

# Chapter 9: Transportation

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Photo credit: GBAJPB



Photo credit: True North Bemidji

# VISION

Maintain and enhance multi-modal transportation systems.

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## Introduction

Transportation networks support community economies. They provide access to resources and connection to other communities, forming a critical link for continued development and growth. Maintenance and repair, in addition to periodic additions and enhancements to this system, are essential for preserving that connectivity for residents, visitors, and businesses. Keeping pace with changes in transportation trends and network use is important for communities to anticipate needed improvements and potential additions to their transportation network. Transportation facilities in the Greater Bemidji Area range from city roads to state, county, and US Highways as well as trails, sidewalks, and even an airport. The Greater Bemidji Area's size makes it a walkable/bike friendly community with sidewalks and trails available throughout most of the community.

## Roadway Jurisdictional Classification System

Jurisdiction over the system of roadways in the Greater

Bemidji Area is shared among four levels of government (state, county, city, and township). Roadway jurisdiction is important because it affects a number of critical organizational functions and obligations, including regulatory, maintenance, construction, and financial commitments. **Figure 6** depicts the existing jurisdictional classification for all roadways within the Greater Bemidji Area. This includes the trunk highway system, managed by the Minnesota Department of Transportation (MnDOT); the County State Aid Highway (CSAH) and County Road system, managed by Beltrami County; Municipal State Aid System (MSAS) and local city streets, managed by the City of Bemidji; and township roads, managed by Northern Township.

In general, the following relationships regarding jurisdictional designations are observed:

- Roadways that serve regional, inter-county, or state-wide travel needs are typically owned and maintained by MnDOT.
- Roadways that serve sub-regional needs generally qualify as CSAHs or county roads and are owned and maintained by Beltrami County.

- Roadways that primarily serve local trips and property access are owned and maintained by the City of Bemidji or Northern Township.

## Roadway Functional Classification

- Functional classification is a system that groups roadways according to the function they are intended to serve. It is understood that for this process to work individual roadways do not function on their own because most travel involves movement along a network of different functional types of roads.
- In simplistic terms, “functional classification” involves determining what role (level of mobility versus property access) each roadway should perform prior to determining its design features, such as street widths, design speed, and intersection control. Functional classification is an important consideration in developing local land use regulations. The mobility of higher classified roadways should be protected by careful management of site development and access spacing standards. Common transportation

problems are typically due to inconsistencies between land use demands and the design and management of roadways.



Photo credit: GBAJPB

Figure 6: Greater Bemidji Area Roadway Jurisdictional Classification System



Source: GBAJPB, 2012-2017

The Federal-Aid Highway Act of 1973 first established the functional classification concepts, procedures, and criteria that are still being utilized today. The following four basic functional classification categories are typically used for transportation planning:

- Principal Arterials;
- Minor Arterials;
- Collectors (Major/Minor); and
- Local Streets.

### Principal Arterials

Principal arterials usually have the highest volume capacity, level of service, and speeds for the longest uninterrupted distance. This type of roadway is intended to connect larger cities as well as major business centers. The functional emphasis is on mobility rather than land access. The nature of land uses adjacent to principal arterials is typically of a higher intensity than on other roadways. US Trunk Highways 2, 71, and State Trunk Highway 197 are classified as principal arterial roadways (see **Figure 8**).

### Minor Arterials

Minor arterials are intended to connect important locations both inside and outside of the Greater Bemidji Area. This type of roadway is intended to serve moderate length trips at a somewhat lower level of mobility than principal arterials. However, minor arterials should continue to have a greater focus on mobility instead of providing land access. Minor Arterials generally connect to principal arterials, other minor arterials, or major collectors. They are commonly important to the region because they relieve traffic on, or substitute for, principal arterials when necessary. The following roadways are classified as minor arterials within the Greater Bemidji Area (see **Figure 7**):

- 1st Street East (Trunk Highway 197 to Lake Avenue NE)
- Lake Avenue NE (1st Street E to Power Dam Road NE)
- 5th Street NW (Trunk Highway 71 to Irvine Avenue NW)
- 15th Street NW (Norton Avenue NW to Irvine Avenue NW)
- Bemidji Avenue NW (Trunk Highway 197 to 26th Street NW)

- Irvine Avenue NW (5th Street NW to Trunk Highway 197)
- Grant Avenue SE (Paul Bunyan Drive SE to Roosevelt Road SE)
- Paul Bunyan Drive SE (Trunk Highway 197 to Washington Avenue SW)
- Roosevelt Road SE (Paul Bunyan Drive SE to Lake Avenue SE)

### Collectors

There are usually two types of collector roadways within a functional classification system that provide a balance between land access and mobility—Major and Minor.

Major collector roadways are designed to serve shorter trips that occur primarily within the Greater Bemidji Area and collect and distribute traffic from one part of the community to another, such as from employment centers to the arterial system. These roadways can be part of the county highway system as well as the local municipal street system. The major collector system in the Greater Bemidji Area includes the following roadways (see **Figure 7**):

- Division Street (Adams Avenue SW to U.S. Trunk Highway 71)

- Lake Avenue NE (Roosevelt SE to 1st Street E)
- Power Dam Road NE (Lake Avenue NE to Stump Lake Drive NE)
- 15th Street NW (Adams Avenue NW to Norton Avenue NW)
- 23rd Street NW (Conifer Avenue NW to Norton Avenue NW)
- 30th Street NW (Ridgeway Avenue NW to Irvine Avenue NW)
- Adams Avenue NW (Division Street to Trunk Highway 197)
- Bemidji Avenue NW (26th Street NW to Birchmont Beach NE)
- Irvine Avenue NW (30th Avenue NW to Grove Street NW)
- Middle School Drive NW (15th Street NW to 23rd Street NW)
- Norton Avenue NW (15th Street NW to 23rd Street NW)
- Ridgeway Avenue NW (Trunk Highway 197 to 30th Street NW)
- Lake Avenue SE (Roosevelt Road SE to 1st Street E)
- Roosevelt Road SE (Lake Avenue NE to Van Buren Avenue SE)

Minor collector roadways collect and distribute traffic to the major collector and arterial networks. These roads are generally shorter and less continuous than major collectors, but serve to supplement those roadways. Minor collectors are also typically part of the municipal street and county road systems (see **Figure 7**).

### Local Roadways

All other public roadways within the Greater Bemidji Area (city streets and township roads) are classified as local roadways. Examples of local roadway characteristics include:

- The highest level of direct property access.
- Typically carry lower traffic volumes at slower speeds (30 mph or less).
- Serving trips that range from one city block in urban areas to less than 2 miles in rural areas.
- Roadways spaced as needed.

## Traffic Volumes

Tourism traffic in the Greater Bemidji Area is responsible for increased traffic volumes during the Spring through late Fall. Existing average annual daily traffic (AADT) volumes on the most significant roads in the Greater Bemidji Area are portrayed on **Figure 8**. The existing AADT volumes represent the total traffic gathered by MnDOT on an average 24-hour day.



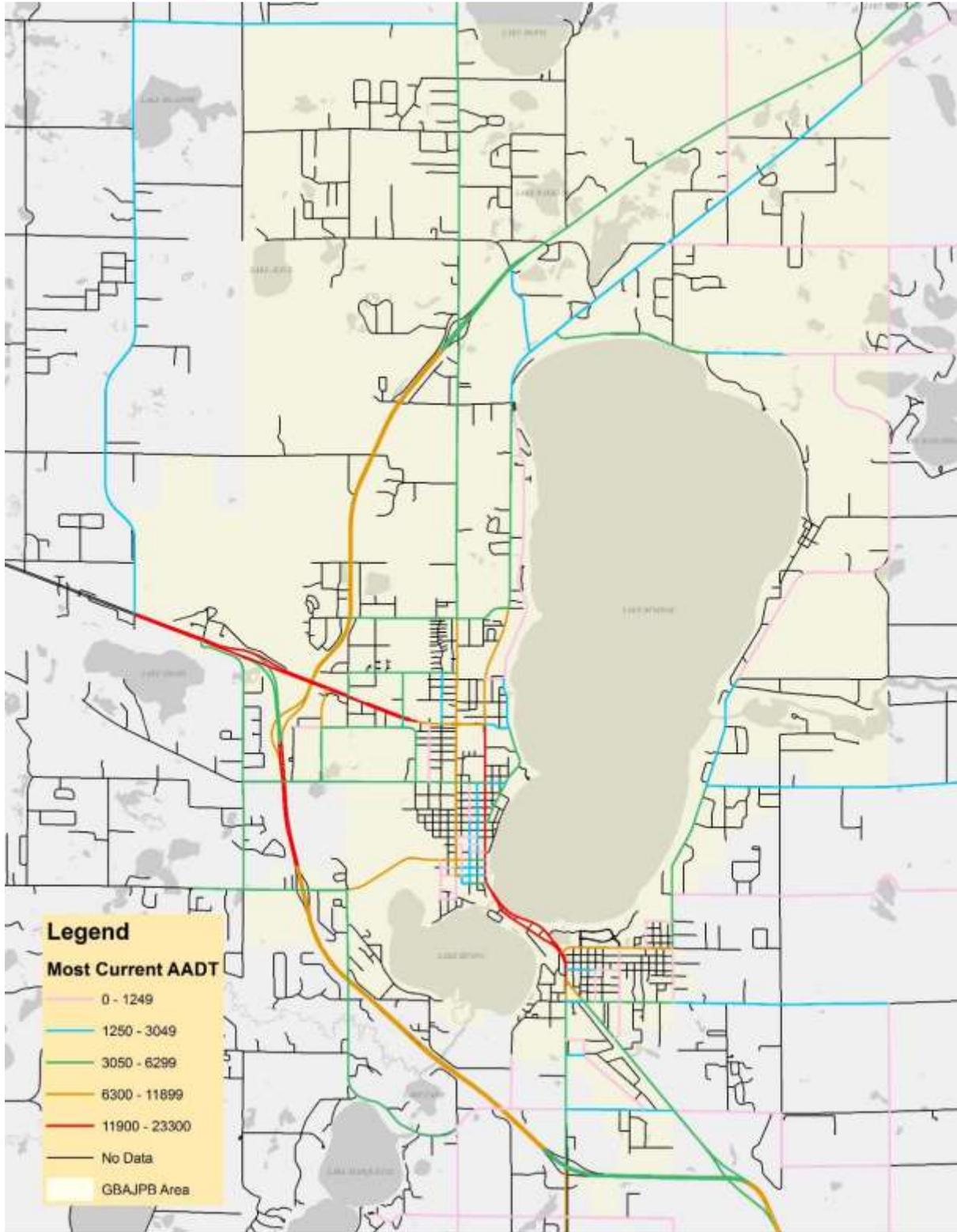
Photo credit: GBAJPB

Figure 7: Greater Bemidji Area Roadway Functional Classification



Source: GBAJPB, 2012-2017

Figure 8: Greater Bemidji Area Traffic Volumes



Source: GBAJPB, 2012-2017

## Public Transportation

Paul Bunyan Transit provides public transportation for residents in the Greater Bemidji Area and Beltrami County. The service area for the Greater Bemidji Areas is a 10-mile radius around City Hall.

Bemidji Bus Line provides motor coach transportation to any destination in the United States and Canada, offering 47 and 55 passenger deluxe motor coaches to its customers. School buses are also provided for group transportation.

Jefferson Bus Line is one of the top bus companies in the country, connecting people to destinations across 13 states in the United States with connections to Canada and Mexico. Each of the Jefferson Bus Line charters are 55 passenger deluxe motor coaches. Jefferson Bus Line arrives and departs from the Paul Bunyan Transit depot.

Bemidji Cab and First City Taxi are two additional professional transportation service providers in the Greater Bemidji Area. Both are licensed, insured, and are handicapped accessible.



Photo credit: GBAJPB

# Commuting

## Commute to work

Many of the Greater Bemidji Area residents commute to the City of Bemidji or its surrounding Greater Bemidji Area for work. **Table 19** illustrates the commuting time traveled by the Greater Bemidji Area's resident workforce. The mean travel time to work for the Greater Bemidji Area is approximately 18 minutes.



Photo credit: GBAJPB

**Table 19: Travel Time to Work**

Travel Time	Greater Bemidji Area	Beltrami County	State of Minnesota	United States
Less than 10 minutes	22.60%	22.00%	16.50%	13.10%
10 to 14 minutes	32.00%	24.10%	15.00%	14.00%
15 to 19 minutes	20.00%	18.00%	15.60%	15.40%
20 to 24 minutes	10.75%	11.50%	14.90%	14.70%
25 to 29 minutes	1.30%	4.00%	7.10%	6.20%
30 to 34 minutes	5.90%	8.40%	12.50%	13.70%
35 to 44 minutes	0.60%	2.50%	6.60%	6.60%
45 to 59 minutes	2.10%	3.40%	6.50%	7.80%
60 or more minutes	4.70%	6.10%	5.30%	8.50%
Mean travel time	18 Minutes	20 Minutes	23 Minutes	26 Minutes

Source: US Census Bureau, ACS, 2011-2015

As noted in **Table 20**, Greater Bemidji Area residents' modes of transportation to work range from vehicle, public transportation, walking, or biking. 89.5% of residents within the Greater Bemidji Area use personal vehicles drive alone to work, more than 3% greater than the national average. Car pools make up 12.35% within the Greater Bemidji area, which is 3.55% higher than the state average. With the

exception of the 3.25% of Greater Bemidji Area residents that walk to work, the other transportation modes within the Greater Bemidji Area are less than 1%. 5.95% residents work from home within the Greater Bemidji Area. As the area continues to grow, it is important that transportation planning includes improvements for all modes of transportation.

**Table 20: Mean of Transportation to Work**

Transportation Type	Greater Bemidji Area	Beltrami County	State of Minnesota	United States
Car, truck, or van	89.35%	87.00%	86.80%	85.90%
Drove alone	76.95%	75.80%	78.00%	76.40%
Carpooled	12.35%	11.20%	8.80%	9.50%
2-person carpool	9.25%	8.70%	6.90%	7.30%
3-person carpool	2.10%	1.60%	1.10%	1.30%
4-person-or-more carpool	1.05%	1.00%	0.80%	0.90%
Workers per vehicle	1.08%	1.08	1.06	1.06
Public Transportation	0.55%	2.00%	3.50%	5.10%
Walked	3.25%	3.20%	2.80%	2.80%
Bicycle	0.65%	0.80%	0.80%	0.60%
Taxi, Motorcycle, other	0.25%	0.50%	0.90%	1.20%
Worked at home	5.95%	6.50%	5.20%	4.40%

Source: US Census Bureau, ACS, 2011-2015

## Aviation

The Bemidji Regional Airport is the regional travel hub for the northern Minnesota business and recreation center of the Greater Bemidji Area. In 1931, the City of Bemidji Civic and Commerce Association (Association) purchased roughly 160 acres of wooded land northwest of Bemidji for an airport.

The Association presented the property to the City of Bemidji in 1932 and the airport began operations with an all-way field. By 1941, the airport included over 150 cleared acres and a hangar. The land comprising the airport at that time is in what is now the southeast corner of the airport. By 1944, the airport had grown significantly to the northwest, increasing the total size to nearly 1,600 acres.

The US Government designated the field as a “secondary defense airport” and embarked on a series of improvements. The all-way field was replaced with two paved and lighted 5,700-foot runways, a 4,000-foot turf runway, and a 2,500-foot turf runway.

Commercial air service began in 1952 with the arrival of flights operated by North Central Airlines. Commercial service continues to the present day. The turf runways were abandoned by the late 1970s and in December of 1981 the official airport name was changed to the “Bemidji/Beltrami County Airport.” In 2005, the name was changed to the “Bemidji Regional Airport” to better reflect its role in serving the entire region.



Photo credit: Bemidji Pioneer



Photo credit: PowrTek Engineering, Inc.

From 2006 to the Fall of 2008, the airport underwent a major upgrade. This included:

- The complete removal and replacement of all the runways and taxiways;
- Upgrade of the weather reporting system;
- Installation of additional Instrument Landing system for Runway 25; and
- The planning and acquisition of a very high frequency (VHF) omnidirectional radio range (VOR) for the airport by the state to replace a decommissioned federal system.

In 2009, the airfield electrical systems were completely replaced and new back-up generation systems were installed.

Effective January 1, 2009, the airport transitioned from being jointly owned and operated by the City of Bemidji and Beltrami County to ownership and operation by an Airport Authority with its own tax levy and funding responsibilities. This was done to provide additional visibility of the airport financial structure and cost to the communities it supports.

The airport recently completed a ramp rehabilitation project as a part of the federal recovery program. The airport is planning for a rehabilitation and modernization project of the 20-year-old terminal, which will include substantial energy improvements. It is currently undergoing a major renovation of the terminal and aircraft rescue and firefighting facility (ARFF), which is funded by the Federal Aviation Administration's Airport Improvement Program. Once completed, this three-phase project is estimated to amount to approximately \$8 million in improvements.

The Bemidji Regional Airport is in the process of adopting an Airport Master Plan, which will be added as an additional resource to this Comprehensive Plan when complete.

## Rail Transportation

The BNSF Railway, a Class I Railroad, is the only active rail line that currently crosses through the Greater Bemidji Area. The BNSF Railway is one of the largest freight railroad networks in North America, consisting of

approximately of 32,500 miles of railways across 28 states (see **Figure 9**); primarily hauling multimodal freight and bulk cargo. The former James J. Hill Railroad Depot was recently restored by the Beltrami County Historical Center as a museum.

**Figure 9: BNSF Railway System Map**



Source: Wikipedia, 2015

## Transportation Strengths

- The intersection of US 2 and US 71 provides excellent transportation opportunities for residents as well as an economic opportunity for business.
- Continued improvement of multimodal transportation opportunities through reconstruction projects.
- Multiple trail improvement and expansion projects in recent years.
- Continued expansion of the airport for corporate and general aviation purposes.
- Bemidji Regional Airport has fourth most enplanements out of all Minnesota airports.
- Potential for cooperation of multiple road authorities to improve the transportation system, including expanding multimodal opportunities.

## Transportation Challenges

- No scheduled affordable, safe, and reliable transportation options.
- Piecemeal streets lacking many through corridors, including multimodal options, which places additional stress and increased traffic on the few available through corridors.
- Increased traffic and stress on corridors can create a barrier for multimodal transportation when vehicular traffic becomes too congested, creating unsafe conditions.
- Multi-jurisdictional road authorities can create barriers when working on transportation improvements and cooperation is not possible on a project.

## Transportation Goals and Strategies

### Objective 9.1 Design and Construct Transportation Facilities with Livability in Mind

Livable streets can be accomplished through improving multimodal transportation, including walkability through urban corridors. Corridors can be enhanced with arts and culture that match the character of the community. Livable street corridors can accomplish many other objectives, including interconnectivity of other land uses, increasing safety for users, promoting healthy lifestyles, and improving aesthetics.

**1. Promote cooperation among all road authorities.**

Cooperation of all road authorities in transportation planning and redevelopment projects will ensure resources are being used efficiently and that planning for transportation network improvements can happen on a united front.

**2. When planning transportation projects, increase multimodal opportunities wherever possible.**

When reviewing transportation systems, it will be important to ensure that reconstruction has

provisions for expanding multimodal transportation throughout the community. Expanding opportunities for multimodal transportation will continue to promote healthy lifestyles as well as further reduce the reliance on vehicular transportation.

**3. Develop policy with flexibility to incorporate a diverse transportation system when redevelopment occurs.**

The redevelopment of street corridors or new streets provide opportunity to continue to enhance the transportation network. Whenever possible it is important that opportunities are studied for including complete street concepts, such as sidewalk improvements, dedicated bike lanes, safer crosswalks, and landscape plantings.

**4. Allow for public art that enhances community character within the transportation system when possible.**

Art can provide an aesthetically pleasing environment when used appropriately. Sidewalk art can increase walking and even provide barriers to improve pedestrian safety.

5. **Develop traffic safety policy and guidelines to protect the transportation system.** Development can impact the transportation system in positive and negative ways. It is imperative that traffic impacts are properly studied in coordination with development requests, and whenever possible development should improve the transportation system. Negative impacts such as increased vehicular traffic congestion can in turn create barriers for multi-modal transportation, when roadways become unsafe to share with vehicle traffic. Continue to develop a transportation grid system that connects all forms of multi-modal transportation.



Photo credit:  
Venture Smarter

## Objective 9.2 Encourage an All-Season Multimodal Transportation System that Serves a Diverse Population

Encouraging the development of an all-season, safe, and diverse multimodal transportation system can decrease reliability on vehicular transportation, promote healthy lifestyles, and increase opportunities for transportation alternatives.

1. **When reconstructing existing intersections, promote safety enhancements for all transportation.** Existing intersections designed without pedestrian traffic in mind threaten the safety of multimodal transportation. It is important to ensure intersections are designed appropriately for any potential uses.
2. **Encourage a multimodal transportation study.** Studying the existing opportunities for multi-modal transportation as well as potential future opportunities will allow transportation agencies to cooperatively plan to address any issues found. It is important that when making road improvements or reviewing development proposals that multi-modal opportunities are identified. This study should

include access to public gathering spaces such as parks, schools, grocery stores, high-density residential areas, and high-density employment areas.

3. **Support a bike share program.** A bike share program is an asset to the community. Bike share programs can provide transportation flexibility, reduce vehicle congestion and emissions, and promote the use of the trail system. With a population rate of people needing to commute by vehicle, a bike share program allows someone to park the car and take a bike through town to complete their desired tasks.



Photo credit: GBAJPB

4. **Develop accurate usage statistics for all transportation types.** When planning for multimodal transportation, it is important to have data to prioritize development as well as ensure opportunity for all types.
5. **Promote the long-term protection and development of the Bemidji Regional Airport.** The airport is invaluable to continued economic development. Protection of airspace through aviation zoning best management practices will ensure the continued development of opportunities for the community as well as on-site at the airport.
6. **Promote new trailheads to increase multimodal transportation.** Development of new trailhead locations will provide opportunities for not only increased recreational transportation, but also increased opportunities for regional commuters to park vehicles and use alternative transportation modes.
7. **Use informative signage policies to ensure the community is informed of all modes of transportation as well as the safest routes around the community.** The use of informative signage by

transportation authorities will increase multimodal transportation awareness and safety.



Photo credit: GBAJPB