current transit

service. The survey analysis specific to CAT users includes respondent reactions to possible service improvements and expansion.

A copy of each survey instrument can be found in Appendix B.

Summary of Findings – CAT Surveys

Rider surveys were distributed on-board CAT buses in June 2011. A total of 75 surveys were completed.

Demographic Profile of Respondents

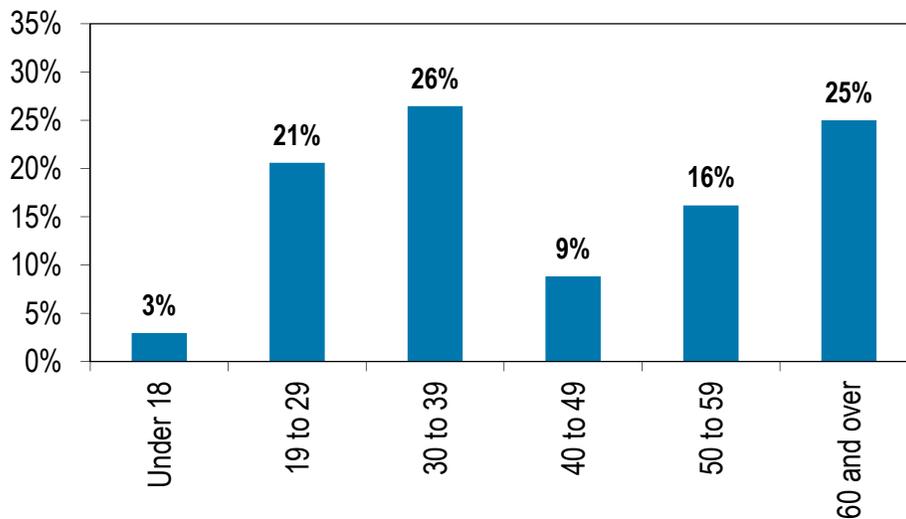
Gender

Of 75 completed surveys, 69 respondents listed their gender. Approximately 64% of respondents identified themselves as female, and 36% identified themselves as male.

Age

Survey respondents were asked to note their age. As shown in Figure 5-16, the largest group of respondents (27%) is between the ages of 30 and 39. Approximately 24% are 60 and over, representing the second highest proportion of respondents. Only 3% of respondents were 18 or younger.

Figure 5-16 Age of CAT Riders

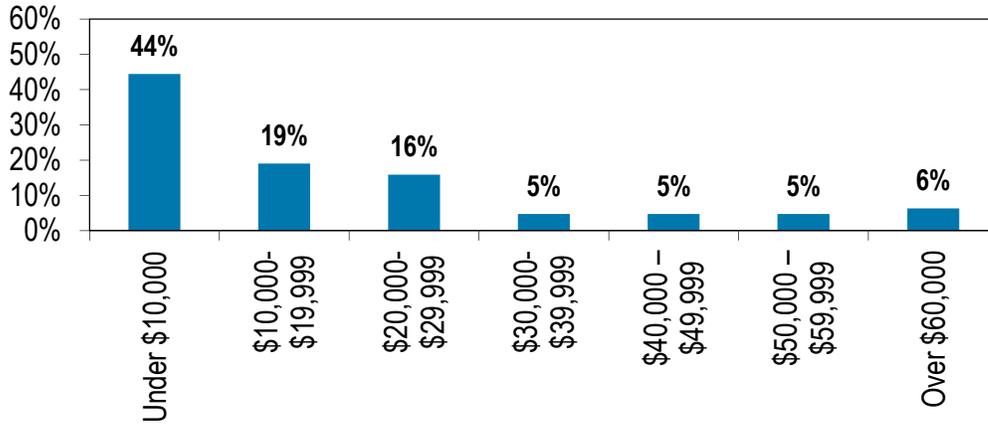


n=68

Household Income

As shown in Figure 5-17, survey respondents tended to come from lower income households. A total of 44% of respondents live in households that make less than \$10,000 collectively, and 79% of respondent households make less than \$30,000 annually. Only 6% earn over \$60,000, illustrating that transit users in the Bismarck-Mandan area tend to have low incomes.

Figure 5-17 Household Income of CAT Survey Respondents



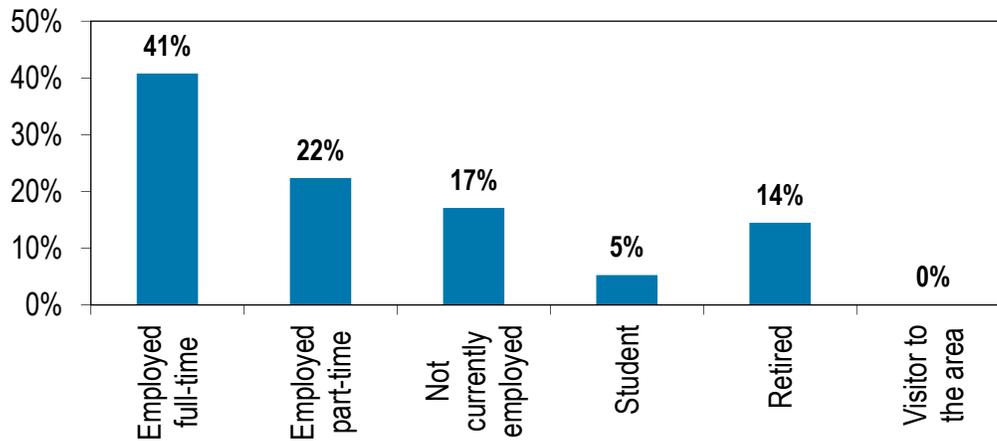
n=63

Employment Status

The largest percentage of survey respondents (44%) are employed full time, as shown in Figure 5-18. A total of 22% are employed part time, meaning 66% of survey respondents hold some type of job. While 17% of respondents are currently unemployed, only a small percentage of respondents indicated they are students (5%).

Survey respondents were also asked if they either worked at or attended a local university, and only 13 of 75 total respondents indicated that they did.

Figure 5-18 Employment Status of CAT Survey Respondents

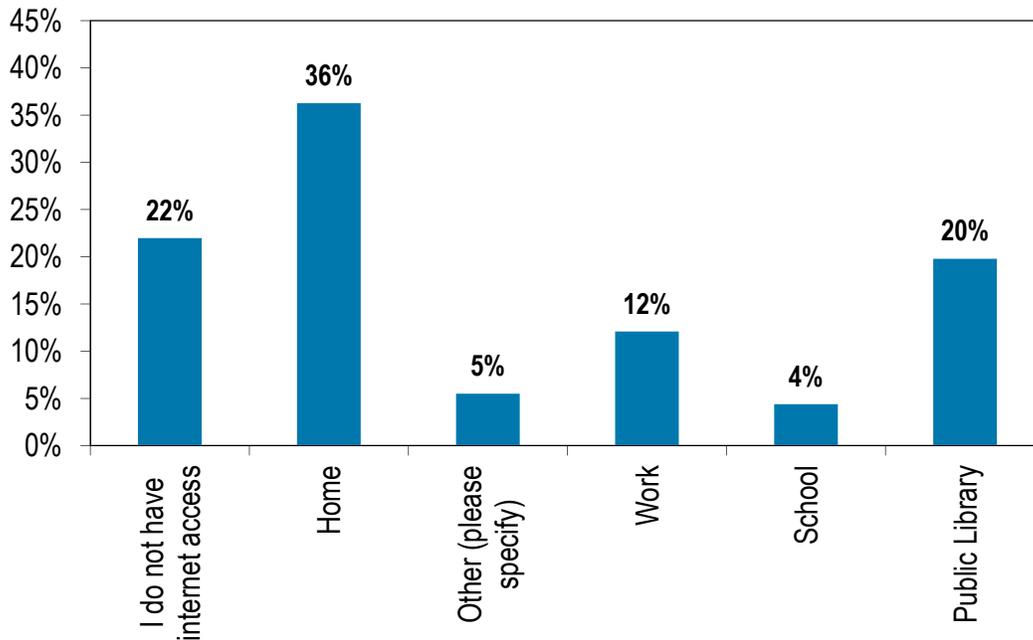


n=76

Access to the Internet

As shown in Figure 5-19, the majority of survey respondents (78%) have access to the internet either at home, work, school, the library, or some other location. A total of 36% of respondents can access the internet directly from their homes, while 20% do so at the public library. About one in five respondents (22%) do not have current internet access, suggesting that it is important for CAT to market and provide information via traditional printed posters and flyers and via word-of-mouth.

Figure 5-19 Internet Access of CAT Survey Respondents



n=91

Possession of Driver's License

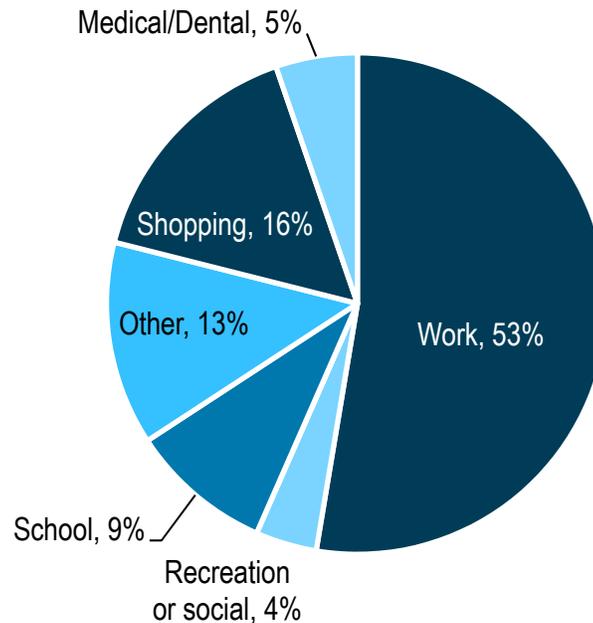
More survey respondents do not have a valid driver's license than do: 54% do not possess a license, while 46% do. This again suggests a significant transit-dependent population using CAT buses.

Travel Patterns

Trip Purpose

The vast majority of transit trips (96%) were home-based, meaning with the trip origin or destination was the rider's home. Non-home origins and destinations, as shown in Figure 5-20, illustrate that most riders were using the bus for work trips (53%). Shopping trips represented the next most frequent trip purpose (16%), followed by other (13%), almost all of which were classified as volunteer or human service organizations, or were indicated as "general errands." School trips accounted for 9% of trip purposes. Although many stakeholders indicated CAT's route structure is not conducive to commutes, the data shows that most riders are, in fact, riding transit for commute purposes.

Figure 5-20 Non-Home Trip Origins/Destinations of CAT Survey Respondents



n=74

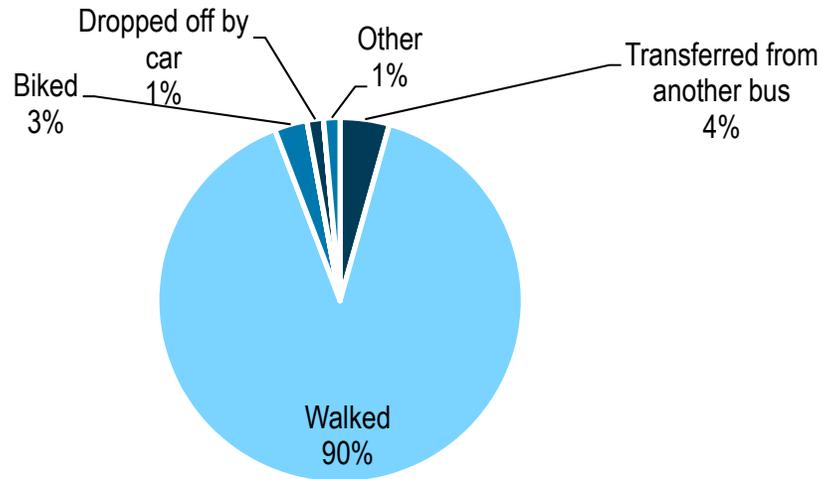
Mode of Access To/From Bus

Determining the mode of access to and from CAT is important because it is one indication of how well the service is penetrating the service area. In general, routes should strive to be accessible to pedestrians.

As illustrated in Figure 5-21 below, the majority of survey respondents (90%) walked to access a CAT bus stop. Only 4% transferred from another bus, while 3% and 1% biked or were dropped off by car, respectively.

Of those who walked to a CAT bus stop, travel times ranged from 30 minutes to one minute, and averaged about seven minutes.

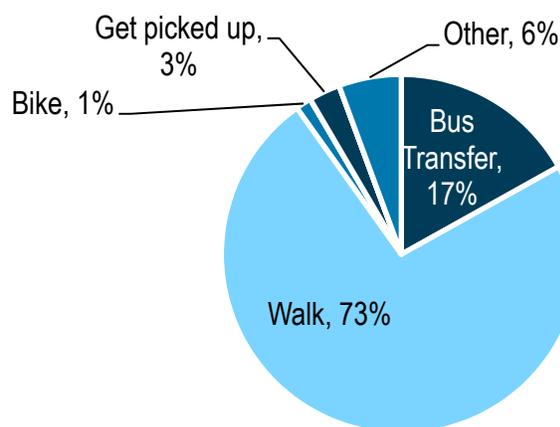
Figure 5-21 Mode of Access to CAT



n=69

Conversely, upon exiting the bus, 73% of respondents walked to their final destinations, while 17% transferred to another bus line. Only 3% were picked up via automobile, while 1% biked. Of those who walked, final destination travel times ranged between 30 minutes to one minute, and average about six minutes.

Figure 5-22 Mode of Access From CAT to Destinations



n=71

Type of Trip

The majority of survey respondents were making a round trip on CAT during the survey period: 62% were completing a round trip, while the remaining 38% were only going one way, presumably having walked, biked or gotten a ride for one direction of their trip. Given the route structures and transfer times it is plausible that a number of riders walk or get a ride for one direction of their trip to avoid a long bus travel time, and take transit only for the most direct segment of their trip, however this cannot be substantiated based on the survey data.

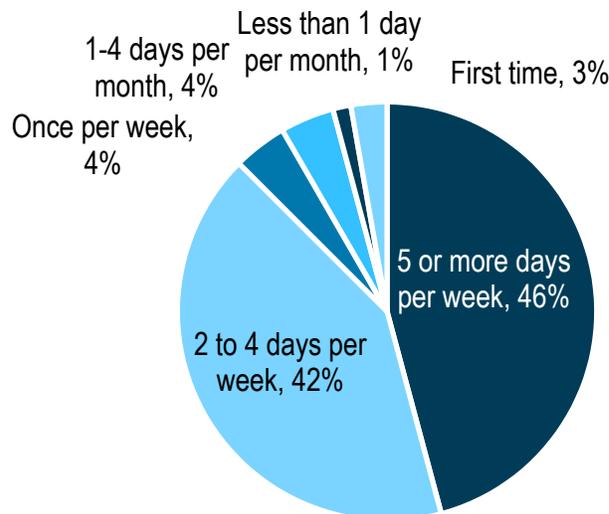
Transit Use Characteristics

Frequency

The largest group of respondents (46%) indicated that they ride CAT five or more days per week, while the second-largest group (42%) indicated that they ride CAT between two and four days per week (Figure 5-23). Only 12% ride CAT less frequently. For 3% of respondents, it was their first time on CAT.

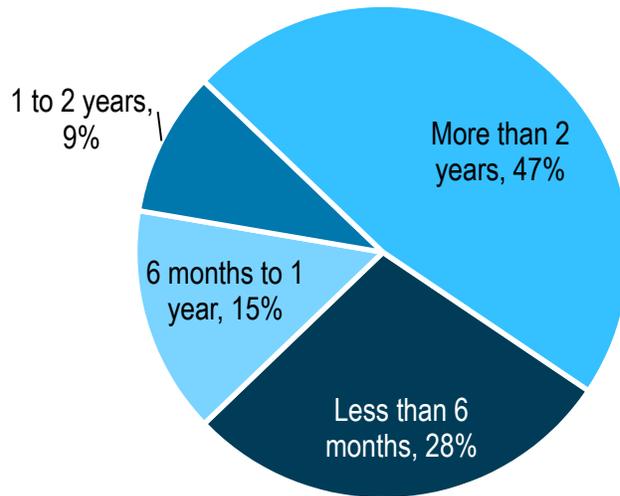
CAT continues to attract new riders (Figure 5-24). A large group of respondents (47%) have been riding CAT for more than two years, while 28% are still relatively new to the system, having ridden it for less than six months. The remaining 24% of respondents have been riding CAT between six and 24 months.

Figure 5-23 How Often CAT Survey Respondents Ride CAT



n=72

Figure 5-24 How Long CAT Survey Respondents Have Been Riding CAT

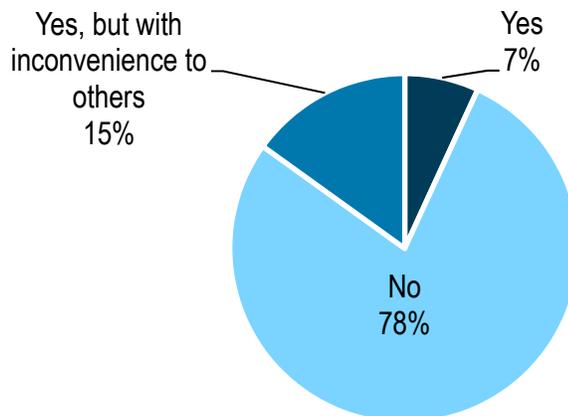


n=74

Alternative Travel Options

Respondents were asked whether a car was available to them for their trip. Nearly 8 out of 10 respondents answered that they did not have access to a private vehicle for this specific trip. The relatively high percentage (78%) of people who lack convenient access to an automobile highlights the importance of CAT transit service to its passengers, especially those who do not have viable options.

Figure 5-25 Access to Automobile for CAT Survey Respondents

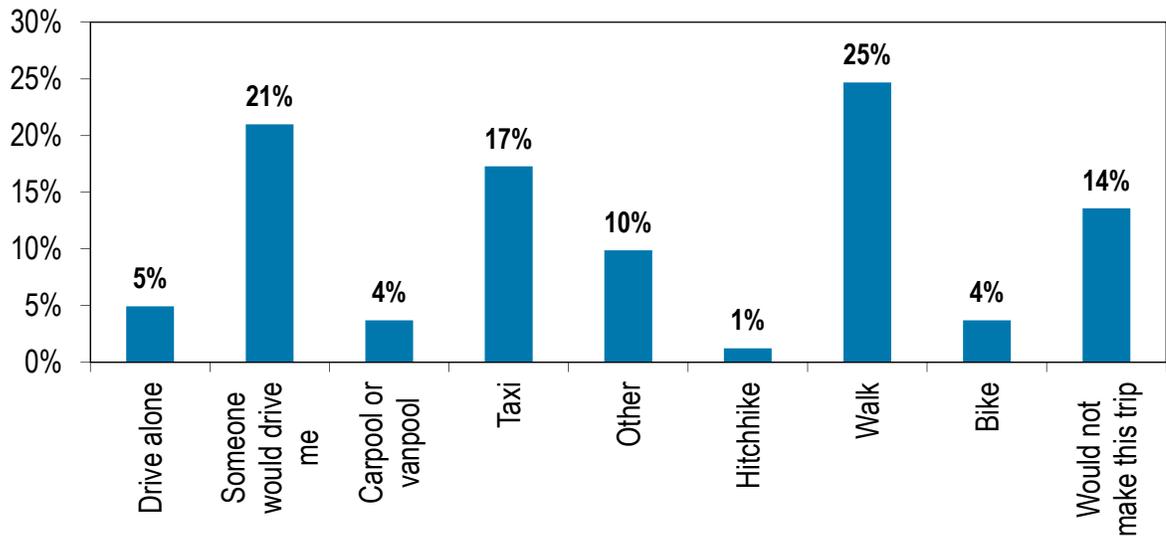


n=73

When asked how they would make their current trip if CAT service were not available, one in four respondents answered that they would have to walk. Twenty one percent would be able to secure a ride from someone else, while 17% would have to call a taxi. Another 5% would drive alone, illustrating the small proportion of “choice” riders on the system. A total of 14% would be forced to cancel their trip entirely. All of the respondents who answered “other” listed paratransit as the way

they would have to complete their current trip if CAT service were unavailable, highlighting the small group of eligible paratransit riders who opt to use CAT.

Figure 5-26 Mode of Travel if CAT Were Unavailable

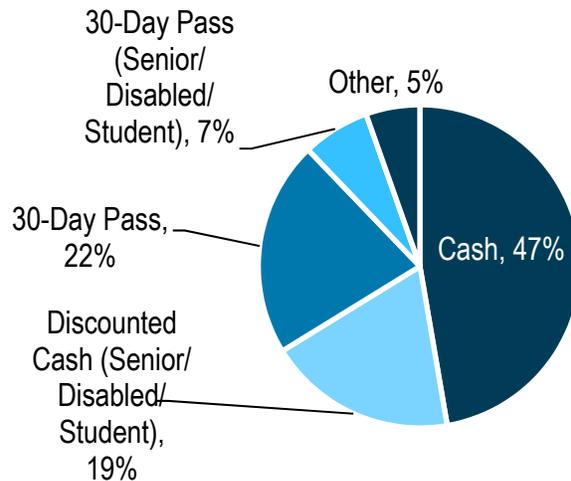


n=81

Method of Payment

Although a combined 29% of respondents reported having used one type of 30-Day Pass, the majority of respondents (66%) paid for their trip in cash. About 47% of cash-payers paid full price (the general public fare), while 19% paid a discounted fare. Those who listed “other” as their payment method paid either via a Full-Day Pass, or were riding for free as a part of a group learning exercise.

Figure 5-27 Method of Payment of CAT Survey Respondents



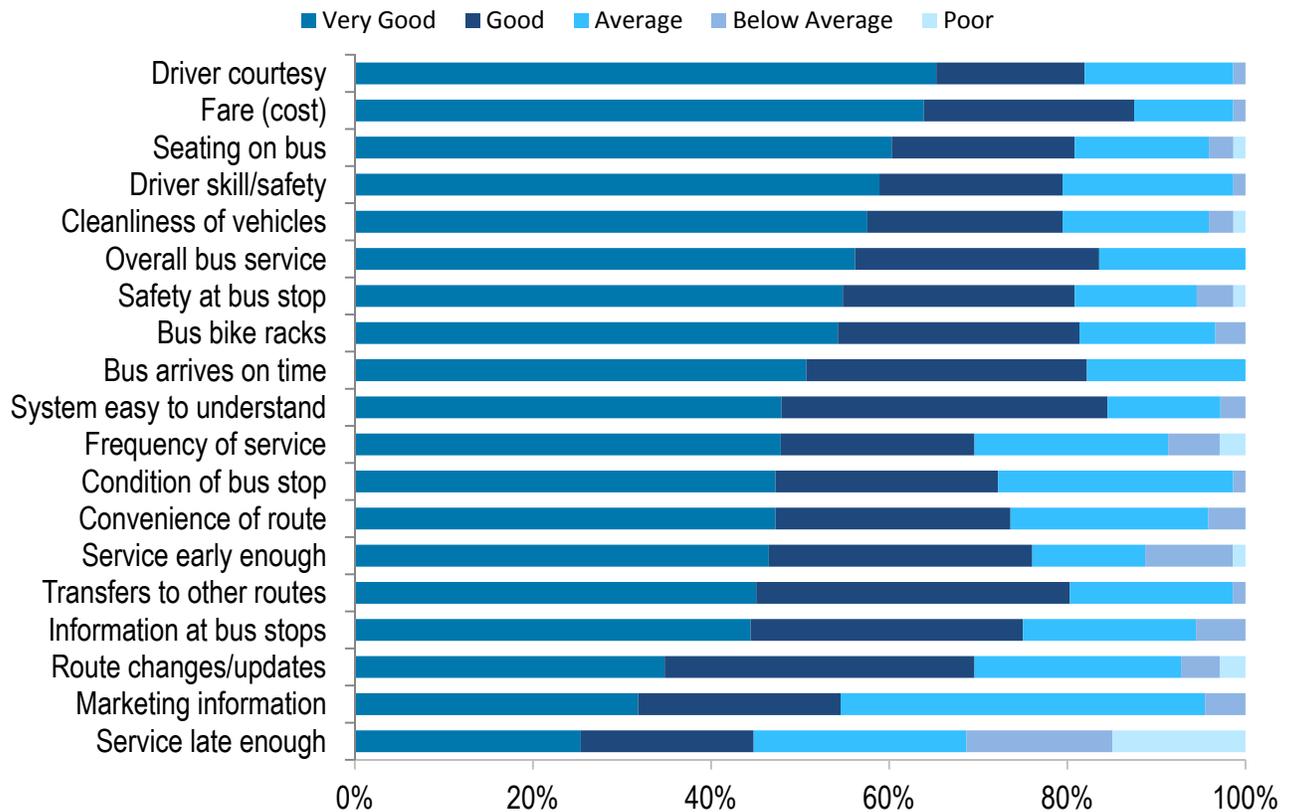
n=74

Passenger Satisfaction with Bus Service

Generally, riders rated CAT service and amenities highly. For 9 of the 19 rating categories, over 50% of respondents rated CAT service and amenities as “very good.” Those that did not receive a majority of “very good” ratings were rated either “good” or “average” by most respondents.

Some elements of CAT service were found to be less satisfactory. The “service late enough” category received the highest number of “below average” and “poor” ratings. Other services and amenities that received mixed reviews included the beginning time of service, information at bus stops, and route changes/updates.

Figure 5-28 CAT Service Ratings

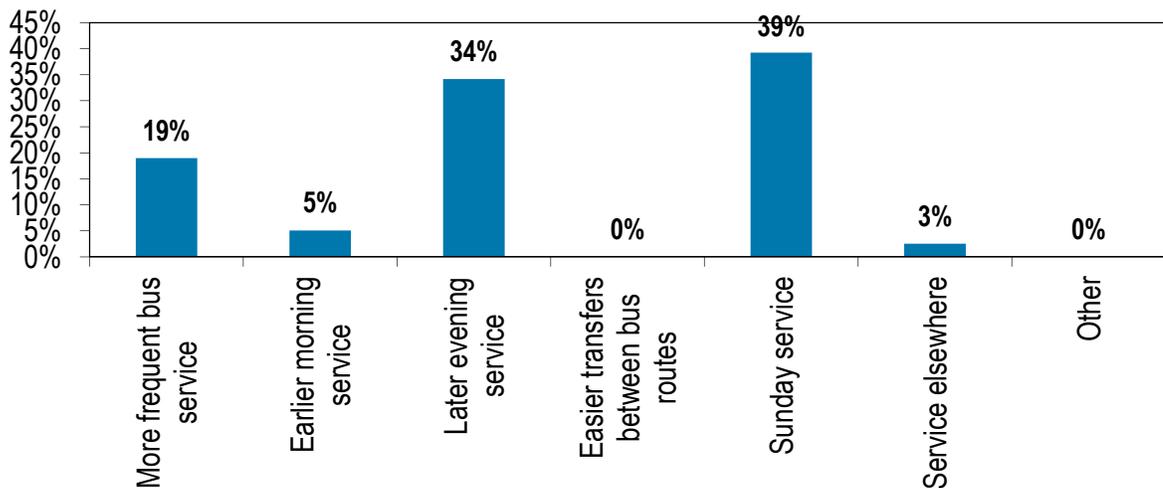


n=79

Respondent Reactions to Possible Service Improvements and Expansion

Survey respondents were given a set of service improvement options and asked which single improvement would encourage them to ride CAT more often. The most popular improvement option was the initiation of Sunday service, chosen by 39% of respondents. Later service in the evenings was second, given by 34% of respondents. Third was an increase in service frequency, marked by 19% of respondents. Earlier morning service, service to areas that don't currently have CAT routes, and easier transfers were the least popular improvements.

Figure 5-29 Respondents' Most Desired CAT Service Improvements



Finally, survey respondents were asked to list destinations they would like served by CAT in the Bismarck-Mandan area. The few destinations indicated included a number of places that are actually currently served by some CAT routes. Responses included the following:

- Gateway Mall
- North Perkins
- Washington and Front
- Main Street by Big Boy and VFW
- Kennedy Center - Divide and 20th
- University of Mary
- Rasmussen College
- Expressway Inn
- YMCA
- Cloverdale Foods
- South Wal-Mart more frequently
- North Wal-Mart
- Mr. B's Trailer Court
- Golden Corral

Summary of Findings – Bis-Man Paratransit Surveys

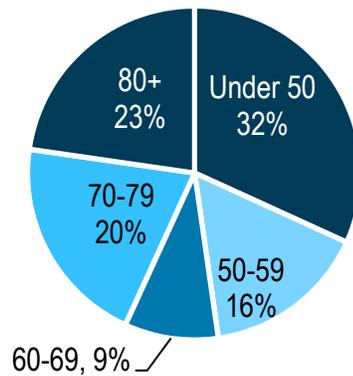
Rider surveys were distributed on Bis-Man Paratransit vehicles in June 2011. A total of 48 surveys were completed.

Demographic Profile of Respondents

Age

Bis-Man Paratransit provides service for any individual over the age of 60, as well as people with disabilities at any age. Forty-eight percent (48%) of respondents were under 50 years old and are presumably all eligible for service based on disability status. Persons age 80 or older represent 23% of respondents, and 20% of respondents were between age 70 and 79.

Figure 5-30 Age of Bis-Man Paratransit Survey Respondents

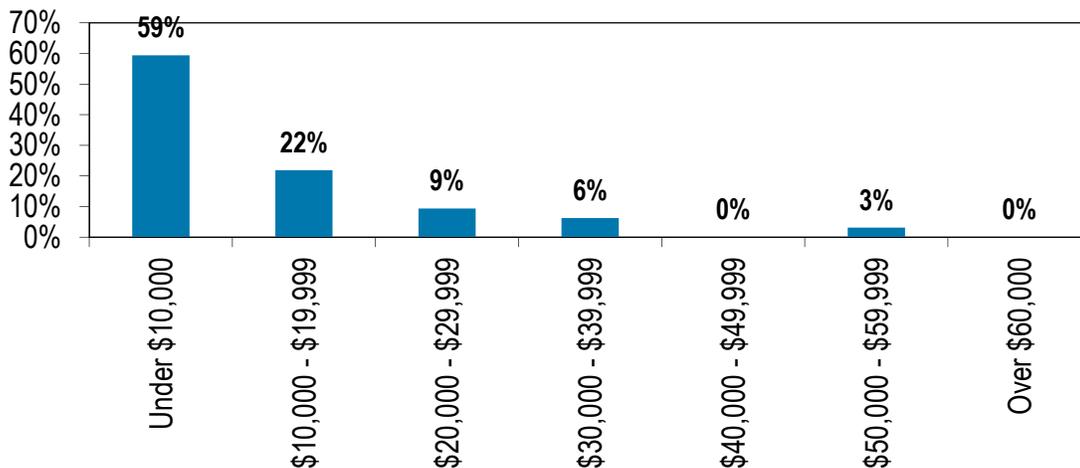


n=44

Income

The majority of individuals who rely on paratransit in the Bismarck-Mandan area come from low-income households. As shown in Figure 5-31, 59% of respondents live in households that earn less than \$10,000 per year. With 22% of respondents, annual earnings between \$10,000 and \$19,999 was the second-most indicated household income group. No respondent households reported incomes over \$60,000 per year.

Figure 5-31 Income Level of Bis-Man Paratransit Survey Respondent Households

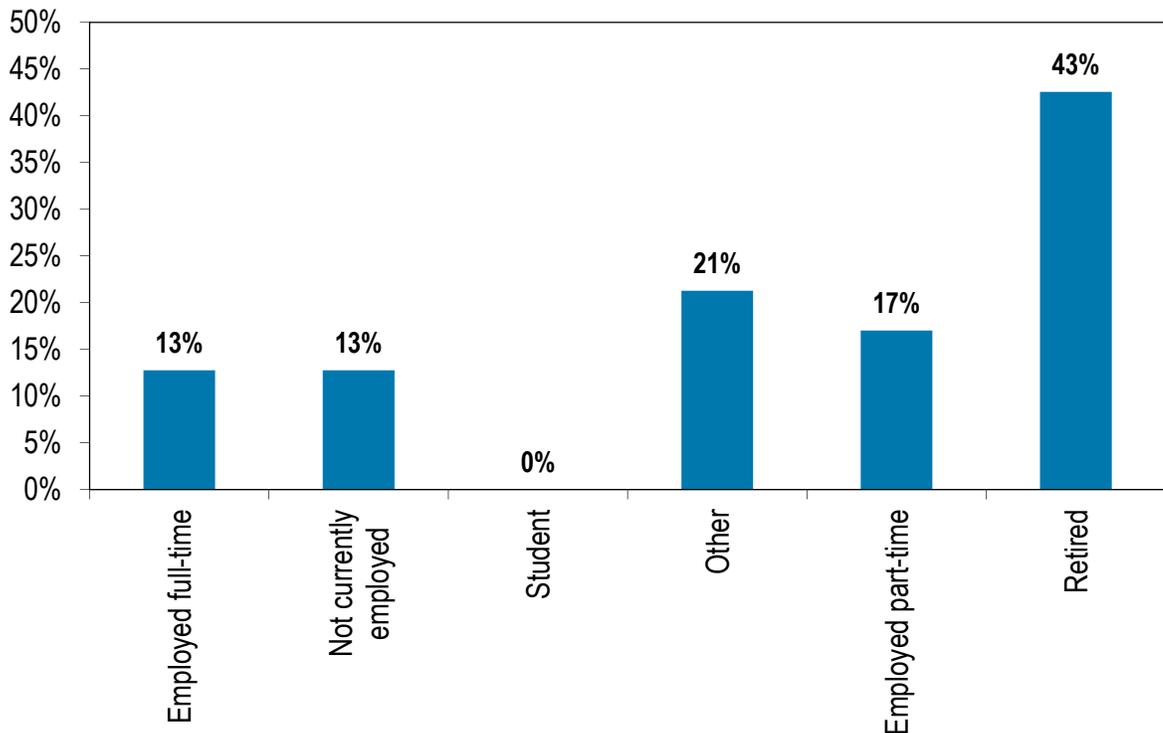


n=32

Employment Status

As shown in Figure 5-32, the majority of survey respondents (43%) are retired. Only 13% are employed full-time, while 17% are employed part-time. Thirteen percent are currently unemployed. Respondents that listed “other” for their employment status are either currently volunteering at various organizations in the Bismarck-Mandan area, or indicated they could not work due to a disability.

Figure 5-32 Employment Status of Bis-Man Paratransit Survey Respondents



n=47

Internet Access

The majority of survey respondents (68%) currently lack access to the internet, and only 7% of respondents currently use the internet to get information about transit. Marketing and keeping riders informed of policies will require printed information and information provided via word of mouth.

Possession of Driver’s License

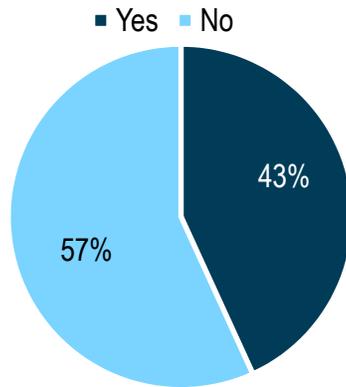
The majority of survey respondents (56%) do not possess a driver’s license.

Disability

Survey respondents were asked whether they have a disability that prevents them from using CAT. As illustrated in Figure 5-33, 57% of respondents indicated that they are able to use CAT, while 43% said they cannot due to a permanent disability. CAT, as a fully accessible system, may be able to

accommodate some of these people on a conditional basis, allowing them to use paratransit for specific types of trips, if a conditional eligibility program were implemented for Bis-Man Paratransit.

Figure 5-33 Has a Permanent Disability that Prevents Bis-Man Paratransit Survey Respondents from Using Fixed Route Transit



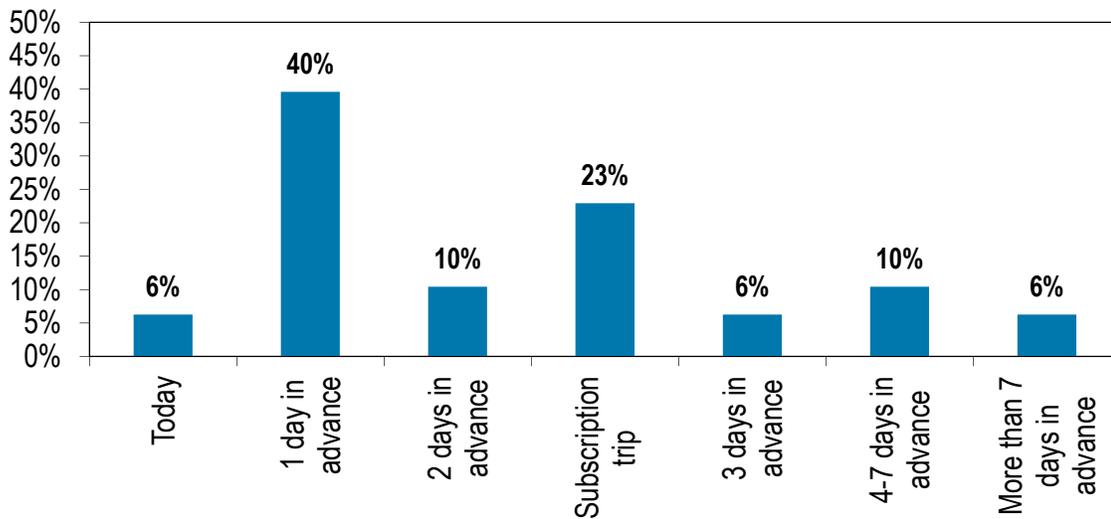
n=44

Travel Patterns

Trip Scheduling

As illustrated in Figure 5-34, the largest group of survey respondents (40%) reserved their paratransit trip one day in advance.

Figure 5-34 Trip Reservation Date of Bis-Man Paratransit Survey Respondents

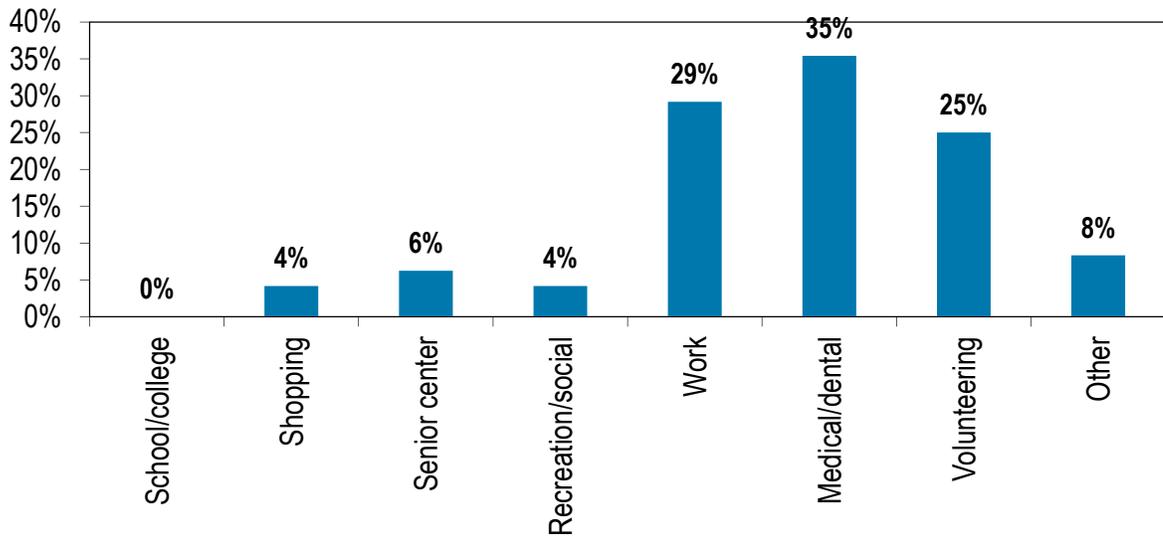


n=48

Trip Purpose

Most survey respondents were traveling to work (29%), to do volunteer work (25%), or to a medical appointment (35%). Six percent (6%) were traveling to a senior center and only 4% were going shopping. Respondents who listed “other” (8%) were typically headed either to a friend’s house, running some other type of errand such as getting a haircut, or going to the library.

Figure 5-35 Trip Purpose of Bis-Man Paratransit Survey Respondents



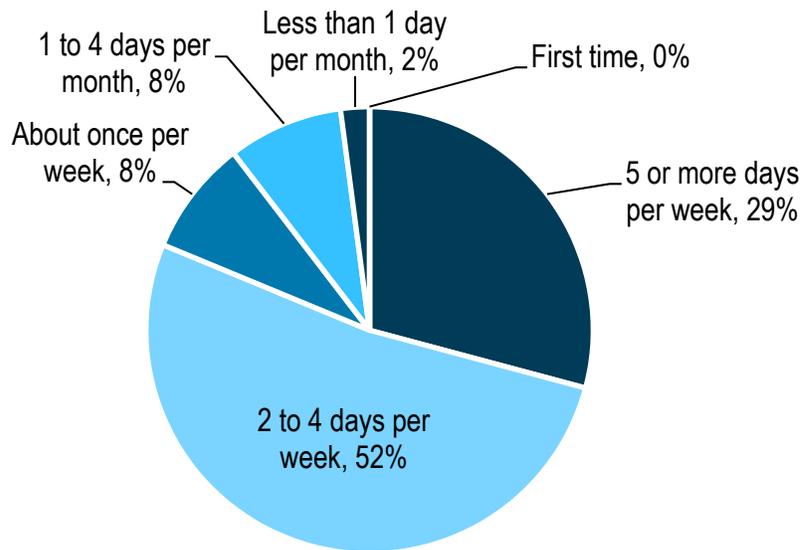
n=48

Transit Use Characteristics

Frequency of Use

A majority of respondents (52%) indicated that they use Bis-Man Paratransit two to four days per week, while another large group (29%) indicated that they use the service five or more days per week. Eight percent (8%) use paratransit about once per week, while another 8% use the service one to four days per month. Eight percent (8%) use paratransit about once per week, while another 8% use the service one to four days per month.

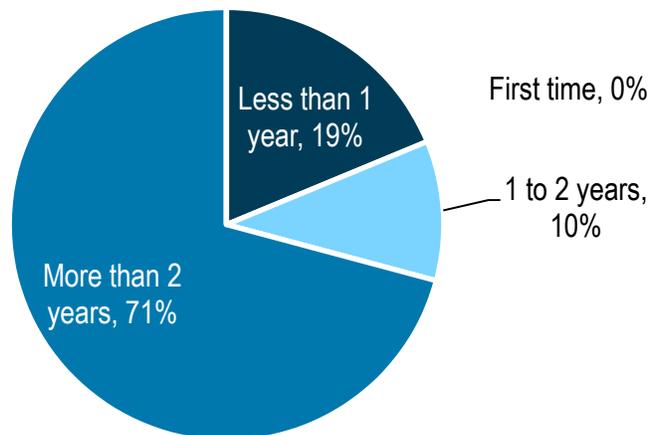
Figure 5-36 How Often Respondents Ride Bis-Man Paratransit



n=48

A majority of survey respondents (71%) indicated that they have been using Bis-Man Paratransit for more than two years. Only 19% have been using the service for less than one year.

Figure 5-37 How Long Respondents Have Been Riding Bis-Man Paratransit



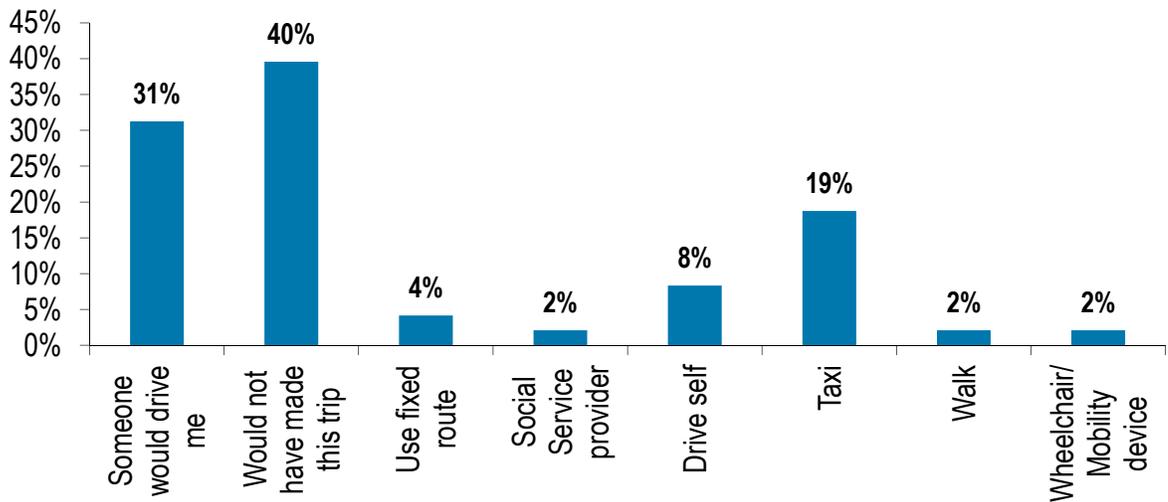
n=48

Available Alternative Modes of Travel

As shown in Figure 5-38, if Bis-Man Paratransit service were not available, the largest group of survey respondents (40%) said would not have been able to make the trip they were taking, showing a high level of transit dependency. Nearly one-third (31%) of respondents would have had to secure a ride in a car with someone they know, while 19% would have had to pay for a taxi. Eight percent (8%) would have driven themselves, but only 4% would use fixed-route transit.

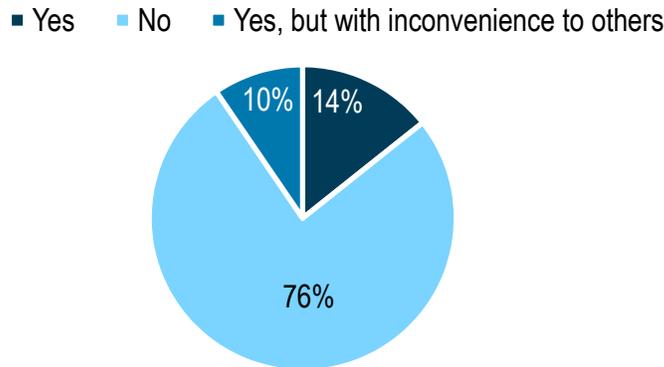
The vast majority — 76% of survey respondents — did not have a car available to them to make their trip. Only 14% did, while 10% would be able to use a car, but with inconvenience to others, as shown in Figure 5-39.

Figure 5-38 Mode of Travel if Bis-Man Paratransit were Unavailable



n=48

Figure 5-39 Access to Automobile of Bis-Man Paratransit Survey Respondents

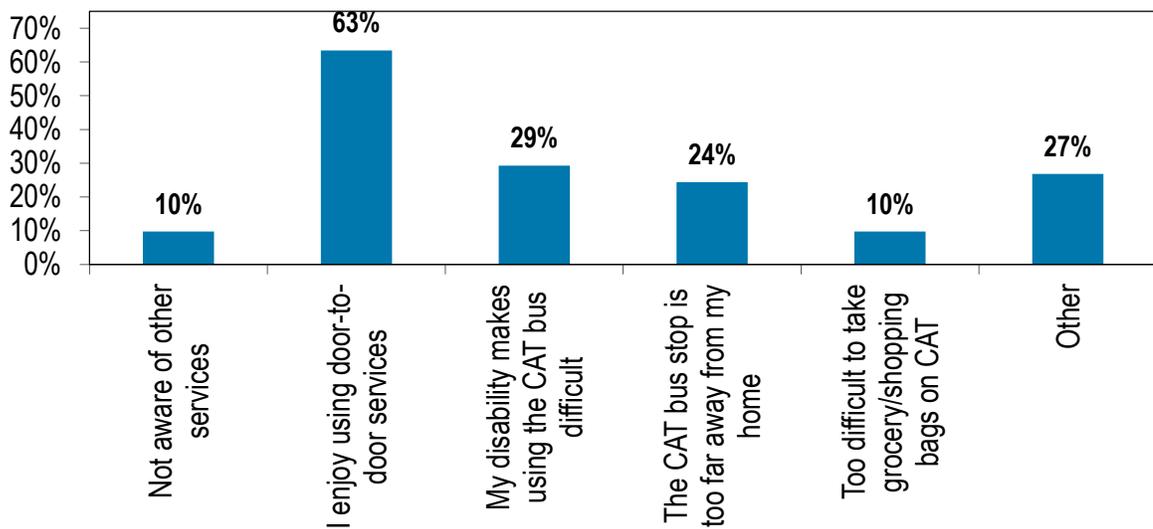


n=42

Reason for Use of Paratransit

Survey respondents who exclusively use paratransit over other transportation options were asked their reasons for using Bis-Man Paratransit. As shown in Figure 5-40, most (63%) enjoy using door-to-door services more than the other options available to them. Twenty nine percent of respondents are reluctant to take CAT because of a disability, while another 24% live too far from a CAT bus stop. Ten percent find it too difficult to carry groceries or shopping bags on CAT, while another 10% are unaware of services other than Bis-Man Paratransit. Of those who responded “other,” many cited the need to transfer as a major deterrent to CAT use, while others cited independence as a major incentive to using Bis-Man Paratransit.

Figure 5-40 Reasons for Service Use of Bis-Man Paratransit Survey Respondents

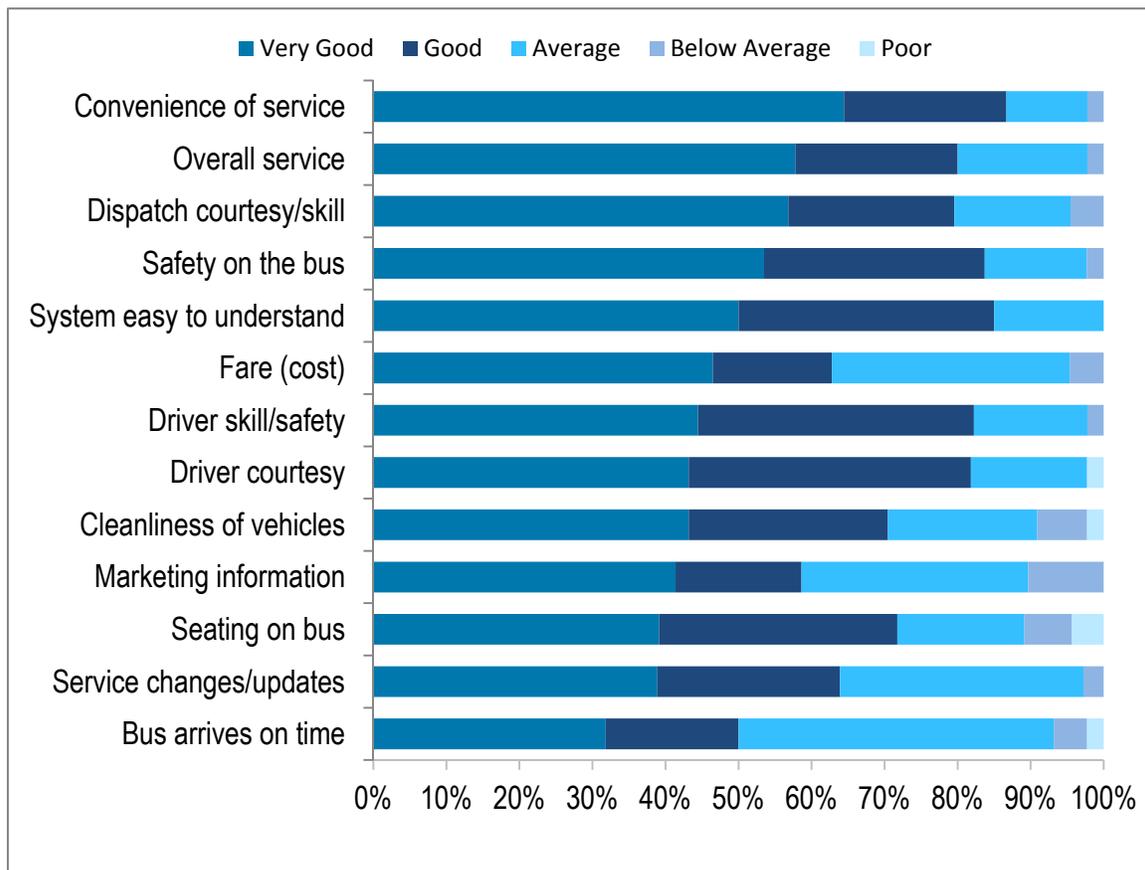


n=41

Passenger Satisfaction with Paratransit Service

As illustrated in Figure 5-41, service ratings vary for various aspects of Bis-Man Paratransit service. Categories that were rated “very good” by the majority of survey respondents included the general convenience of service, the overall service quality, the skill and courtesy of dispatch officers, the general safety of the buses, and the ease of understanding the service. Conversely, the categories that received the least positive ratings included the timeliness of buses, service changes/updates, seating on the bus, and marketing information.

Figure 5-41 Bis-Man Paratransit Service Ratings



OTHER PUBLIC INPUT TOOLS

The project included a website for downloading information and providing comments about the Mobility 2017 project, as well as two rounds of public outreach meetings.

The project webpage (the home page is shown in Figure 5-42) was hosted at www.Mobility2017.org and included project updates, information about meetings and events, a comment form for submitting information to the project planners, and documents that could be downloaded for review. A few comments were submitted via the website, and most of them were in support of transit service to the University of Mary.

Figure 5-42 Mobility 2017 Project Webpage



In addition to the website, two rounds of public meetings were conducted. The first set of meetings was planned to share the findings from the first phase of the study and to solicit input. Meetings were held on July 18, 2011 in Mandan and July 19, 2011 in Bismarck. Although the meetings were well publicized in a newspaper ad, on all of the buses, on flyers at transit facilities, on the project website and via Government Access television, attendance was low, with only a few participants at each of the meetings. The Bismarck meeting was broadcast live on Government Access television and members of the public who could not attend were encouraged to email their questions or comments in advance or during the telecast. Four questions and comments were sent, and three of them were inquiries or comments in support of service to the University of Mary. Other input at the meetings included inquiries about the study scope, concerns about long and indirect bus routes in Mandan, and questions about existing schedules and service policies.

Due to the low participation during the first round of meetings, the second round of public meetings included both presentations to Bismarck and Mandan City Commissions, as well as a series of informal tabling sessions with boards depicting draft recommendations and simple surveys designed to elicit comments from existing or prospective transit users.

Outreach was conducted over a period of three weeks, between December 5 and December 20, 2011. Information about the sessions was announced in a newspaper advertisement (see Figure 5-43) and, after additional meetings were scheduled, were included in press releases, in flyers and on the project website. Drop-in sessions were held at Dan's stores in Mandan and Bismarck, at the Bismarck Senior Center and Mandan Golden Age Senior Center, and on the campuses of BSC and UTTC.

Figure 5-43 Newspaper Advertisement

You are invited!

Mobility 2017: Transit Roadmap for Bismarck and Mandan

Alternatives & Recommendations:

Help to Shape the Future of Public Transportation in the Bismarck-Mandan Area

Join us at a public event to:

- Learn about opportunities and recommendations to improve transit routes and adjust paratransit services
- Share your opinions about proposed changes with consultants, planners and staff

Mobility 2017 is the Transit Development Plan being developed for the Bismarck-Mandan area. The Plan provides a roadmap for transit service and capital needs over the next five years. It recommends straighter bus routes, a new central bus terminal, new paratransit eligibility, and more frequent fixed-route (CAT) service.

Formal Presentation:

Tuesday, December 13, 5:15 PM, Bismarck City Commission Meeting, Tom Baker Room, 221 N. 5th St., Bismarck

Tuesday, December 20, 5:30 PM, Mandan City Commission Meeting, City Hall, 205 2nd St., Mandan

Public Drop-In Sessions:

Monday, December 5, 3:00-5:00 PM, Dan's Mandan, 500 Burlington Street

Tuesday, December 6, 3:00-4:00 PM, Dan's South Bismarck, 835 S. Washington Street

Wednesday, December 7, 10:30 AM-12:30 PM, Bismarck Senior Center, 315 N. 20th Street

Other Drop-In locations to be announced on the project web site at www.Mobility2017.org

Bismarck-Mandan
METROPOLITAN PLANNING ORGANIZATION

BIS-MAN
TRANSIT

CAT
CAPITAL AREA TRANSIT

**The Draft Report will be available for viewing December 9 at www.Mobility2017.org.
Questions? Contact Steve Saunders, Bismarck-Mandan MPO, at (701) 355-1848 or
Joey Goldman, Nelson\Nygaard Consulting Associates, at (415) 284-1544.**

The formal presentations included some questions and comments by Commissioners, while the drop-in sessions were primarily designed to engage individuals in a discussion about why they do or do not use transit and whether the alternatives would encourage them to consider using transit. Although planners interacted with more than 250 individuals at the various locations, a total of 95 comment forms/questionnaires were completed and submitted during the outreach effort.

Most respondents were positive about the service alternatives presented. In fact, at all of the locations where outreach was conducted, participants indicated support for the fixed-route service alternatives. Not surprising, individuals at the senior centers were supportive of maintaining the paratransit eligibility criteria as they are, although many of them said they would consider fixed-route service instead of paratransit if routes were more direct. Some paratransit users said that wait times are too long for paratransit, and others indicated it takes too long to get from one location to another.

Individuals also indicated support for transit to the University of Mary, but greater levels of support were indicated for increased funding for better local transit services. Some participants indicated they supported shifting funding from paratransit to fixed-route services to support longer fixed-route transit service hours and weekend hours, as well as better frequencies on the service.

Bad weather was one of the things that people said would encourage them to ride transit more often, but some also said cost savings would make transit more attractive. Participants at the colleges were most enthusiastic about the proposed service changes. Several of them commented that the proposals looked very good compared with the existing service and talked about the need to have "better routes for students trying to get to work." Nevertheless, the majority of individuals who shared their comments said they were unfamiliar with the transit system and had not previously considered using it. BSC and UTTC participants were generally positive about the proposed direct link between Kirkwood Mall and the campuses, and one commenter noted "it would appear that [the service options] will provide easier means to get to different locations from the same place." The lack of information about transit was noted frequently.

Comments from the December 2011 public meetings are included in Appendix C.

CONCLUSION

The survey results and public comment illustrate some opportunities to improve marketing, routing and service hours on CAT, and address issues related to service policies and convenience for riders of Bis-Man Paratransit. The results also suggest that transit may have some flexibility to make some significant changes to service policies and operating parameters if it wants to attract the general public to CAT and offer a realistic alternative to driving in the Bismarck-Mandan area.

6 OPPORTUNITIES, GOALS, OBJECTIVES, AND PERFORMANCE STANDARDS

INTRODUCTION

Based on the preliminary findings described in Chapters 1 through 5, some of the major themes that arose included the following:

- **Bis-Man Paratransit/CAT staff is dedicated to providing quality service.** Stakeholders, political leaders and riders lauded staff for providing a quality service, for being responsive when requested and for covering the community well, given the limited resources available to them. Bis-Man Transit’s leadership and marketing staff were described as being helpful, proactive and accessible. Not only do consumers express their appreciation of the drivers, but the consulting team observed friendly, knowledgeable drivers providing good customer service in the field. Drivers overwhelmingly offered constructive feedback to make Bis-Man Paratransit/CAT service better for the customers who use it.
- **Bus services would benefit from a reallocation of resources between fixed route and paratransit services.** Stakeholders, survey respondents, drivers and passengers all noted that fixed route transit service in Bismarck and Mandan does not necessarily serve the needs of all residents. Many transit agencies begin serving their community by operating a general public fixed-route service. Transit in Bismarck and Mandan evolved differently, growing from a service that provided door-to-door trips for people with disabilities. The paratransit program became a workhorse that offers 24-hour service to anybody age 60 and older, as well as anyone who states they have a disability — characteristics that go significantly above and beyond the requirements of the ADA and which have been detrimental, in some respects, to the effectiveness of CAT service.
- **CAT services can be upgraded to offer greater convenience to riders and provide a realistic mobility option in the Bismarck-Mandan area.** Some CAT routes experience very low ridership (for example, Routes C-1 and C-2 carry an average of two passengers per hour), while others have somewhat better passenger loads (Route E-1 carries 11 passengers per hour). For the Bismarck-Mandan area to become more multimodal, encouraging bicycling and creating vibrant pedestrian-oriented communities, CAT will be an integral part of making that happen, providing an alternative to driving.

- **Bis-Man Paratransit is an excellent service, and would find few peers in other communities that could offer more flexibility or serve as wide a range of people.** A key consideration for paratransit should be to make sure it best serves those who need it most, while maintaining the characteristics that make it so successful.
- **Policies and standards are important to planning and operating efficient service.** Designing transit services to meet community transit goals, to operate efficiently and to meet existing and changing public mobility needs is critical. Monitoring system performance also remains an important task for transit operators. Design standards can be set by federal, state and local regulatory requirements, but they can also be established in relation to goals, objectives and service priorities adopted by Bis-Man Paratransit/CAT. Similarly, service policies serve as a framework so administrators, supervisors and drivers can explain why they do what they do. Enforcement of service policies requires the collection and review of data, but is an important tool for maintaining the efficiency of a system.
- **Public information and marketing for transit are good, but there is room for improvement.** One of the challenges for the agency is for the public to understand that the service is available to them. Unfortunately, many people are unaware that CAT service operates throughout Bismarck and Mandan, and is available to the general public. One-third of community survey respondents said they were unsure whether a CAT bus route served their neighborhood, and one-quarter said they were certain they did not have CAT service in their neighborhood.
- **Specific equipment improvements will be necessary to maintain and enhance the quality of service.** Many of the Bis-Man Paratransit/CAT vehicles are at or near the recommended age of retirement. Fleet replacement is necessary for a transit system to improve bus reliability, but is also of value to improve the experience of riders, comfort of drivers and visibility of the system. Other appropriate capital investments will include upgrades to transfer locations (or relocation) and placement of shelters and benches.

These general themes formed the basis for the development of goals, objectives and performance standards discussed in this chapter, as well as service recommendations defined in the following chapters.

VISION, MISSION, GOALS, AND OBJECTIVES

If funding and resources were not a concern, Bis-Man Transit could easily design and implement a transit system that met everyone's needs. It could operate 24 hours per day, 7 days a week, 365 days each year. It could operate very frequently, hundreds of routes, with service operating up and down almost every single street.

Unfortunately the amount of funding available to build and maintain a system is always a major issue for public transit agencies, and thus it becomes a critical factor in determining the design and operation of a transit system. Tough choices and tradeoffs must always be made by those overseeing transit. Because transit use is a discretionary activity for most people, it becomes critical for transit planners to fine tune their ability to make educated guesses about when and where people will actually use transit service.

The ability to plan for transit is easier when there is agreement about what role transit is supposed to play within a community. Having a clear vision about transit's role allows Bis-Man Transit to define a service that is effective, efficient, and valued by the community.

What is the Role of Transit in the Bismarck-Mandan area?

Transit planning faces an unavoidable tradeoff between two competing goals: **Coverage** and **Productivity**. When the CAT route network was designed in Bismarck and Mandan, according to staff, it was designed to provide maximum coverage of the area. Considering projected ridership growth and existing service that does not necessarily meet demand, the focus of this plan is to implement some changes with the goal of increasing productivity. The following discussion looks at the two competing goals, what they mean for existing transit in the Bismarck-Mandan area, and what opportunities exist.

- **The Social Service Objective and the Coverage Strategy.** In the Bismarck-Mandan area, transit has been considered a social service which, like other social services, goes wherever people need it. Since there are isolated people with mobility needs scattered in communities throughout both cities, as well as areas beyond them (such as Lincoln), the transit agency has developed a network of services that are providing a little bit of service everywhere. Many transit networks are designed solely on this principle, and as a result, networks designed with a coverage strategy have the following characteristics:

- Providing paratransit service that goes anywhere in the area.
- Providing service relatively infrequently (long headways).
- Providing service on one-way fixed routes that may be circuitous, but cover the area.
- Ridership limited primarily to people without other transportation options.

The challenge for an agency like Bis-Man Transit is that by running a coverage-based network, the agency cannot afford to run frequent or time-sensitive service, and is unable to generate high ridership. Nevertheless, the key goal of the Coverage Strategy is not focused on high ridership, but rather to provide some limited level of access to individuals wherever they may be.

- **The Ridership Objective and the Productivity Strategy.** This plan puts into place some elements of service design to move Bis-Man Transit's existing resources toward a strategy that focuses more on productivity, without abandoning some elements of coverage. The assumption is that transit does not strictly serve a social service purpose; instead transit is an element of the transportation infrastructure, and that its purpose is to move as many people as possible as cost-effectively as possible. Today, few CAT riders would generate vehicle trips as drivers, according to results of the on-board survey, but many drivers would consider transit if service operated more frequently (40% of respondents to the general public survey). The conceptual focus of the Productivity Strategy is to deploy service for the maximum possible ridership: not to spread service out equally, but concentrate it where demand is greatest, in high-density corridors and centers where the automobile is at a disadvantage.

Under a purely productivity-focused approach, Bis-Man Transit would limit CAT fixed route services, as well as complementary paratransit services, to a few major corridors, and provide little or no service to other areas of Bismarck and Mandan. Yet this would

eliminate most of Bis-Man Transit's existing fixed-route and paratransit ridership, which is obviously not recommended.

Based on input from stakeholders, survey results, and transit drivers, there is interest in a system that would seek to increase ridership per unit of service provided. The expectation is that transit in the Bismarck-Mandan area can achieve a greater impact on vehicle trip reduction, as well as minimize the subsidy per passenger by moving toward a more productive system. There is also interest in maintaining some coverage-oriented routes. Although some may result in lower ridership, it is acknowledged that the availability of service is very important to the people who depend upon it.

Thus, the objective of the service plan is to refocus Bis-Man Transit as an integral part of the local transportation infrastructure, with an increased emphasis on productivity and increasing ridership. Elements of the planning effort that support this objective include the following:

- **A less complex fixed-route system.** Complexity of the fixed-route system is a two-fold issue:
 - *How complicated are the routes?* Most of the CAT routes have circuitous elements, typically in the form of a one-way loop, often a very large one. Route B-2 is one example of a large one-way loop that can make trips for some riders very convenient in one direction, but very inconvenient in the reverse direction. A less confusing route—and one that provides direct service to connect many major destinations—is likely to be the more successful one. Some CAT routes can be redesigned for greater clarity and simplicity, which would make them easier to use.
 - *How well is the public informed about the system? Are complexities clearly explained?* Stakeholders and members of the public have remarked that while printed information is comprehensive, it is difficult to understand, which is a function of the route structure and the difficulty of explaining how the routes are interlined/how transfers can be made.
- **Service reliability and on-time performance.** On a fixed-route system like CAT, service reliability is critical because many routes are infrequent and transfers are limited. Most routes operate on-schedule, but some modifications to route structure can be made to improve on-time performance. On paratransit, stakeholders shared their concerns about on-time performance and the pick-up window provided by Bis-Man Paratransit, but no capacity constraints were noted.
- **Improved fixed-route service frequencies in key ridership areas.** Frequency was identified as one of the concerns among CAT users. Frequency determines whether a local service is likely to be useful when you want to go, or whether you must plan your trip around the bus schedule. Nationally, routes that operate on 30-minute headways perform much better than hourly services, or routes that operate less often than hourly. In many communities, experience shows that a transit-dependent rider is willing to walk a few extra blocks for more frequent service.

The issue of frequency relates closely to total operating budget, vehicle allocation, route spacing, and most importantly, service policy. A community that focuses on improving transit frequency in certain corridors typically must make some service sacrifices in other areas, including service reductions or shifting resources from paratransit to fixed routes.

- **A reduced service area for fixed routes and paratransit.** Based on the analysis presented in Chapter 2, overall transit potential is generally greatest in the north-south corridors between the two transit centers: Gateway Mall and Kirkwood Mall, including downtown Bismarck. Connections to the colleges—BSC and UTTC—also show good ridership potential (less so for Rasmussen College, but service is provided), as do services in some of the denser areas of Bismarck and Mandan. The attractiveness of transit also depends on where particular population groups reside, including students, the city’s youth population, and senior citizens.

Some current service areas show very poor fixed- route ridership, such as the southernmost loop on Mandan’s two routes, serving Ft. Lincoln School (8th Avenue SE, 19th Street SE, 12th Avenue SE). An area like this, which has more service available than most parts of Mandan, but lower ridership, is a misuse of resources that could be more appropriately used to serve areas with actual transit demand. Service in an area like this should be eliminated or provided via a different service approach (e.g., demand-response service), based on a set of service standards. Likewise, local tax dollars from Bismarck and Mandan need not be used to support paratransit in Lincoln, which provides no funding for transit.

- **A paratransit operation that complements the fixed-route network.** As a system that started as a paratransit operation, Bis-Man Transit’s initial mission was to serve the entire region. Today, more resources are dedicated to serving seniors (age 60 and older) and persons with disabilities than the general public. This is a very different approach from most North American transit systems of Bis-Man Transit’s size, where at least two-thirds of resources are dedicated to fixed-route transit. (See Chapter 9) Bis-Man Paratransit provides a very good service, 24 hours a day, but in doing so, far exceeds the requirements of the ADA and weakens the fixed-route operation in the following ways:
 - It offers a door-to-door service for all riders 60 and older, with longer service hours and more destinations served than the CAT service available to the rest of the community.
 - Bis-Man Paratransit offers much more time-sensitive travel than the current CAT network, where it can take more than a couple of hours to get across town, depending on required transfers.
 - The cost to serve each additional passenger riding Bis-Man Paratransit increases overall expenses; there are no added costs associated with serving each additional passenger riding the existing CAT service.

Thus, the vision is to operate a transit system that is an integral part of the transportation network. In doing so, CAT and Bis-Man Paratransit seek new service markets and seek to provide better transportation options for people who use transit.

Mission, Goals, and Objectives

The value of establishing goals is that they provide strategic direction for an agency. They also help an agency be proactive in how it shapes its service rather than being reactive to public sentiment. The following goals were identified in the 2007 TDP and are revisited as part of this planning effort. The objectives to support each goal are, in most cases, actions that can be taken by Bis-Man Transit to help move the agency toward reaching these goals.

Bis-Man Transit's adopted Mission statement is quite general:

The mission of Bismarck-Mandan Transit is to provide high quality, reliable, convenient and safe public transit services in an efficient manner.

Based on this Mission, a set of goals and objectives were defined, building upon previously adopted goals and making refinements.

Goal 1: Provide quality transportation services to the public. The objectives that are established are fairly broad, and thus specific service standards are recommended to help ensure that quality transportation is provided for the public. The objectives used to define this goal are as follows:

- Provide service levels that allow reasonable travel times across the communities.
- Provide a fleet that is well maintained and clean.
- Provide drivers that are courteous and knowledgeable about the system.
- Provide reasonable access to transit system information.

Goal 2: Provide reliable transportation services. Objectives established for the agency are as follows:

- Operate on-schedule within adopted on-time service performance standards.
- Minimize missed trips.
- Optimize the system operations to match passenger needs.

Goal 3: Maximize the effectiveness of service for Bis-Man Transit's ridership markets. Bis-Man Transit's objectives for this goal are as follows:

- Minimize service duplication.
- Provide access to major centers of demand from all parts of the Bis-Man Transit service area.
- Ensure fixed routes are easy to understand.
- Minimize transfer times between fixed routes.
- Operate routes directionally, minimizing the amount of off-direction travel.

Goal 4: Provide safe and secure transportation services. Objectives established for the agency are as follows:

- Ensure the safety of on-board and waiting passengers.
- Maintain high level of driver safety and training programs.
- Ensure availability of sufficient safe and reliable in-service vehicles to meet the daily pullout requirements for Bis-Man Transit fixed-route and paratransit services.
- Maintain high levels of safety for customers and employees.

Goal 5: Provide transportation services in an efficient manner. This is a critical goal for Bis-Man Transit, to improve and maintain the quality of services it provides. Objectives established for the agency are as follows:

- Match the fleet composition to market segment opportunities.
- Maintain an effective system management structure.
- Stabilize local funding share requirements.

- Operate consistent clockface headways whenever possible.
- Minimize non-revenue hours operated on all services.

Goal 6: Increase the visibility and elevate the image of transit in the Bismarck-Mandan area. Bis-Man Transit has a Marketing Plan in place, but a few key objectives are identified below to increase visibility:

- Continue to develop and improve effective marketing and information tools.
- Maintain and improve bus stops and bus stop amenities.
- Provide easy-to-understand bus stop signage and route information along the length of each bus route.
- Partner with local organizations, businesses, and agencies to enhance Bis-Man Transit's community outreach and information efforts.

Performance Indicators

Performance indicators can play a critical role as part of transit system oversight. Currently, there is no formal process in place for either fixed-route or paratransit that results in establishment of service and performance standards, tracking and monitoring actual performance in relationship to stated goals, and reporting on subsequent findings to the Bis-Man Transit Board or the MPO TAC or Policy Board. As a result, both the CAT and Bis-Man Paratransit services may not be achieving their full potential, and/or there may be opportunity to improve the methodology by which performance measures are established, collected, tracked, and reported.

Why Have Performance Standards?

Performance measures and standards should articulate the adopted policies and priorities of the transit system and its policy board. As such, they reflect the tradeoffs among competing policy objectives often faced by transit managers. Foremost among these conflicts is that of operating productive service within neighborhoods where transit is well used with the need to serve all citizens of the communities that support transit services through their taxes. Another conflict is that of striving to reduce congestion by providing a high level of commute service with that of providing service for transit dependent persons who do not necessarily travel during peak travel times. While there is no "right or wrong" answer, resolution of these questions often defines the fundamental and unique nature of a local transit system. Furthermore, establishing system goals for efficiency, productivity, and service quality help an agency to benchmark or compare performance against best practices, identify opportunities for improvement, and guide the allocation of resources.

The measures used to make these comparisons are critically important. They need to be reliable indicators of agency success and also understandable and meaningful to decision makers, planners, and lay people alike. Common measures that are used by many transit systems include things like:

- Number of trips operated
- Total cost to provide the services
- Miles traveled per hour
- Cost per trip
- Passenger miles traveled

Standards establish a benchmark for performance relative to a performance measure to ascertain the effectiveness of individual services or the system as a whole. These outcomes should be tracked over time to ascertain whether services are meeting stated objectives, or whether there are any negative trends that warrant closer examination of service practices. While it is probably most useful for an agency to monitor its own service characteristics over time, it can also be useful to compare system outcomes with those of its peers, industry standards, or best practices.

Three related terms are used to describe the types of measures that the agency should track.

- **Tracking Measures** are indicators that should be routinely collected as a means of tracking the system's success.
- **Performance Measures** are used to assess actual service outcomes.
- **Performance Standards** are the targets that should be achieved for a service to be considered a success.

The next section suggests a series of measures and standards that can be utilized to evaluate the efficiency and effectiveness of existing services, along with a suggested process for routinely appraising individual routes and the system as a whole. This is followed by a set of updated performance measures and standards for Bis-Man Paratransit.

Fixed-Route Service Standards

Depending upon the size of a system and the number of issues it faces, service standards may be complex and require ongoing management attention or may be limited to a few key indicators. Some large systems monitor nearly 100 separate measures that combine to influence organizational success. Such elaborate schemes are not considered appropriate for CAT, which can prosper with a fairly basic performance evaluation system. As described in more detail later, it is suggested that CAT routinely monitor a variety of performance trends, both for the system as a whole and for individual routes. Some indicators are already collected, as required, for submittal to the National Transit Database (NTD)¹ and can serve as a starting point for enhancing performance monitoring efforts.

Several key performance measures are important for CAT to monitor. These are described below and are listed, among other measures, in the following tables. Each measure serves a unique purpose, and may point to operating concerns.

- **System Ridership/Hours/Service Miles:** Accurate tracking of services provided through ridership counts is the foundation for almost every other measure of system success. Systems benefit from separately tracking hours and miles required for deadhead trips (traveling to/from the garage) and actual service. Similarly, tracking ridership by fare type (cash, pass, transfer, etc.) can often provide useful information when considering changes.

¹ The NTD was established by Congress to be the Nation's primary source for information and statistics on the transit systems of the United States. Recipients or beneficiaries of grants from the Federal Transit Administration (FTA) under the Urbanized Area Formula Program (§5307) or Other than Urbanized Area (Rural) Formula Program (§5311) are required by statute to submit data to the NTD. Over 660 transit providers in urbanized areas currently report to the NTD through the Internet-based reporting system. Each year, NTD performance data are used to apportion over \$5 billion of FTA funds to transit agencies in urbanized areas (UZAs). Annual NTD reports are submitted to Congress summarizing transit service and safety data.

- **Rides per Capita (Annual Boardings/ Service Area Population):** This is an indication of the average number of times each citizen rides public transit services during a year. At 1.8, this is significantly lower than CAT's peers (See Chapter 9), which average 6.0 rides per capita. As this number increases, it suggests that CAT is becoming a more significant part of the local transportation infrastructure.
- **Operating Cost per Revenue Hour:** This is a key financial indicator that can also point to operating issues, such as inappropriate staffing levels and maintenance issues. If cost per hour is increasing faster than inflation, the long-term sustainability of current service levels may be in doubt.
- **Cost per Rider:** Closely related to cost per hour, this suggests whether the system is becoming more efficient at transporting people. Some measures that increase operating costs can be justified because they generate a larger increase in ridership.
- **Farebox Recovery (Total Farebox Revenues/ Total Expenses):** This is a useful tool for determining the need for a fare increase. At present, farebox collections comprise about 7% of CAT costs. By setting a target farebox recovery percentage, the Bis-Man Transit Board will be able to determine when fares should appropriately be increased. Ten percent is a standard farebox revenue minimum requirement recommended.
- **Passengers per Hour:** This is the most common measure of overall performance and should be used to routinely monitor and report the performance of individual routes. CAT fixed-route services average about 6.7 passengers per hour, lower than the recommended standard of 10 passengers per hour below. Routes failing to achieve the standard should be carefully reviewed and may be candidates for remedial action.

Figure 6-1 suggests factors that should be used as tracking measures. In other words, this is the baseline data that needs to be collected in order to develop performance standards and goals and to monitor system outcomes. Figure 6-1 also documents actual outcomes for CAT, based on 2009 NTD data. Figure 6-2 summarizes performance measures and standards developed in the 2007 TDP and suggests appropriate modifications to some of the standards. Figure 6-3 presents a simplified set of measures and standards that should be easier for CAT to track and report on a monthly basis so that staff and the Bis-Man Transit Board can better monitor the effectiveness of the transit service and make service modifications based on system performance.

Figure 6-1 CAT Recommended Tracking Measures

Tracking Measures	Actual Performance 2009	Comments on Tracking
Rides per Capita	1.8	This number is much lower than CAT's peers (See Chapter 9)
System Ridership	131,601	Trends show a general increase over a five-year period. This number should increase.
Revenue Hours	19,643	As a percentage of total Bis-Man Transit service, CAT's revenue hours are substantially lower than its peers.
Revenue Miles	313,080	Revenue miles have been increasing. This illustrates an expansion of coverage, considering hours have not increased at the same rate.
Operating Cost	\$988,486	Operating costs have increased over the last four years.
Farebox Revenue	\$69,530	Farebox revenues dropped significantly in 2009. This number should increase.

Figure 6-2 2007 Fixed Route Performance Standards

Stated Measure	Measuring Tool	Existing Standard	Actual Performance	Recommendation
Service Frequency	Scheduled headways	Peak 30 minutes; Off-peak 60 minutes	STANDARD NOT MET Peak 30 minutes to 60 minutes; Off-peak 60 minutes to 120 minutes	Carry forward with increased investment in fixed route transit; not applicable at current investment level
Transit-Auto Travel time	Percent of auto travel time allowed for transit	200%	STANDARD NOT MET Point-to-point travel times for single-seat rides meet standard on average; with transfer required some travel times calculated to 1700%	Carry forward with increased investment in fixed route transit, but increase to 300%; not applicable at current investment level
Fleet Cleaning	Frequency of fleet cleaning	100% of fleet cleaned daily	Data not reported by CAT	Carry forward
Driver Courtesy	On-board survey results	80% agree that drivers are courteous	STANDARD MET 80% indicated good or very good	Carry forward or modify to measure that is easier to collect: The number of complaints shall not exceed 0.01% of the total boardings. The benchmark is 7.5 complaints/100,000 boardings.
On-Time Performance	Actual performance reports	95% of route times point stops on-time (within 1 minutes early to 5 minutes late)	Data not reported by CAT	Carry forward, standard revised
Missed Trips	Actual performance reports	100% of scheduled trips operated	Data not reported by CAT	Carry forward
Service Hours to Match Passenger Needs	Analysis of households within ¼ mile of transit	80% of households within ¼ mile of transit	Data not reported by CAT	Modify to reflect desired measure: Minimum productivity standards are met during all service hours
Passenger Environment	On-board survey results	80% of riders satisfied	STANDARD NOT MET Less than 60% of riders satisfied with marketing information; N/A for fare payment options	Carry forward or modify to measure that is easier to collect.

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Stated Measure	Measuring Tool	Existing Standard	Actual Performance	Recommendation
Service Coverage	Analysis of households within ¼ mile of transit	80% of households within ¼ mile of transit	Data not reported by CAT	Modify to reflect desired measure: Minimum productivity standards are met during all service hours
Crime Rates	Actual performance reports	Zero customer security incidents/complaints per year	Data not reported by CAT	Unnecessary performance measure—complicated to fully evaluate
Vehicle Safety Devices	Vehicles with safety monitors/cameras	Number of vehicles with safety devices	100% of CAT vehicles	Not an effective standard: Should be 100% of vehicles with safety monitors or cameras
Risk Management	Actual performance reports on employee and customer accidents	No standard established	Data not reported by CAT	Three recommended standards: Fewer than 2 accidents/100,000 revenue miles Fewer than 1 preventable accident/100,000 revenue miles. Fewer than 1.5 major accidents per million bus miles
Fleet Composition	Vehicles with ramps/lifts	Percent of trips/vehicles that are wheelchair accessible	100% of CAT vehicles	Not an effective standard: Should be 100% of vehicles are accessible
Administrative Performance	Actual performance reports	Vehicle miles per employees; vehicle hours per employee, administrative staff versus operations staff, labor hours per vehicle hour, passenger trips per employee	Data not reported by CAT	Unnecessary performance measure—complicated to fully evaluate; other measures point to administrative performance
Consistency of total funding from local sources	Funding/budget data	Establish a consistent method for local funding support	N/A	Unnecessary performance measure—complicated to fully evaluate and report

Figure 6-3 Recommended 2017 Fixed-Route Standards

Quality/ Reliability Measures	Five-Year Fixed-Route System Service Standards [Assumes increased investment by 2017]
Provision of Service	
Service Frequency	60 minutes off-peak; 30 minutes peak
Transit-Auto Travel time	300%
Service Quality/Reliability Standards	
Boarding Passengers per Revenue Hour	> 10 passenger per hour
Passengers per Mile	> 0.7 passengers/mile
Passengers per Capita	>4
Cost per Passenger	<\$10.00
Farebox Recovery	> 10%
On Time Performance	No bus shall depart a formal time point before the time published in the schedule. 95% on-time performance for all services.
Passenger Complaints/Boardings [Customer satisfaction, courtesy]	The number of complaints shall not exceed 0.01% of the total boardings. The benchmark is 7.5 complaints/100,000 boardings.
Accidents /Bus Miles Operated	Fewer than 2 accidents/100,000 revenue miles.
	Fewer than 1 preventable accident/100,000 revenue miles.
	Fewer than 1.5 major accidents per million bus miles.
Vehicles and Maintenance	The number of road calls should not exceed 0.06% of total revenue miles operated. The benchmark is 1 road call/7,000 revenue miles.
	All vehicles (100%) have safety cameras or other safety devices.
	100% of vehicles cleaned daily.
	At least 90% of all regular fleet vehicles should be available for operations at all times.
	The ratio of spare vehicles to regular fleet vehicles should be at least 20%.
	95% of vehicle inspections shall be completed on time.
Bus Trips Cancelled/Missed Trips	All vehicles (100%) should be wheelchair-accessible. No bus trips shall be cancelled. The benchmark is zero tolerance.

Paratransit Service Standards

Performance measures allow paratransit administrators to assess system performance based on their established criteria, and compare that to past measures of performance and target goals. They also enable providers to calculate the benefit of coordination in financial terms and passengers served, and further base their resource allocation decisions on that information. Finally, performance measures also provide data to support further advocacy at a local, state, and federal level through the illustration of cost-savings and improved services.

Some key industry paratransit performance indicators include cost per hour, cost per trip, cost per mile, trips per hour, and miles per trip. On-time performance is also usually monitored, which is an indicator both for service productivity and for service quality.² These indicators are described below:

- **Cost per revenue hour:** Defined as annual operating costs divided by annual vehicle service hours. This measure highlights an agency's cost effectiveness, normalizing operating costs (primarily labor and fuel) to the number of hours the service is provided, which is useful when comparing operations between agencies and when analyzing the impact of service expansion or contraction.
- **Cost per passenger:** Defined as annual operating costs divided by the number of trips provided. This measure allocates operations costs on a per passenger basis, which is often useful when analyzing growth trends or when comparing modes.
- **Cost per revenue mile:** Defined as annual operating costs divided by annual vehicle service miles. This measure highlights cost effectiveness, normalized to service miles provided.
- **Trips per hour:** Defined as annual boardings divided by annual vehicle service hours. This measure is a key performance indicator highlighting the number of passengers carried for a unit of service delivered. For demand-response services, it reflects the level of shared rides and amount of slack time in a route.
- **Passengers per revenue mile:** Defined as annual vehicle service miles divided by the number of annual boardings. This measure can show variations or trends in trip length, which is useful when examining factors contributing to the efficiency of a demand-response system (longer trips are harder to schedule with shared rides and create more deadhead time where the vehicle is operating without a passenger onboard).
- **Percent of trips on-time:** Defined as the percent of all trips where the passenger is picked up within the allotted appointment time window. This measure is a key performance indicator, especially from the customer's perspective, indicating the reliability of the service.
- **Percent of no-show trips:** Defined as the percent of scheduled trips where the passenger is a no-show or failed to provide adequate notice that they cannot complete their trip. This measure shows how much unproductive vehicle and driver time is expended making unnecessary trips and not being available to transport other passengers.

² TCRP Report 124, page 31

- **Farebox recovery ratio:** Defined as total farebox revenues/total expenses. By setting a target farebox recovery percentage, the Bis-Man Transit Board will be able to determine when fares should appropriately be increased.
- **Other:** In addition to these primary measures, others are recommended for accidents, complaints, road calls, and missed trips.

Monitoring the quality of paratransit service is an essential ingredient for good customer service. Since most systems are publicly funded, the transit manager needs to improve productivity and effectiveness by providing the most rides possible with existing funds. This need for better productivity has to be balanced with maintaining a level of service that is responsive to the needs of paratransit customers.

It is important to note, that for most of these “common” indicators, there is no industry standard. For example, while trips per hour can reflect an operator’s ability to schedule and dispatch trips efficiently and its ability to group trips, the results vary from community to community. This indicator is often influenced by other external factors over which the operator has no control, such as size of the service area, land use patterns, traffic congestion, etc. Furthermore, the goal should not be considered static and should be set to “raise the bar” in order to achieve system improvements, but also be realistic to attain.

Bis-Man Paratransit has not established formal performance expectations, but monitors some indicators, including trips per hour, on an informal basis. Currently, Bis-Man Paratransit staff does not provide the Board of Directors with a monthly report that indicates number of trips, number of vehicle revenue hours passenger cancellations and no-shows, vehicle revenue miles traveled, or other indicators.

Figure 6-4 Recommended Paratransit Standards

Tracking Measures	Annual/Total	Performance Standard
Cost per Revenue Hour	\$36.73	<\$50
Cost per Passenger	\$9.97	<\$15
Cost per Revenue Mile	\$2.65	<\$4.50
Trips per Hour	3.68	>3
Passengers per Revenue Mile	0.27	>.2
Percent of trips On-Time	Data not reported by Bis-Man Paratransit	95%
Percent of No-Show Trips	Data not reported by Bis-Man Paratransit	<3
Farebox Ratio	23.8%	>18%
Accidents /Bus Miles Operated	Data not reported by Bis-Man Paratransit	Fewer than 2 accidents/100,000 revenue miles
		Fewer than 1 preventable accident/100,000 revenue miles.
		Fewer than 1.5 major accidents per million bus miles
Passenger Complaints/ Boardings	Data not reported by Bis-Man Paratransit	<7.5 complaints/100,000 boardings
Road calls	Data not reported by Bis-Man Paratransit	<1 road call/7,000 revenue miles.
Bus Trips Cancelled/Missed Trips	Data not reported by Bis-Man Paratransit	No bus trips shall be cancelled. The benchmark is zero tolerance.

Recommendations

Fixed-Route

The following recommendations are specific to the CAT fixed-route program:

- **Revise and adopt performance measures and standards that are consistent with the agency’s goals and future vision. The measures and standards identified present the consulting team’s understanding of the agency’s intended future. It is critically important that these be fully considered and ratified by the Board.**
- **Develop a consistent methodology for collecting performance data.**
- **Develop and implement a system for tracking monthly performance relative to adopted standards. This should include a quarterly review of agency performance with the Board.**
- **Establish procedures and a possible course of action if productivity goals are not met.**
- **Continue to track fixed-route ridership and system usage data that is currently recorded on a daily basis.**

- Every three to four years, sponsor a full boarding/alighting survey that identifies where people board and disembark CAT buses. This information should then be used to analyze the productivity and effectiveness of individual routes and route segments. When appropriate, remedial changes should be instituted. As necessary, surveys of passenger demographics, travel habits, and transfer activity should also be conducted.

Paratransit

The following recommendations are specific to the Bis-Man Paratransit program:

- Develop a productivity plan to collect data to monitor performance goals and objectives, a methodology for collecting relevant data, and a process for reviewing trends over time. The productivity plan should also spell out a possible course of action if productivity goals are not met.
- Performance standards are provided for each of the following:
 - Average trips per hour
 - Average miles per trip
 - Average operating cost per hour
 - Percent of no-shows for total system ridership
 - Level of on-time performance
 - Farebox recovery ratio
 - Rate of No-Shows

Other standards are also included. Bis-Man Paratransit should track paratransit ridership and system usage data that is currently recorded on a daily basis. This baseline information should be summarized into regular monthly reports. To begin with, the standards presented in this chapter can be used to establish a baseline, but should be revised over time with the intent of “raising the bar”.

- These indicators should be tracked on a monthly basis to reflect trends or patterns. Key findings should be reported to the Board of Directors on a regular basis.

CONCLUSION

While both performance and design standards need to reflect the best thinking of agency staff members, it is critically important that they be understood and adopted by the Bis-Man Transit Board. Once adopted, these policies give decision-makers a rationale for supporting or rebuking proposed service changes; they also offer transparency for Bismarck and Mandan residents, allowing them to understand the basis for transit service decision-making. By having adopted standards, they can be written into approved service and operating policies, and offer Bis-Man Transit a good justification for implementing route changes or discontinuing service. The adoption process can sometimes be eased when members of the Board understand that standards inform, but do not dictate, decisions.

Standards will need to be periodically revisited and updated as operating conditions and Bis-Man Transit’s priorities evolve, as well as when financial conditions change. While there are benefits from maintaining a consistent set of standards, it is a good idea to consider whether they continue to reflect the community’s priority.

7 FIXED-ROUTE SERVICE RECOMMENDATIONS

This chapter details service alternatives for CAT and provides a recommendation for which no significant change in funding is required, but without additional resources for fixed-route service does not fully allow CAT to meet its goals. Because expansion of CAT service must be financially constrained, service expansion options are presented and prioritized.

OPTION A. MODERATE REVISIONS ALTERNATIVE: STATUS QUO FUNDING

This alternative is offered for the purposes of making minor enhancements to the existing transit network. These could be carried out quickly to make some easy, though modest, upgrades to the CAT network providing some benefits for existing and potential riders. This alternative would not substantially improve fixed-route service in Bismarck and Mandan, but, if necessary, could be an interim step in the maturation of the system. The following are key objectives of this service alternative:

- **Minor changes.** Based on staff preferences for limited revisions, this alternative was developed to illustrate how some minor changes could improve the existing route network.
- **Status quo funding.** This alternative assumes there is no significant change in annual revenue hours or to peak bus requirements. Assuming that the cost per hour of service remains the same, operating costs in this alternative will remain stable.
- **Focus on unproductive route segments.** This alternative largely maintains the existing route structure and coverage throughout Bismarck and Mandan, but focuses on route segments with low or no ridership based on the ridership counts conducted in June 2011.
- **Minimize the number of double transfers.** Several routes, particularly those in north Bismarck, require two transfers to reach key destinations (such as Bismarck State College). This alternative largely focuses on routes that serve Gateway Mall and do not also serve Kirkwood Mall (Routes C-1, C-2, D-1, and D-2).
- **Address complex route structure in Mandan.** The M-1 and M-2 routes in Mandan have some of the highest ridership in the CAT system (per service hour) despite the confusing and complex route structure. This alternative focuses on simplifying the route structure and focusing service in areas with the highest ridership potential.
- **De-emphasize service to elementary and middle schools.** While schools are important activity centers in the community, elementary and middle schools are usually not strong generators of transit demand. This is supported by the ridership data which

revealed very little ridership near these schools and by input from school administrators consulted in the development of this plan. Even high schools that have significantly more students, faculty and staff do not typically generate strong ridership outside of a few hours a day. As such, this alternative focuses on those segments of the CAT system that deviate to serve schools and are generating very little ridership and re-focuses those resources to other areas with greater ridership potential. It should be noted that CAT could provide tripper service to the middle schools if necessary, routing one trip in the morning and one in the afternoon to serve key middle schools.

Summary of Service Changes

Proposed service changes in this alternative are described below. Figure 7-1 at the end of this section provides a set of advantages and disadvantages associated with this alternative, and Figures 7-2 and 7-3 provide a table and map that summarize the services.

Bismarck

Combine Routes A-1 (East Bismarck) and C-1 (NE Bismarck)

Currently, Route A-1 provides a one-way loop serving east Bismarck. Ridership is strongest on East Rosser (near the Senior Center), at Simle School (where transfers to Route C-1 occur), and at C and 9th Street (where the route intersects Route E-1 and nearby Bismarck High School).

Route C-1 provides a loop from Gateway Mall to serve east and central Bismarck with a connection to Route A-1 near Simle School. Productivity on Route C-1 is the lowest in the system with about 2 passengers per revenue hour on average. During the passenger count in June 2011, this route had only 8 boardings and 9 alightings all day. The only major stop on this route is at the transfer location to Route A-1.

While productivity on route A-1 is relatively good compared to other routes, much of the ridership occurs as a result of transfers from Routes E-1 and C-1. To help reduce the number of transfers on both Routes A-1 and C-1, to help facilitate better connections to other routes, and to improve ridership on Route C-1, it is recommended that these two routes be combined.

The modified Route A-1 would depart Kirkwood Mall and travel north on University and then east on Broadway. The route would then turn north on 20th Street (serving the Senior Center), continue west on Rosser, and then travel north on 26th Street (serving Missouri Slope), and then east on Boulevard. At this point, the route would turn north on 16th Street (currently served by Route C-1), west on Divide, and north on 19th Street. Finally, the route would continue west on Mapleton, south on 15th Street, and west on Century Avenue to Gateway Mall.

The modified Route C-1 would start at Gateway Mall, travel south on State Street, west on Gateway Avenue, south on 8th Street, and west on Interstate Avenue. The route would continue via 4th Street, east on Capitol Avenue, continue via Jackson, turn south on 23rd Street, west on Divide, and south on 22nd Street. From here, the route would assume the portion of Route A-1 via Boulevard, 16th Street, C Avenue, 6th Street, Rosser, and 7th Street to the Kirkwood Mall.

It should be noted that both of these routes would continue to operate in one direction only, and thus the return trip to any location along these routes would require a transfer at either Gateway Mall or Kirkwood Mall. Also, Route A-1 is proposed to operate from Kirkwood to Gateway and Route C-1 is proposed to operate from Gateway to Kirkwood, but the direction of these two routes could easily be changed, if desired.

To illustrate that this configuration is either an improvement or no worse for most users, the following sample round trips compare this alternative to existing conditions. It should be noted that in many cases the travel times would be the same as existing routes, but overall users would be better served and have more travel options with fewer transfers under this alternative.

- **Senior Center to Kirkwood Mall**
 - The most direct existing route between the Senior Center and Kirkwood Mall would be on Route A-1 and take approximately 18 minutes. The return trip to the Senior Center would be on either Route A-1 or Route A-2 and take approximately 7 minutes. *Total travel time would be about 25 minutes with no transfers.*
 - Under this alternative, the passenger would take Route A-2, which would also take 18 minutes to reach Kirkwood Mall. The return trip on either Route A-1 or A-2 would take 7 minutes. *Total travel time would be about 25 minutes with no transfers.*
- **Missouri Slope to Gateway Mall**
 - The most direct routing on existing routes would be to take Route A-1, transfer to Route C-1 at Simle School, and continue on Route C-1 to Gateway Mall. The estimated travel time would be about 13 minutes with one transfer. In the reverse direction, the passenger would then take Route E-2 to Kirkwood Mall and then Route A-1 to Missouri Slope, taking approximately 42 minutes with one transfer. *Total travel time would be about 55 minutes with two transfers.*
 - Under this alternative, the passenger would take Route A-1 directly to Gateway Mall and total travel time would be about 13 minutes with no transfer. In the reverse direction, the passenger would take Route E-2 to Kirkwood Mall and then Route A-1 to Missouri Slope taking approximately 42 minutes with one transfer. *Total travel time is 55 minutes with one transfer.*
- **Divide and 19th Street to Kirkwood Mall**
 - The most direct routing on existing routes would be to take Route C-1 to Gateway Mall and transfer to Route E-2 to Kirkwood Mall. Travel time in this direction is about 37 minutes with one transfer. On the return trip the passenger could take Route A-1 from Kirkwood, transfer to Route C-1 at Simle School and continue on Route C-1 to 19th and Divide. This trip would take approximately 18 minutes and require one transfer. *Total round trip travel time would be 55 minutes with two transfers.*
 - Under this alternative, the passenger would take the modified Route C-1 directly to Kirkwood Mall, taking approximately 13 minutes with no transfer. On the return trip the passenger would take the modified Route A-1, taking approximately 18 minutes with no transfer. *Total travel time would be 31 minutes with no transfers.*

While there are countless trip patterns that could be tested, these examples show that even if travel times are not improved, these modifications suggest that travel in east Bismarck would be more direct and would likely require fewer transfers.

Route A-2 (East Bismarck)

One minor change would be made to Route A-2 to allow more running time for the modified Route A-1 noted above. Rather than travel via Broadway (between 9th and Airport Road), Route A-2 would travel via Bowen Road. This modification is not anticipated to have an impact on travel patterns or passenger convenience.

Routes B-1 and B-2 (SW Bismarck)

No changes are recommended for these routes in this alternative.

Combine Routes C-2 (NE Bismarck) and Route D-2 (NW Bismarck)

Route C-2 currently provides one-way service from Gateway Mall, East Century Avenue, Mr. B's Park, Centennial Road, 43rd Avenue, the North Wal-Mart, and 19th Street between 43rd Avenue and Century Avenue. The only notable stop with ridership on this route is Wal-Mart but average productivity is one of the lowest in the system.

Route D-2 operates as a "figure 8" one-way route serving Gateway Mall, Bismarck State College, Century Avenue, Turnpike (between Washington and Thompson), Washington Street (between Century and 43rd Avenue), 43rd Avenue and the area west of State Street between 43rd Avenue and Gateway Mall. While productivity on this route is average compared to other services, most of the ridership on this route is related to transfers at Gateway Mall or the stop at Bismarck State College.

Because this area of Bismarck has a total of 11 average passenger boardings or alightings all day (based on the ridership counts in June 2011), it is recommended in this alternative to combine all of Route C-2 and a portion of Route D-2 (Century, Washington, 43rd Avenue and west of State Street) into a single route (named Route C-2). It is proposed that this area be served by either by a new fixed route or a service that is new to the Bismarck area – a "flexible fixed route." These two options are presented below:

- **New fixed route.** This option would provide service to the areas in north Bismarck that have the greatest ridership potential. This new fixed route would start at Gateway Mall, travel east on Century, north on 19th Street, serve the North Wal-Mart, travel west on 43rd Avenue, south on Washington, east on Calgary, south on 10th Street, east on Church, and south on 11th Street to Gateway Mall. The round trip travel time is expected to be about 25 minutes.
- **Flexible fixed route.** The flexible fixed route option would start at Gateway, travel to the north Wal-Mart via Century and 19th Street, and south again to Gateway on the east side of State Street. Without any deviation, this trip is anticipated to take about 15 minutes. Assuming 5 minutes of recovery time for the driver, the extra 10 minutes in the schedule would be used for route deviations.

What is a “Flexible Fixed Route?”

A flexible fixed route does just as the name implies – it generally follows a fixed route but can be “flexible” by deviating off of that route to serve areas of low demand. The schedule of a flexible fixed route is designed with adequate time for the route to serve other areas. Along the fixed portion of the route, passengers would board the bus similar to any other fixed route. If a passenger requires a trip within the “flex zone,” they would request a deviation, in which case the bus would travel to the nearest safe intersection. On a pickup, the passenger would call a dispatcher, ideally 24 hours or at least 2 hours in advance. On the drop off, the passenger would simply tell the driver their drop-off location.

Flex routes are in operation in many communities, including HART (Hillsborough, FL), Utah Transit Authority (Cedar Hills, American Fork, UT), CCRTA Cape Cod, Minnesota Valley Transit Authority, and CARTS (Polk/Marion Counties, OR). For CARTS, flex-route service was designed to provide demand response transit service in low-density rural and small communities where there is not sufficient demand to support fixed route transit service and where dial-a-ride service must travel significant distances and may not be as productive as it could be. Dial-a-ride was determined to be generally practical for low-density areas with widely dispersed demand, but some pooling of demand is seen in portions of the CARTS service area as in northern Bismarck, with populations traveling mostly to a few key destinations. The CARTS bus is scheduled for specific time points and round trips are made every two hours. Local pick-ups are made in one area for 15 minutes at the beginning of the hour, with specific time points scheduled for pickups at an outlet mall and Wal-Mart. Passengers can walk on the flex-route at any of the time points or make telephone reservations for service. The service operates curb-to-curb.

A flex route would essentially work for Bis-Man Transit as a scheduled paratransit trip, with specific destinations to be served by the bus at which riders could walk on, and other destinations to be reserved in advance (usually at least two hours in advance, based on what other communities do). All riders would be dropped at a fixed-route transfer point to continue their journey on a fixed-route bus. Passengers boarding at that point would be served by the driver based on the most logical routing between scheduled time points and then the driver would return to a waiting point.

West Bismarck Modifications

Currently, four routes serve west Bismarck: Routes D-1, D-2, E-2, and M-2. Routes D-1 and D-2 operate as one-way loops starting at Gateway Mall and serving a number of key destinations such as Bismarck State College, Arrowhead Plaza, the YMCA, and Pinehurst Square Shopping Center. Most of the boarding activity on these two routes is at BSC, Arrowhead Plaza, along Washington Street, and on Century Avenue.

Route E-2 provides service from Kirkwood Mall to Gateway Mall via Dan’s Supermarket (Washington and Ivy), Memorial Highway, West Street, West Main Avenue, Bell Street, Avenue C, 3rd Street, 4th Street, and finally Interstate Avenue. Most of the boarding activity on this route is along Memorial Highway (near Center Street), Arrowhead Plaza, and at Dan’s Supermarket.

This recommendation makes modifications to three routes as discussed below:

- The modified **Route D-1** would provide a bi-directional service connecting BSC, Arrowhead Plaza and Kirkwood Mall, and generally travel on two primary corridors: E. Divide and 3rd Street.
- **Route E-2** would be modified to travel from Gateway Mall to Century and Washington, going south on Washington, east on Divide, south on 3rd past Arrowhead Plaza, west on Boulevard, south on Washington and then on Ivy (serving Dan's Supermarket), northeast on 2nd Street (serving the High Rise) to Bowen, and then to Kirkwood Mall.
- **Route M-2** (discussed below in more detail) would be modified to connect BSC to Gateway Mall via Divide and Century Avenue.

The three changes presented above eliminate the need for the western loop of the existing Route D-2, and as noted above, the other loop of Route D-2 is absorbed into a new service serving north Bismarck (listed as C-2). As with the east Bismarck changes, the following sample round trips compare this alternative to existing conditions.

- **BSC to Kirkwood Mall**
 - On the existing services, passengers would take Route D-1 to Gateway Mall and transfer to Route E-2. This would take approximately 41 minutes and require one transfer. The return trip the passenger would take Route E-1 to Gateway Mall and then Route D-2. This would take about 38 minutes and require one transfer. *The total travel time would be 79 minutes and two transfers are required.*
 - Under this alternative, the passenger would take the modified Route D-1 and travel directly to Kirkwood Mall, taking about 25 minutes. The return trip would also use Route D-1 and take 25 minutes. *The total round trip travel time would be 50 minutes and no transfers are required.*
- **Arrowhead Plaza to Gateway Mall.**
 - On existing services, the most direct routing would be to take Route D-1 and travel to Gateway Mall, taking about 17 minutes. The return trip passengers could use either Route D-1 or Route E-2. Travel time on both routes would be 8 minutes. *Total round trip travel time would be 25 minutes and no transfers are required.*
 - Under this alternative, the most direct routing would be to take Route D-1 to BSC and transfer to Route M-2. This would take approximately 22 minutes and require one transfer. The return trip could be made on Route E-2 and take approximately 10 minutes. *The round trip travel time would be 32 minutes and require one transfer.*
- **Washington/Interstate to Dan's Supermarket (S. Washington St.)**
 - On existing routes, passengers would take Route D-1 to Arrowhead Plaza and transfer to Route E-2. Assuming this occurs when a timed connection occurs at Arrowhead, the trip would take approximately 16 minutes and require one transfer. The return trip would require the passenger to take Route E-2 to Kirkwood, transfer to Route E-1, and then transfer to either Route D-1 or D-2. This trip would take approximately 34 minutes and require 2 transfers. *The total travel time would be 50 minutes and require three transfers.*
 - Under this alternative, the passenger would travel south on Route E-2 directly to Dan's Supermarket (at Washington and Ivy). This trip is estimated to take 12 minutes. On the return trip, the passenger would take Route E-2 to Kirkwood, transfer to Route E-1 to Gateway and then transfer again to Route E-2. The one-way

travel time would be about 34 minutes and require two transfers. *The total travel time would be 46 minutes and require two transfers.*

Again, it is important to note that there are countless trip patterns that could be tested and not all of them are going to favor this alternative. Still, the examples above show that travel in west Bismarck would generally be more direct and result in fewer transfers in this alternative.

Route E1 (Kirkwood to Gateway)

No changes are recommended for this route in this alternative.

Mandan

Routes M-1 and M-2 (Bismarck to Mandan)

The two routes serving Mandan, and connecting Mandan to Bismarck, have some of the highest ridership in the system and collectively are the two most productive routes despite operating every two hours. While the two routes together provide hourly service to some of the top destinations in Mandan, the two routes do not mirror each other, and the route design is somewhat confusing, especially in north central Mandan.

This alternative concentrates service on the areas of Mandan that are generating the most ridership (mostly in central Mandan) and reduces service or eliminates portions of the two routes that do not have strong ridership. Primarily, those areas with poor ridership include the area north of I-94 (service to Seven Seas and Mandan Middle School) and south of 3rd Street (to the neighborhood around Fort Lincoln Elementary School).

In this alternative, Routes M-1 and M-2 essentially mirror each other through central Mandan providing bi-directional service on the following streets:

- 10th Avenue NW
- 6th Street NW
- 6th Avenue NW (north of 6th Street NW)
- Boundary Street NW
- Liberty Heights
- 14th Street NW, Collins Avenue
- Main Street
- 6th Avenue SE (between Main Avenue and 3rd Street SE)

Two segments of the existing routes are completely abandoned in this alternative:

- 6th Avenue SE south of 3rd Street SE and the loop via 8th Avenue SE, 19th Street SE and 12th Avenue SE (the neighborhood around Fort Lincoln Elementary School).
- Collins Avenue (north of I-94), 27th Street NW (by Mandan Middle School), Old Red Trail and Sunset Drive NW (north of I-94).

Both of these areas that have been eliminated could be served on request only rather than on every scheduled trip. As with the flexible fixed route described earlier, passengers who need a ride in these areas would call CAT at least 2 hours in advance to request a deviation. Drop offs to these areas would be requested directly to the driver.

Another important change with this alternative is that the time saved on Route M-2 in Mandan is used to extend this route from BSC in Bismarck to the Gateway Mall via Century Avenue. If necessary, school trippers could be added to provide service to Mandan Middle school before the start of school and at the end of each school day.

Advantages and Disadvantages: Moderate Revisions Alternative

Some advantages and disadvantages of this alternative are shown below in Figure 7-1:

Figure 7-1 Option A. Moderate Revisions Alternative: Advantages and Disadvantages

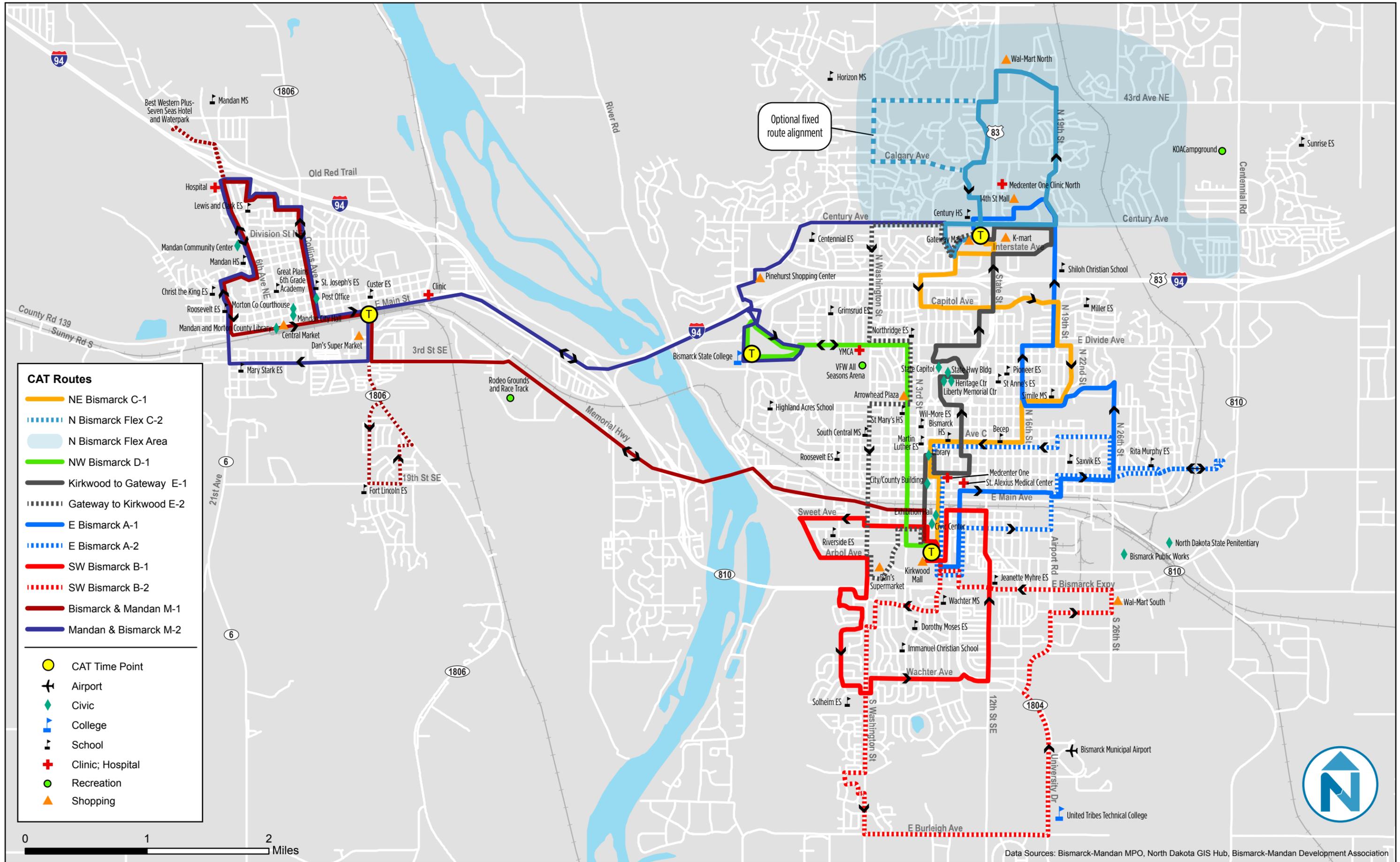
Advantages of Alternative	Disadvantages of Alternative
<ul style="list-style-type: none"> ▪ Small step toward improving system passengers per hour (productivity) ▪ Easy to implement and offers minor improvements for more direct and time-sensitive routings ▪ Eliminates double transfers for some trip pairings ▪ Discontinues most unproductive services, reallocating resources for service improvements ▪ Service eliminations impact very few riders ▪ Provides improved circulation in Mandan and better connections to retail centers in Bismarck ▪ Provides increased service in Mandan due to modest resource shifts 	<ul style="list-style-type: none"> ▪ Reduces or eliminates service to some areas where service is available today; may require some people to walk a little further to access transit ▪ Keeps much of the existing route structure in place, which results in long travel times for some riders ▪ Maintains one-way service on most route segments ▪ Offers no improvement in service headways in Bismarck, due to status quo resources

Figure 7-2 below summarizes the major service characteristics of the Moderate Revisions Alternative and Figure 7-3 provides a map of the route modifications discussed above.

Figure 7-2 Service Characteristics: Option A. Moderate Revisions Alternative

	Route	Weekday Frequency (Peak/Midday)	Weekday Service Span	Saturday Frequency	Saturday Service Span
A-1	East Bismarck	60 / 120	12 hours	60	10 hours
A-2	East Bismarck	60 / 120	12 hours	120	10 hours
B-1	SW Bismarck	60 / 120	12 hours	120	10 hours
B-2	SW Bismarck	60 / 120	12 hours	120	10 hours
C-1	NE Bismarck	60 / 120	12 hours	120	10 hours
C-2	North Bismarck Route	60 / 120	12 hours	120	10 hours
D-1	NW Bismarck	60 / 120	12 hours	120	10 hours
E-1	Kirkwood to Gateway	30 / 60	12 hours	120	10 hours
E-2	Gateway to Kirkwood	30 / 60	12 hours	120	10 hours
M1	Bismarck/Mandan (via Memorial Hwy)	60 / 60	12 hours	120	10 hours
M2	Bismarck to Mandan (via BSC/Gateway)	60 / 60	12 hours	120	10 hours

Figure 7-3 Moderate Revisions Alternative



OPTION B. SIGNIFICANT REVISIONS ALTERNATIVE: EXPANDED FUNDING RECOMMENDED, STATUS QUO FUNDING COULD BE MAINTAINED

This alternative allows for the operation of service with existing funding resources dedicated to the fixed route services, but the recommendation is for increased funding to provide more frequent service. This is the recommended service alternative, with the following key objectives:

Objectives

- **Expanded or status quo funding.** Additional funding is recommended to maximize the utility of transit in the Bismarck-Mandan area. This route structure does not require a significant change in revenue hours or bus resources, however, without improved headways, its merits cannot be fully realized.
- **Match service levels with demand.** This alternative focuses resources much more on enhancing ridership than providing coverage throughout the region. While service is improved in key travel corridors, it also comes at the expense of more abandoned segments, especially in Bismarck.
- **Eliminate one-way loops.** To the greatest extent possible, all routes in this alternative are designed to operate in both directions on the same corridor rather than as one-way loops. Bi-directional service provides the most direct routing and eliminates confusion associated with service that is provided in only one direction.
- **Minimize or eliminate double transfers.** With the exception of one route in north Bismarck, all routes would pulse into and out of a single transfer location (rather than relying on the two transfer locations at Gateway Mall and Kirkwood Mall). Although there are several options for where this central transfer location would be, the goal is to have all routes in Bismarck connect to each other at a single location.
- **De-emphasize service to elementary and middle schools.** As discussed in Option A, the Moderate Revisions Alternative, this alternative focuses resources to areas with the greatest ridership potential, and thus does not attempt to serve elementary or middle schools that are not also along a logical route to another destination.
- **Route naming convention.** Although it is not critical, in this alternative, the route numbers and names in Bismarck are changed to a clearer and more descriptive naming convention (also discussed in Chapter 10). Routes are numbered from 1 to 9 in Bismarck, keeping M1 and M2 (without hyphens) for the routes that serve Mandan. Each route number is associated with a name: a description of the major corridor or destination that route serves. For example, Route 3 might be labeled as S. 3rd Street to UTTC.

Summary of Service Changes

The following section presents a description of the proposed service changes in this alternative. All routes have a 30 minute one-way or round-trip travel time (depending on the route), and thus, headways on all routes must be every 30 minutes for timed connections to occur as often as every 30 minutes between routes. Still, hourly headways throughout the day improve the service frequency and reduce the maximum wait time at the central transit facility to 30 minutes, allowing half of the routes to pulse there each 30 minutes. Figure 7-4 at the end of this section provides a set of advantages and disadvantages associated with this alternative, and Figures 7-5 and 7-6 provide a table and map that summarize the services.

Bismarck

Most of the changes in this alternative occur in Bismarck. The changes are discussed below by new route, assuming expanded resources. Without additional funding to support improved headways, service would need to operate less frequently than what is recommended, resulting in hourly headways during the peak and 120-minute off-peak headways on most routes, just as it is today. It is assumed that even without additional funding, Route 1 would continue to operate much like Route E-1 and E-2: at 30-minute headways during the peak and hourly midday.

Route 1

This route would essentially mirror Route E-1, streamlining the service somewhat south of the Capitol (around Bismarck High School) and to operate via Capitol, 4th and Interstate (instead of State Street, Interstate, 19th and Century) to serve Gateway Mall. This route would operate in both directions every 30 minutes during peak periods and every hour during the midday whether status quo resources are maintained or funding is expanded.

Route 2

This route would replace Routes C-1 and A-1 and portions of E-1 by providing more direct service between Gateway Mall and a central transfer location. With expanded resources, this route would operate every 30 minutes during peak periods and every hour during the midday in both directions. The alignment of this route would split in the middle to serve the 26th Street/Boulevard and 16th Street corridors every other trip. One option would be to operate on only one of these alignments.

Route 3

This route would replace portions of Route B-1 and B-2 and provide bi-directional service to UTTC via 3rd Street and University Drive. This route would operate in both directions every 30 minutes during peak periods and every hour during the midday with expanded resources.

Route 4

This route would replace portions of the existing Routes B-1 and B-2 by serving the 12th Street corridor between Rosser and Park Avenue and the south Wal-Mart. Service would be provided in both directions, and with expanded resources would operate every 30 minutes during peak periods and every hour during the midday.

Route 5

Currently, Routes A1 and A2 serve East Bismarck with two one-way routes. In this alternative, Route 5 would provide streamlined service in both directions on the corridor with the most ridership potential – East Rosser – and terminate at the Bis-Man Transit offices. Service would be provided in both directions, and with expanded resources would operate every 30 minutes during peak periods and every hour during the midday.

Route 6

This route would replace portions of Routes B-1, E-2, and B-2 by providing bi-directional service to Riverside Park, Dan's Supermarket (at Washington and Ivy), and the S. Washington corridor. With expanded resources, service would be provided every 30 minutes during peak periods and every hour during the midday.

Route 7

This route would be the same as the flexible fixed route described in Option A, the Moderate Revisions alternative.

Route 8

This route would be very similar to the modified Route C-1 previously discussed in the Moderate Revisions alternative. The only difference in this alternative is that service could be extended to Pinehurst Square Shopping Center, depending on the location of the central transfer location. Service would be provided in both directions, and with expanded resources would operate every 30 minutes during peak periods and every hour during the midday.

Route 9

This route would be very similar to the modified Route E-2 in the Moderate Revisions alternative with the exception that the route would stay on Washington for the length of the route (between the central transfer location and Century Avenue) and it would not deviate south to serve the Dan's Supermarket at Washington and Ivy (that would be served by Route 6 discussed above). With expanded resources, service on this route would operate in both directions every 30 minutes during the peak periods and every hour during the midday.

Route M1 and M2

These two routes would remain the same as the Moderate Revisions alternative with the exception that they would be renamed to simply M1 and M2 (without the hyphen) and would operate on 60-minute headways all day.

Using the same trip pairs as those discussed in the Moderate Revisions alternative, the following sample round trips compare this alternative to existing conditions.

- **Senior Center to Kirkwood Mall**
 - *Total travel time using existing routes would be about 25 minutes with no transfers.*
 - Under this alternative, the passenger would take Route 5 directly to Kirkwood Mall, which would take an estimated 10 minutes. The return trip would be on the same route and take an estimated 10 minutes. *Total travel time would be about 20 minutes with no transfers.*
- **Missouri Slope to Gateway Mall**
 - *Total travel time using existing routes would be about 55 minutes with two transfers.*
 - Under this alternative, the passenger would take Route 2 directly to Gateway Mall and the estimated travel time would be about 8 minutes with no transfer. In the reverse direction, the passenger would take the same route directly to Missouri Slope. The return trip would take an estimated 9 minutes. *Total travel time is 17 minutes with no transfers.*
- **Divide and 19th Street to Kirkwood Mall**
 - *Total travel time using existing routes would be 55 minutes with two transfers.*
 - Under this alternative, the passenger would take Route 2 directly to Kirkwood Mall, which would take an estimated 9 minutes. The passenger would use Route 2 again on the return trip, which is estimated to take 11 minutes. *Total travel time would be 20 minutes with no transfers.*

- **BSC to Kirkwood Mall**
 - *The total travel time on existing routes would be 79 minutes with two transfers.*
 - Under this alternative, the passenger would take Route 8 and travel directly to Kirkwood Mall, taking about 20 minutes. The return trip would also use Route 8 and take about 20 minutes. *The total round trip travel time would be 40 minutes with no transfers.*
- **Arrowhead Plaza to Gateway Mall**
 - *Total travel time on existing routes would be about 25 minutes with no transfers.*
 - Under this alternative, the most direct route would be to take Route 8 to BSC and transfer to Route M2. This would take approximately 22 minutes and require one transfer. The return trip could be made on the same route pair (Route M2 and then Route 8), which would take about 22 minutes. *The round trip travel time would be 44 minutes with two transfers.*
- **Washington/Interstate to Dan’s Supermarket (S. Washington St.)**
 - *The total travel time on existing routes would be about 50 minutes with three transfers.*
 - Under this alternative, the passenger would travel south on Route 9 to the central transfer location and transfer to Route 6. This trip is estimated to take 18 minutes and require one transfer. On the return trip, the passenger would take the same combination of routes but in reverse. The total travel time for the reverse trip would be about 18 minutes and require one transfer. *The total travel time would be 36 minutes with two transfers.*

Advantages and Disadvantages: Significant Revisions Alternative

There are few disadvantages of this recommended alternative in terms of quality of service and service options (Figure 7-4). The primary challenge for this recommended alternative is the need for funding.

Figure 7-4 Advantages and Disadvantages: Option B. Significant Revisions Alternative

Advantages of Alternative	Disadvantages of Alternative
<ul style="list-style-type: none"> ▪ Improved system productivity anticipated ▪ Makes fixed-route transit more attractive to most existing and potential users, reallocates resources for service improvements ▪ Somewhat easy to implement, maintains service in some of the CAT’s key service corridors ▪ Does not require an increase in resources, but will provide much better service with more resources and establishes a basis for investment in transit in Bismarck and Mandan ▪ Eliminates one-way loops ▪ Eliminates double transfers for regular fixed routes ▪ Discontinues unproductive services ▪ Service eliminations impact very few riders ▪ Provides improved circulation in Mandan and better connections to retail centers in Bismarck ▪ Centralizes transfers in downtown Bismarck or at Kirkwood Mall 	<ul style="list-style-type: none"> ▪ Reduces or eliminates service to some areas where service is available today; may require some people to walk a little further to access transit ▪ Without additional fixed-route resources, the service design offers no improvement in headways.

Figure 7-5 summarizes the major service characteristics of Option B, the Significant Revisions Alternative and Figure 7-6 provide a map of the route modifications discussed above.

Figure 7-5 Service Characteristics: Option B. Significant Revisions Alternative with Expanded Funding

	Route	Weekday Frequency (Peak/Midday)	Weekday Service Span	Saturday Frequency	Saturday Service Span
1	Downtown/Gateway	30 / 60	12 hours	60	10 hours
2	Lions Park/N. 19 th /Gateway	30 / 60	12 hours	120	10 hours
3	S. 3 rd St/UTTC	30 / 60	12 hours	120	10 hours
4	S. 12 th St SE/Wal-Mart South	30 / 60	12 hours	120	10 hours
5	E. Rosser	30 / 60	12 hours	120	10 hours
6	S. Washington St	30 / 60	12 hours	120	10 hours
7	N. Bismarck/Wal-Mart North (Flex)	30 / 60	12 hours	120	10 hours
8	N. 3 rd St/BSC	30 / 60	12 hours	120	10 hours
9	N. Washington/Gateway	30 / 60	12 hours	120	10 hours
M1	Bismarck/Mandan (via Memorial Hwy)	30 / 60	12 hours	120	10 hours
M2	Bismarck to Mandan (via BSC/Gateway)	30 / 60	12 hours	120	10 hours

Two additional expansion routes are proposed, but are assumed for implementation later in the 5-year range of this plan, or possibly just beyond it, so they are not included in the figures or on the map. Both depend on new dedicated funding from the partners receiving the specific service:

- **New Route to the University of Mary.** A number of stakeholders interviewed for this project indicated that the lack of transit service to the University of Mary is a significant unmet need in the region. While the University has about 4,000 students, faculty, and staff, it is also about 7 miles south of Bismarck and there are few other destinations between that are not already served by another CAT route. As such, any service to the University would be limited, at least initially while this market is being tested.

For the purposes of this alternative, it is assumed that a new route would operate from a central transfer facility in Bismarck to the University of Mary, making 10 round trips per day Monday through Friday. It is estimated that this service would require approximately 2,500 annual service hours. One vehicle would be required to operate this service, which could initially be provided with a small cutaway bus. Implementation of this alternative will depend on potential funding from the University of Mary.

- **New Route to Lincoln.** While not a significant service need, some stakeholders mentioned the need to provide limited transit service to Lincoln.

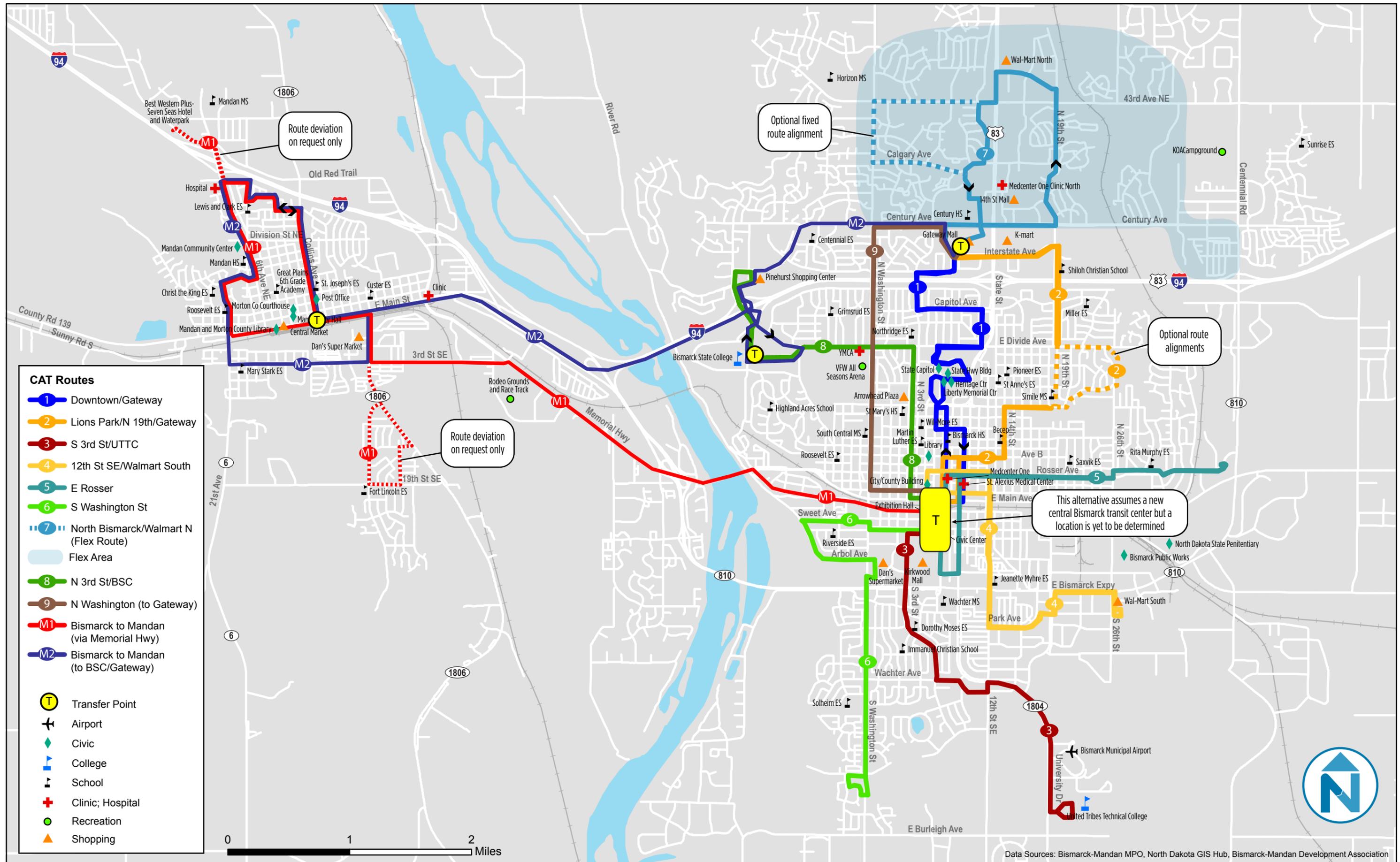
It is anticipated that initially a new service to Lincoln would be available as a limited route operating five round trips per day. Although the service might operate as a fixed route, it could deviate through Lincoln as needed to pick up and drop off passengers and could replace paratransit operations in Lincoln that are recommended for discontinuation. It is estimated that this service would require an estimated 1,250 annual service hours. One additional vehicle could be required, but likely spare vehicles from Bis-Man Paratransit could be used. Implementation of this alternative will depend on potential funding from Lincoln. If Lincoln were to contribute less money than is need to operate the service, Bis-Man Transit could consider implementation of a lifeline service, providing a few trips each week between Lincoln and Bismarck.

In addition to the recommended service alternative, additional services could be added with additional funding to address the priorities identified by existing riders and members of the public in surveys. **Based on the recommendations presented, the priority for increasing the utility of CAT service is to improve headways and introduce straighter, bidirectional routes.** Additional services would require more funding, but include the following:

- **Later service hours.** Based on survey responses from existing passengers, extending service hours on CAT later in the evening is a noted service demand. An alternative would assume that all services continue operating until 9:00 PM on weekdays and Saturdays. This change would result in an estimated increase of approximately 3,800 annual service hours. No additional vehicles would be required to operate service later into the evening.
- **Sunday service.** Another important service improvement for existing passengers is to provide CAT service on Sundays. This is especially important for service and retail workers that need access to jobs. An alternative assumes that service is available at least the same hours as on Saturday. This would result in an increase of approximately 1,800 annual service hours. No additional vehicles would be required to provide service on Sunday.

If additional funding beyond that required for the recommended service improvements were to become available, these improvements — later service hours and Sunday service — should be considered as top priorities.

Figure 7-6 Significant Revisions Alternative



TRANSIT CENTER OPTIONS

The recommended service alternative, Option B, assumes a single transit center in central Bismarck, as shown in Figure 7-6. In the interim, this central location is assumed to be at the north entrance to Kirkwood Mall where existing services connect. However, a new central transit center that is exclusively for CAT is envisioned as an important element in Option B, the recommended Significant Restructure alternative. A new facility would not only elevate CAT to a new level in the Bismarck area, but ensure that the recommended service would function from an operational standpoint (to allow safe and reliable transfers between routes).

Because planners and policymakers are anticipating a forthcoming comprehensive plan for downtown Bismarck, it is recommended that the specific location be determined through this planning process as part of a parallel downtown transit center siting study. As this planning process unfolds, the consultant recommends that Bis-Man Transit evaluate the feasibility of a new transit center located in the area between Rosser Avenue, 3rd Street, 9th Street, and the north end of Kirkwood Mall. Additional discussion of a new downtown transit center is included in Chapter 10.

For the City of Bismarck and CAT, which are interested in building a more viable, safe and pedestrian-friendly downtown, transit can be a valuable tool. It can reduce demand for parking, enhance the pedestrian environment (so large pedestrian-unfriendly parking lots can be reduced), and provide better access to new jobs.

If the transit center is kept at Kirkwood Mall, some redesign of the driveway is suggested, along with additional space for vehicles. The need to accommodate additional vehicles for timed transfers between routes may require a larger area than is currently available.

If the transit center is moved to another location, it should be designed to house up to nine CAT transit vehicles at one time, which would accommodate the proposed maximum peak-level vehicle pull out proposed in this plan and which would allow for all-day 30-minute frequencies in the future, should additional resources become available. Additional spaces should be considered for regional bus services and intercity buses.

This new transit center should also include adequate protection from the weather and waiting areas (preferably indoors) for passengers. It would also be important to have route information, ticket or pass sales, a small driver break room and restrooms for passengers and drivers. While no preference is given to on-street versus off-street transit facilities, any on-street configuration should ensure that passengers do not have to cross the street to access another bus, unless it is located on a transit-only street.

8 BIS-MAN PARATRANSIT SERVICE ALTERNATIVES

INTRODUCTION/PRINCIPLES FOR DEVELOPING AND EVALUATING RECOMMENDATIONS

Bis-Man Paratransit, which operates as a demand-responsive system within the greater Bismarck-Mandan area, provides service with a combination of cutaway vans and taxi sedans during daytime hours, and primarily with taxi sedans during other hours. Vans are also available to provide services to wheelchair users, since the taxis cannot accommodate passengers whose wheelchairs cannot be stowed. Bis-Man Paratransit is available 24 hours a day, seven days per week for registered users of the service.

Unlike most transit systems throughout the country, Bis-Man Paratransit's service policies exceed the minimal requirements of the Americans with Disabilities Act (ADA) in that paratransit services are provided "above and beyond" fixed-route (CAT) service hours, and paratransit operates far beyond the fixed-route service area. More significantly, services are not limited to people with disabilities whose disabilities prevent their use of fixed route, which is the criterion established through the ADA for paratransit eligibility.

In addition to being available to persons with disabilities of any age, anyone age 60 or older is also eligible, even if they are not disabled. In fact, as pointed out previously, a majority (57%) of survey respondents who use Bis-Man Paratransit indicated they are able to use CAT. A fundamental question facing decision makers, then, is whether the current balance of resources dedicated to CAT and Bis-Man Paratransit (37% and 63%, respectively) is appropriate, given that many Bis-Man Paratransit users could use CAT.

The following principles provide the basis for developing and reaching consensus on recommendations specific to Bis-Man Paratransit:

- Enhancing CAT will benefit everyone, including many current users of Bis-Man Paratransit.
- People who are able to use CAT should use CAT; Bis-Man Paratransit should be considered a service or safety net limited to those whose disability prevents their use of CAT.
- Any cost savings resulting from curtailing the use of Bis-Man Paratransit by those who can use CAT should be dedicated to improving CAT.
- Bis-Man Paratransit should complement CAT. It should ideally operate during the same service hours and within the same service area. Service beyond the CAT service hours, if Bis-Man Transit opts not to limit hours, should be considered a premium service, and premium fares should be charged.

- Any changes to Bis-Man Paratransit should ideally be rolled out simultaneously with improvements to CAT and should be presented to the public as a comprehensive service enhancement plan.
- Revisions to Bis-Man Paratransit service policies or eligibility criteria should be phased in over time.
- Bis-Man Paratransit/CAT staff should develop a comprehensive public outreach and media campaign to inform and educate members of the public of proposed changes before and during the time any revisions are implemented, as well as closely informing its own Board of Directors of the tradeoffs involved.

BIS-MAN PARATRANSIT SERVICE RECOMMENDATIONS

The following recommendations are intended to respond to the goals and objectives discussed in Chapter 6 and the principles noted above. They focus primarily on revising current eligibility standards to direct paratransit resources for persons who are not able to use fixed routes and on refining service standards to be more consistent with those offered to users of the general public fixed-route service. Some of Bis-Man Transit's funders may have clients that could be eligible for exceptions to these alternatives and recommendations. It is important to note, in considering these strategies and recommendations, that, if implemented, fewer people will be considered eligible for paratransit. It is also possible that some current riders of Bis-Man Transit may lose their eligibility status. Therefore, it will be important to phase the recommendations in over time, or to consider options that may mitigate potential service disruptions for current customers. Where applicable, such options are described below.

Proposed Eligibility and Certification Strategies

Revise Bis-Man Paratransit Eligibility Criteria

This recommendation is fundamental to the principle that Bis-Man Paratransit should be limited to people who cannot use CAT by virtue of a disabling condition which prevents their use of fixed-route transit. Currently, anyone age 60 or older is eligible for Bis-Man Paratransit. While some, or even many, of these older adults may also be disabled, the exact number is not known. Indications are that more than half of Bis-Man riders are, in fact, not disabled and can use CAT.

Bis-Man Paratransit is encouraged to revise certification criteria to be consistent with ADA requirements. This means that eligibility for Bis-Man Paratransit should be based on whether or not the applicant has a disability that prevents use of fixed-route transit service. Eligibility should not be conferred based on age, or even by the presence of a disability if it does not prevent use of CAT.

According to the ADA, persons are eligible to receive paratransit according to three categories. The three ADA categories of eligibility are as follows:

- **Category 1**
Cannot independently navigate the transit system
- **Category 2**
Cannot use fixed-route system because bus route\rail station is not accessible
- **Category 3**
Cannot get to\rfrom fixed-route stops\rstations within the service area

This recommendation can be considered the most significant of those described in this report, and it establishes a baseline and rationale for implementing subsequent service strategies, below.

Bis-Man Paratransit does not currently determine eligibility for paratransit based on the ADA definition: a disability that prevents use of fixed-route transit. Therefore, it is not known how many people would be affected should the criteria change. According to agency records, about 36% of Bis-Man Paratransit customers are over age 60; it is not known how many of those people are also disabled, or would be prevented from using the fixed routes and therefore would be ADA eligible.

An option for Bis-Man Paratransit staff to consider would be to raise the age threshold for paratransit eligibility. For example, if the age requirement were raised to 70, only those people between ages 60 and 70 who are not disabled would lose their eligibility status. This option would be easy to explain, and would most likely be accepted by members of the community. It does not, however, result in a system that bases paratransit eligibility on the basis of disability status, which should be the long-term goal. Thus, this is not recommended but could be used as an interim step, based on the preferences identified by Bis-Man Transit staff and Board members.

Another option to consider would be to “grandfather” in existing customers of paratransit; that is, to allow for existing users of service to maintain their current eligibility status but require new applicants to meet more stringent requirements. In the short term, this option may alleviate customer complaints and concerns, but in the long term can cause problems if there are two separate standards for usage of the system. Bis-Man Transit may consider increasing the fare for non ADA-riders to help alleviate some of the concerns about the perceived double standard.

Revise Bis-Man Paratransit Certification Process

Coupled with the need to revise eligibility criteria is that of reconsidering the process by which applications are reviewed and certified. Currently, a paper application is submitted to Bis-Man Paratransit staff who reviews it for completion and accuracy, and makes the certification decision. Persons whose application is based on disability are required to have a doctor’s verification of the disability, and persons whose eligibility is based on age are required to provide verification of their age.

It is important to note that many people who have a disability are not prevented from using fixed-route transit; on the contrary, all of CAT’s vehicles are lift-equipped to accommodate wheelchair users, and many other people with disabilities, including those who are blind or have developmental disabilities and can—or with training could—use the regular bus. Therefore, review of the application should consist of an in-person assessment to carefully and thoroughly document whether or not the applicant is able to use CAT and, if not, what conditions or circumstances prevent use of CAT.

An in-person interview and assessment will allow for a more thorough investigation of the applicant’s mobility limitations, and can also focus on providing the applicant with information about the mobility option most appropriate for his or her condition.

Implementing this recommendation will result in the need for additional staffing resources to carry out a more thorough assessment of each applicant. An option to consider is for Bis-Man Paratransit certification activities to be contracted out to a third party, such as a local Center for Independent Living, or Vocational Rehabilitation Program.

Identify Those who are Conditionally Eligible

Some people may be able to use fixed-route transit for some of their trips, but for other trips, they will need paratransit. For example, some persons have a health condition that fluctuates (i.e. arthritis) so that sometimes they are able to walk to the bus stop, but other times they are not. Likewise, some trips may not be navigable if there are architectural barriers preventing access to or from the bus stop; or, extreme weather conditions, along with the presence of a disability, may prevent access to or from the bus stop. Some people with developmental or intellectual disabilities may be able to take routine trips on public transit, but may need to rely on paratransit if the trip is not familiar or if they have not been travel-trained.

Although certifying people as conditionally eligible introduces a new level of complexity to the certification process, it is an important step in establishing an eligibility process that is more consistent with the intent of the ADA, and will allow, at some time in the future, for implementation of trip-by-trip eligibility. Trip-by-trip eligibility means that an individual who is determined conditionally eligible may be required to take some trips by fixed-route transit if they are able, while for other trips, they will qualify for paratransit.

Most likely, this recommendation will not be implemented immediately, or will be phased in over time. As mentioned, it is more complex and will also require training and oversight on the part of dispatchers and staff who receive ride reservations. Bis-Man Paratransit may want to consider the option of developing a step-by-step guide to identify steps needed to implement this process, and to learn from peers about successful practices elsewhere.

Recertify Bis-Man Paratransit Users

Currently, with a few exceptions, Bis-Man Paratransit riders' eligibility status does not expire. It is reasonable to expect users of the service to recertify their eligibility status every few years to be sure there have been no changes that could have an impact on their eligibility or ability to use the service. This is common practice at most transit agencies in the US.

As mentioned, there is a lack of reliable and current data on Bis-Man Paratransit riders, in part because once certified, the eligibility status does not change. Some people who entered the system on the basis of age may now have a disability, but this information is lacking. Recertifying users ensures that the program has current and reliable information about its customer base.

Recommended Provision of Service Strategies

Establish Consistent Service Area for Bis-Man Paratransit and CAT

About 1% of current Bis-Man Paratransit trips are provided to, or from, Lincoln or the University of Mary—destinations that are not served by CAT. While these trips do not represent all of the trips provided by Bis-Man that are not accessible by CAT, they do represent the majority of such trips. Stakeholders frequently mentioned the need for CAT to serve Lincoln and the University of Mary; doing so would ensure the services are more comparable to each other.

Again, this approach may need to consider a combination of reducing Bis-Man Paratransit trips that go beyond the CAT service area, but also seeking to expand CAT to serve these places.

Consider the Option of Offering Premium Service and Setting Fares Accordingly

The Bismarck–Mandan area is fortunate in that it has an extensive taxi program that is able to respond quickly to ride requests, and can offer late night service at a fairly reasonable rate. Many communities the size of Bismarck do not have such a resource. One alternative that would allow Bis-Man Paratransit to provide service where or when CAT does not operate would be to consider such trips as “premium service” and charge a premium fare. Currently, all Bis-Man Paratransit trips cost \$2.50 per trip, which recovers about 24% of the actual operating cost. Arguably, such trips could be charged a fare double that amount which would more closely cover the cost of the trip, raise revenues, and would allow for the service to be continued on an on-call basis.

The concept of offering a premium fare could be expanded to include non-ADA eligible persons. Rather than discontinuing service altogether for persons who are now using Bis-Man Paratransit, but who may not be eligible should more stringent certification criteria be adopted, a higher fare could be charged.

Presently, approximately 13% of Bis-Man paratransit trips are provided during hours when CAT does not operate, or to places CAT does not operate. At a minimum, these trips could be charged a premium fare. The fare could be determined based on the distance traveled, with a higher fare for longer trips. Assuming 13% of trips provided in 2009 (or 22,133 trips) could be considered “premium” and further assuming these trips were charged \$5.00 per trip rather than the standard of \$2.50 per trip, an additional \$55,330 could have been recovered.

Once a certification process is developed that is based on disability, those persons who are not considered ADA eligible could also be assessed a higher fare, recovering additional revenue and providing non-ADA eligible customers with an option rather than discontinuing service altogether.

Purchase and Implement Accessible Taxis

As mentioned, the Bismarck-Mandan region is fortunate in that it has an extensive taxi system that operates 24 hours a day, seven days per week. The taxi company serves members of the general public and operates under contract to provide public transit services.

Those paratransit services that are provided afterhours are primarily provided by taxi sedans; people who require accessible vehicles are provided service in a wheelchair-accessible van, but they must call in advance to reserve the vehicle.

It is recommended that the transit system invest in the purchase of several (three or four) wheelchair-accessible taxi vehicles in order to provide more flexibility to the fleet and to improve mobility options for residents and visitors of the Bismarck-Mandan area.

Many communities require taxi operators who provide paratransit services to have at least some accessible taxis on their fleet. While such a requirement by the Cities of Bismarck and Mandan may not be necessary, such a policy would allow any individual in the community to have equal access to taxi services, something that is not currently available in the Bismarck-Mandan area. For example, someone who uses a wheelchair cannot currently call a taxi and request a ride. The wheelchair user must be registered for paratransit and must reserve a ride at least one day in advance, significantly reducing the options for wheelchair users in the area.

Expand Travel Training

Over the past few years, CAT staff has taken a proactive stance to encourage more people to use CAT by providing training, leading outreach activities, and otherwise informing members of the public of services provided by CAT and how to use them. In particular, a goal is to encourage some persons currently using Bis-Man Paratransit to transition to using CAT if they do not have a disability that prevents their use of CAT.

Although it is difficult to quantify how many people who previously used paratransit are now using CAT, there is some evidence this is occurring given the increase in CAT ridership and corresponding decrease in paratransit ridership since fixed-route services were initiated.

It is recommended that such travel training and outreach activities be expanded and also incorporated into the certification process.

COORDINATION OPPORTUNITIES

The Bis-Man Transit Coordinated Public Transit-Human Services Transportation Plan was prepared by MPO and Bis-Man Transit staff in May 2011. This Plan responds to a federal requirement that projects funded through three programs in SAFETEA-LU¹, including JARC (Section 5316), New Freedom (Section 5317), and the Formula Program for Elderly Individuals and Individuals with Disabilities (Section 5310) are required to be derived from a locally developed Coordinated Public Transit-Human Services Transportation Plan. SAFETEA-LU guidance issued by the FTA indicates that the plan should be a “unified, comprehensive strategy for public transportation service delivery that identifies the transportation needs of individuals with disabilities, older adults, and individuals with limited income, laying out strategies for meeting these needs, and prioritizing services.”²

The Plan identifies a series of strategies or local priorities consistent with the recommendations laid out in this chapter; specifically, it identifies the need to “shift some trips from the demand-response paratransit to the fixed-route CAT bus service to make the overall transportation system more cost effective.” It also identifies key strategies as “improving communication channels between Bis-Man Transit and current and potential riders of the paratransit system and the CAT Bus;” and “Increase the number of rides on the CAT bus and encourage paratransit riders to use the fixed-route.”

This plan was prepared in consultation with other service providers, as well as stakeholders with a vested interest in public transit within the Bismarck-Mandan area; namely, many of the same stakeholders consulted for this study. Therefore, the opportunity exists to build upon this and other coordination activities to ensure the message remains consistent and implementation opportunities involve these same stakeholders.

Subsequent Plan updates should seek to include a more robust needs assessment and set of strategies, identify opportunities for service providers to work together, and to document progress made in implementing key strategies identified in the initial plan.

¹ The Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (Public Law 109-59; SAFETEA-LU) is a funding and authorization bill that governs federal surface transportation spending. It was signed into law on August 10, 2005 and expired as of September 30, 2009. Congress is working on a replacement bill for the next six-year period.

² Federal Register: March 15, 2006 (Volume 71, Number 50, page 13458)

CONCLUSION

With a reduction in paratransit service or the collection of premium fares, the cost savings or revenue benefits should be directed to CAT to improve service to all members of the public, including those who currently use Bis-Man Paratransit but could and would use CAT if it operated more frequently or if the routes were more direct.

Any service revisions to Bis-Man Paratransit and CAT should be rolled out simultaneously and considered as part of a comprehensive service plan to improve mobility for Bismarck and Mandan residents, as well as increasing mobility options.

9 CAPITAL AND FINANCIAL PLAN

This chapter describes Bis-Man Transit's ability to fund the continuation and expansion of Bis-Man Paratransit and CAT services over the next five years. A review of peer transit service allocations is presented first, followed by operating costs and key assumptions for Bis-Man Transit services and a review of projected revenues and the resultant performance indicators. Capital needs are then discussed, including vehicle replacement, expansion, and other related system capital improvements. Costs and revenues are projected for both the “Status Quo” and “Expansion” scenarios, which are defined below.

THE CHALLENGE OF RESOURCE ALLOCATION

If Bis-Man Paratransit is such a good service—efficient, high service levels, high levels of availability—why would the consulting team recommend service reductions? Indeed, one of the critical priorities identified in this plan is to improve fixed-route service. While Bis-Man Transit is a good service for the people who use it, CAT is not. For CAT to be an effective service, on par with its peers, the following are necessary:

- Additional resources are required to improve headways
- The network structure must be improved to reduce travel times and serve key destinations directly
- Individuals able to use CAT service who instead opt to use Bis-Man Paratransit must see benefits in shifting their travel to CAT

This third bullet, shifting riders to CAT from Bis-Man Paratransit, is challenging because, other than a reduced fare and the need not to schedule a ride at least one day in advance, these riders would see no benefit, and likely some disadvantages, of making a shift to CAT. However, if the other two bullets are addressed—better headways on an improved network—CAT will become a much more attractive option. Thus, this plan looks at a combination of incentives to encourage an individual to choose CAT, as well as some policy changes which may help curtail the generous ridership policies of Bis-Man Paratransit so that people who truly require paratransit service can use it—a “carrot” and a “stick.”

HOW DOES BIS-MAN TRANSIT COMPARE TO SOME PEER TRANSIT AGENCIES?

Bis-Man Transit's peers have been referenced in this report. This brief section provides some specific comparative data to demonstrate the relatively low level of resources Bis-Man Transit uses for its fixed route operation compared to its paratransit operation.

Figure 9-1 illustrates a summary of selected performance information for Bis-Man Transit services compared with five other peer transit systems, with information shown separately for fixed route and paratransit services. The figure shows that CAT service has a lower operating cost

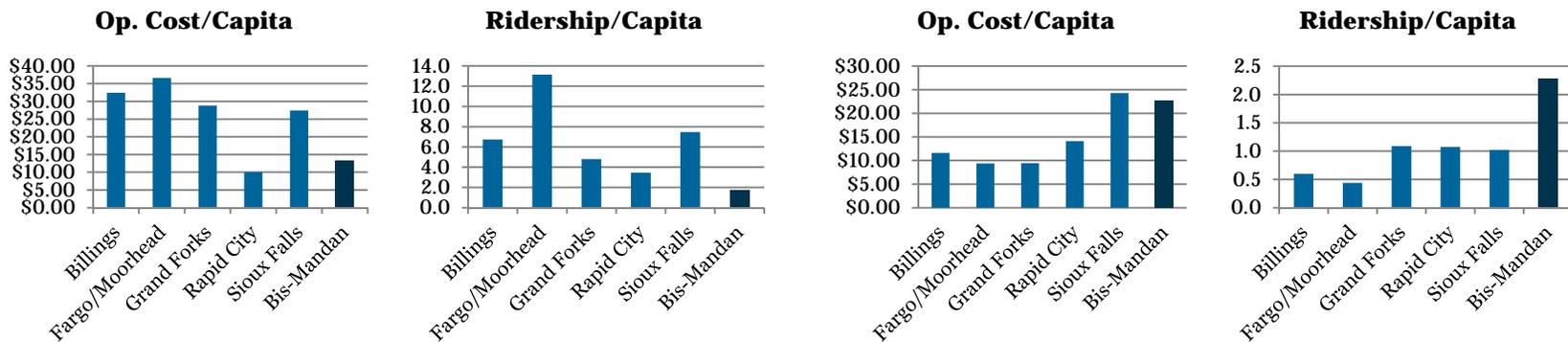
per capita than any of the peers, with the exception of Rapid City, SD, which has a smaller population and spends less on fixed-route service than Bis-Man Transit. Rapid City is the only peer with an operating cost per capita that is higher for paratransit than fixed-route, but even Rapid City has a slightly higher proportion of overall transit investment in fixed-route than paratransit. The peer information also shows CAT's operating cost per passenger is significantly higher than any other peer, while Bis-Man Paratransit's operating cost per passenger is among the lowest, with only Grand Forks, ND having a lower operating cost per passenger.

This information is useful because it shows that investment in, and performance of, transit in the Bismarck-Mandan area is somewhat out of step with other systems in similar communities. Figure 9-2 illustrates graphically that all of the peers have a higher proportion of total expenses going to fixed routes compared with dial-a-rides, and that four of the five peers spend more than 50% of their resources on general public fixed-route service, compared with Bis-Man Transit, which spends about 36% of operating dollars on fixed-route transit services.

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Figure 9-1 Peer Transit Systems vs. Transit in Bismarck-Mandan: Resource Allocation, Operating Cost, and Ridership Comparisons between Fixed-Route and Paratransit Services, 2010

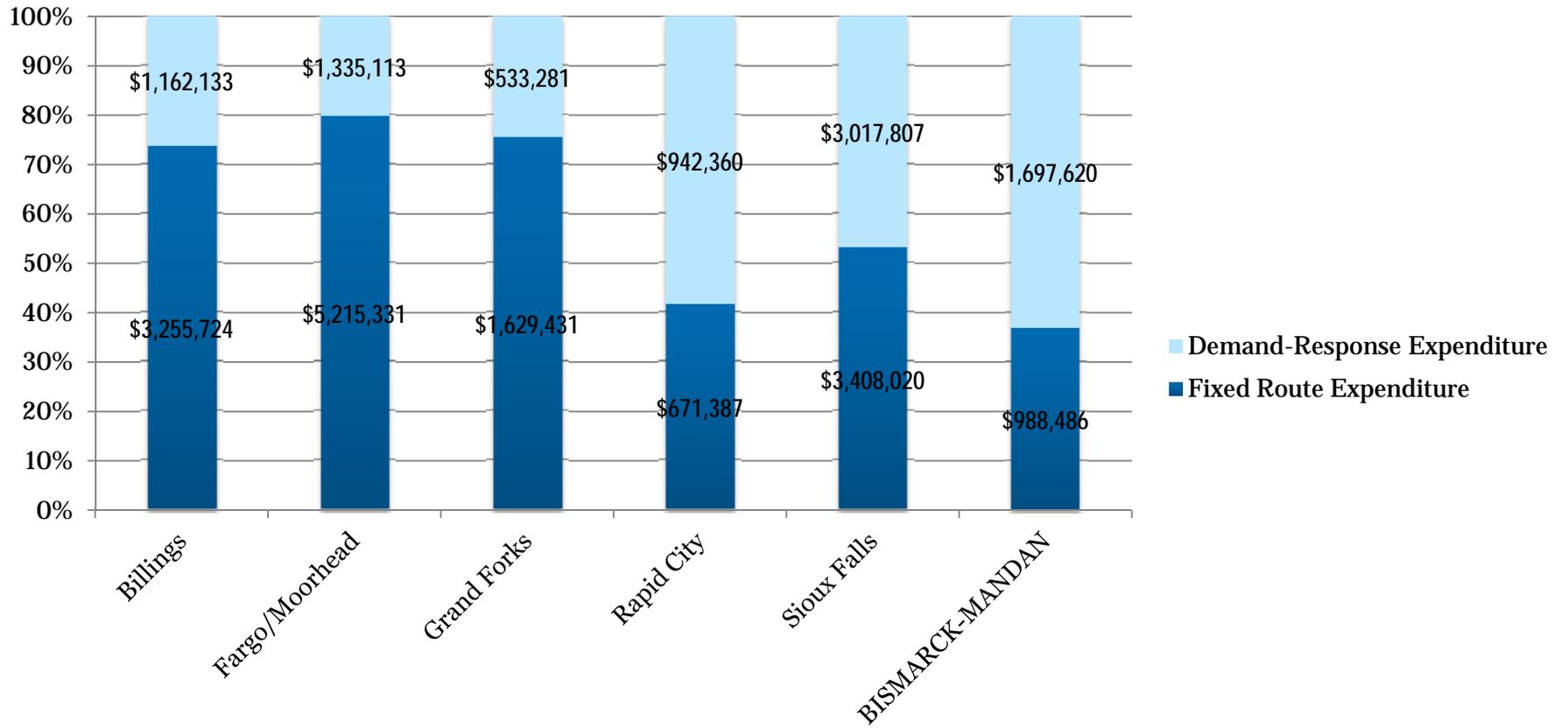
Peer City	Fixed Route					Paratransit				
	Operating Costs	Ridership	Op. Cost/ Capita	Ridership/ Capita	Op. Cost/Pass.	Operating Costs	Ridership	Op. Cost/ Capita	Ridership/ Capita	Op. Cost/ Pass.
Billings <i>Pop: 100,317</i>	\$3,255,724	675,340	\$32.45	6.7	\$4.82	\$1,162,133	59,976	\$11.58	0.6	\$19.38
Fargo/Moorhead <i>Pop: 142,477</i>	\$5,215,331	1,872,630	\$36.60	13.1	\$2.79	\$1,335,113	62,539	\$9.37	0.4	\$21.35
Grand Forks <i>Pop: 56,573</i>	\$1,629,431	271,704	\$28.80	4.8	\$6.00	\$533,281	61,630	\$9.43	1.1	\$8.65
Rapid City <i>Pop: 66,780</i>	\$671,387	231,150	\$10.05	3.5	\$2.90	\$942,360	71,780	\$14.11	1.1	\$13.13
Sioux Falls <i>Pop: 124,269</i>	\$3,408,020	927,282	\$27.42	7.5	\$3.68	\$3,017,807	127,075	\$24.28	1.0	\$23.75
Bismarck-Mandan <i>Pop: 74,991</i>	\$988,486	131,601	\$13.18	1.8	\$7.51	\$1,697,620	170,251	\$22.64	2.3	\$9.97



Source: National Transit Database 2010

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Figure 9-2 Peer Transit Systems vs. Transit in Bismarck-Mandan: Resource Allocation: Fixed Route and Demand-Response Expenditures Compared, 2010



Source: National Transit Database 2010

STATUS QUO AND EXPANSION SCENARIOS

Operating and capital costs have been projected for the next five years under two different scenarios. A summary of the two scenarios for both paratransit and fixed-route service is described below, followed by a review of the assumptions and corresponding costs. Year-by-year service levels and the corresponding capital needs are described to provide an understanding of enhanced service levels for the unconstrained expansion scenario. Throughout this chapter, annual costs are estimated based on actual and projected cost per revenue hour.

Status Quo Service: This scenario, assumes that there are no changes made to the overall budgets or allocation between modes, apart from inflationary factors.

Assumptions

The major assumptions in estimating service costs are:

- Service hours do not increase or decrease on Bis-Man Paratransit or CAT.
- Baseline operating and revenue costs are based on the report submitted by Bis-Man Transit to the National Transit Database for the year 2010.
- System-wide operating budgets show very modest growth to reflect inflation.
- Ridership continues along the same trajectory of the past five years, with small declines in paratransit and small increases in fixed-route service, largely due to modifications to the CAT service network. Ridership declines slightly on both modes as fares are increased in 2016.
- Fares will increase in 2016 from \$2.50 to \$3.00 on Bis-Man Paratransit, and from \$1.25 to \$1.50 on CAT. Transit agencies are encouraged to reconsider their fares at least once every five years to ensure they achieve cost recovery targets.
- The City of Bismarck's mill levy contribution will grow approximately \$15,000 to \$20,000 per annum, while Mandan's will grow at an annual rate of approximately 3%.

Expansion Service: This scenario, also known as the recommended Significant Revisions alternative, reflects the study's key recommendations that steps be taken to encourage greater use of fixed-route service, and a steady lessening of reliance on paratransit service. In addition, fixed-route service will increase significantly in 2013, and routes are proposed to be added to Lincoln and the University of Mary in 2016.

Assumptions

The major assumptions in estimating service costs are:

- Service hour assumptions are based on implementation of the recommended routes at the improved headways, with full implementation of the recommended fixed-route services in 2013 and a reduction in paratransit service hours based on the recommendations in Chapter 8.
- The fixed-route operating budget shows a dramatic increase in 2013 as the study's recommendation for a major increase in vehicle service hours (VSHs) is implemented, with an additional increase of 3,750 annual VSHs in 2016 due to the addition of service to Lincoln and the University of Mary.
- Fixed-route ridership continues along the same trajectory of the past five years until 2013 (with a slight acceleration due to service restructuring), when ridership increases substantially due to the expansion of service. Ridership declines slightly due to a recommended fare increase in 2016.
- Paratransit ridership shows a slow decline of 2% until 2013, when steps are taken to encourage greater use of the expanded fixed-route service. At that point paratransit ridership declines by 6% per annum.
- Fares will increase in 2016 from \$2.50 to \$3.00 on Bis-Man Paratransit, and from \$1.25 to \$1.50 on CAT. Transit agencies are encouraged to reconsider their fares at least once every five years to ensure they achieve cost recovery targets.
- The City of Bismarck's mill levy contribution will grow approximately \$15,000 to \$20,000 per annum, while Mandan's will grow at an annual rate of approximately 3%.
- Revenues from the FTA 5307 formula-funded program will grow steadily to reflect annual population growth of approximately 1.5% in Bismarck and 1% in Mandan.

Operating Costs

Based on the assumptions above, operating costs have been projected for fixed-route and paratransit service separately. Costs are based on 2010 baseline figures from the National Transit Database (NTD) submitted by Bis-Man Transit to the Federal Transit Administration. 2012 is considered the base year for the five year projections, which span 2013 to 2017. Key trends in operating costs that emerge from the assumptions listed above include the following (figures rounded for ease of reading):

- Operating costs for Bis-Man Paratransit will increase from \$1,826,000 in 2013 to \$2,056,0700 under the Status Quo scenario (12.6%), and decrease from \$1,717,300 to \$1,573,000 under the Expanded scenario in 2017 (8%), reflecting the shift in VSHs from Bis-Man Paratransit to CAT.
- Operating costs for CAT will increase from \$1,133,700 in 2013 to \$1,276,000 in 2017 under the Status Quo (12.6%), and from \$1,799,100 to \$2,266,800 under the Expanded scenario (26%) between 2013 and 2017.

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Figure 9-3 Operating Costs and Revenue Projections, Scenario 1: Status Quo

Operating Costs	2012	2013	2014	2015	2016	2017
Service Hours						
Bis-Man Paratransit	45,732	45,732	45,732	45,732	45,732	45,732
CAT	19,787	19,787	19,787	19,787	19,787	19,787
Total Service Hours	65,519	65,519	65,519	65,519	65,519	65,519
Operating Service Costs						
Bis-Man Paratransit	\$1,773,212	\$1,826,408	\$1,881,200	\$1,937,636	\$1,995,765	\$2,055,638
CAT	\$1,100,712	\$1,133,734	\$1,167,746	\$1,202,778	\$1,238,861	\$1,276,027
Total Operating Costs	\$2,873,924	\$2,960,142	\$3,048,946	\$3,140,414	\$3,234,627	\$3,331,666
Operating Revenues						
FTA Urbanized Area Formula 5307	\$994,331	\$1,009,246	\$1,024,385	\$1,039,750	\$1,055,347	\$1,071,177
FTA JARC 5316	\$28,109	\$28,952	\$29,820	\$30,715	\$31,636	\$32,586
State Aid Funds	\$324,137	\$333,861	\$343,877	\$354,193	\$364,819	\$375,763
Other Transportation Revenues, including Medical Assistance Funds, Advertising revenues, Park and Ride, Local Funds	\$348,299	\$358,748	\$369,510	\$380,596	\$392,014	\$403,774
Bismarck Mill Levy	\$605,846	\$623,846	\$641,846	\$659,846	\$677,846	\$695,846
Mandan Mill Levy	\$108,618	\$111,877	\$115,233	\$118,690	\$122,251	\$125,918
Paratransit Fare Revenues	\$393,214	\$381,417	\$366,161	\$347,853	\$326,981	\$353,140
CAT Fare Revenues	\$71,370	\$74,939	\$79,435	\$84,996	\$90,945	\$117,865
Subtotal Operating Revenues	\$2,873,924	\$2,922,885	\$2,970,267	\$3,016,638	\$3,061,839	\$3,176,069
<i>Additional Funds Required to Balance the Budget</i>	<i>\$0</i>	<i>\$37,256</i>	<i>\$78,679</i>	<i>\$123,776</i>	<i>\$172,788</i>	<i>\$155,596</i>
Total Operating Revenues	\$2,873,924	\$2,922,885	\$2,970,267	\$3,016,638	\$3,061,839	\$3,176,069

See assumptions on Page 9-5. Annual costs are estimated based on actual and projected cost per revenue hour, using an inflation rate of 3% annually. Ridership based on past five-year trend. Information from Bis-Man Transit, City of Bismarck, City of Mandan.

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Figure 9-4 Operating Costs and Revenue Projections, Scenario 2: Expanded Service

Operating Costs	2012	2013	2014	2015	2016	2017
Service Hours						
Bis-Man Paratransit	45,732	43,000	41,000	39,000	37,000	35,000
CAT	19,787	31,400	31,400	31,400	35,150	35,150
Total Service Hours	65,519	74,400	72,400	70,400	72,150	70,150
Operating Service Costs						
Bis-Man Paratransit	\$1,773,212	\$1,717,300	\$1,686,548	\$1,652,406	\$1,614,697	\$1,573,238
CAT	\$1,100,712	\$1,799,123	\$1,853,096	\$1,908,689	\$2,200,737	\$2,266,759
Total Operating Costs	\$2,873,924	\$3,516,422	\$3,539,644	\$3,561,095	\$3,815,434	\$3,839,997
Operating Revenues						
FTA Urbanized Area Formula 5307	\$994,331	\$1,009,246	\$1,024,385	\$1,039,750	\$1,055,347	\$1,071,177
FTA JARC 5316	\$28,109	\$28,952	\$29,820	\$30,715	\$31,636	\$32,586
State Aid Funds	\$324,137	\$333,861	\$343,877	\$354,193	\$364,819	\$375,763
Other Transportation Revenues, including Medical Assistance Funds, Advertising revenues, Park and Ride, Local Funds	\$348,299	\$358,748	\$369,510	\$380,596	\$392,014	\$403,774
Bismarck Mill Levy	\$605,846	\$623,846	\$641,846	\$659,846	\$677,846	\$695,846
Mandan Mill Levy	\$108,618	\$111,877	\$115,233	\$118,690	\$122,251	\$125,918
Paratransit Fare Revenues	\$393,214	\$369,621	\$347,444	\$323,123	\$297,273	\$321,055
CAT Fare Revenues	\$71,370	\$113,258	\$188,400	\$213,520	\$268,898	\$284,715
Subtotal Operating Revenues	\$2,873,924	\$2,949,408	\$3,060,515	\$3,120,433	\$3,210,082	\$3,310,833
<i>Additional Funds Required to Balance the Budget</i>	<i>\$0</i>	<i>\$567,014</i>	<i>\$479,130</i>	<i>\$440,662</i>	<i>\$605,351</i>	<i>\$529,164</i>
Total Operating Revenues	\$2,873,924	\$2,949,408	\$3,060,515	\$3,120,433	\$3,210,082	\$3,310,833

See assumptions on Page 9-6. Annual costs are estimated based on actual and projected cost per revenue hour, using an inflation rate of 3% annually. Ridership based on past five-year trend, but slightly accelerated increase in CAT and decrease in Bis-Man Paratransit as CAT routes are restructured starting in 2013, and bigger decrease in 2016 due to fare increase. Information from Bis-Man Transit, City of Bismarck, City of Mandan.

Operating Revenues

In order to determine the increased funding that would need to be generated to meet the gap under both the Status Quo and the Expanded funding scenarios, the two tables show operating revenues held steady, except for inflationary increases, and increased grant funding for FTA Section 5307, which is partly based on population growth. In addition, fare revenues reflect changes in ridership due to changes in VSHs and due to fare increases in 2016. Thus, Bis-Man Paratransit fare revenues decrease slowly in both scenarios until 2016, when they increase due to the fare increase, but never fully recover to the 2010 level. CAT fare revenues grow slowly under the Status Quo scenario until a slightly greater increase due to the fare change in 2016. However, under the Expanded scenario, CAT fare revenues are much higher in 2013 than 2012 due to the rapid expansion in VSHs, and then grow again in 2016 due to the fare increase. The projected CAT fare revenues in 2017 are about 200% higher than the 2010 levels.

A breakdown of the funding sources currently in place is provided below:

Federal Funds

The Federal Transportation Bill which passed in 2005 is known as the “Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users “SAFETEA-LU” and was originally set to expire in 2009; however it has been extended until a new federal transportation bill is approved.

- *Section 5307 Urban Area Funds* - Urbanized areas with populations over 50,000 or more are eligible to receive formula funding through the Section 5307 urbanized area grant program. Section 5307 funding apportionments, can be used for both capital and preventive maintenance of the fleet. Transit related capital projects are eligible and typically fund 80% of projects. In 2010, Bis-Man Transit received \$965,159 in Section 5307 funds.
- *FTA Section 5316 Job Access and Reverse Commute (JARC) Program* - The purpose of the JARC program is to fund local programs that offer job access services for low-income individuals. JARC funds are distributed to states on a formula basis, depending on that state’s rate of low-income population, and then are awarded within individual states following a competitive process. JARC funds will pay for up to 50% of operating costs and 80% for capital costs. In 2010, \$26,495 in JARC operating funds were received by Bis-Man Transit.
- *FTA Section 5317 New Freedom Program* -The New Freedom formula grant program aims to provide additional tools to overcome existing barriers facing Americans with disabilities seeking integration into the workforce and full participation in society. New Freedom funds are awarded following a competitive process, and are available for capital and operating expenses that support new public transportation services and alternatives, beyond those required by the ADA, that are designed to assist individuals with disabilities with accessing transportation services, including transportation to and from jobs and employment support services. While no 5317 funds were received in 2010, this source is included in potential funding under future scenarios. The same match requirements for JARC apply to the New Freedom Program.
- *State Aid* - In 2010 the state of North Dakota provided \$305,530 in operating funds to Bis-Man Transit.

- *Local City Contributions* - Both the City of Bismarck and the City of Mandan contribute revenues generated by a local mill levy. The city's respective contributions in 2010 were \$570,000 and \$102,000. For purposes of future projections, these two sources are expected to grow about \$15,000 to \$20,000 per annum in the case of Bismarck, and about 3% per annum for Mandan.
- *Other Transportation Funds* - These include local organizations in addition to advertising revenue. Local organizations that contributed in 2010 included RSVP, Mandan Golden Age, Burleigh County Senior Center, United Way and Medical Assistance. Total contributions in 2010 were approximately \$320,000, but these may have partially contributed to capital purchases, so this number has been reduced for budget balancing purposes.

Performance Indicators

Figures 9-5 through 9-8 present performance indicators for Bis-Man Paratransit and CAT in both the Status Quo and the Expanded scenarios. Highlights from these tables are presented as well:

Status Quo – CAT Service

- Operating cost per hour increases from \$57.30 to \$64.49 in 2017, reflecting 3% annual inflation increases.
- The cost per passenger decreases from \$7.81 to \$6.71, due to the minor service restructuring that results in an increase in ridership.
- Based on ridership growth assumptions of five percent in 2013, six percent in 2014 and seven percent annually beginning in 2017, productivity increases from 7.3 to 9.6 passengers per hour, which is an improvement but still below industry standards.
- The fare recovery ratio increases from 6.6% to 9.2%, again, still well below industry standards.
- The subsidy per passenger decreases from \$7.30 to \$6.09 due to the increased ridership.

Status Quo – Bis-Man Paratransit

- Operating costs per hour increase slowly to reflect inflation, from \$39.94 per hour in 2013, to \$44.95 in 2017
- Operating costs per passenger increase more significantly, from \$11.42 in 2013 to \$16.66. This is due to the fact that ridership drops due to past trends and increased attractiveness of fixed-route due to minor route restructuring.
- Productivity decreases slowly, from 3.5 passengers per hour in 2013 to 3.0 in 2016 due to gradual ridership shifts to fixed-route service, and then to 2.7 in 2017 due to the fare increase the previous year (assumes a decrease of three percent in 2013 to nearly 10% in 2017). In addition, some of the trips that are lost to fixed-route are the shorter and more easily provided trips that tend to boost productivity.
- Farebox recovery ratio drops steadily as ridership declines while VSHs are held steady. The ratio drops from 20.9% in 2013, to 17.2% in 2017, which is still consistent with industry standards.
- Subsidy per passenger increases from \$9.04 in 2013 to \$13.80. This is due to the spreading of costs over a smaller passenger base.

Figure 9-5 CAT Performance Indicators (Status Quo)

Operating and Financial Projections	2012	2013	2014	2015	2016	2017
Operating Costs (1)	\$1,100,712	\$1,133,734	\$1,167,746	\$1,202,778	\$1,238,861	\$1,276,027
Service Hours	19,787	19,787	19,787	19,787	19,787	19,787
Ridership (2)	138,218	145,129	153,836	164,605	176,127	190,217
Passenger Fare Revenues (3)	\$71,370	\$74,939	\$79,435	\$84,996	\$90,945	\$117,865
Performance Indicators	2012	2013	2014	2015	2016	2017
Cost/Hour	\$55.63	\$57.30	\$59.02	\$60.79	\$62.61	\$64.49
Cost/Passenger	\$7.96	\$7.81	\$7.59	\$7.31	\$7.03	\$6.71
Passengers/Hour	7.0	7.3	7.8	8.3	8.9	9.6
Farebox Recovery Ratio	6.5%	6.6%	6.8%	7.1%	7.3%	9.2%
Subsidy/Passenger	\$7.45	\$7.30	\$7.07	\$6.79	\$6.52	\$6.09
Fare Revenue per Passenger	\$0.52	\$0.52	\$0.52	\$0.52	\$0.52	0.62

Figure 9-6 Bis-Man Paratransit Performance Indicators (Status Quo)

Operating and Financial Projections	2012	2013	2014	2015	2016	2017
Operating Costs (1)	\$1,773,212	\$1,826,408	\$1,881,200	\$1,937,636	\$1,995,765	\$2,055,638
Service Hours	45,732	45,732	45,732	45,732	45,732	45,732
Ridership (2)	164,855	159,909	153,513	145,837	137,087	123,378
Passenger Fares Revenues (3)	\$393,214	\$381,417	\$366,161	\$347,853	\$326,981	\$353,140
Performance Indicators	2012	2013	2014	2015	2016	2017
Cost/Hour	\$38.77	\$39.94	\$41.14	\$42.37	\$43.64	\$44.95
Cost/Passenger	\$10.76	\$11.42	\$12.25	\$13.29	\$14.56	\$16.66
Passengers/Hour	3.6	3.5	3.4	3.2	3.0	2.7
Farebox Recovery Ratio	22.2%	20.9%	19.5%	18.0%	16.4%	17.2%
Subsidy/Passenger	\$8.37	\$9.04	\$9.87	\$10.90	\$12.17	\$13.80
Avg Fare Collected/Passenger	\$2.39	\$2.39	\$2.39	\$2.39	\$2.39	\$2.86

Expanded Scenario – CAT Service

- The recommended Expanded Scenario assumes service recommendations in Chapter 8 are implemented, with more direct routes and improved headways. This does not assume longer hours or the addition of Sunday service. Operating costs per hour are held steady between scenarios and do not account for any costs that might be associated with a new centralized transit facility (would largely be capital costs but are not assumed as an expenditure in this five-year plan).

- The cost per passenger decreases from \$8.20 in 2013 to \$6.96 in 2016, but then increases slightly to \$7.17 as ridership drops off in 2017 due to the fare increase.
- Productivity increases along similar lines to the Status Quo scenario (from 7 to 9 passengers per hour). Even though ridership expands significantly, so does the number of VSHs required to generate the increased ridership.
- The fare recovery ratio increases from 6.3% to over 10% as more riders pay the full fare and as fares increase in 2016.

Expanded Scenario – Bis-Man Paratransit

- Operating costs per hour under this scenario are held constant in order to determine the effects of the other changes under service expansion, and therefore replicate the costs cited above.
- Operating costs per passenger increase from \$11.08 to \$14.03, which is a smaller increase than the Status Quo scenario due to the slow shifting of VSH to fixed-route service.
- Passengers per hour drops from 3.6 to 3.2 as the decline in ridership is faster than the decline in VSHs.
- Although the farebox recovery ratio declines slowly from 2013 to 2016, the figure for 2017 (20.4%) is almost the same as for 2013 (21.5%) due to the fare increase in 2016.
- The subsidy per passenger increases from \$8.70 to \$11.16, due to the declining ridership, particularly after the 2016 fare increase.

Figure 9-7 CAT Performance Indicators (Expanded Scenario)

Operating and Financial Projections	2012	2013	2014	2015	2016	2017
Operating Costs (1)	\$1,100,712	\$1,799,123	\$1,853,096	\$1,908,689	\$2,200,737	\$2,266,759
Service Hours	19,787	31,400	31,400	31,400	35,150	35,150
Ridership (2)	138,218	219,338	251,200	266,900	316,350	316,350
Passenger Fare Revenues (3)	\$71,370	\$153,536	\$188,400	\$213,520	\$268,898	\$284,715
Performance Indicators	2012	2013	2014	2015	2016	2017
Cost/Hour	\$55.63	\$57.30	\$59.02	\$60.79	\$62.61	\$64.49
Cost/Passenger	\$7.96	\$8.20	\$7.38	\$7.15	\$6.96	\$7.17
Passengers/Hour	7.0	7.0	8.0	8.5	9.0	9.0
Farebox Recovery Ratio	6.5%	8.5%	10.2%	11.2%	12.2%	12.6%
Subsidy/Passenger	\$7.45	\$7.50	\$6.63	\$6.35	\$6.11	\$6.27
Fare Revenue per Passenger	\$0.52	\$0.70	\$0.75	\$0.80	\$0.85	\$0.90

Figure 9-8 Bis-Man Paratransit Performance Indicators (Expanded Scenario)

Operating and Financial Projections	2012	2013	2014	2015	2016	2017
Operating Costs (1)	\$1,773,212	\$1,717,300	\$1,686,548	\$1,652,406	\$1,614,697	\$1,573,238
Service Hours	45,732	43,000	41,000	39,000	37,000	35,000
Ridership (2)	164,855	154,963	145,666	135,469	124,631	112,168
Passenger Fares Revenues (3)	\$393,214	\$369,621	\$347,444	\$323,123	\$297,273	\$321,055
Performance Indicators	2012	2013	2014	2015	2016	2017
Cost/Hour	\$38.77	\$39.94	\$41.14	\$42.37	\$43.64	\$44.95
Cost/Passenger	\$10.76	\$11.08	\$11.58	\$12.20	\$12.96	\$14.03
Passengers/Hour	3.6	3.6	3.6	3.5	3.4	3.2
Farebox Recovery Ratio	22.2%	21.5%	20.6%	19.6%	18.4%	20.4%
Subsidy/Passenger	\$8.37	\$8.70	\$9.19	\$9.81	\$10.57	\$11.16
Avg Fare Collected/passenger	\$2.39	\$2.39	\$2.39	\$2.39	\$2.39	\$2.86

Steps Required to Balance the Budget under Status Quo and Expanded Scenarios

As expected, and as indicated in the following tables, the gap between operating revenues and costs is significantly greater under the Expansion scenario than under the Status Quo. This is primarily due to the substantial increase in CAT VSHs in the Expansion scenario.

Figure 9-9 Revenue Gap (Status Quo)

	2012	2013	2014	2015	2016	2017
Total Operating Costs	\$2,873,924	\$2,960,142	\$3,048,946	\$3,140,414	\$3,234,627	\$3,331,666
Subtotal Operating Revenues	\$2,873,924	\$2,922,885	\$2,970,267	\$3,016,638	\$3,061,839	\$3,176,069
<i>Additional Funds Required to Balance the Budget</i>	\$0	\$37,256	\$78,679	\$123,776	\$172,788	\$155,596
Total Operating Revenues	\$2,873,924	\$2,922,885	\$2,970,267	\$3,016,638	\$3,061,839	\$3,176,069

Figure 9-10 Revenue Gap (Expanded Scenario)

	2012	2013	2014	2015	2016	2017
Total Operating Costs	\$2,873,924	\$3,516,422	\$3,539,644	\$3,561,095	\$3,815,434	\$3,839,997
Subtotal Operating Revenues	\$2,873,924	\$2,949,408	\$3,060,515	\$3,120,433	\$3,210,082	\$3,310,833
<i>Additional Funds Required to Balance the Budget</i>	\$0	\$567,014	\$479,130	\$440,662	\$605,351	\$529,164
Total Operating Revenues	\$2,873,924	\$2,949,408	\$3,060,515	\$3,120,433	\$3,210,082	\$3,310,833

Funding from the City of Lincoln and University of Mary

The tables above incorporate the increased VSHs required to provide service to the City of Lincoln and the University of Mary in 2016. They do not reflect the additional fare revenues or contributions from Lincoln or the University.

The annual cost of providing service to the City of Lincoln and to University of Mary under the Expanded Scenario is expected to be approximately \$80,000 and \$160,000 respectively. In order to cover these costs, the City of Lincoln can be requested to contribute a portion of the \$80,000 for trips to and from Lincoln, less fare revenues.

University of Mary and Bismarck State College U-Pass

Rather than rely on fare revenues for trips on the new route to the University of Mary, an alternative approach that is likely to generate additional revenues and ridership would be the adoption of a university fare pass, or U-Pass, as has been adopted in many cities throughout the

U.S. This could be done as a joint effort with Bismarck State College (BSC) and a number of other institutions of higher learning in the region.

In general, partnerships between public transit systems and colleges are beneficial to both parties as a way to increase transit ridership and offer greater mobility to students, faculty, and staff at a discounted fare. Entering into formal written agreements is an effective method of structuring these partnerships to ensure the transit agency is getting its “fair share” of revenue and those affiliated with the local college are receiving good service and a discounted fare. While the specific agreements differ between communities, there are significant benefits gained from these partnerships: in addition to increasing the connections between colleges and surrounding communities, they provide financial support to transit agencies that serve students, faculty, and staff as a major component of their ridership base.

Given the presence of UTTC, Rasmussen College, and the two larger institutions of higher learning in the Bis-Man area, the University of Mary and BSC, an opportunity exists to implement transit pass agreements that will deliver a host of benefits to students, and the community as a whole. Figure 9-11 below illustrates the level of transit service currently provided to the two larger institutions, together with the availability of free parking, which impacts the potential for transit usage in the area.

Figure 9-11 Educational Institutions and Transit

Educational Institution	Number of Students	Bus Routes serving Campus (within ¼ mile)	Parking on Campus?	Daily charge for parking on campus
Bismarck State College	4,177 credit students 2010 (2008: 1,296 part time, 2,492 full time)	CAT, 4 routes: D-1, D-2, M-1, M-2	yes	No daily charge (included in student fee)
University of Mary	1,700 (approximately 800 live on campus)	None	yes	Free
University of Mary downtown satellite campus	See above; this campus holds Evening classes	CAT, 8 routes: A-1, A-2, B-1, B-2, E-2, E-1, M-1, M-2	yes	Free

The most common arrangement from the experience in other cities is that students, faculty, and staff are able to board public transit buses free of charge, after either presenting a valid college ID card to a driver or swiping it through a farebox. The college is then either invoiced directly by the transit agency based on the number of boardings, or makes an annual payment to the transit agency based on multi-year ridership averages. To cover costs incurred by the college, a student transit fee is charged as part of regular tuition or other fees.

Closing Remaining Gaps Through Bis-Man Paratransit Policy Changes

In order to close the gap that remains after taking into account Lincoln and U-Pass revenues, a number of steps can be taken to modify Bis-Man Paratransit service policies, as described earlier in this report. These include the following:

- Strategy A: Limiting Bis-Man Paratransit service to those who are ADA-paratransit eligible
- Strategy B: Modifying Bis-Man Paratransit service hours to parallel CAT service hours
- Strategy C: Doubling the fare for non-ADA paratransit eligible riders on Bis-Man Paratransit service

The following figures show the estimated vehicle service hours (VSHs) that would become available as a result of each of these strategies. These should be viewed in the context of the additional 11,613 hours that will be needed to implement the substantial changes to the CAT system in 2013, as outlined in previous chapters. The strategies can be implemented in various combinations, and only partially implemented or incrementally over a period of years, in order to generate the additional hours required for the recommended Expanded scenario. It should be noted that in each of these tables, the additional service hours and consequent ridership and fare increases are not indicated. These would be on top of the increases shown simply as a result of the changes in Bis-Man Paratransit policies.

Figure 9-12 Strategy A: Limit Service to ADA-Eligible Individuals Only

Service	Total Op Cost	Rev Hours	Cost / Hour	Passengers	Cost per Passenger	Passengers / Hour	Fare Revenues	Avg Fare
Paratransit	\$635,140	17,378	\$36.55	65,228	\$9.74	3.8	\$155,582	\$2.39
Fixed Route	\$1,037,527	19,787	\$52.43	158,296	\$6.55	8.0	\$81,738	\$0.52
Total	\$1,672,667						\$237,320	
Cost less Fare Revenues	\$1,435,347							
Additional Funds Available	\$798,189							
In CAT VSHs	15,223							

Assumes Paratransit Service for ADA-Eligible only (38%), FR productivity re proposed standard

In this strategy, paratransit service is limited to the 38% of riders who are eligible for Bis-Man Paratransit service on the basis of disability, rather than age (Source: Bis-Man Transit). The considerable reduction in Bis-Man Paratransit services would have the following results:

- While Bis-Man Paratransit fare revenues drop considerably due to the decline in ridership, costs drop even more dramatically due to the fact that for each trip eliminated, the cost to provide service is substantially higher than fare revenues for that trip.
- When taking into account the overall reduction in costs from the Status Quo scenario, the difference of approximately \$800,000 represents an additional 15,000 VSHs that could be allocated to CAT service. This strategy alone would suffice to cover the increased costs of CAT service under the Expanded scenario.

Figure 9-13 Strategy B: Eliminate Paratransit service during non-CAT Hours

Service	Total Op Cost	Rev Hours	Cost / Hour	Passengers	Cost per Passenger	Passengers / Hour	Fare Revenues	Avg Fare
Paratransit	\$1,169,536.35	32,000	\$36.55	151,054	\$7.74	4.7	\$360,296	\$2.39
Fixed Route	\$1,037,527	19,787	\$52.43	127,790	\$8.12	6.5	\$65,986	\$0.52
Total	\$2,207,063						\$426,282	
Cost less Fare Revenues	\$1,780,782							
Additional Funds Available	\$452,754							
In CAT VSHs	8,635							
Revenue Hours Reduced Due to elimination of low productive trips	13,732							

Assumes non-CAT hours are very unproductive on Bis-Man - 1.5/hr

Bis-Man Paratransit staff have estimated that approximately 12% of paratransit trips are provided during hours when CAT is not operating. By reducing Bis-Man Paratransit service hours to parallel that of CAT, which is the minimum required under the ADA, following are the key results:

- Even though paratransit ridership is only reduced by 12%, the reduction in VSHs is much greater (approximately 30%) since those trips are very unproductive.
- As a result of the reduction in Bis-Man Paratransit service, sufficient cost reductions are realized to make available 8,635 VSHs for CAT service expansion.

Figure 9-14 Strategy C: Double Fare for non-ADA riders

Service	Total Op Cost	Rev Hours	Cost / Hour	Passengers	Cost per Passenger	Passengers / Hour	Fare Revenues	Avg Fare
Paratransit	\$1,169,536	37,226	\$36.55	139,725	\$9.74	3.8	\$510,965	\$3.66
Fixed Route	\$1,360,538	19,787	\$52.43	137,790	\$8.12	6.5	\$71,150	\$0.52
Total	\$2,530,074						\$582,115	
Cost less Fare Revenues	\$1,947,959							
Additional Funds Available	\$285,577							
In CAT VSHs	5,446							

Assumes 30% reduction in non-ADA riders on paratransit, 10,000 shift to fixed routes

One possible strategy that has been recommended is maintaining the current eligibility policies for Bis-Man Paratransit, but charging individuals who are not ADA-paratransit eligible double the prevailing ADA fares. As a result, non-ADA riders would pay \$5.00 per trip. This strategy assumes that approximately 30% of non-ADA riders will stop riding Bis-Man Paratransit, and about 10,000 of those trips would be shifted onto CAT service. Following are the anticipated results from this strategy:

- The amount of cost savings under this strategy is less significant than the other two strategies, reflecting the fact that the savings are not generated by increased fares so much as by shifting of trips from Bis-Man Paratransit to CAT service.
- An estimated 5,446 CAT VSHs would be available for expanded service.

One of the key recommendations of this report has been the implementation of a more accurate eligibility screening process for Bis-Man Paratransit service. Since this recommendation could be implemented under any of the three scenarios described above, and would have varying effects on each one, the ridership and financial impacts of this strategy are not provided in a separate table. However, it should be noted that more accurate eligibility screening would lead to an even greater shift in ridership to CAT, particularly if this was combined with the provision of travel training and fare incentives for using CAT services. Systems that have introduced in-person assessments for paratransit eligibility have experienced a reduction of 15% to 25% in application volumes, and additional reductions from individuals who do not follow through with the assessment. This self-selection is part of the educational process that potential applicants undergo in which they gain a greater understanding of the intended role of ADA paratransit services as a safety net service, and pursue possibilities of fixed-route service that may not have been previously considered. Combining this strategy with the major improvements to CAT service in 2013 can be particularly effective, so the timing of the two measures should be carefully coordinated.

CAPITAL COSTS

Required Capital Investments

The primary capital needs of Bis-Man Transit are vehicle replacements. Other capital requirements include bus stops and shelters if the routes are restructured as recommended in this report. The capital projects and their costs are presented in Figure 9-15 and discussed below.

Figure 9-15 Five-Year Capital Budget

Capital Expense Item	2013	2014	2015	2016	2017	5-Year Total
Vehicle Replacements (1)	\$0	\$0	\$240,000	\$360,000	\$750,000	\$1,350,000
Bus Stops Signs (2)	\$14,000	\$1,000	\$1,000	\$1,000	\$1,000	\$18,000
Benches & Shelters (3)	\$96,000	\$16,000	\$16,000	\$16,000	\$16,000	\$160,000
Office Equipment Expenses	\$10,000	\$10,000	\$10,000	\$10,000	\$10,000	\$50,000
Miscellaneous Equipment Expenses	\$15,000	\$15,000	\$15,000	\$15,000	\$15,000	\$75,000
Total Capital Expenses	\$135,000	\$42,000	\$282,000	\$402,000	\$792,000	\$1,653,000

(1) Assumes replacement of sixteen paratransit vehicles in 2012 that have exceeded their five year lifespan, and four in 2015 and six in 2016. Three fixed-route vehicles replaced in 2017. Paratransit vehicle cost: \$60,000. Fixed-route vehicle cost: \$250,000/vehicle.

(2) Assumes 70 bus stops in 2013, and 5 per year for remaining years at \$200/stop.

(3) Assumes 12 benches and shelters in 2013, and two annually through 2017, @ \$8,000 per shelter

Vehicle Replacement

Bis-Man Transit’s current fleet (see page 3-2) includes sixteen paratransit vehicles that will have exceeded their five-year lifespan by 2012. For the purposes of this Plan, which uses 2012 as a baseline year, only vehicles beyond 2012 are included in the fleet replacement schedule. These would include the 2009 and newer Chevys, and the 2009 Chrysler T&C. For CAT vehicles, it is assumed that the three Gilligs purchased in 2004 will reach the end of their lifespan in 2017, while the others will not need to be replaced during this Five-Year Plan.

Bus Stops and Shelters

Assuming Bis-Man Transit moves forward with the study's recommendations for restructured CAT routes, the Plan assumes that 70 bus stops with signs will need to be installed in 2013, followed by five per year in the subsequent years of this plan. At the bare minimum, bus stop signs will need to be created and installed and poles will need to be placed to attach the signs if light poles or other poles are not available. Benches at each stop are also desirable. Bis-Man Transit will also want to consider shelters at highly utilized stops. This plan assumes that twelve shelters with benches will be installed in 2013, with two installed annually after that.

Office Equipment Expenses

This is an ongoing expense to replace and upgrade office equipment including computers, hardware, software, and office furniture. Over the next five years, \$10,000 per year is programmed for equipment purchases.

Miscellaneous Equipment Expenses

This is an expense to replace and upgrade maintenance and shop equipment. Over the next five years, \$15,000 per year is programmed for shop equipment upgrades.

Desired Capital Improvements

In addition to the capital requirements discussed, both new technologies and a new transit center should be considered as desirable capital investments that would necessitate additional capital funding. These are costly items and are shown in Figure 9-16, separate from the required capital needs shown in Figure 9-15.

Figure 9-16 Additional Five-Year Capital Improvements

Capital Expense Item	2013	2014	2015	2016	2017	5-Year Total
Technology Purchases (1)	\$0	\$0	\$0	\$825,000	\$425,000	\$1,250,000
Transit Center Design, Environmental Analysis, and Construction (2)	\$0	\$0	\$250,000	\$1,500,000	\$750,000	\$2,500,000
Total Capital Expenses	\$0	\$0	\$250,000	\$2,325,000	\$1,175,000	\$3,750,000

(1) Assumes comprehensive AVL-based operations and information system for a small-medium transit system

(2) Based on peer costs, assumes development of a new transit center, environmental analysis, and construction

Technology Purchases

Investments in new technologies could benefit Bis-Man Transit, particularly for CAT operations and public information. Transit vehicle tracking allows a transit agency to monitor current transit vehicle location using an AVL system. The location data may be used to determine real-time schedule adherence and update the transit system's schedule in real-time. Vehicle position may be determined either by the vehicle (e.g., through GPS) and relayed to the infrastructure or may be determined directly by the communications infrastructure. A two-way wireless communication link with the operations center is used for relaying vehicle position and control measures. Fixed route transit systems may also employ beacons along the route to enable position determination and facilitate communications with each vehicle at fixed intervals. The operations center can process this information, update the transit schedule, and make real-time schedule information available.

Service providers such as NextBus and TransLoc actively manage the reporting of an agency's AVL data and present it to passengers via the Web or mobile phone applications. These services focus on the transit industry and the presentation of location data to the general public, including the maintenance of smartphone apps. Fleet management service providers can process similar data but they have traditionally focused on systems for operations staff, not the public. Zonar, for example, is one provider that offers remote fleet monitoring.

Each of the providers has some reporting capability and their ability to provide performance monitoring and planning-level data on fixed-route schedule adherence should be considered in the final procurement of any system.

A public announcement system can be integrated with an AVL system, enabling stop announcements in accordance with ADA requirements, and allowing Bis-Man Transit staff to place important messages regarding service modifications, public information meetings, promotions, etc.

Costs for a comprehensive AVL system linked to a real-time public information program can exceed \$1.25 million for a system the size of CAT, but the total cost can also be lower, and will depend on the various collection and information components and data reporting capabilities that are purchased as part of the system. For purposes of identifying these potential costs in this plan, \$1.25 million is assumed, with costs programmed over a two-year period beginning in 2016.

Transit Center Development

Chapter 10 presents characteristics and considerations for a new central transit center in Bismarck. The discussion is conceptual and is pending a siting study and further analysis by the MPO, but as a desired capital improvement, a new facility is programmed in this plan, with a cost estimate based on the costs of peer system facility development of \$2.5 million spread over three years for design, environmental review and construction. Actual costs could be much lower for an on-street facility with minimal amenities or higher for a joint development project that includes office space or parking capacity, but for purposes of identifying these potential costs in this plan, \$2.5 million is assumed.

Potential Funding Sources

Discretionary Federal Funds

- *FTA Section 5309* - Capital projects such as transit centers and large bus purchases are often partially funded with federal discretionary funds in Section 5309 Bus and Bus Facility Grants. These funds totaled over \$800 million annually nationwide through the course of the current transportation funding act (SAFETEA-LU). These funds are often “earmarked”, either in the federal transportation funding legislation or in annual appropriations of any unobligated balances. Because these funds are discretionary, they were not included in the funding plan. However, by working with the local congressional delegation to prioritize Bis-Man Transit projects in future appropriations, specific capital needs could be funded with this federal program.
- *Public/Private Partnerships* - Direct or in-kind contributions can provide important marginal support for transit services. It is common, for instance, for retailers and merchants to financially contribute to a local downtown shuttle service, and major employers often contribute significantly to transit linking job sites to major bus connections. These contributions can include direct annual contributions for operating costs, or contribution of capital facilities such as passenger benches and shelters.

SUMMARY AND CONCLUSIONS

This chapter has presented an estimate of the operational and capital costs to implement the recommendations of the Expanded service scenario, together with three recommended changes in Bis-Man Paratransit policies that could help fill the revenue gap when implementing CAT enhancements. It has also identified existing and potential revenue sources to provide the funds needed for capital and operations. To summarize:

- Operating expenses will exceed revenues for combined Bis-Man Paratransit and CAT service by over \$150,000 in 2017, without any expansion of the current service (Status Quo scenario).
- The revenue gap that would need to be filled under the Expanded scenario would reach over \$500,000 by 2017.
- The number of additional vehicle service hours that will be required to provide the restructured fixed-route network in 2013 is approximately 11,600 hours, with an additional 3,750 VSHs to serve the City of Lincoln and the University of Mary in 2016.
- Three different strategies are recommended that will result in a shifting of resources from Bis-Man Paratransit to CAT service. Elimination of paratransit service to those who are not ADA-paratransit eligible will yield the most savings on Bis-Man Paratransit, and will be sufficient to generate enough VSHs to cover all the additional service recommended on the CAT system.
- Providing Bis-Man Paratransit service during the same hours as CAT will also result in cost savings, but not sufficient to cover the revenue gap in the Expanded scenario. This would need to be combined with another strategy.
- Doubling the fares for non-ADA paratransit eligible riders does not yield the same level of savings as the other strategies, as the substantive cost savings derive from actual reduction of paratransit trips, rather than increased fare revenues.

- Implementing an accurate paratransit eligibility screening process would allow Bis-Man Paratransit to achieve a partial shifting of paratransit riders, which would lessen the need to fully implement the other three strategies. Coordinating the implementation of a new eligibility process with the substantial increase in CAT service would be highly desirable for a variety of reasons, both operational and in terms of gaining public goodwill.
- The cost of providing CAT service to Lincoln could be covered in part by contributions from the City.
- The new route to the University of Mary creates an opportunity to consider implementing a U-Pass for all the colleges in the area, which would both boost ridership and generate revenues to cover the additional costs.

10 ADVANCING THE ROLE OF TRANSIT

Several issues are critical to the successful implementation of the recommendations discussed in the Mobility 2017 Plan. Ultimately, the plan recommendations would need to be refined, routes road-tested, and new informational tools and materials would need to be developed. This chapter addresses these other items under the following headings

- Service Planning and Operations
- Central Bismarck Transit Center
- Marketing, Public Information, and Community Engagement

SERVICE PLANNING AND OPERATIONS

Several steps are identified to successfully implement the proposed CAT service changes:

- **Plan Refinement and Achieving Plan Implementation.** Some changes to the Plan may be required as Bis-Man Transit solicits further feedback on the proposed service changes from community members, agencies and transportation providers that might be included in the service strategy. Several steps are required to receive adequate public input on service changes. It is important to understand how Bis-Man Transit responds to that input so that the Transit Board and the MPO Board are comfortable directing staff to implement the service changes recommended in the plan.
- **Key Implementation Considerations.** Many issues that affect the implementation of the recommended service requires careful coordination and planning.
- **Final Running Times for Planned Service Changes.** Run times should be tested in advance of final plan implementation.
- **Start of New Service.** A number of implementation steps are recommended for Bis-Man Transit before implementing the changes to the CAT service.
- **Monitoring After Implementation.** Once the new service is in place, performance should be monitored. Performance should be compared to the recommended performance standards with the understanding that it may take two full years to achieve desired performance levels.

Plan refinement is a multi-stage process that will require Bis-Man Transit to carry out a number of service and operational tasks. Although the consulting team has worked closely with staff and stakeholders from throughout Bismarck-Mandan area to develop a plan that addresses the community objectives, once the plan is carried forward, it will be necessary to confirm community support and buy-off on the specific strategies.

Bis-Man Transit staff is directed to review the components of the recommended service plan and make necessary modifications. This modified service plan should then be presented to the public, City Commissions, the MPO TAC and Board. When Bis-Man Transit eventually approaches

implementation of the recommended service, increasing the frequencies and/or service hours for CAT service and redefining Paratransit's role, further opportunities for public comment are encouraged. Because the preferred service would require increased funding, it is recognized that modifications to the service plan may be required based on reductions in funding for transit due to economic circumstances or other unforeseen cutbacks; significant increases in available funding; new fast-track developments in areas not currently programmed for development; or changes in development in downtown Bismarck (and Mandan, to a lesser extent).

Key Implementation Considerations

To implement the recommended service, there are a number of considerations, particularly for Bis-Man Transit staff.

The Bis-Man Transit Board should identify a specific calendar date for implementation of the adopted recommendations. Many considerations go into this decision. Typically, late summer implementation is ideal for fixed-route operations because drivers can test the service before they encounter school demand and winter weather. Other things that can affect a service implementation date include the delivery of vehicles, installation of bus stops and signage, or the completion of a new transit facility in downtown Bismarck.

Ridership may drop in the first months of redesigned service, but this does not indicate failure. Typically, the shock of a major change causes a small ridership drop, usually less than five percent, before ridership starts to build as the benefits of the new service are noticed.

In addition to a possible ridership drop, some customers may be vocal. Bis-Man Transit should note that complaints do not indicate failure. Those who are inconvenienced by a change will complain at once, while those who benefit will notice the improvements gradually and may never express appreciation. Ridership, after several months, is a better indication than public comment regarding whether the service change is succeeding.

Some service modifications may be identified within the first several months and these minor changes can be implemented within a few months of service initiation. Ridership resulting from new service patterns can take two years to develop, and a complete cycle of seasonal variations must also be observed. It should be noted that service redesigns are irreversible. By the time the system is ready for further redesign, the new system will have been running for a year, memories of the "old" system will be fading, and enough travel patterns will have changed that "going back to the old system" will itself be a disruption to many riders.

Despite potential complaints – even negative statistics in the first months – only three reasons are identified to make service changes in the first year of a major restructuring:

- **Cycle Failure.** If a route is failing to cycle in the scheduled amount of time, causing timed connections to be missed or providing inadequate driver breaks, service may be streamlined to eliminate this problem. Prior to implementing the recommended strategy, Bis-Man Transit staff will have tried to minimize the chances of this by field-testing the plan.
- **Safety.** As always, a safety problem should be corrected immediately. Before implementation, Bis-Man Transit staff will try to minimize the chances of this by field-testing of the plan, and should continue to monitor for safety during implementation steps such as the placement of new bus stops. However, some safety issues are not foreseeable, such as those arising from land use activities that may affect bus stops or movements.

- **Overloads and Pass-ups.** If buses are overloaded, or must pass up passengers due to lack of space, immediate corrective action is required. CAT riders must have confidence that they will be able to board the bus of their choice. Exceptional pass-ups can be covered by the “extra board” of spare drivers and vehicles, or by spare paratransit capacity. Chronic pass-ups may require corrective action such as additional service. While this would be a cost item, CAT should welcome this “embarrassment of riches,” and rush to save the riches and eliminate the embarrassment.

Final Running Times for Planned Service Changes

Running times were initially developed for each of the proposed routes. Preliminary running times were necessary to establish feasible route lengths and headways, key connections, and annual service hours for each proposed route and service strategy. The preliminary running times were calculated by reviewing the existing fixed route schedules (for route segments drawn from the existing system) and from running time calculations made in the field (for new route segments). The field calculations were made by members of the consulting team making several passes over the proposed new route segments and complete routes in an automobile. While the preliminary running time calculations are sufficient to establish estimates of bus service hours and the concept service plans, additional route testing with a bus is required to finalize running times for the development of accurate route schedules and to test the feasibility of turns, planned bus stop locations, transit center circulation, and bus operations along all proposed arterials, residential collectors and private right-of-ways (e.g., Kirkwood Mall).

Start of New Service

The following are the key planning and operations steps that must be completed before the recommended route changes can be implemented:

- Approval of the Mobility 2017 Plan
- Establishment of a workable implementation plan and schedule, including roles and responsibilities
- Establishment of marketing, outreach and staff orientation plans
- Finalization of bus stop locations
- Route testing and finalization
- Bus stop sign installation and curb painting
- Destination sign updating
- Scheduling and shift design
- New operator driving routes (paddles)/instruction sheets
- Staff orientation meetings
- Route brochure update and production
- Implementation of marketing and outreach (public meetings, press releases, public notices/revised service maps in newspapers and outreach on buses and at Kirkwood and Gateway Malls)

Monitoring After Implementation

Once the new service is in place, performance should be monitored. Close attention should also be given to running times, to ensure that the routes are cycling as planned. Small schedule

adjustments, such as shifting a few minutes from one time point to another, are sometimes in order after three months of observations. However, as noted above, no significant changes should be made for one year except in cases of cycle failure, safety problems, or overloads and pass-ups.

As noted above, Bis-Man Transit staff should also anticipate potential ridership drops immediately following a significant service change. Determining how successful a service change is should be based on a review of many service performance factors over a one- to two-year period. These factors include items recommended to be monitored, such as ridership, passengers per hour, and farebox recovery.

CENTRAL BISMARCK TRANSIT CENTER

For the City of Bismarck and CAT, which are interested in building a more viable, safe and pedestrian-friendly downtown, transit can be a valuable tool. Enhanced transit services and amenities can reduce demand for parking, enhance the pedestrian environment (so large pedestrian-unfriendly parking lots can be repurposed), and provide better access to new jobs.

To support this vision, the recommended CAT service alternative assumes a single transit center located in central Bismarck. Because planners and policymakers are anticipating a forthcoming comprehensive plan for downtown Bismarck, it is recommended that the specific location be determined through this planning process as part of a parallel downtown transit center siting study.

While the exact location of a new transit center has not been determined as part of the Transit Development Plan, it is recommended that this facility be located in downtown Bismarck, ideally in the area bound by E. Rosser Avenue, Main Street, N. 7th Street, and N. 4th Street. There are a number of important benefits to locating the transit center in downtown:

- **Allows for timed connections.** Because Bismarck is largely developed in a radial pattern around downtown, a new transit center in this area would allow most routes to be designed so that the round trip travel times are about the same. This ensures that all (or most) routes in Bismarck can be timed from a central point, facilitating connections between routes and minimizing wait times.
- **Provides a comfortable passenger facility.** In addition to the main transfer location between routes, the downtown transit center as envisioned would serve as the most prominent transit facility in the region. As such, it should also include a comfortable, enclosed area for passengers to wait. Typical elements of a downtown transit center are discussed in more detail below.
- **Promotes development and activity in downtown Bismarck.** Transit can and should play a central role in revitalizing downtown Bismarck – both by bringing people downtown and by focusing new development in this area. Transit facilities can also be developed in conjunction with other uses, such as retail, office or housing.
- **Allows the fixed route system to grow.** As envisioned in the recommended service alternative (Option B), a secure and dedicated passenger transfer facility will also ensure that the CAT system is able grow. The current transfer centers at Kirkwood and Gateway Malls are not permanent facilities and are limited in terms of available space.

In the interim, the main transit center in Bismarck is assumed to remain at the north entrance to Kirkwood Mall. If a new transit center is pursued near Kirkwood Mall, some redesign of the driveway is suggested at a minimum, along with securing additional space for transit vehicles.

The need to accommodate additional vehicles for timed transfers between routes would require a larger area than is currently available.

IMPORTANT ELEMENTS OF A DOWNTOWN TRANSIT CENTER

The plan does not require the development of a new transit center in downtown Bismarck, but it is recommended that a new central transit center site be identified and developed. Transit centers can vary widely depending on the size of the transit system and intended function of the facility. The following is a list of elements typically found at medium-sized transit centers and some general guidelines for how those elements could be designed:

- **On- or off-street.** Transit centers can be designed as either on- or off-street, depending on availability of land and right-of-way. While no preference is given to an on-street versus off-street transit facility, any on-street configuration should ensure that passengers do not have to cross the street to access another bus, unless it is located on a transit-only street or with good access to crosswalks. In some cases, physical barriers in the middle of the street can discourage passengers from crossing mid-block at an on-street transit facility. Off-street transit centers are often designed to allow transfers between routes without having to cross the street, but also require the acquisition of property, which is often more valuable in downtown areas. Examples of an on- and off-street facility are in Figure 10-1.

Figure 10-1 Off- and On-Street Transit Centers



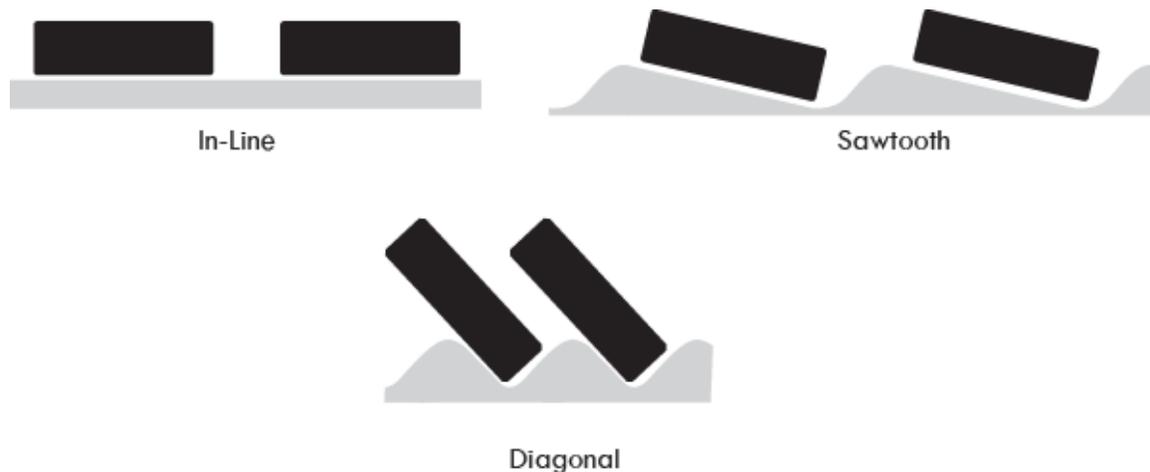
Off-street transit center, Stockton, CA



On-street transit center, Rochester, MN

- **Bus bays.** To ensure adequate space for all vehicles to “pulse” at the transit center, which allows timed connections between all routes, the Bismarck transit center should be designed to accommodate up to nine CAT transit vehicles at one time, in addition to other vehicles (e.g., West River Transit buses, other rural or intercity providers). This assumes all routes operate every 30 minutes (either during peak periods or all day), as presented in the recommended service alternative. Bus bays can be designed in a number of different configurations but are typically designed as in-line, sawtooth or diagonal bays, as shown in Figure 10-2.¹

Figure 10-2 Transit Bus Bay Configurations



NOTE: For illustration purposes only; not to scale.

- **Transit vehicle driveway.** Off-street transit facilities must also include enough right-of-way to allow transit vehicles to circulate within the site, which increases the footprint of the facility. In some cases, the right-of-way required for transit circulation at an off-street transit center can equal or exceed the space needed for other uses.
- **Passenger waiting area.** The transit center should have adequate space for passengers to wait for their bus or get information about CAT. The amount of adequate space can vary, but in Bismarck, it is estimated that an enclosed area that can accommodate as many as 50 people (seated and standing) would be appropriate. The windows and doors to the boarding/alighting area should be designed to allow passengers to easily see approaching vehicles, and to ensure “eyes on the street.” This could also be accomplished through real-time passenger information displays.
- **Staffed fare vending and information booth.** As the main transit facility for the CAT system, the transit center would ideally include a staffed ticket and information booth. On-site staff would be able to sell all fare media, provide general information about CAT, and/or help people navigate the system. This could be a relatively small office with a window.

¹ Diagonal bus bays require vehicles to back up while in-line and sawtooth bays do not.

- **Signage and passenger information.** This includes maps, schedules and any other information that helps passengers better navigate and understand the system. Take-away items such as maps and brochures would ideally be located in an enclosed area, but maps and schedules should also be posted outside in the passenger boarding areas for easy reference.
- **Optional elements.** There are a number of other elements that could be incorporated into the design of the transit center. None of the elements listed below are critical to the success of the facility, but do help improve the experience of using transit for all passengers.
 - Bathrooms
 - Security cameras
 - Retail and/or joint development (such as office or residential)
 - Bis-Man Transit operations offices
 - Bis-Man Transit administrative offices

Potential Locations

Several potential locations for a transit center in Bismarck have been identified. While these locations are preliminary and would be studied in detail in the transit center siting study (along with other sites), some examples of potential locations include the following:

On-street options:

- **6th Street between Main and Broadway.** This location has the advantage of good proximity to many downtown destinations and relatively low traffic, but is somewhat constrained in that there are multiple curb cuts on both sides of the block. It is estimated that 6-8 buses could layover here in an on-line configuration but buses would not be able to arrive and depart independently (the bus in front would have to leave first). About eight to 10 on-street parking spaces would need to be removed to accommodate a transit facility here.
- **6th Street between Broadway and Thayer.** This location is on a one-way street in the northbound direction, which limits the flow of transit to only one direction and one side of the street (likely the west side). Disadvantages of this location are the ability to accommodate the estimated 9 buses and the potential removal of about 20 on-street parking spaces.
- **5th Street between Thayer and Rosser.** This location has the advantage of a continuous curb on both sides of the street, which can accommodate an estimated 10 transit vehicles (or more). The major disadvantage with this site is that it is somewhat removed from the center of downtown. It is estimated that 24-26 on-street parking spaces would need to be removed, assuming transit utilizes the entire block on both sides (although it is anticipated that transit would not need the entire length of the block, and perhaps only one side).

Off-street options:

- **Thayer, Broadway, 6th and 5th.** This location includes the existing parking lot on northeast corner of the block. While this location is somewhat constrained in terms of size, the location is very central to the middle of downtown. In addition, the site could be

configured to allow access from 6th Street as well as Thayer Street. A disadvantage of this site is the loss of an estimated 50 parking spaces.

- **Main, Broadway, 6th and 7th.** This location includes the parking lot on the southern half of the block. While the site is also constrained in terms of space, it could be designed to accommodate 6-8 transit vehicles, which would include several on-street bays on Main Street. Another potential disadvantage with the location is access to the site. It is also estimated that an estimated 50 parking spaces would be lost.

MARKETING, PUBLIC INFORMATION, AND COMMUNITY ENGAGEMENT

Marketing provides information to the public about available transportation services. Promotional materials, activities and special events are secondary to the quality of information provided, but can boost ridership and awareness of the transit system. These means of promoting transit service also can heighten the level of interest in the enhanced service.

Existing Resources and Opportunities

Bis-Man Transit provides a number of important marketing tools about its services, particularly for CAT services, which is appropriately the focus of marketing efforts.

System Name

Transit in the Bismarck-Mandan area got its start as a dial-a-ride system and the system was named Bis-Man Transit. Today, the name Bis-Man Transit is used to represent two different things: (1) the name of the agency and (2) the name of the paratransit operation. Informally, paratransit within the agency is referred to as 'transit', while the fixed routes are referred to as 'the CAT.' To the public, which generally refers to the transit system as Bis-Man Transit, the notion that Bis-Man Transit is actually the paratransit operation and not the fixed route network can be particularly confusing. Staff have made some efforts recently to rebrand the paratransit operation as "Bis-Man Paratransit," but on most vehicles and much of the printed information, the agency does not use the name Paratransit.

Transportation marketing is primarily about providing good information to assure users that they have made the right decision to ride public transit. Another important emphasis of transportation marketing is to attract new riders. The flexible use of the name Bis-Man Transit to represent the agency and the paratransit service affects the public's understanding of CAT. In stakeholder meetings, many of the stakeholders referred to the fixed-route system as Bis-Man Transit, which suggests that the agency is not effectively getting the name CAT in the public eye. In many instances, the consulting team, in intercept surveys and at stakeholder meetings, had to explain the difference between the two services.

This does not happen in other communities. In most communities the fixed route system is the one that has recognition as the primary service and the paratransit operation is secondary. As the system matures, the agency is encouraged to reevaluate the name of the two transit operations. Several alternatives exist to keep the names currently used in one form or another. One option is to keep the agency name Bis-Man Transit (which would eliminate the need to change legal and funding documents, as well as bylaws), keep the name of the fixed-route system CAT, and change

the name of the paratransit operation to CAT Paratransit (or another variant sometimes used for paratransit operations, such as CAT Lift, CAT Access, Dial-a-CAT, etc.).

Some examples where this is done elsewhere are shown in Figure 10-3.

Figure 10-3 Examples of Agencies' Names, including Fixed-Route and Paratransit Operations Names

Agency Name	Fixed Route Operation Name	Paratransit Operation Name
Livermore-Amador Valley Transit Authority (LAVTA)	Wheels	Wheels Dial-a-Ride
Salem-Keiser Transit	Cherriots	CherryLift
Fargo-Moorhead Metro Area Transit (MAT)	MATBUS	MAT Paratransit
Cowlitz Transit Authority	CUBS	CUBS Paratransit
Washington Metropolitan Area Transit Authority (WMATA)	Metrobus	MetroAccess

Another option would be to eliminate the CAT name and refer to the fixed route operation as Bis-Man Transit, with the paratransit operation called Bis-Man Paratransit.

This would accomplish a key goal to make fixed-route transit more relevant in the community and make paratransit a complement to the fixed-route service rather than the other way around.

CAT Brochure

The CAT brochure provides very comprehensive information about the existing routes, schedules, where transfers are made, fares, and the rules and policies governing the system. A lot of information is packed into the handout, which includes Bismarck and Mandan route maps on opposite sides of the fold-out brochure. Staff have noted that a peer review of other maps/brochures was conducted in developing the CAT route map, and the careful effort to detail the existing service is evident.

Stakeholders were asked about the brochure, which was displayed in many of the stakeholder meetings to give individuals an opportunity to review the routes and comment on the system. Unlike many other transit systems, where stakeholders can often interpret how they would use the fixed routes, stakeholders in the Bismarck-Mandan area who were unfamiliar with the routes had a difficult time interpreting the information in the brochure. The consultant's observation was that this was not a result of the way information was portrayed in the brochure and on the map; rather, it was a function of the complexity of existing CAT routes, which operate primarily in one-way loop structures, often not following the most direct routing between key points. Essentially, with a less complex route structure, riders should have an easier time interpreting the information available.

The brochure is updated periodically and distributed at key locations throughout Bismarck and Mandan. The consultant found both cities to be well-covered with copies of the brochure, something most other transit systems are not especially good at doing. One caution for the agency is that a wide distribution network sometimes results in locations displaying older

versions: an older version of the brochure was found at the Chamber of Commerce early in the planning process.

Route Naming and Numbering

The service restructuring recommendations include a discussion of renaming and renumbering the routes. This is due, in part, to the difficulty many individuals have interpreting directions, such as northeast or southwest when thinking about an area in which they will travel. It is also due to the different letter-number combinations which comprise the existing route identification system, which can be confusing to individuals trying to learn the system. Even Bis-Man Transit staff, from time to time in meetings with the consultant, identified routes by the wrong letter-number combination. This suggests that the naming and numbering convention used is not working, making a complex route structure even more difficult to understand.

As discussed in Chapter 7 for the recommended alternative, a more straightforward naming convention would name each route by number and the major streets or neighborhood where the bus travels. This is what is done in most other transit systems; even airlines, trains, and intercity bus lines typically have a number associated with a destination or route. It is recommended that CAT simplify the naming convention for its routes and use new names and numbers consistently on maps, buses, signs, and in all public information tools.

Look of Buses

Both CAT and Bis-Man Paratransit vehicles are attractive and clean. CAT buses have electronic information signs at the front of the vehicle which clearly indicate the route number. Because of the advertising wraps and panels on the buses, most of them do not show a CAT logo or any other identifier to indicate that the bus is a general public service, that it is called CAT, and is different from the paratransit operation. The agency may consider whether full bus wraps are appropriate as the CAT system is trying to build community recognition. Certainly there are advantages of the existing wraps in terms of revenues generated and that, in some cases, they obscure how many people are actually on the buses, hiding from public view routes with especially low passenger loads (a common complaint of transit detractors is that they see empty buses driving about). The disadvantage is that they diminish the utility of the CAT logo and, based on information from stakeholder focus groups in other communities, they can make the bus appear "dark" or "unfriendly" and do not offer riders a sense of the pleasant on-board environment. Some agencies, have limited on-board advertising to side and rear panels, or to wraps that do not obscure logos or windows (except in some cases, the very rear windows of a bus). As the agency seeks greater public support and understanding of what CAT does, it may want to review current exterior advertising programs.

Website

The agency website is attractive, friendly, and easy to understand. The use of some animations and frames may make some of its features inaccessible to people with low vision or blind users who rely on reading software to navigate the site, but a more basic, non-animated version of the page, which could be clicked on from the top navigation bar, could easily be developed to ensure accessibility for all.

When one uses a search engine for transit in the Bismarck-Mandan area, one is directed to www.bismantransit.com. Although the label "Bis-Man Transit" is across the header on the landing page, all of the information on the page refers appropriately to the fixed-route services

operated under the name CAT. Eliminating the Bis-Man Transit logo from the landing page may help users to better understand that, in fact, they are seeking and getting information about CAT.

In general, the website is well organized and has the most useful information available about the system. The fare information is presented in a more straightforward manner on the brochure than on the website, but the route information is very easy to navigate for most users. A trip planning feature allows a user to request trip planning assistance from staff via an email form. CAT has an opportunity to upgrade its trip planning feature with Google Transit, to provide real-time planning information to prospective users both via the Google website and on the CAT website itself.

One caution is that the home page features announcements, some of which can be outdated very quickly. Ensuring the information is kept up-to-date is important for potential new riders as well as existing riders.

Use of Social Media

CAT has a Facebook presence which is updated regularly to reflect rider alerts and special events. Based on the rider survey findings, most of CAT's current riders have access to the internet, though many of them must seek out the internet at the local library and may not have immediate access at home or on their phone. Most Bis-Man Paratransit riders, conversely, do not have internet access.

Opportunities to reach out to potential key ridership markets, especially BSC, UTTC and Rasmussen students, as well as high school students in both Bismarck and Mandan should be further explored because these are groups that most actively use social media and get their information from the internet or via mobile devices. Targeting employees of downtown businesses and major shopping centers in both Bismarck and Mandan can also be done via social media and notices to major employer intranet groups.

Advertising

CAT service is advertised, but the agency should evaluate the effectiveness of the advertising campaign. For most small transit agencies, television and radio ads have little impact unless they are associated with a specific campaign or special event. General advertisements about the availability of service on television and radio usually result in limited utility. Given that the current route structure may not offer much convenience for many potential riders who have other transportation options, CAT advertising at this time is best limited to newspapers, the internet and other print media where detailed information about the available services can be provided.

A critical advertising element will be the unveiling of the new system/route structure. A comprehensive information and advertising campaign is recommended in advance of this, and a special event should be planned to kick-off the new service. Bis-Man Transit's goal in advance of introducing the new service should be to blanket the community with information about the service improvements, especially emphasizing the many advantages of the service.

Travel Training

Bis-Man Transit staff offer travel training for CAT, designed to encourage wary members of the public to use the system or to educate Bis-Man Paratransit riders about the flexibility CAT offers that they do not get when they must call ahead to reserve a ride. Unfortunately, other than that flexibility and a lower fare on CAT than on Paratransit, few incentives exist for individuals to take

more of their trips on fixed routes. The agency is encouraged to continue to offer its personalized travel training program, which should provide greater utility with a revised route network that makes it easier for individuals to do trip planning on their own.

Community Engagement

One of the challenges for Bis-Man Transit, particularly the CAT service, is that many people in the Bismarck-Mandan area appreciate that it exists but do not have a personal stake in transit. Unless they are affiliated with some of the organizations with which Bis-Man Transit has strong relationships in place, they may not even see how transit could be relevant in their own lives.

In many respects, this is due to the fact that transit has been operating independently and has established working and funding relationships primarily with community service and human service agencies. Transit staff are knowledgeable about local events and activities, sit on relevant boards and commissions, and are connected to agencies that serve low-income populations, seniors, and people with disabilities, all of which are key markets for Bis-Man Transit's services. Other potentially valuable partnerships with BSC, the hospitals, transit providers in the region, major employers, and the general public are not as well tapped as they might be.

Engagement with Major Employers

Unlike in larger cities, most large employment sites in the Bismarck-Mandan area are fairly decentralized outside of the downtowns and have ample — usually free — parking for employees. Major employers tend to be located in auto-oriented business parks and along major roadways.

Employers have seen little reason to seek out what services might be available to them from Bis-Man Transit. As a result, Bis-Man Transit has had the challenge of making its CAT services relevant to commuters, especially with the level of investment in fixed-route transit that is currently in place. With implementation of the recommended enhancements to the route structure, better information about potential pre-tax incentives businesses can offer employees, the availability of bicycle racks and access to the trail system, and opportunities for the business community to understand how they can be the direct beneficiaries of transit service, CAT ridership growth potential is good. As ridership markets diversify and grow, and as some major employers have difficulty attracting employees, key messages for major employers should be that CAT wants to work with them to find solutions to save money, improve access for existing and potential employees, and focus on ways to improve the environment and quality of life in the Bismarck-Mandan area. Opportunities to engage employers include any of the following:

- Creation of a major employers advisory council to transit
- Inclusion of major employers on Bis-Man Transit's Board of Directors

There are numerous examples from across the US where incentives have been provided and have successfully built transit ridership. In a number of cities, employers and business offer transit tickets for free or sell transit passes at a discount for use by employees or customers/patrons. For example, Spokane, Washington's downtown parking program also allows for a free one-way ride on any Spokane Transit Authority (STA) bus. Chico, California's downtown business owners are eligible for free transit trips by virtue of the fact that they work downtown. The City of Chico pays the value of the fares to the B-Line Transit System to encourage downtown commuters to take transit. Triangle Transit and the other operators in the Raleigh-Durham-Chapel Hill area work with regional employers to allow them to purchase transit passes at a discount to sell or give to their employees.

- Offering on-site travel training for employees
- Consider offering new services such as carpool matching or a guaranteed ride home program
Meeting with employers to help them initiate pre-tax transit benefits for their employees, parking cash-out programs or other transportation demand management tools
- Offering incentives for major employers to partner (e.g., advertising opportunities in a new shelter installed by an employer, employee bus pass program)

Engagement with the General Public

Much of the general public does not see the value of transit in their daily lives, based on the survey findings. Increased availability of service, routes that are easier to understand, and name recognition/marketing enhancements can help to bridge the gap between the general public and CAT service, but other opportunities exist. Some other transit agencies have sought ways to make transit more relevant by undertaking efforts such as the following, which may be appropriate for CAT:

- **A citizen's advisory committee that represents a diversity of transit markets.** By bringing together major employers, students, commuters, retirees and others to provide input on CAT service and marketing, the agency may be able to better respond to the preferences of the community. Having a diverse mix of "regular people" also provides ambassadors to the public who share a common interest in transit.
- **Maintaining regular information and updates in community newsletters and at community meetings.** People will rarely make an effort to attend a public meeting about a specific topic, but many residents in Bismarck and Mandan participate in neighborhood meetings, attend PTA meetings, and read the emails and newsletters of the organizations that interest them. Focusing resources on providing good information about the availability of transit via avenues that reach interested "citizen participants" should be an objective of Bis-Man Transit.
- **Sponsorship of special events.** CAT buses have been displayed at fairs and festivals, and special free ride events have attracted higher-than-average ridership to CAT. Distribution of free-ride CAT passes as part of the intercept survey effort for this planning process made a lot of survey participants quite excited, and were of inconsequential cost to Bis-Man Transit because many of them were unredeemed. Other than good information and citizen involvement, the use of free rides and sponsorship of special events have proven to be among the most effective marketing tools used by transit agencies.

Engagement with College Students

In most communities with colleges, college students are one of the primary ridership markets. In Bismarck, based on ridership data and stakeholder input, college students represent a very small percentage of riders, with UTTC ridership better than ridership generated by Rasmussen College or BSC. Even with BSC as a current connecting point between services from Bismarck and Mandan, the CAT route structure makes a trip from BSC to points on the south side of Bismarck require two transfers, a significant disincentive for potential riders. Even for students who would receive a single-seat ride or make a one-bus transfer, ridership is still quite low.

Route structure is not BSC's only limitation. Although students are assessed a fee that covers parking costs on campus, the perception does not exist that there is a charge for parking on campus. The campus design is wholly oriented to the automobile and many students are reported to drive from one end of a parking lot to the other to change classes. Bis-Man Transit and the MPO should work with BSC to see if parking charges might be assessed separately for students and staff, which may provide an incentive for transit use, particularly with an improvement in transit service. Likewise, just as the student fee covers parking, which students assume is free to them, the student fee could be increased modestly to include transit access, by which BSC students could receive transit passes for CAT.

CONCLUSION

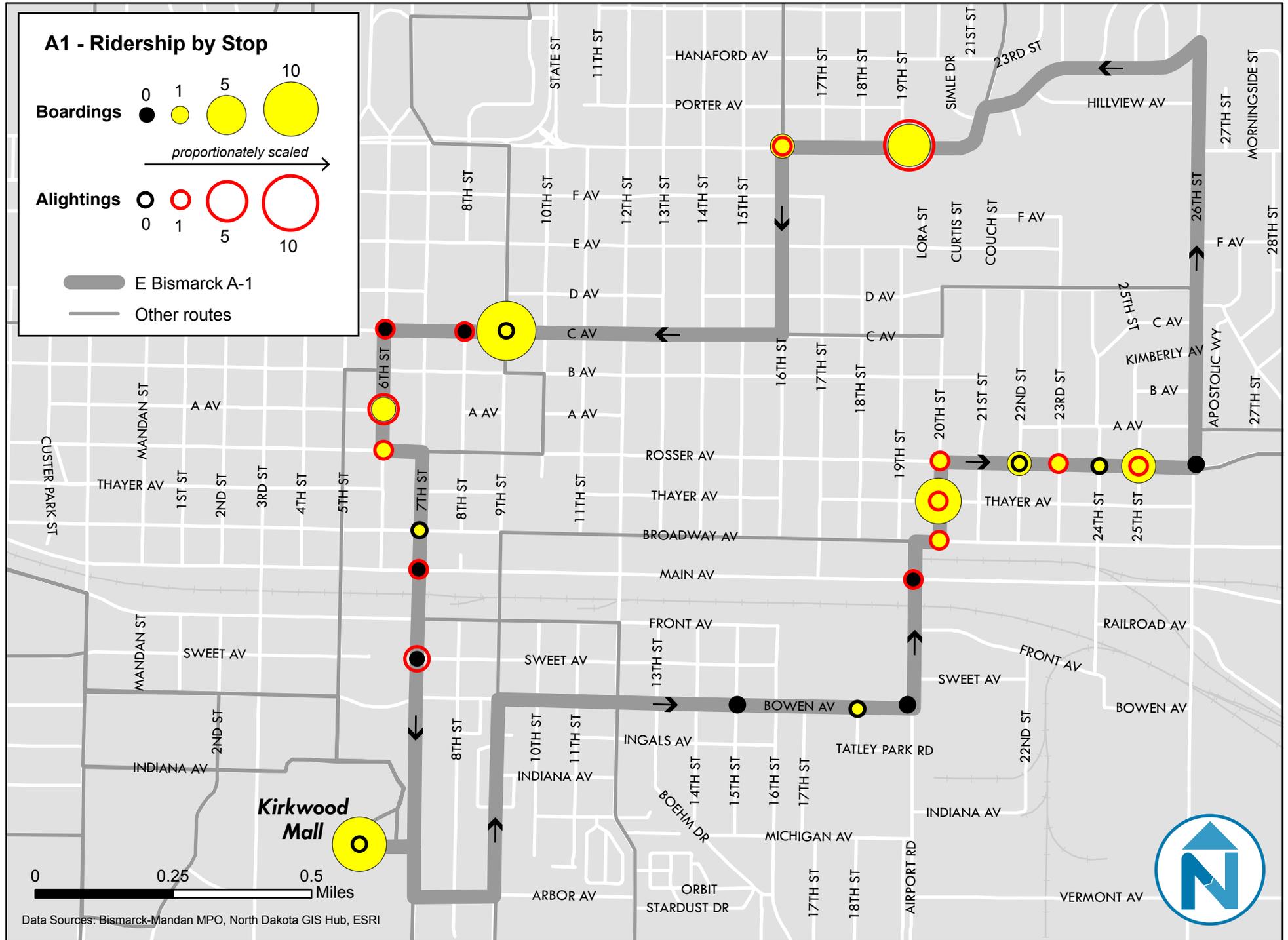
Implementing transit service changes requires multiple steps to refine recommendations and field-test them using buses. Additional staff effort would be required to carry out all of the recommendations in the Mobility 2017 plan, as discussed in this chapter.

Implementation of the new service plan provides an opportunity for Bis-Man Transit to focus on its identity and the marketing resources that it provides. Marketing strategies and actions should improve the visibility and usefulness of the transit services provided in the Bismarck-Mandan area. Staff follow and implement a robust marketing plan to build ridership on CAT, and based on ridership increases, it suggests some of the efforts are working. Ongoing monitoring of the effectiveness of the marketing plan is encouraged and staff should continue to tweak programs and services to reach target markets.

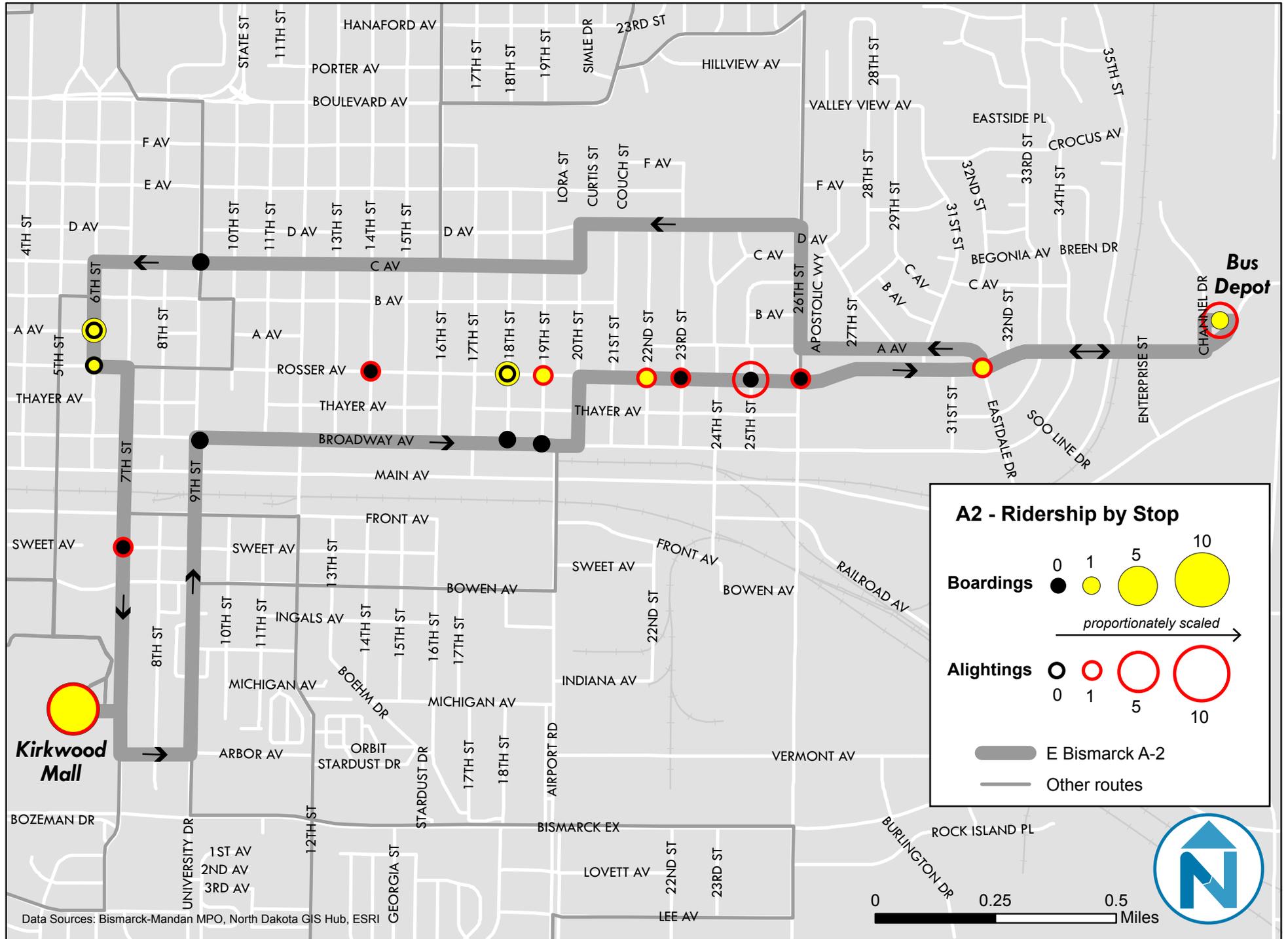
Through service changes and by reaching new consumers, this Mobility 2017 Plan provides direction on how to advance and help transit mature in the Bismarck-Mandan area.

APPENDIX A: CAT BOARDING AND ALIGHTING MAPS

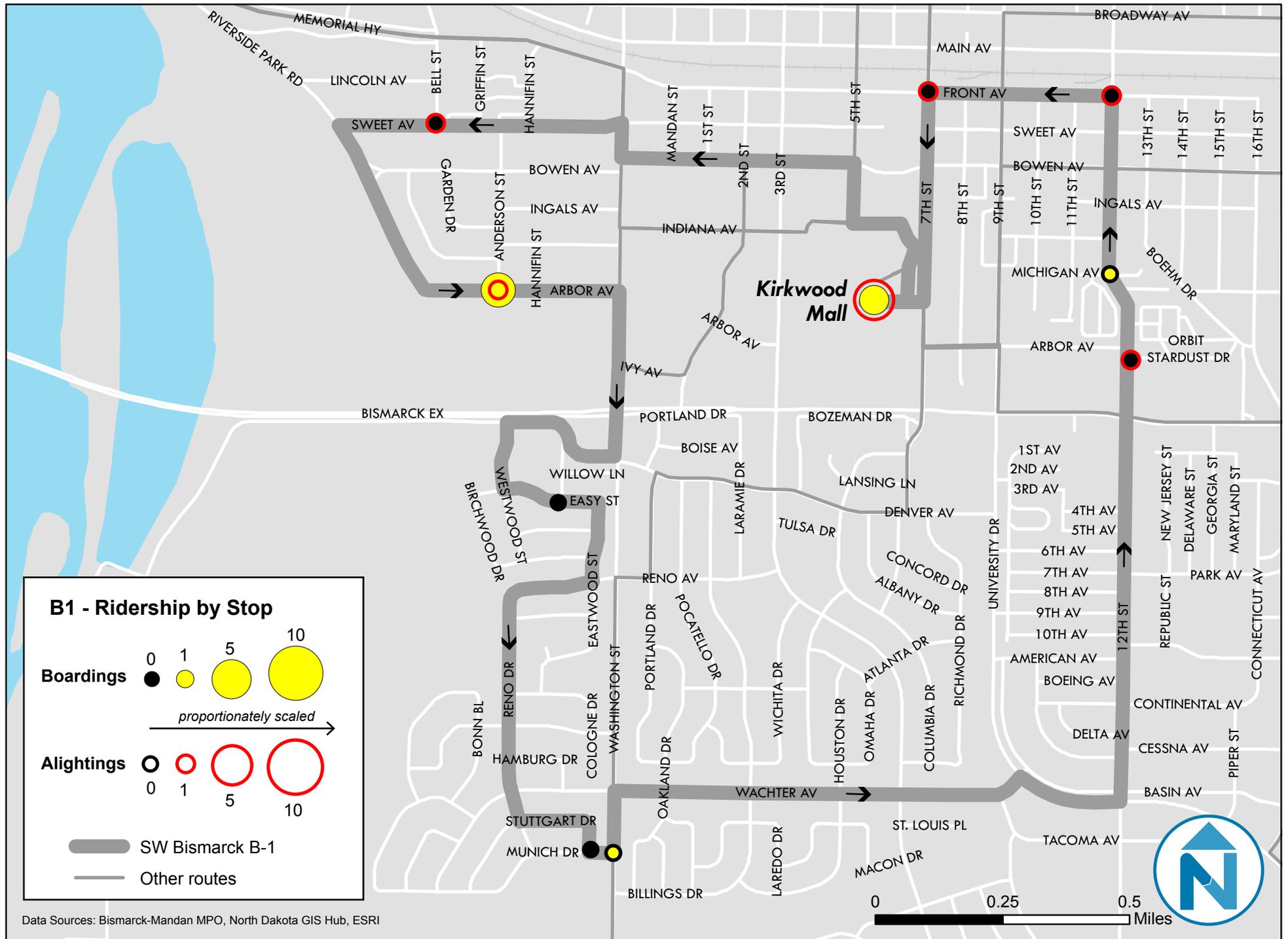
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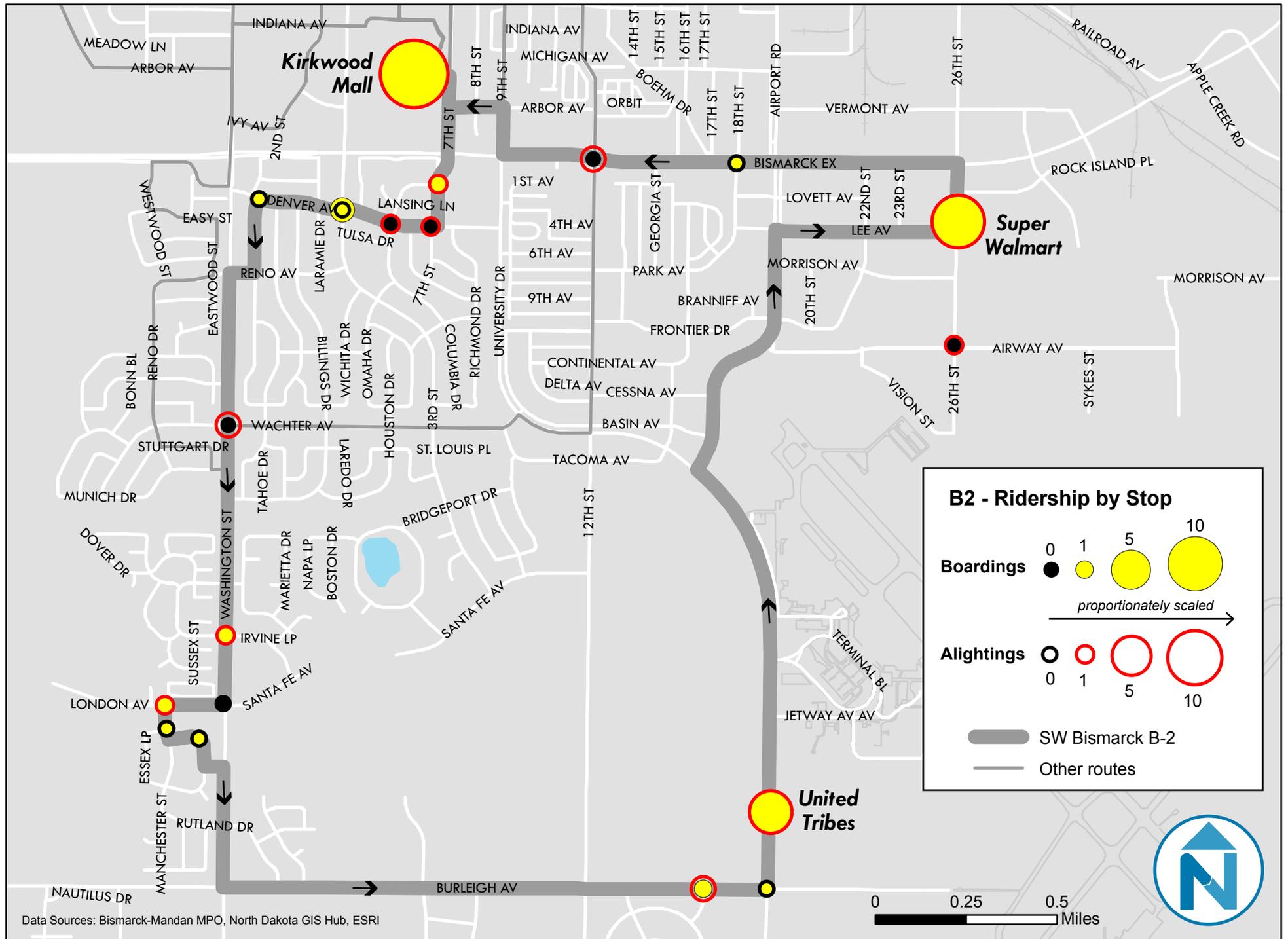
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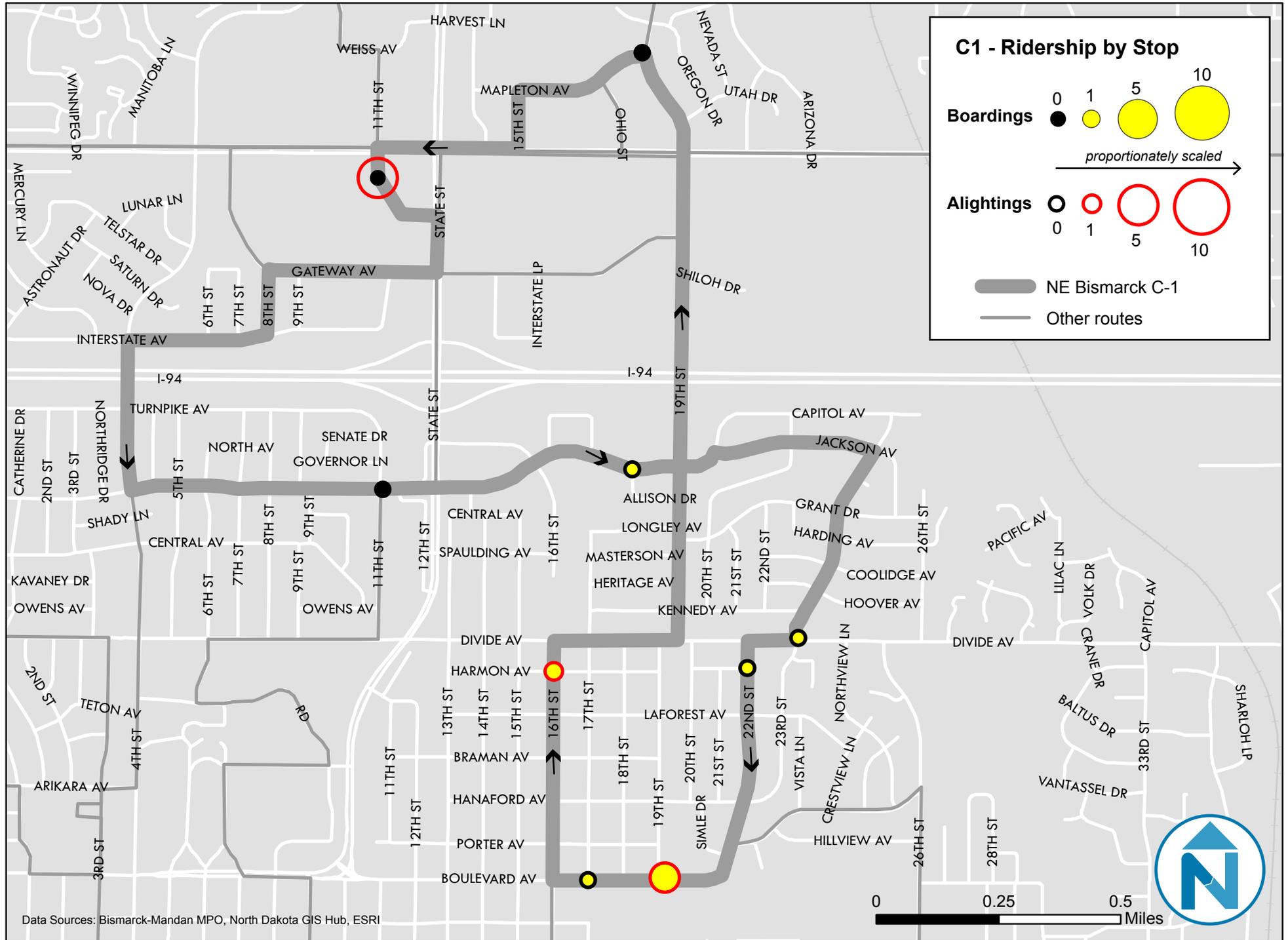
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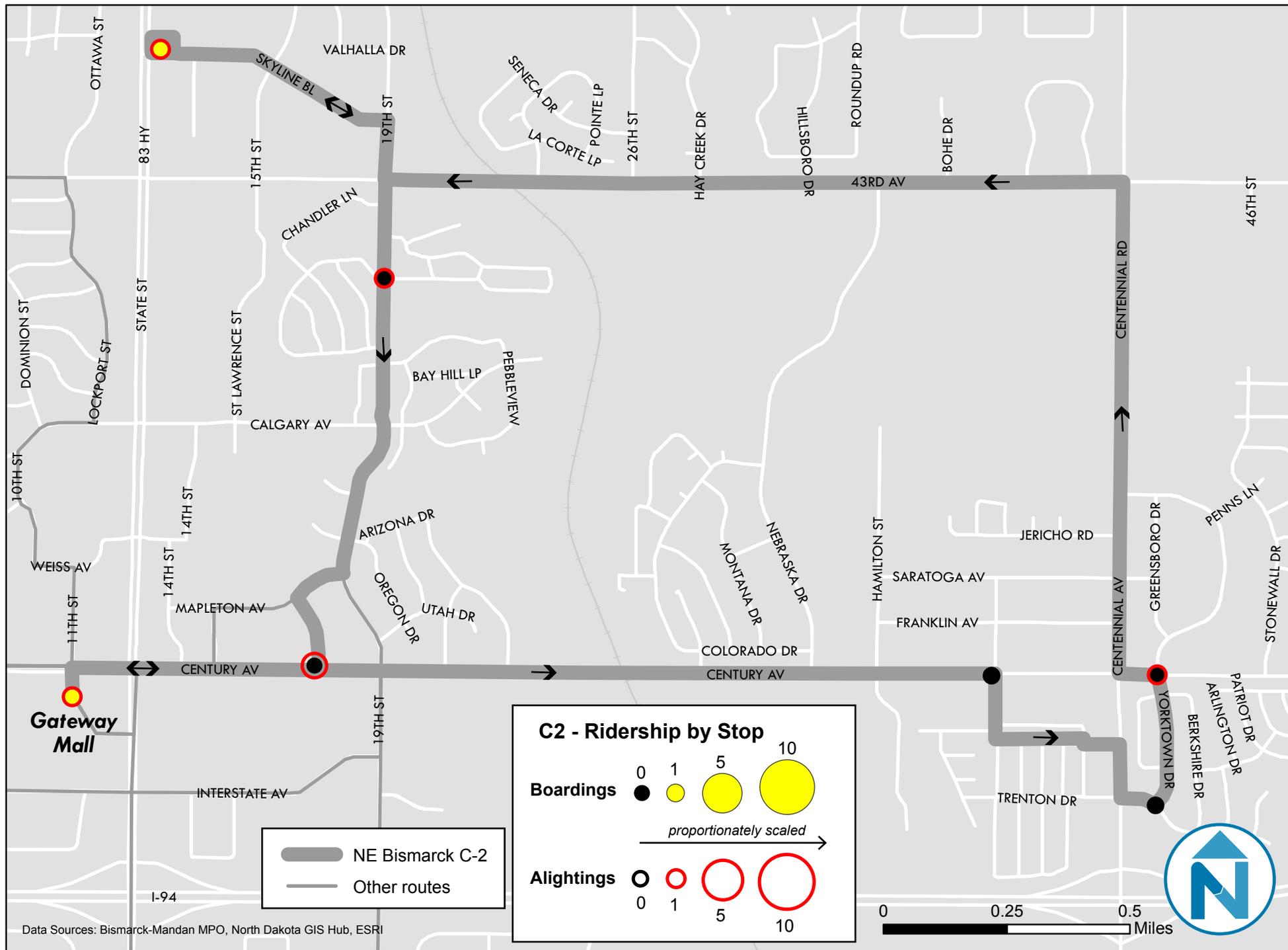
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C1 Ridership

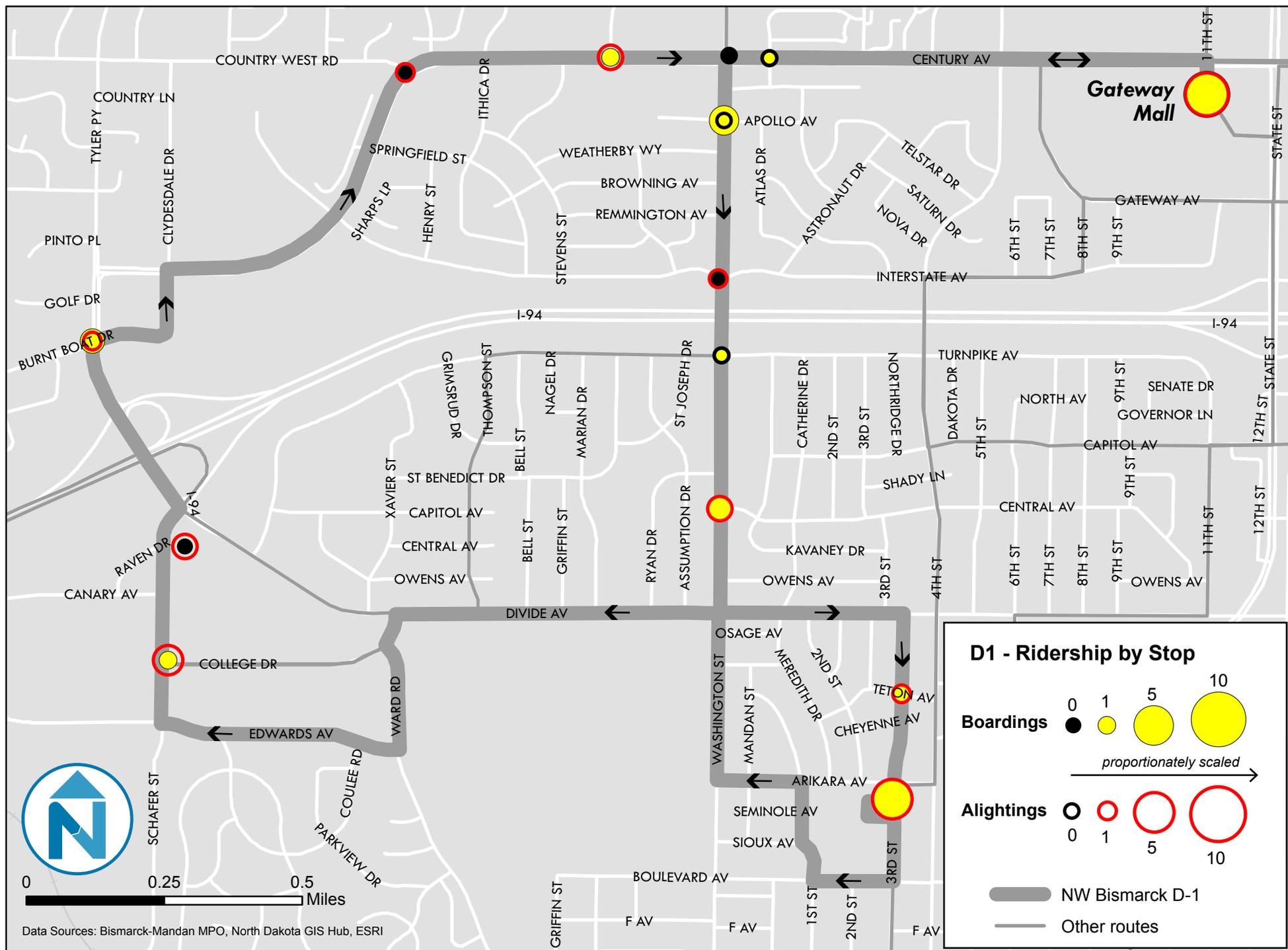


C2 Ridership

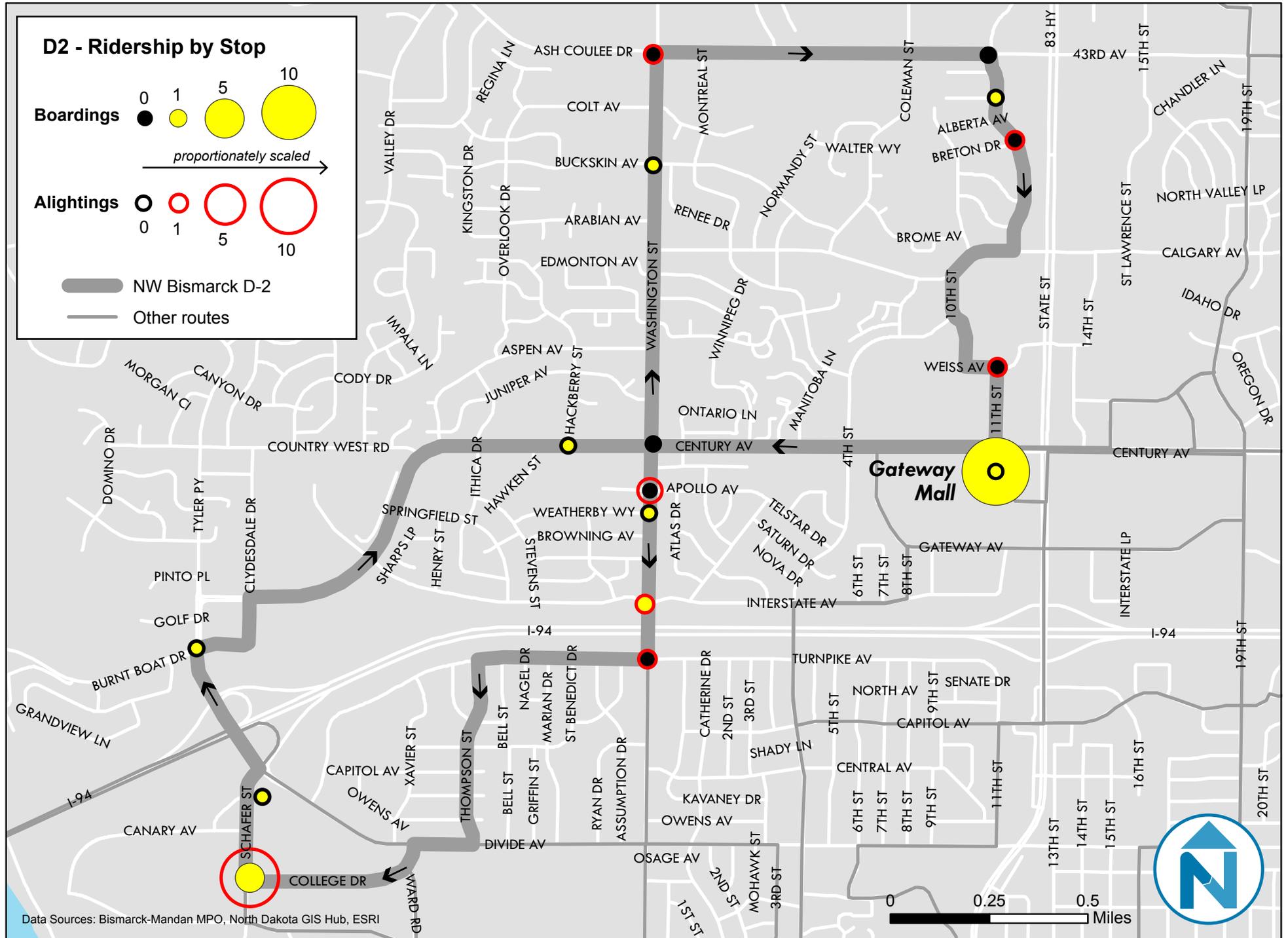


Data Sources: Bismarck-Mandan MPO, North Dakota GIS Hub, ESRI

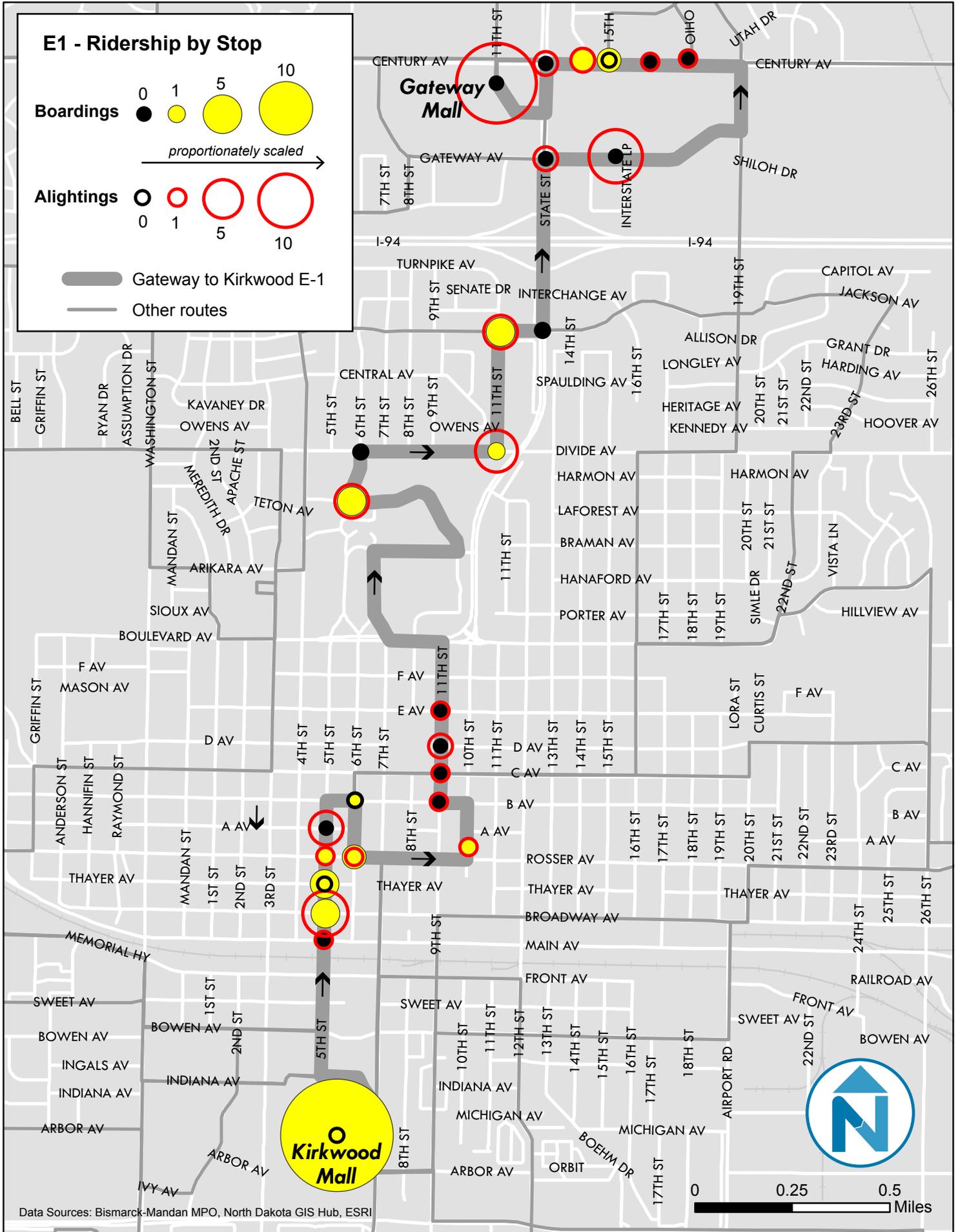
D1 Ridership



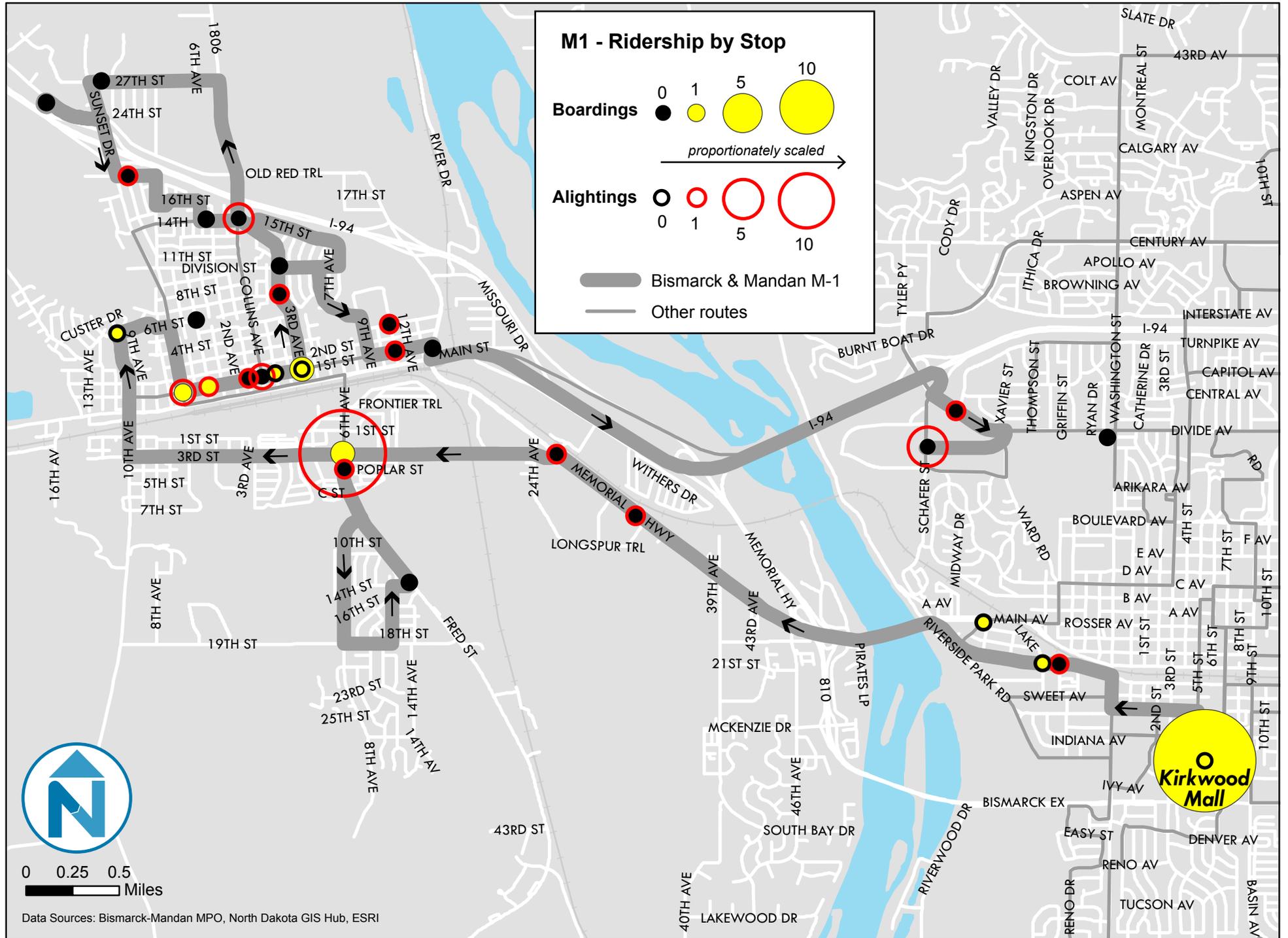
D2 Ridership



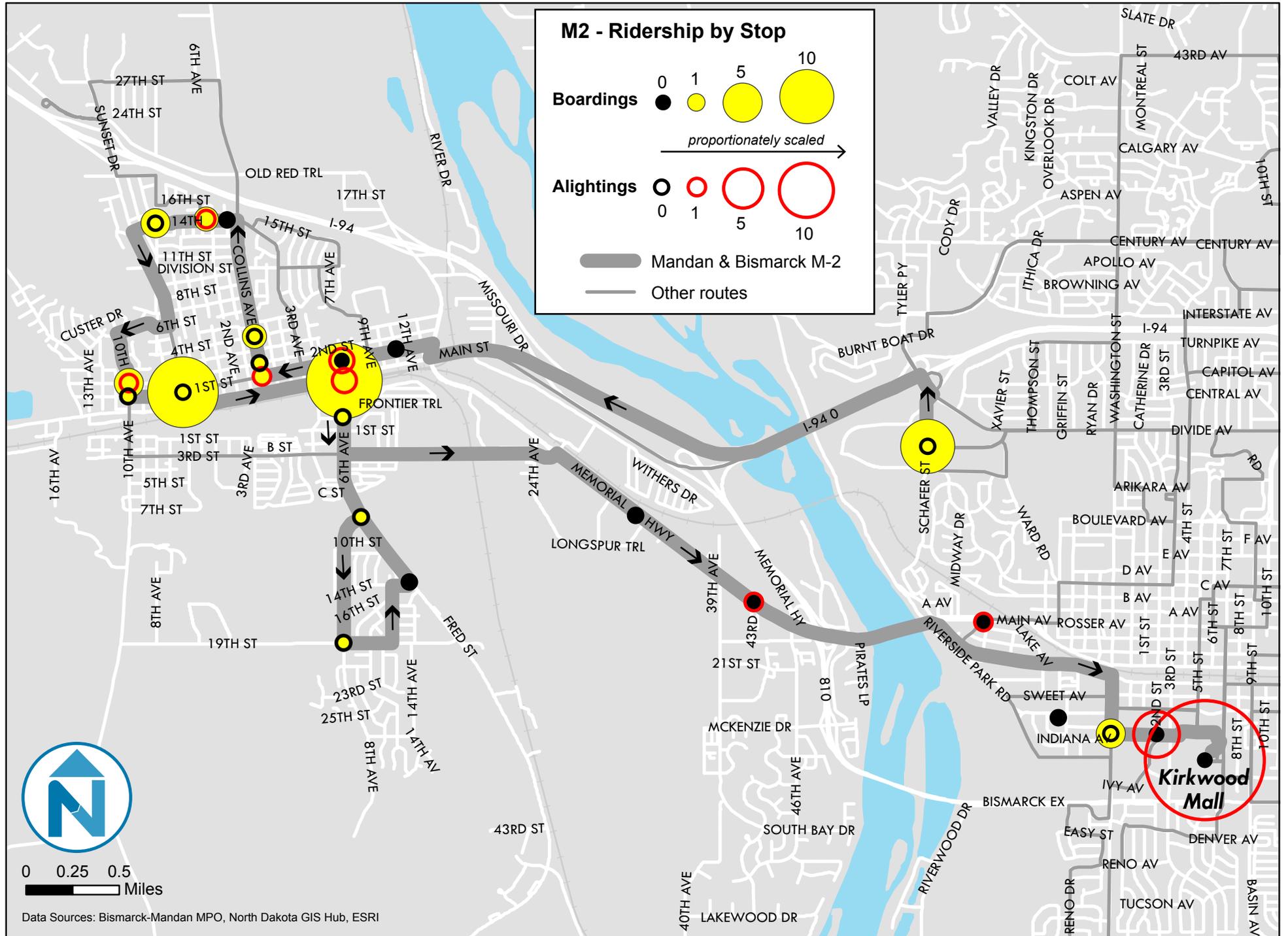
E1 Ridership



M1 Ridership



M2 Ridership



0 0.25 0.5 Miles

Data Sources: Bismarck-Mandan MPO, North Dakota GIS Hub, ESRI

APPENDIX B: SURVEY INSTRUMENTS



To help plan for transit service in Bismarck and Mandan, we are conducting a short survey on transportation choices and preferences. We plan to use this confidential information to help CAT/Bis-Man Transit create a Transit Development Plan. This survey should take approximately 5-7 minutes to complete. **To thank you for completing the survey, the surveyor will offer you a ticket for a free ride on CAT to use yourself or give to a family member or friend.**

About you and your commute

- 1) What is your home ZIP Code? _____ (Check here if you don't know)
- 2) What are the closest cross streets to your home? _____ and _____
- 3) Are you currently employed or in school? (check all that apply)
 - Employed (full or part time): Name of Employer _____
City _____ ZIP Code _____
 - School/College/University (full or part time): Name of School _____
City _____ ZIP Code _____
 - Other (please indicate) _____ ***(Skip to Question 6)***
- 4) For work/school, what is your primary mode of transportation? (If you work AND go to school, please provide information about primary activity: work OR school.)

<input type="checkbox"/> Drive Alone	<input type="checkbox"/> Public Transit	<input type="checkbox"/> N/A
<input type="checkbox"/> Walk/Bike	<input type="checkbox"/> Carpool/Vanpool	<input type="checkbox"/> Other _____
- 5) On a typical day, how long does it take you to travel from your home to your place of work or school? (If you work AND go to school, please provide information about primary activity: work OR school.)

<input type="checkbox"/> 0-10 Minutes	<input type="checkbox"/> 31-40 Minutes	<input type="checkbox"/> Don't commute on a regular basis
<input type="checkbox"/> 11-20 Minutes	<input type="checkbox"/> 40-60 Minutes	
<input type="checkbox"/> 21-30 Minutes	<input type="checkbox"/> More than 1 hour	

Public Transportation Options

- 6) Does CAT public transportation currently serve the neighborhood where you live?

<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> Don't know
------------------------------	-----------------------------	-------------------------------------
- 7) Have you used public transportation in the past six months?
 - Yes → ***If YES: Answer 7a and 7b –***
 - 7a. Which service(s) have you used? (Mark all that apply)

<input type="checkbox"/> CAT (Capital Area Transit)	<input type="checkbox"/> Other (Which system(s)? Where?) _____
<input type="checkbox"/> Bis-Man Paratransit	
 - 7b. How often do you ride public transportation? (Check only one)

<input type="checkbox"/> 5 or more days/week	<input type="checkbox"/> A few days a month
<input type="checkbox"/> 2-4 days a week	<input type="checkbox"/> Less than once a month
 - No → ***If NO: Why have you not used public transportation? (Mark all that apply)***

<input type="checkbox"/> Prefer to drive	<input type="checkbox"/> Public transportation is too expensive
<input type="checkbox"/> Get rides from others	<input type="checkbox"/> Public transportation is not safe
<input type="checkbox"/> Travel times on bus are long	<input type="checkbox"/> Not enough information about public transportation/confusing
<input type="checkbox"/> Not available near my home	<input type="checkbox"/> Other: _____
<input type="checkbox"/> Doesn't go where I need it	
<input type="checkbox"/> Doesn't go when I need it	

8) Which would encourage you to consider using CAT (or to use CAT more often)?

	NO <i>Would not consider</i>	MAYBE <i>Consider somewhat</i>	YES <i>Consider Strongly</i>	N/A <i>Don't Know</i>
CAT would provide service near my home	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Increase in traffic congestion/more difficulty driving	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Lower fares	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Gasoline prices increase	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Improvements in bus service frequency/service hours	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Limited parking availability at my destination	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Updated design/improved appearance of buses	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
If other people I know started riding the bus	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Passenger amenities (i.e. shelters, benches, etc.)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
CAT would need to go to: _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

9) Are you aware that CAT buses are equipped with two bike racks?

- Yes No

Household Information (for classification purposes only)

10) How many people currently live in your household?

- 1-2 3-4 5-6 7+

11) How many are age 60 or older?

- 0 3-4 7+
 1-2 5-6

12) How many are age 16 or under?

- 0 3-4 7+
 1-2 5-6

13) How many automobiles (excluding motorcycles, scooters, etc.) does your household have?

- 0 2 4+
 1 3

14) What is your annual household income?

- Under \$15,000 \$36,000-50,999 \$76,000-100,999
 \$15,000-35,999 \$51,000-75,999 \$101,000+

15) What is your gender?

- Female Male

Comments:

Optional (This is not required)

You may contact me with additional questions or to follow up on my responses.

Name _____ Email _____

Address _____ Phone Number _____

Bis-Man Transit Passenger Survey

Please tell us about the trip you are making now. The answers are completely confidential. If you have already filled out a survey, you do not need to fill out another one. **Thank you!**

1. What time did you board the bus for this trip? _____ AM or PM
(circle one)
2. What was your reservation time for this trip?
_____ AM or PM *(circle one)* to _____ AM or PM *(circle one)*
3. About how long ago did you call for this trip? *check one v*

<input type="checkbox"/> ₁ Today	<input type="checkbox"/> ₅ 3 days in advance
<input type="checkbox"/> ₂ 1 day in advance	<input type="checkbox"/> ₆ 4-7 days in advance
<input type="checkbox"/> ₃ 2 days in advance	<input type="checkbox"/> ₇ More than 7 days in advance
<input type="checkbox"/> ₄ Subscription trip (regularly scheduled trip)	
4. What is the main purpose for this trip? *check one v* If you are going home, what was the purpose of this trip?

<input type="checkbox"/> ₁ School/college	<input type="checkbox"/> ₅ Work
<input type="checkbox"/> ₂ Shopping	<input type="checkbox"/> ₆ Medical/dental
<input type="checkbox"/> ₃ Senior center	<input type="checkbox"/> ₇ Volunteering
<input type="checkbox"/> ₄ Recreation/social	<input type="checkbox"/> ₈ Other _____
5. How often do you ride Bis-Man Transit? *check one v*

<input type="checkbox"/> ₁ 5 or more days per week	<input type="checkbox"/> ₄ 1 to 4 days per month
<input type="checkbox"/> ₂ 2 to 4 days per week	<input type="checkbox"/> ₅ Less than 1 day per month
<input type="checkbox"/> ₃ About once per week	<input type="checkbox"/> ₆ First time
6. How long have you been riding Bis-Man Transit? *check one v*

<input type="checkbox"/> ₁ Less than 1 year	<input type="checkbox"/> ₃ More than 2 years
<input type="checkbox"/> ₂ 1 to 2 years	<input type="checkbox"/> ₄ First time
7. If Bis-Man Transit were not available, how would you have made this trip? *check one or more v*

<input type="checkbox"/> ₁ Someone would drive me	<input type="checkbox"/> ₆ Taxi
<input type="checkbox"/> ₂ Would not have made this trip	<input type="checkbox"/> ₇ Walk
<input type="checkbox"/> ₃ Use fixed route	<input type="checkbox"/> ₈ Wheelchair/mobility device
<input type="checkbox"/> ₄ Social Service provider (<i>specify</i> : _____)	
<input type="checkbox"/> ₅ Other (_____)	

8. Please rate the following items about Bis-Man Transit:

	Poor	Average	Very Good		
<u>1. Bus arrives on time</u>	1	2	3	4	5
<u>2. Convenience of service</u>	1	2	3	4	5
<u>3. Service changes/updates</u>	1	2	3	4	5
<u>4. Marketing information</u>	1	2	3	4	5
<u>5. System easy to understand</u>	1	2	3	4	5
<u>6. Fare (cost)</u>	1	2	3	4	5
<u>7. Cleanliness of vehicles</u>	1	2	3	4	5
<u>8. Seating on bus</u>	1	2	3	4	5
<u>9. Safety on the bus</u>	1	2	3	4	5
<u>10. Driver courtesy</u>	1	2	3	4	5
<u>11. Driver skill/safety</u>	1	2	3	4	5
<u>12. Dispatch courtesy/skill</u>	1	2	3	4	5
<u>13. Overall service</u>	1	2	3	4	5

9. Do you have a permanent disability that prevents you from using CAT, the fixed route service? ₁ Yes ₂ No

10. Was a car available to you for this particular trip?

₁ Yes ₂ No ₃ Yes, but with inconvenience to others

11. Do you have a driver's license? ₁ Yes ₂ No

12. What is the general location of your home?

Neighborhood: _____

Cross street: _____

Please complete other side

13. What is your age? _____

14. What is your total household income (everyone in your household, before taxes)? check one *v*

- | | |
|---|---|
| <input type="checkbox"/> ₁ Under \$10,000 | <input type="checkbox"/> ₅ \$40,000 – \$49,999 |
| <input type="checkbox"/> ₂ \$10,000-\$19,999 | <input type="checkbox"/> ₆ \$50,000 – \$59,999 |
| <input type="checkbox"/> ₃ \$20,000-\$29,999 | <input type="checkbox"/> ₇ Over \$60,000 |
| <input type="checkbox"/> ₄ \$30,000-\$39,999 | |

15. Are you? check one or more *v*

- | | |
|--|--|
| <input type="checkbox"/> ₁ Employed full-time | <input type="checkbox"/> ₅ Employed part-time |
| <input type="checkbox"/> ₂ Not currently employed | <input type="checkbox"/> ₆ Retired |
| <input type="checkbox"/> ₃ Student | |
| <input type="checkbox"/> ₄ Other (specify: _____) | |

16. Do you have access to the internet?

- ₁ Yes ₂ No

17. Do you use the internet to get information about transit?

- ₁ Yes ₂ No

18. If you only use Bis-Man Transit versus other transportation options, what is the reason? check one or more *v*

- ₁ Not aware of other services
₂ I enjoy using door-to-door services
₃ My disability makes using the CAT bus difficult
₄ The CAT bus stop is too far away from my home
₅ Too difficult to take grocery/shopping bags on CAT
₆ Other (specify: _____)

19. If you are interested in receiving information about Bis-Man Transit, such as service changes or public hearings, please enter your email below:

(Note: email addresses will not be used for any other purpose.)

Do you have other suggestions or comments for improving Bis-Man Transit? Please write them here:

We appreciate your comments! Please return this survey to us by handing it to the driver or dropping it in the collection envelope at the front of the bus. You can also FAX this survey to 701-258-6752 or scan and email it to mistys.bisman@midconetwork.com. Thank you very much!



PASSENGER SURVEY



IMPORTANT: Please tell us about the one-way trip you are making today. The answers are completely confidential. If you have already filled out a survey this week, please **DO NOT** fill out another one.

1. Where are you coming FROM? *check only one v*

- ₁ Home
- ₂ Work
- ₃ Recreation or social
- ₄ School (Name: _____)
- ₅ Other (_____)
- ₆ Shopping
- ₇ Medical/Dental



2. Where are you going TO? *check only one v*

- ₁ Home
- ₂ Work
- ₃ Recreation or social
- ₄ School/College (Name: _____)
- ₅ Other (_____)
- ₆ Shopping
- ₇ Medical/Dental

3. Where did you begin your trip today? *(Beginning of your trip, such as home or work, not the bus stop.)*

Please list the nearest intersection or nearest landmark:

(Example: Washington & 43rd or Gateway Mall) (City or ZIP code)



4. Where is the final destination of your trip? *(End of your trip, such as home or work, not the bus stop.)*

Please list nearest intersection or nearest landmark

(Example: Washington & 43rd or Gateway Mall) (City or ZIP code)

5. How did you GET TO the bus stop to board this bus? *check only one v*

- ₁ Transferred from another bus - (Route _____)
- ₂ Walked (How many minutes? _____)
- ₃ Biked
- ₄ Drove alone then parked
- ₅ Dropped off by car
- ₆ Used wheelchair or scooter (How many minutes? _____)
- ₇ Other (_____)



6. How will you GO FROM this bus to the end of your trip? *check only one v*

- ₁ Transfer to another bus - (Route _____)
- ₂ Walk (How many minutes? _____)
- ₃ Bike
- ₄ Drive alone
- ₅ Get picked up
- ₆ Use wheelchair or scooter (How many minutes? _____)
- ₇ Other (_____)

7. Are you making a ROUND TRIP on the bus today?

- ₁ Yes
- ₂ No

8. How often do you ride CAT? *check one v*

- ₁ 5 or more days per week
- ₂ 2 to 4 days per week
- ₃ Once per week
- ₄ 1-4 days per month
- ₅ Less than 1 day per month
- ₆ First time

9. How long have you been riding CAT? *check one v*

- ₁ Less than 6 months
- ₂ 6 months to 1 year
- ₃ 1 to 2 years
- ₄ More than 2 years

10. If CAT were not available, how would you have made this trip? *check one v*

- ₁ Drive alone
- ₂ Someone would drive me
- ₃ Carpool or vanpool
- ₄ Taxi
- ₅ Other (_____)
- ₆ Hitchhike
- ₇ Walk
- ₈ Bike
- ₉ Would not make this trip

11. Was a car available to you for this particular trip?

- ₁ Yes
- ₂ No
- ₃ Yes, but with inconvenience to others

12. How did you pay your fare for this bus?

- ₁ Cash
- ₂ Discounted Cash (Senior/Disabled/Student)
- ₃ 30-Day Pass
- ₄ 30-Day Pass (Senior/Disabled/Student)
- ₅ Other (_____)

13. Do you have a driver's license? ₁ Yes ₂ No

14. Please rate the following items about CAT

	Poor	Average	Very Good
1. Bus arrives on time	1	2	3 4 5
2. Frequency of service	1	2	3 4 5
3. Service late enough	1	2	3 4 5
4. Service early enough	1	2	3 4 5
5. Convenience of route	1	2	3 4 5
6. Route changes/updates	1	2	3 4 5
7. Marketing information	1	2	3 4 5
8. Transfers to other routes	1	2	3 4 5
9. Information at bus stops	1	2	3 4 5
10. System easy to understand	1	2	3 4 5
11. Fare (cost)	1	2	3 4 5
12. Cleanliness of vehicles	1	2	3 4 5
13. Seating on bus	1	2	3 4 5
14. Condition of bus stop	1	2	3 4 5
15. Safety at bus stop	1	2	3 4 5
16. Bus bike racks	1	2	3 4 5
17. Driver courtesy	1	2	3 4 5
18. Driver skill/safety	1	2	3 4 5
19. Overall bus service	1	2	3 4 5

15. Are you a student ₁ or employee ₂ at a college or university?

- If yes, which college or university?** ₁ Bismarck State College
₂ University of Mary ₃ United Tribes Technical College
₄ Other _____

Please complete other side

16. What other destinations would you like CAT to go in the Bismarck-Mandan area? (In order of priority)

Write in up to three specific locations

- a. _____
- b. _____
- c. _____

17. What one improvement would help you choose to ride CAT more often? *check only one* ✓

- ₁ More frequent bus service
- ₂ Earlier morning service (begin when? _____)
- ₃ Later evening service (until when? _____)
- ₄ Easier transfers between bus routes
- ₅ Sunday service
- ₆ Service to _____
- ₇ Other _____

18. Do you have suggestions for improving CAT?

Please tell us about yourself!

19. What is your age? _____

20. Are you male or female?

- ₁ Male
- ₂ Female

21. What is your total household income (before taxes)?

- ₁ Under \$10,000
- ₂ \$10,000-\$19,999
- ₃ \$20,000-\$29,999
- ₄ \$30,000-\$39,999
- ₅ \$40,000 – \$49,999
- ₆ \$50,000 – \$59,999
- ₇ Over \$60,000

22. Are you? *check one or more* ✓

- ₁ Employed full-time
- ₂ Employed part-time
- ₃ Not currently employed
- ₄ Student
- ₅ Retired
- ₆ Visitor to the area

23. Do you have access to the internet at any of the following locations? *check one or more* ✓

- ₁ I **do not** have internet access
- ₂ Home
- ₃ Other (please specify) _____
- ₄ Work
- ₅ School
- ₆ Public Library

24. If you are interested in receiving information about CAT, such as route changes, public hearings, or service changes, please enter your email below:

(Note: email addresses will not be used for any other purpose.)

Do you have any other comments? Please write them here:

We appreciate your comments!

Please return this survey to the surveyor or drop it in the collection envelope at the front of the bus. You can also FAX this survey to 701-258-6752 or scan and email it to mistys.bisman@midconetwork.com.



APPENDIX C: COMMENTS FROM DECEMBER 2011 PUBLIC OUTREACH EFFORTS

Locations	Date	Time	Number of participants
Dan's Supermarket - Mandan	5-Dec-11	3:00 -5:00 pm	9
Dan's Supermarket - Bismarck	6-Dec-11	2:00 - 4:00 pm	7
Bismarck Senior Center	7-Dec-11	11:00-1:00 pm	23
Mandan Golden Age Services	8-Dec-11	10:00 - 12:00 pm	16
Bismarck State College	12-Dec-11	11:00 - 1:00 pm	24
United Tribes Technical College	13-Dec-11	11:00 - 1:00 pm	16
Total Comment Forms Completed			95

DAN'S SUPERMARKET MANDAN:

What do you think about the service recommendations presented?

- OK
- OK

What would encourage you to ride transit (or ride more often)?

- Inclement weather, not having the availability of a vehicle, not able to drive
- More readily available, and run later in the day
- When I can't drive any longer

DAN'S SUPERMARKET BISMARCK:

What do you think about the service recommendations presented?

- Good
- OK
- Seems Awesome

- Keep it the same
- Need more buses
- Seems OK

What would encourage you to ride transit (or ride more often)?

- Bad weather or rates lowered from \$30 to \$20 a month
- More readily available later in the day
- Longer hours and running on the weekends
- Service out to University of Mary

Other Comments and suggestions?

- Not everybody works Monday - Friday, 9-5
- I like the current routes, I only wish you had longer hours, not everybody works M-F, 9-5. I work overnights.

BISMARCK SENIOR CENTER:

What do you think about the service recommendations presented?

- Keep the service as is - no change
- Bis-Man Paratransit should remain the same
- Paratransit eligibility should remain as it is
- Para Transit eligibility should remain the same as it is now
- Leave service as is (paratransit)
- It would work better than the one that is there now
- Don't agree
- Very good
- OK
- Recommend that the Paratransit service continue with the same eligibility that it has now
- Fine

What would encourage you to ride transit (or ride more often)?

- If it is a rather straight line route, instead of a circle route
- If I lived in town
- Easy access to bus stops
- Nasty weather
- Increasing age and loss of mobility
- Not such long rides
- Access
- If it stays at the High Rise
- Early AM to my volunteer job
- Personal schedule
- Be on time

Other Comments and suggestions?

- Paratransit is very important to the elderly served at the Sr. Center
- Transit has been a very important part of my volunteerism at Burleigh Co. Sr. Ctr. I am so thankful for the service. Drivers are always kind and courteous! Don't change anything for me.
- I don't think you should change the age for Paratransit

MANDAN GOLDEN AGE CENTER:

What do you think about the service recommendations presented?

- Leave funding alone for Para Transit (property taxes)
- Paratransit eligibility - please remain as is
- Not sure
- Good thing
- OK with hours
- Stay just the way it is
- Should stay the same as existing
- Excellent
- Very good

What would encourage you to ride transit (or ride more often)?

- Weather conditions
- Icy road conditions
- Better route
- Nothing
- Would like it available as the need arises

Other Comments and suggestions?

- I will start using the transit
- Have to wait too long for a lot of rides
- Shorter waits all around
- Takes a long time for Paratransit to pick up
- Five years is a long time at my age, changes in my health would make a difference
- I used the Paratransit two to three times a week when I could not drive in 2010 and part of 2011 and think it is a good thing.
- Would you be in favor of increasing funding for new transit services or service improvements?
- Who is providing the funding?

BISMARCK STATE COLLEGE:

What do you think about the service recommendations presented?

- It all looks pretty cool
- I think it should have better routes for BSC students trying to get to work
- Better routes for convenient places, Kirkwood Mall etc.
- Improving routes so their more direct is good
- Better than the current routes
- Looks very good
- Great idea it would generate more use
- I would prefer the option that expands service to every hour (30 min. prime time) with Bi-directional routes
- It was very well proposed and presented, she made everything clear
- Would not use transit, and does not want student fees to go for transit
- Good idea for people that use it - good thing to get people to try
- Good transit
- Good
- Option B
- I think that it would be good to have more direct routes
- It would appear that it will provide easier means to get to different locations from the same place.

What would encourage you to ride transit (or ride more often)?

- Bad weather, cheap
- If they made a direct route to Kirkwood Mall, and had later runs
- Have later runs
- more convenient instead of loops
- Option B
- Faster between points
- More often movement & Student Pass
- I currently live very close to work, Transit doesn't serve my needs very well, however, if I moved, that could change.
- If they would advertise where the bus goes or where you can find a map at
- Better Route
- Better Route
- Option A
- Convenience

UNITED TRIBES TECHNICAL COLLEGE

What do you think about the service recommendations presented?

- Good
- I like the planned proposal
- If they were to take us to more places that we need to get to I would ride the bus
- I think either options are better than the current. I prefer the straight through route rather than full circle
- Extend the route to other areas
- Good ideas
- Great
- Too long a ride
- Good source for people that don't have cars
- If I were to ride, I would prefer the 2 way bus route proposed
- Much more convenient
- They sound and look good

What would encourage you to ride transit (or ride more often)?

- Yes with straight routes
- Not sure
- If they had more routes available
- Easier route that don't seem so time sufficient
- Extending routes to other areas
- No Car
- Time of day
- Faster service than 3 hours from North Mandan to BSC
- If it had more of a detail route
- Perhaps if my transportation was some how improvised
- Less time on bus, less stops
- Lower monthly bus passes

Other Comments and suggestions?

- Frequent free bus rides or rider incentives
- If changes were made I would start riding the transit to places because I do not have a car
- Great bus service
- An express bus that operates only at busy times - people who have to be at work by 8:00 am & 5:00 pm rush
- The revised program seems very accommodating