

# Chapter 4: Transportation

## Introduction

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Automobiles and trucks are the most prevalent mode of transportation accommodated by local and regional transportation systems. However, a transportation system encompasses much more than just automobiles and trucks. It must also take into account jurisdictional control, alternative modes of transportation, maintenance, and future transportation trends.

A well-planned transportation system provides for the efficient and safe movement of people and goods through various means and lays the foundation for growth and economic success while improving the livability of the City of Menomonie.

Though the best possible multi-modal transportation system is desired, it does not come without costs. Construction of new roads, bridges, and trails, is expensive and can have negative environmental impacts. In addition, after these are built, they have to be maintained.

The Transportation chapter will inventory and examine the existing transportation system in the City of Menomonie with respect to land use, safety, environmental impacts, design standards, modes and long-term costs. By examining the transportation system, the City can identify future needs and ways to meet those needs while minimizing costs and protecting environmental resources.

## Modes of Transportation

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The movement of people and goods is accomplished through a variety of transportation modes. These modes include cars, trucks, railroads, public transportation, ships, airplanes, bicycles, and walking. Generally, each mode fits a particular need.

- Automobiles: Function as the dominant mode for the movement of people.
- Trucks: Provide for the rapid movement of goods and products over interstates and highways.
- Airplanes: Move people and lightweight products quickly over long distances.
- Railroad: Functions primarily for the movement of bulk commodities over long distances.
- Ships: Functions primarily for the movement of bulk commodities nationally and globally.
- Bicycles: Typically move people over shorter distances within a community.
- Walking: Provide for the movement of people within a community.

## Functional Road Classification System (Urban >5,000 Population)

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Roads are functionally classified according to the level of service they are intended to provide, ranging from arterials that provide a high degree of travel mobility to local roads that serve land access functions. The functional classification is determined by traffic patterns, adjacent land use, land access needs, and the average daily traffic volumes. There are both urban (>5,000 population) and rural (<5,000 population) classification systems, both of which are detailed below.

## *City of Menomonie 2016-2036 Comprehensive Plan*

- Principal Arterials serve interstate and interregional trips. These routes generally serve all urban areas greater than 5,000 people. The rural principle arterials are further subdivided into 1) interstate highways and 2) other principle arterials.
- Minor Arterials-Rural, serve traffic generators providing intra-regional and inter-area traffic movements. These routes provide for trips of moderate length, with more emphasis on land access than principal arterials. The minor arterial system interconnects with the urban arterial system and provides system connections to the rural collectors.
- Minor Arterials-Urban, serve important economic activity centers, have moderate traffic volumes, and serve intercommunity trip length desires interconnecting and augmenting the principal arterial system. The minor arterial system interconnects with the urban arterial system and provides system connections to the rural collectors.
- Major Collectors-Rural, provide service to moderate sized communities and other intra-area traffic generators, and link those generators to nearby larger population centers or higher function routes.
- Minor Collectors-Rural, provide both land access service and traffic circulation within residential neighborhoods, commercial areas, and industrial areas. These facilities collect traffic from the local streets in residential neighborhoods and channel it onto the arterial system.
- Collectors-Urban, provides direct access to residential neighborhoods, commercial, and industrial areas, and serve moderate to low traffic volumes and inter-regional trips. These routes collect and distribute traffic between local streets and arterials.
- Local Streets comprise all facilities not on one of the higher systems. They primarily provide direct access to adjacent land and access to higher order systems. Local streets offer the lowest level of mobility, and through-traffic movement on this system is usually discouraged.

There are approximately 104 miles of roads in Menomonie and several major transportation routes passing through the City including Interstate 94, State Highways (S.T.H.) 29, and 25, and U.S. Highway (U.S.H.) 12. Access is also provided through a network of County Highways (C.T.H.), and local roads and streets.

Map 4-1 shows the functional classification of roads in and around the City of Menomonie. Interstate 94 is classified as a principal arterial and is the largest traffic carrier in the area. S.T.H. 29, S.T.H. 25, U.S.H. 12, and a portion of C.T.H. B are also principal arterials within the City limits.

A primary purpose of the functional classification system is to qualify higher functioning roads (collectors and arterials) for state and federal funding assistance for their maintenance and improvement. Because of this, each municipality has a limit as to the number of roads that are placed into each classification. The City has approximately 37 miles of functionally classified roads, or 35 percent of the total mileage, that are eligible for federal and state transportation improvement funds.

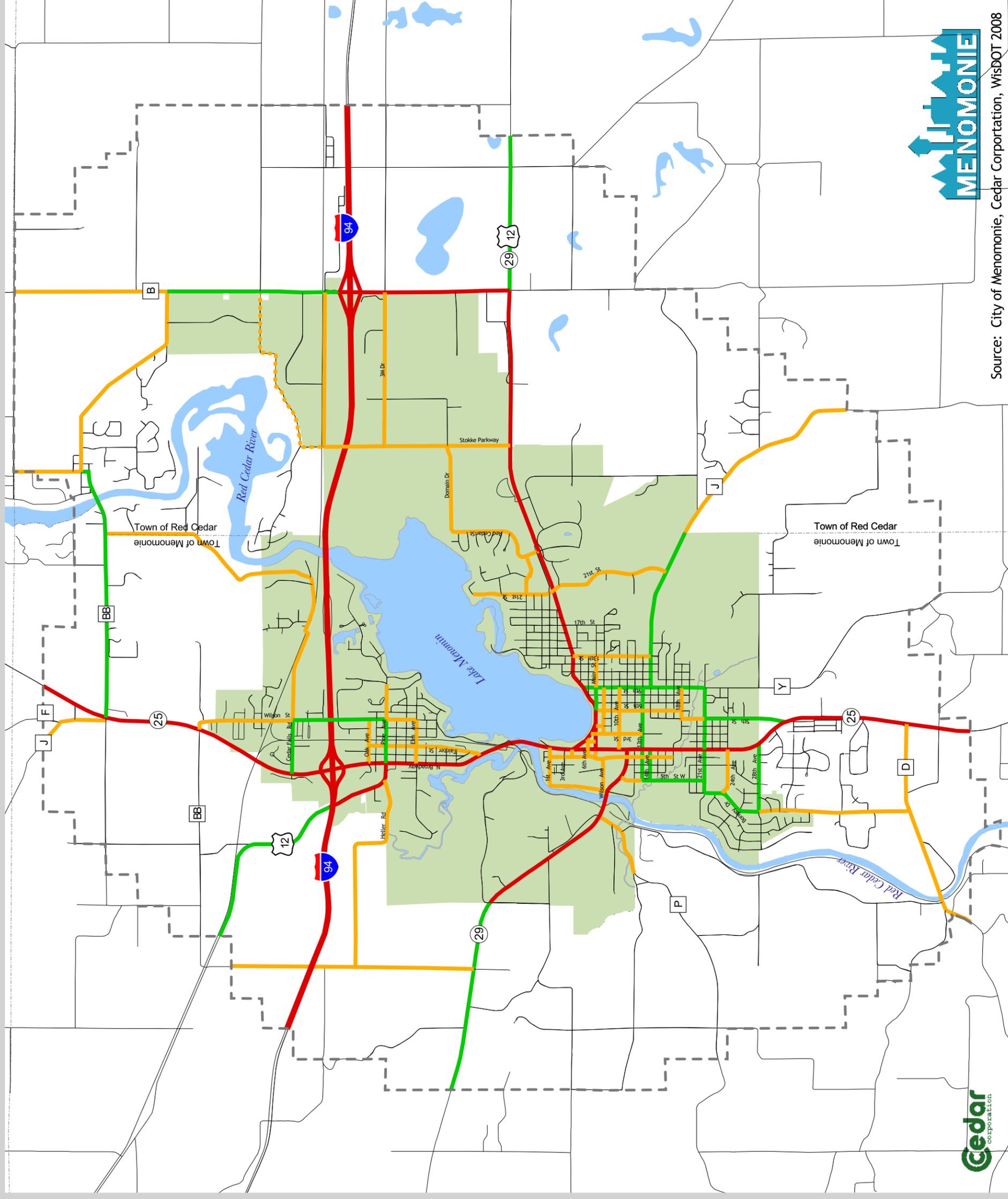
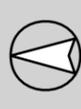
# Functional Road Classification

City of Menomonie

Map 4-1

## Map Key

-  City of Menomonie Boundary
-  Planning Boundary
- Functional Road Classification**
-  Principal Arterial
-  Minor Arterial
-  Collector
-  Planned Collector
-  Local

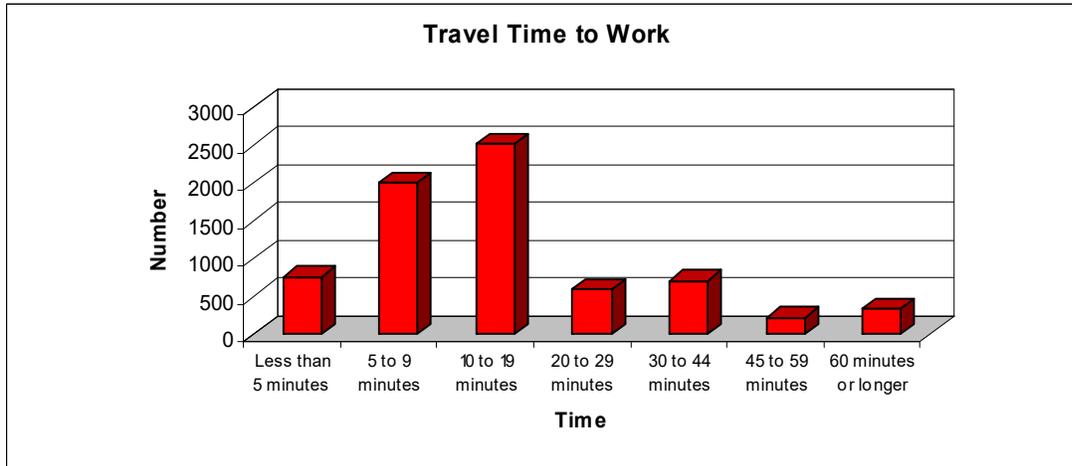


Source: City of Menomonie, Cedar Corporation, WisDOT 2008

## Commuting Patterns

Commuting patterns in the City of Menomonie model commuting patterns for much of Dunn County. A quarter of Menomonie’s working residents commute 20 minutes or more to work (See Figure 4-1). The average travel time to work has increased since 1980. In 1980 it took an average of 10.4 minutes to get to work. By 2000 that time rose to 16.7 minutes, for an increase of nearly 61%. Although more people are traveling longer distances than in the past, Figure 4-1 indicates that there are many employment opportunities within close proximity to the City.

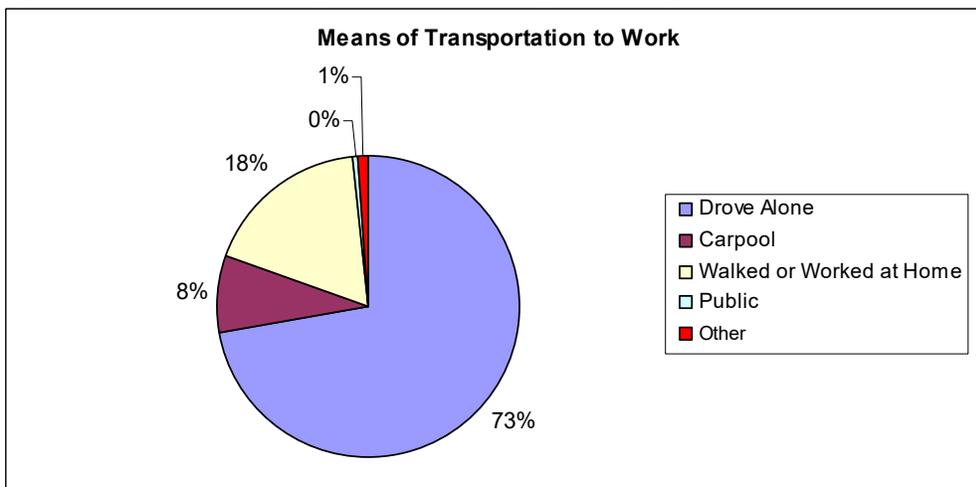
Figure 4-1: Travel Time to Work



Source: U.S. Census Bureau 2000

Transportation choices reflect access to services, distances traveled, and personal preference. Single-occupant vehicles are the dominant mode of transit, with few residents using multi-occupant modes such as carpooling (Figure 4-2 and Figure 4-3).

Figure 4-2: Means of Transportation to Work by Percentage

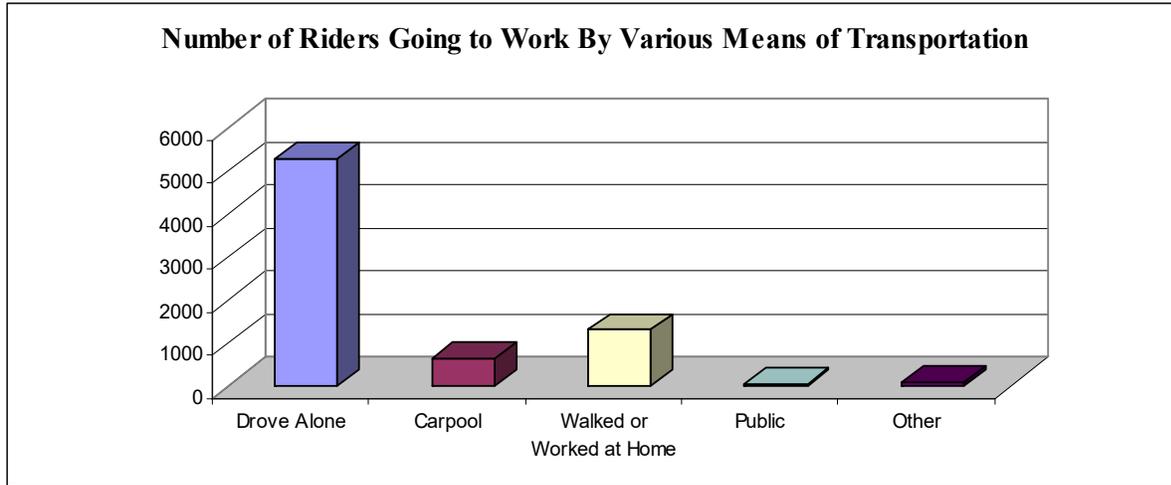


Source: U.S. Census Bureau 2000

## City of Menomonie 2016-2036 Comprehensive Plan

With a majority of commuters traveling less than 20 minutes to work, there are opportunities to promote biking and walking to work to reduce traffic and promote healthy lifestyles.

Figure 4-3: Means of Transportation to Work by Number of Riders



Source: U.S. Census Bureau 2000

## Traffic Volumes

Growing population and related residential, commercial, and industrial growth brings increased traffic. Traffic volumes within the planning area are determined by the Wisconsin Department of Transportation. This data is generally collected every two years at a specific location. Map 4-2 shows traffic volumes at various locations throughout the City. When comparing traffic volumes in 2002 and 2007, Interstate 94 saw a notable increase. Most local streets and highways saw a slight decrease in traffic volume.

Interstate 94, S.T.H. 25, and S.T.H. 29/U.S.H. 12 had the highest traffic volumes in Menomonie. When traffic patterns and volumes change because of development, the functional classification of these roads may change. The traffic volumes shown in Map 4-2 do not show any major shifts in traffic patterns at this time.

## Accidents

The location and frequency of vehicular accidents on the City's street system provides an indication of how well that system is serving the mobility needs of the motoring public. Identifying the location and number of accidents is the first step in the evaluation of a potential safety problem and the development of alternative strategies to correct the safety deficiency.

Table 4-1 shows the number of reported accidents at the nearest intersection at various locations throughout the City of Menomonie between 2002 and 2009. Almost all locations showed a decrease in accidents when comparing the number of accidents between 2002-2005 and 2006-2009. Mapping accident locations and frequencies allows notable changes in frequency or obvious problem areas to stand out (*see Map-3*). A majority of reported accidents involved only vehicles. Although there were reported accidents involving pedestrians or bicycles, they were generally isolated incidents.

# Traffic Volumes Historical Changes 2002 and 2007

## City of Menomonie

Map 4-2

### Map Key

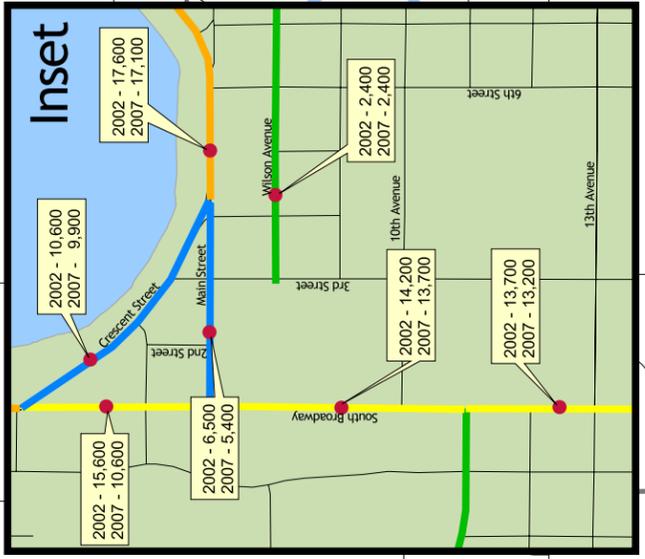
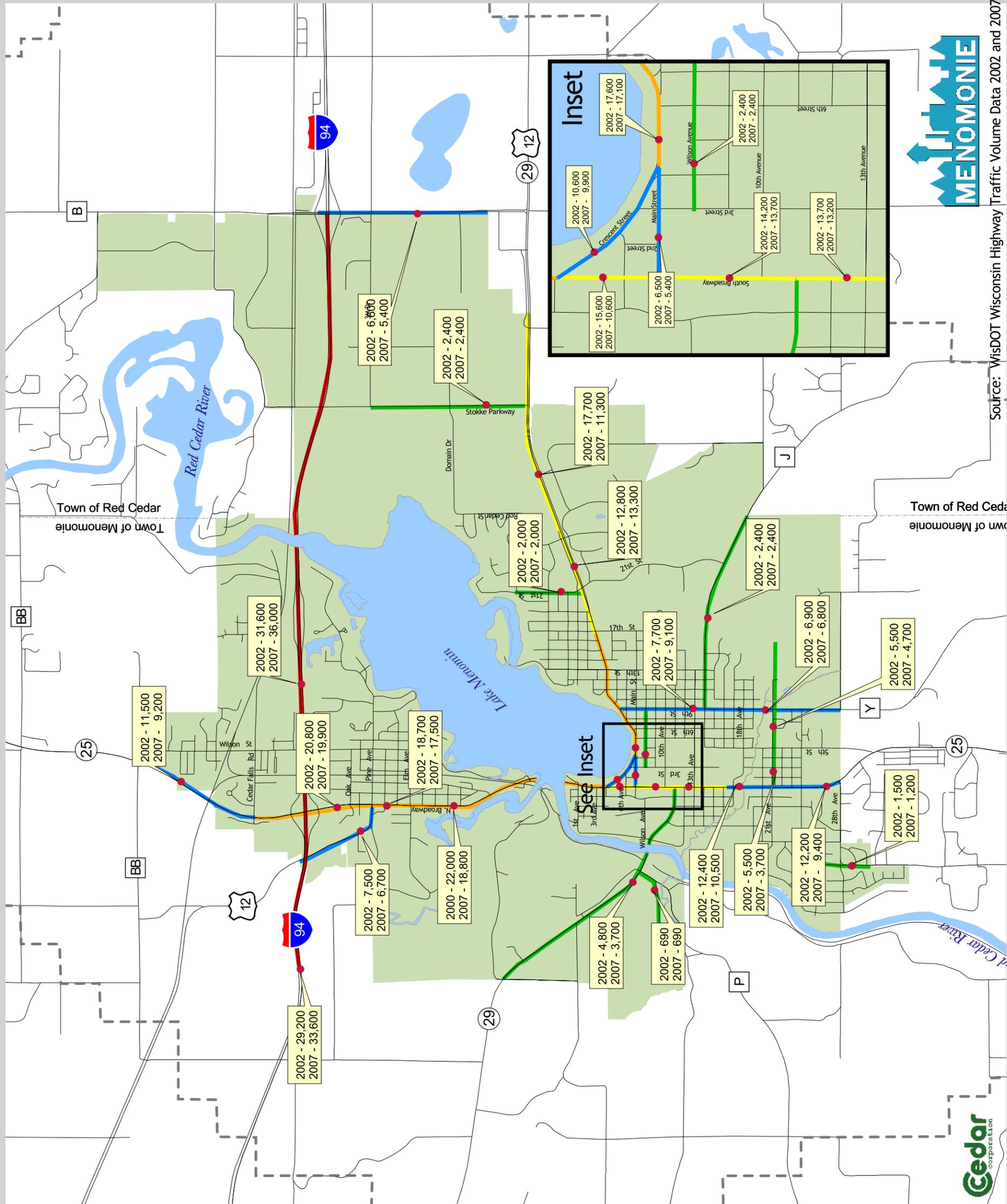
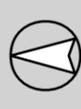
- City of Menomonie Boundary
- Planning Boundary
- Road Centerlines
- Traffic Count Locations

Average Annual Daily Traffic Per Day 2007

- 20,000 <
- 15,000-20,000
- 10,000-15,000
- 5,000-10,000
- 0-5,000

Traffic Count Comparisons

- 2002 - 870  
2007 - 880



Source: WisDOT Wisconsin Highway Traffic Volume Data 2002 and 2007



# Traffic Accident Locations & Frequency

## City of Menomonie

Map 4-3

### Map Key

-  City of Menomonie Boundary
-  Surface Water
-  Local Roads

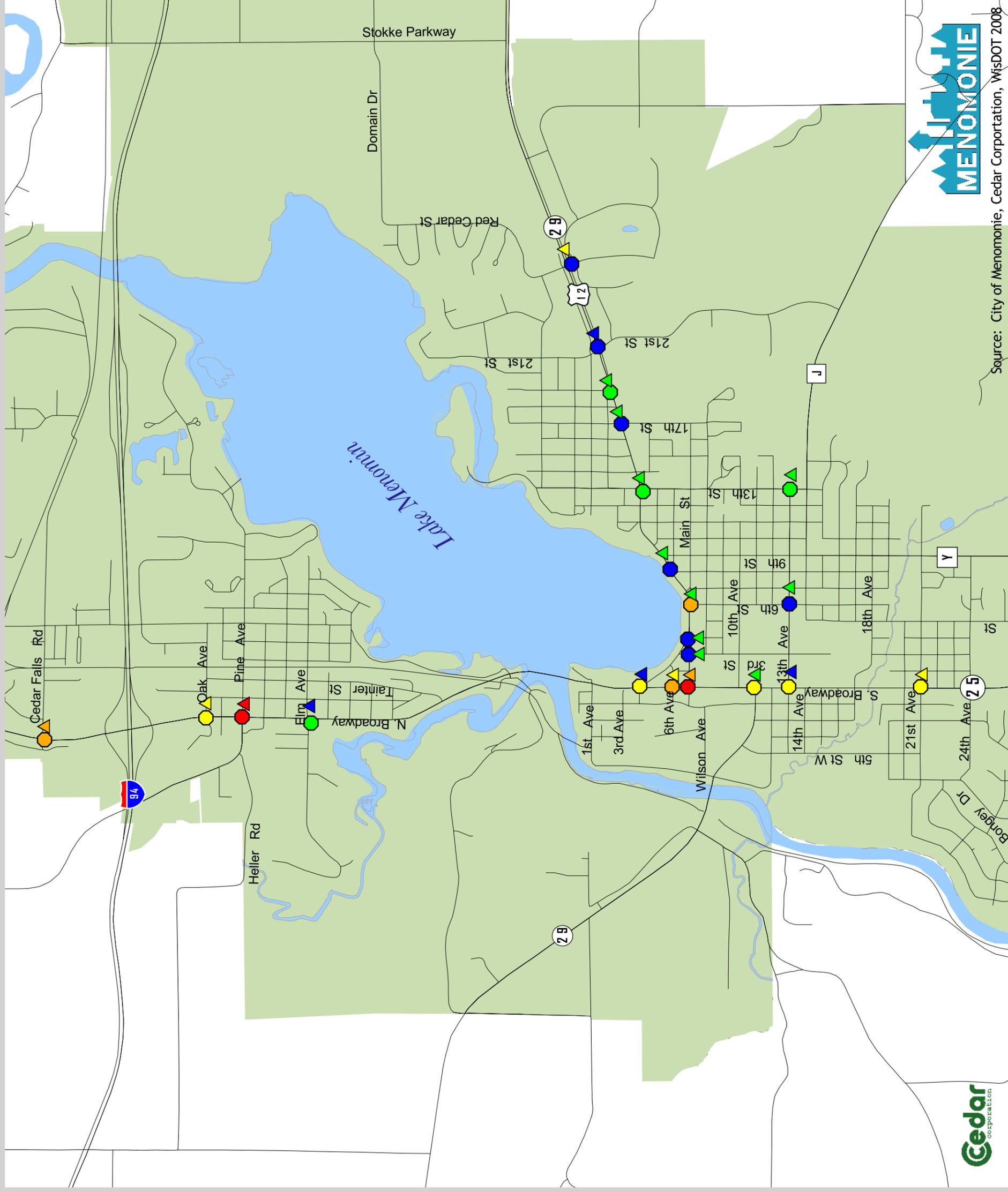
### Accident Frequency (2002-2005)

-  < 10
-  11 - 15
-  16 - 25
-  26 - 40
-  41 - 65

### Accident Frequency (2006-2009)

-  < 10
-  11 - 15
-  16 - 25
-  26 - 40
-  41 - 65

0.5 0 0.5 1 Miles



*City of Menomonie 2016-2036 Comprehensive Plan*

Three distinct areas of higher accident volumes can be identified on Map 4-3. The first area is the North Broadway intersections with Pine Avenue, Oak Avenue, and Cedar Falls Road. This stretch of North Broadway is bordered by fairly extensive commercial development that generates a considerable amount of traffic, as well as serving as the primary entrance to or exit from the City via Interstate 94.

The second area is in the Central Business District and the bordering University area. Physical constraints and limited traffic routing options through the downtown and University areas, combined with heavy traffic volumes in these areas, contribute to growing traffic congestion problems and an increasing frequency of accidents.

A third problem area is emerging on Stout Road at Red Cedar Street. Heavy traffic volumes on Stout Road increase the difficulty in getting into and out of residential neighborhoods and commercial areas. In addition, 21<sup>st</sup> Street serves as one of two direct access points to Stout Road for an increasing mix of single and multi-family residential development, as well as commercial, government and institutional land uses.

Table 4-1: Traffic Accidents: Location and Frequency 2002-2009 City of Menomonie

Intersection Location	Number of Accidents										Difference
	2002	2003	2004	2005	Total	2006	2007	2008	2009	Total	
N. Broadway/Pine Avenue	13	13	28	15	69	13	14	12	9	48	-21
S. Broadway/Main Street	17	14	22	19	72	12	8	7	8	35	-37
N. Broadway/Cedar Falls Rd.	11	12	12	3	38	5	8	8	6	27	-11
N. Broadway/Oak Avenue	6	5	7	11	29	5	6	2	10	23	-6
S. Broadway/6th Avenue	11	4	10	8	33	10	3	5	0	18	-15
6th Street/Main Street	10	7	6	7	30	3	3	3	1	10	-20
S. Broadway/21st Avenue	3	8	6	4	21	4	3	7	3	17	-4
S. Broadway/4th Avenue	4	3	5	7	19	3	5	3	3	14	-5
S. Broadway/13th Avenue	6	10	1	2	19	5	1	2	6	14	-5
S. Broadway/11th Avenue	9	3	7	2	21	2	5	1	1	9	-12
Stout Road/17th Street	3	3	8	2	16	2	2	3	0	7	-9
Stout Road/21 Street	2	3	3	4	12	4	4	2	1	11	-1
Main Street/4th Street	5	5	4	1	15	3	0	1	2	6	-9
13th Avenue/3rd Street	1	2	5	2	10	0	2	3	4	9	-1
Main Street/3rd Street	3	5	4	0	12	1	1	2	2	6	-6
Stout Road/19th Street	3	3	2	1	9	3	2	3	1	9	0
13th Avenue/6th Street	3	4	5	2	14	1	1	0	0	2	-12
Elm & Broadway	2	3	3	0	8	6	1	0	4	11	3
9th St & Stout Rd/Crescent/12/29	4	1	3	3	11	3	1	3	2	9	-2
13th St & Stout Rd/Crescent/12/29	4	1	2	2	9	0	2	6	1	9	0
Red Cedar St & Stout Rd/Crescent/12/29	2	7	1	4	14	1	8	3	4	16	2
Elm & Broadway	2	3	3	0	8	6	1	0	4	11	3
9th St & Stout Rd/Crescent/12/29	4	1	3	3	11	3	1	3	2	9	-2
13th St & Stout Rd/Crescent/12/29	4	1	2	2	9	0	2	6	1	9	0
Red Cedar St & Stout Rd/Crescent/12/29	2	7	1	4	14	1	8	3	4	16	2

Source: Wisconsin Traffic Operations & Safety Laboratory

In high accident areas, these locations can be evaluated for using stop signs, traffic lights, traffic calming methods, or speed reduction in order to reduce the amount of accidents.

## Major Traffic Generators

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Certain activities, facilities and functions tend to generate more traffic than others. For example, commercial and industrial land uses create more traffic than low density residential land uses (See Map 4-4). Traffic volumes also vary weekly and daily with the type of land use. Industries generate more traffic before and after designated working hours, Monday through Friday, while generating little traffic on the weekends. Conversely, parks are heavily used on the weekends and weekday evenings. Parks generally receive greater usage in the summer as opposed to the winter. Churches generate considerable traffic on Sunday morning and little the rest of the week. The following list identifies the major generators of traffic activity in the City of Menomonie:

- Downtown
- UW-Stout
- Red Cedar Clinic and Hospital
- Industrial Parks
- Commercial Areas
- Parks
- Schools

Identifying traffic generators will help show areas where there are opportunities to increase pedestrian and bicycle access which would help reduce traffic congestion.

## Criteria for Future Road Corridors

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Menomonie has the unique distinction of having Lake Menomin in the middle of the City as well as varying topography that provides challenges to having a connected transportation network. The City does not have parallel road corridors because of this. Parallel corridors would provide for alternatives to bypass the City for people passing through the area rather than have that traffic flow through the City and add to the congestion.

An example of the above scenario is the issue of Interstate 94 being the only east/west thoroughfare north of Lake Menomin. When construction occurs, or if an accident happens on Interstate 94, the shortest way around the problem areas is to travel through the City of Menomonie. This adds considerable amounts of traffic volume to the principal arterials of Menomonie.

To ensure smooth traffic flow through the City of Menomonie, these factors will be considered when planning future road corridors:

- Connect existing dead ends and stub roads where possible.
- Require multiple access points for certain developments.
- Increase/improve east-west, north-south corridors.
- Follow natural features and topography of the land.
- Explore possibilities within the City before expanding outward.

Map 4-5 shows proposed future roads in and around Menomonie. Within the City, the proposed roads provide connections between existing roads to improve connectivity. Menomonie has also been working with the Town of Menomonie and the Town of Red Cedar to establish an Official Map. An Official Map allows for joint planning of major transportation corridors through the area. The proposed route in the northwest corner of the planning boundary in the Town of Menomonie is the result of the joint planning. This route has been officially mapped.

# Traffic Generators

City of Menomonie

Map 4-4

## Map Key

-  City of Menomonie Boundary
-  Planning Boundary

## Traffic Generators

-  Commercial Areas
-  Institutions
-  Parks
-  Main Street
-  UW-Stout

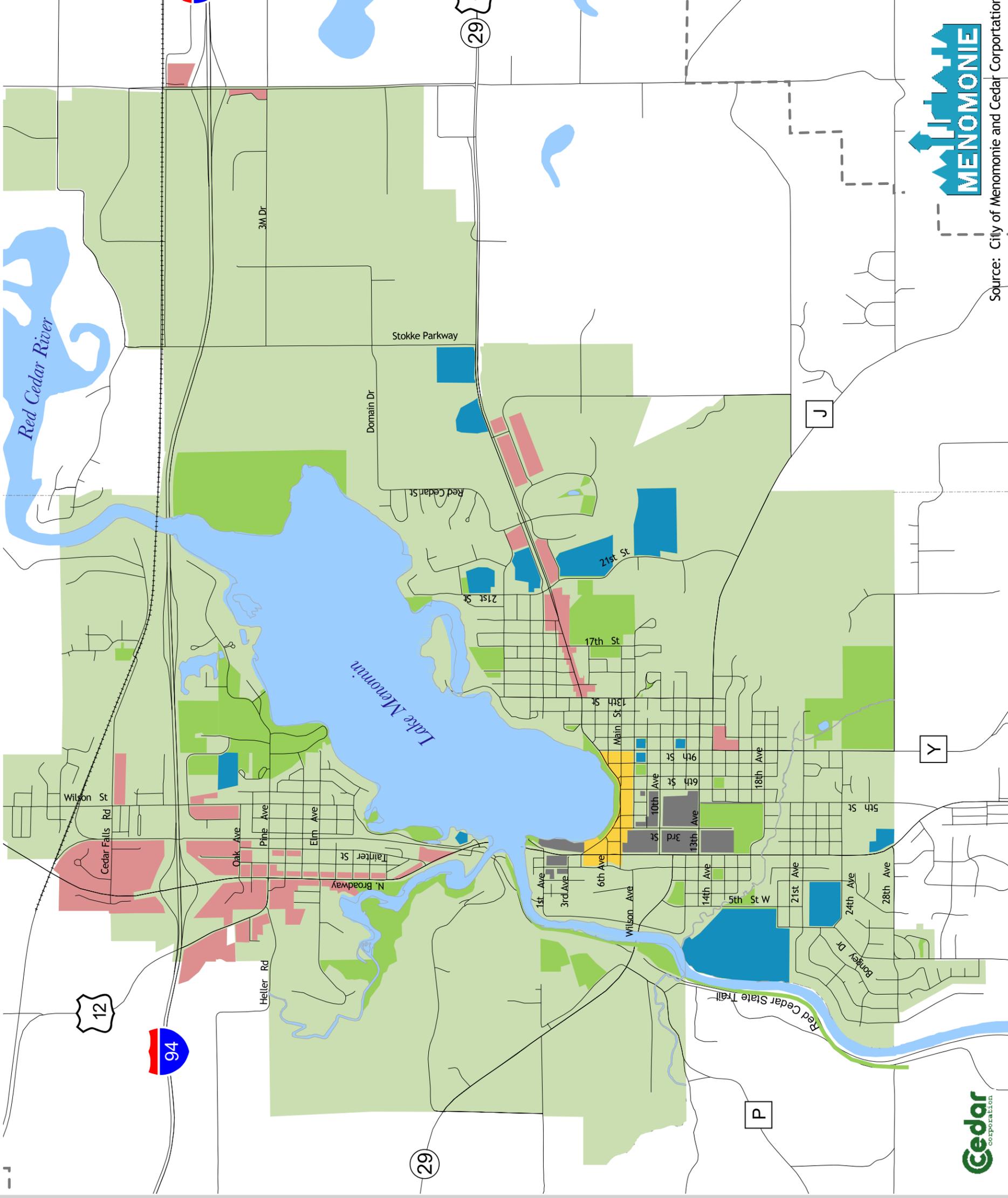
Note: Traffic generators are places in a community that residents frequent and generally travel there by car or truck.

These areas include retail centers, parks, schools, government buildings and downtowns.

A well-planned transportation system should look at connecting these areas by sidewalks and trails in order to encourage walking and biking to these places to reduce traffic, promote wellness, and reduce air pollution.



Source: City of Menomonie and Cedar Corporation



# Future Roads

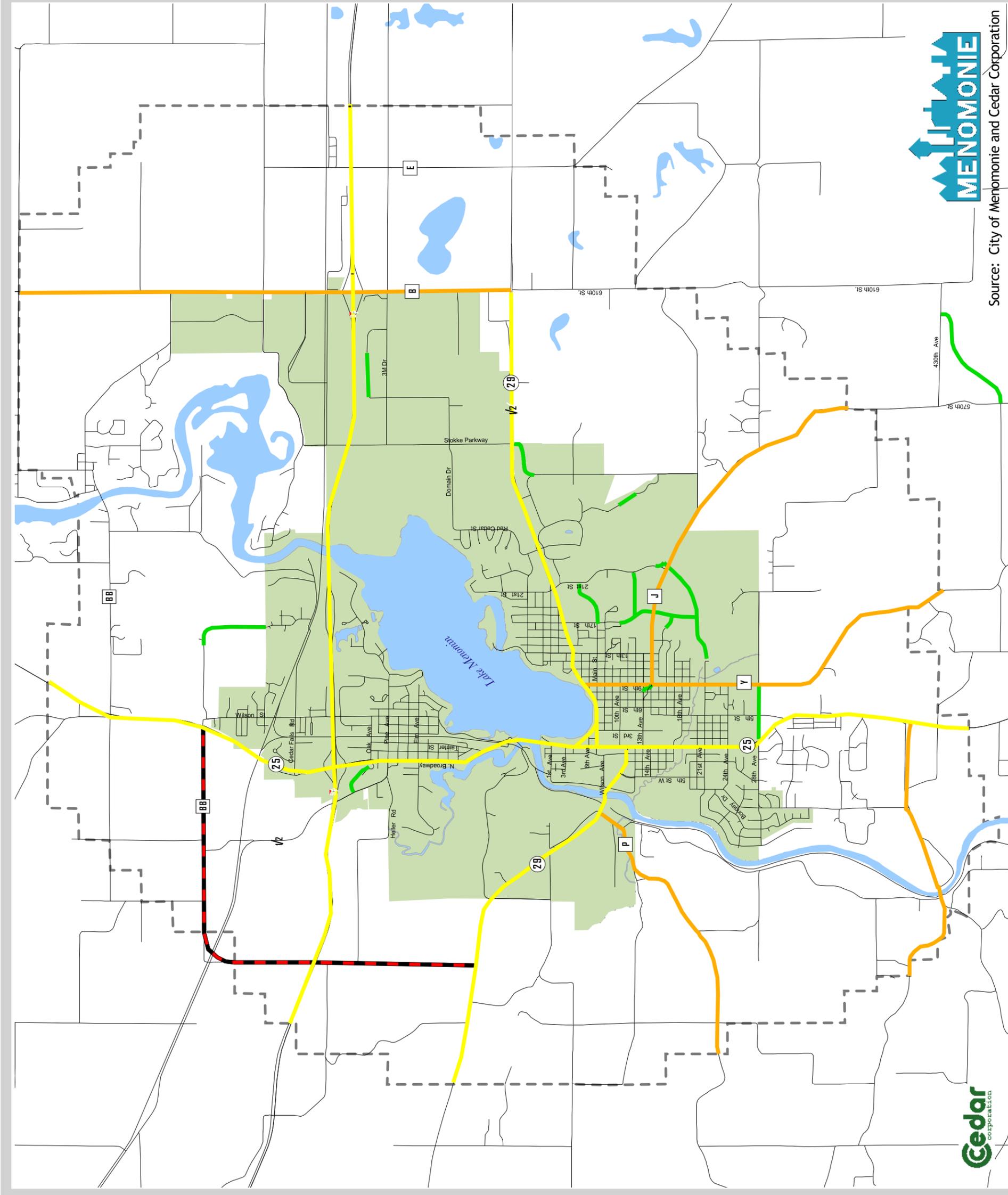
City of Menomonie

Map 4-5

## Map Key

- City of Menomonie Boundary
- Planning Boundary
- Surface Water
- Interstate and Highways
- County Roads
- Streets
- Future Roads
- Future Officially Mapped

The future roads connect existing roads and highways to reduce dead ends, improve traffic flow, and provide alternative routes around the City of Menomonie.



Source: City of Menomonie and Cedar Corporation



## State, Regional, and other Transportation Plans

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The Wisconsin Department of Transportation has several state and regional transportation plans that were reviewed to ensure consistency. Overall goals in these plans are consistent with the City's overall transportation goals. The plans reviewed relate to the freeway system, rail, state highways, airport, bicycle, and pedestrian transportation.

The Wisconsin Department of Transportation has updated its long-range plan titled *Connections 2030 Long Range Multi-modal Transportation Plan* in 2009.

The plan identifies trends and challenges that will pose difficulties as the department plans for Wisconsin's future transportation needs. Wisconsin's growing and aging population, rising costs, and increasing traffic congestion support the need for transportation alternatives such as transit. Land use and commuting patterns, as well as substantial projected increases in freight truck traffic, also need to be considered. Statewide, the trends and challenges listed below will affect the City of Menomonie.

### Trends

- Wisconsin's population is growing and aging
- Wisconsin's travel patterns are influenced by fuel cost, land use, mode choice and other factors
- Wisconsin's economy will continue growing through 2030
- Energy, environmental, and transportation policies are increasingly in the spotlight

### Challenges

- Transportation infrastructure is aging
- Transportation system will experience increased use
- Transportation system needs continue to exceed available resources
- Lack of coordination and cooperation leads to system inefficiencies
- Driver behavior continues to be a safety concern

Specific to Menomonie, the Wisconsin Department of Transportation is in the initial stages of collecting information for a potential bypass of Menomonie north of Interstate 94. As mentioned previously, when the interstate is closed down due to an accident or road construction, traffic is rerouted through downtown Menomonie which leads to heavy congestion. A bypass to the north would alleviate much of that congestion. The City of Menomonie will be working with the WDOT in later planning stages.

## Road Expenditure Planning

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With infrastructure comes maintenance. A sound transportation plan should be able to foresee and responsibly plan for upcoming expenses. Two ways of doing this is by participating in the PASER program and creating Capital Improvement Programs (CIP). The City of Menomonie does both.

Pavement ratings can be used for planning maintenance and budgets for local roadways. In 2001, a state statute was passed that requires municipalities and counties to assess the physical pavement condition of their local roads. A common method of doing this is referred to as Pavement Surface Evaluation and Rating or PASER. PASER rates roadways from Failed

(needs total reconstruction) to Excellent (no visible stress). PASER allows for better allocation of resources, a better understanding of pavement conditions, and allows for long term planning. The City of Menomonie had their first PASER rating completed in 2001.

The City of Menomonie maintains a CIP that prioritizes and creates cost estimates for municipal improvement projects including streets. Each year the plan is reviewed and revised as needed after the year's projects are completed. Maintaining a CIP allows the City to effectively plan for future transportation expenditures and needs.

## Existing Sidewalks and Trails

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Today, more people are interested in the health benefits of walking and biking than ever before. These are also becoming more acceptable forms of basic transportation as people are more aware of the environmental impacts of motorized vehicle use. Biking and walking are increasingly popular ways to exercise regardless of age. Sidewalks provide a safe way for pedestrians to move throughout the City while bike trails can offer an aesthetic and relaxing way to enjoy Menomonie while bringing in financial benefits to local businesses as well. The City of Menomonie has an extensive sidewalk and trail system throughout the City (*See Map 4-6*).

Map 4-6 shows the existing sidewalks and trails in the City and surrounding area. Like most communities, it is the older neighborhoods and downtowns that have the most sidewalks because the homes and jobs were within walking distance and people owned fewer vehicles if any.

Modern development practices, sprawl, and multi-vehicle families have increased the need for roads and parking. As vehicle congestion grows and childhood obesity rates rise, an infrastructure that promotes biking and walking is essential to any community.

In 2000, the City Council adopted a sidewalk location policy. The policy was designed to guide the City in locating, constructing, and repairing sidewalks and pedestrian corridors within the City. The City reviewed traffic volume, traffic generators, and circulation when creating the policy. The following classifications were created:

- **Primary Pedestrian Corridor**

Streets with traffic counts over 5,000 vehicles per day would require sidewalks on both sides, unless the abutting property is undeveloped.

- **Secondary Pedestrian Corridor**

Streets with traffic counts between 1,000 vehicles per day to 5,000 vehicles per day would require sidewalk on one side, unless the abutting property is undeveloped.

- **Local Pedestrian Corridor**

Streets with traffic counts under 1,000 vehicles per day but serve a location that generates pedestrian traffic or that would loop a Primary and/or Secondary Pedestrian Corridor would require sidewalk on one side.

Bicycle facility improvements within the City of Menomonie have been identified in the City's *Bicycle Facilities Plan*, originally completed in 1993. The focus of the plan was on bicycle facility improvements that provide for a designated internal circulation network for bicyclists, along with a connection to the Red Cedar Trail. The *Bicycle Facilities Plan* is being updated.

## *City of Menomonie 2016-2036 Comprehensive Plan*

The City also maintains a Pedestrian Corridor and Safe Routes to School Plan that was revised in 2008. The Plan recommends future sidewalk and trail locations in relation to Menomonie schools as well as design standards, crosswalk markings, and signage.

Future sidewalk and trail improvements should consider these factors:

- Providing safe passage to generators of traffic including parks, schools, public buildings, restaurants, and retail stores.
- Locate sidewalks along roads with heavy traffic such as arterials and collectors.
- Build sidewalks that provide connectivity to other sidewalks.
- Provide adequate road width and shoulder space for safe sharing of road space with bicycles and vehicles.
- Establish trails that link park and conservancy areas and provide parking for non-resident use.
- Provide safe crosswalks and appropriate signage.
- Utilize traffic calming techniques to reduce vehicle speeds and improve pedestrian and bicyclist safety.

By providing safe pedestrian and bicycle infrastructure, Menomonie and its residents will experience a variety of benefits.

### **Economic**

- Biking and walking can reduce traffic, parking needs, and energy consumption
- Biking and walking reduces health care costs

### **Social**

- Walking helps students and adults decompress after a long day
- Walking creates community interaction and connectedness.
- The elderly are more likely to walk to nearby services and socialize in their community. It also offers them more independence.

### **Safety**

- Pedestrians separated from motorized traffic
- Appropriate signage and markings make motorists aware of possible pedestrian or bicyclist traffic

### **Health**

- Biking and walking are easy ways to get short sessions of exercise.
- Active children tend to remain active.
- Biking and walking helps fight obesity.

# Existing Sidewalks & Trails

## 2010

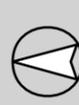
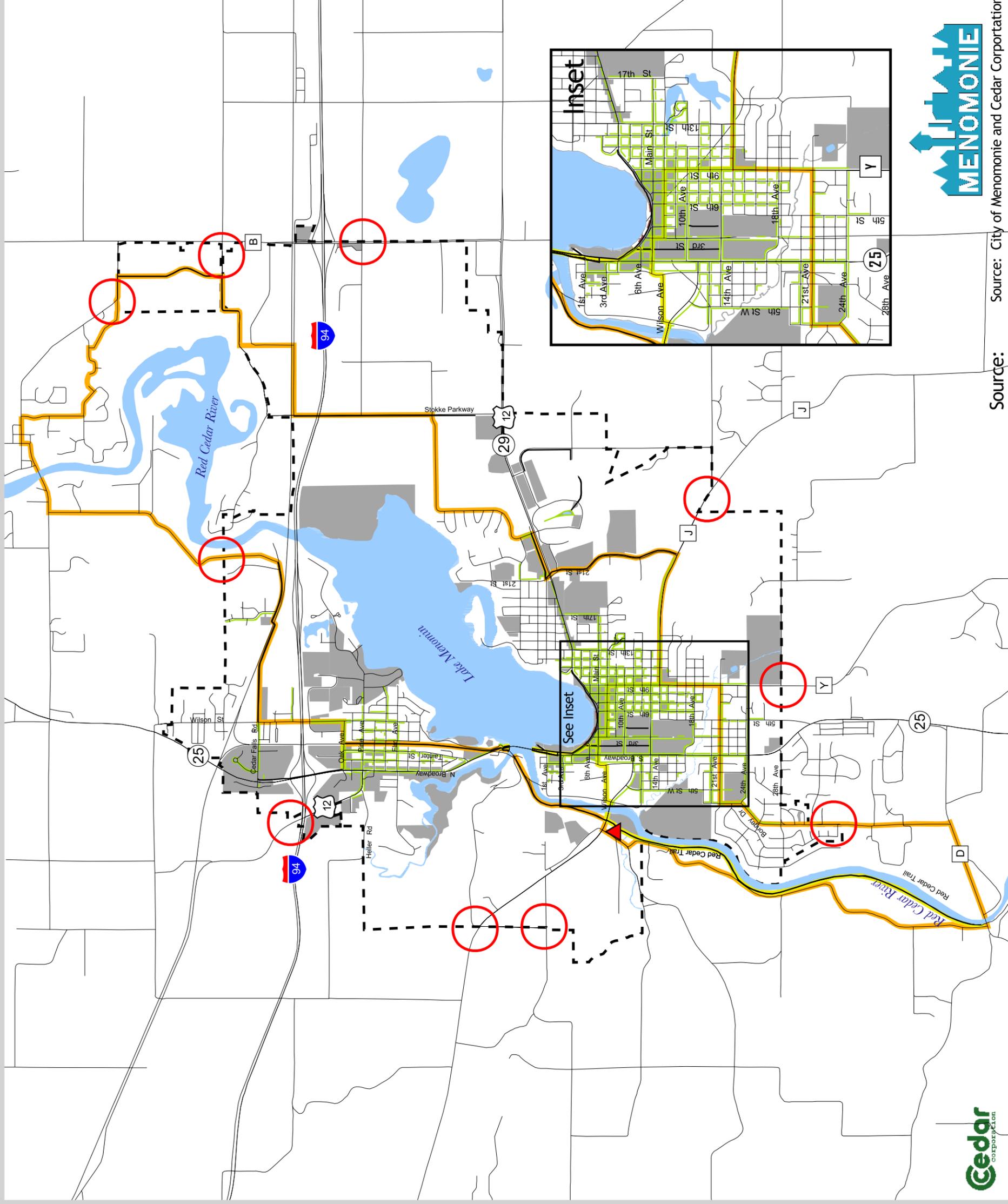
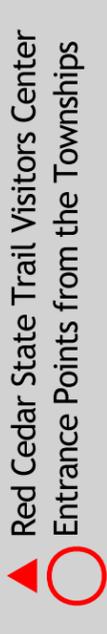
City of Menomonie

Map 4-6

### Map Key



Traffic Generators: Commercial Areas, Parks, Schools, Etc.



## Traffic Calming Techniques

Traffic calming techniques are designed to reduce the negative effects between motor vehicles and pedestrians/bicyclists. The techniques listed below are from the Federal Highway Administration and the Pedestrian and Bicycle Information Center.

**Curb Extensions:** Also known as bulb-outs or bump-outs, curb extensions extend the sidewalk or curb line out into the parking lane, which reduces the effective street width. Curb extensions significantly improve pedestrian crossings by reducing the pedestrian crossing distance, visually and physically narrowing the roadway, improving the ability of pedestrians and motorists to see each other, and reducing the time that pedestrians are in the street. The City has incorporated bump-outs in the downtown area.



**Crossing Islands:** Also known as center islands, refuge islands, or pedestrian islands. These are raised islands placed in the center of the street at intersections to help protect crossing pedestrians from motor vehicles. Center crossing islands allow pedestrians to deal with only one direction of traffic at a time, and they enable them to stop partway across the street and wait for an adequate gap in traffic before crossing the second half of the street.

**Chicanes:** Chicanes create horizontal diversion of traffic and can be gentler or more restrictive depending on the design. Shifts in travel lanes can be created by shifting parking from one side to the other or by building landscaped islands.



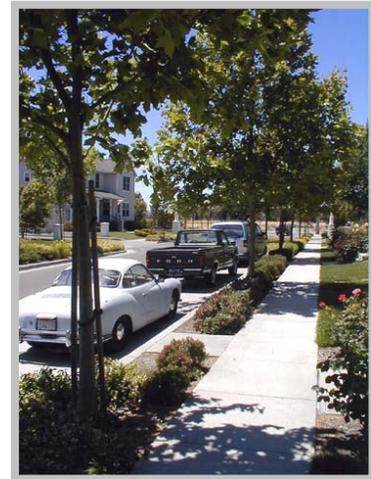
**Mini-Circles:** These are raised circular islands constructed in the center of residential street intersections (generally not intended for use where one or both streets are arterial streets). They reduce vehicle speeds by forcing motorists to maneuver around them. Mini-circles have been found to reduce motor vehicle crashes by an average of 90 percent in some cities.

**Speed Humps/Speed Tables/Raised Pedestrian Crossings:** Speed humps are paved and usually 3 to 4 inches high at their center and extend the full width of the street with height tapering near the drain gutter to allow unimpeded bicycle travel. They are designed to reduce vehicle speed. Speed tables are flat-topped speed humps. Raised pedestrian crossings are similar to speed tables but are used for the entire intersection and enhance the pedestrian environment. The City installed a raised crossing on Second St. West in Stout's North Campus.



**Gateways:** A gateway is a physical or geometric landmark that indicates a change in environment from a higher speed arterial or collector road to a lower speed residential or commercial district. They often place a higher emphasis on aesthetics and are frequently used to identify neighborhood and commercial areas within a larger urban setting.

**Landscaping:** The careful use of landscaping along a street can provide separation between motorists and pedestrians, reduce the visual width of the roadway (which can help to reduce vehicle speeds), and provide a more pleasant street environment for all. This can include a variety of trees, bushes, and/or flowerpots, which can be planted in the buffer area between the sidewalk or walkway and the street.



**Bike Lanes:** Bike lanes are portions of roadway that have been designated by striping, signing, and pavement markings for the preferential or exclusive use of bicyclists. Bike lanes make bicyclists more visible to motorists.

## Neighborhood Electric Vehicles

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Neighborhood Electric Vehicles or NEVs are vehicles that are capable of traveling at speeds of around 25 mph and have an approximately 40-mile driving range between charges. They come with safety features like headlights, turn signals and seat belts. An NEV can be operated on roads where the posted speed limit is 35mph or less. As energy costs rise, more area governments are creating ordinances to allow and regulate the use of NEVs on roads. NEVs can be used for personal transportation and as a utility vehicle.



The City enacted an ordinance allowing neighborhood electric vehicles on public streets and alleys. Users must have a valid driver's license and the vehicle must be licensed by the state. Currently, UW-Stout has a fleet of electric vehicles that is used on campus.

## Air Service

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The recently completed improvements to Menomonie's Municipal Airport (Score Field) have increased the accessibility to the City by air travel. The airport improvement project included the construction of a new primary east/west runway 5040 feet in length by 75 feet in width. The project also included the upgrading of navigational aids with the installation of new medium intensity runway lights (MIRLS), runway end identifier lights (REILS), and a visual approach decent indicator (VADI/PAPI).

The improvements enable the community to better accommodate business travel on corporate owned aircraft, as well as personal travel on privately owned aircraft. However, Menomonie's location in proximity to the general air passenger transportation provided at the Minneapolis-St. Paul International and Chippewa Valley Regional Airports will continue to be an obstacle to attracting a regional common carrier air passenger service.

In 2010, the City completed a new 2,500 sq. ft. terminal. The improvements include a conference room, pilot's lounge, pilot's flight planning room, lobby, manager's office, and kitchenette. The new terminal features geothermal heating which heats the floor. The new terminal complements the runway improvements that were completed earlier.

In addition, 11 acres of land was purchased for future airport needs and a new parking lot was constructed. The City of Menomonie should continue to promote and support the use of its Municipal Airport for corporate and private aviation travel.

The Chippewa Valley Regional Airport in Eau Claire is approximately 27 miles away. Its main connection is to the Chicago O'Hare Airport with United Express.

Access to commercial air service is provided through the Minneapolis-St. Paul International Airport (MSP). MSP provides direct access to 175 domestic destinations, as well as many international access points and furnishes the primary air transportation needs for the City of Menomonie. Minneapolis/St. Paul International Airport is approximately 70 miles away.

## Rail (Freight and Passenger)

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The City of Menomonie's location along an east/west mainline of the Union Pacific Railroad ensures the community of rail access for industrial shipping needs. Rail freight service is currently provided via spur line connections to the Cardinal Glass manufacturing plant, Banks Hardwoods, Ambassador Steel, Quality Liquid Feed, and Lehmann & Larson. Additionally, the City has industrial land for sale that sides on the rail line. Rail service provides opportunities for various industries that may be interested in locating to the area.

The existing rail infrastructure could also be potentially used for passenger rail lines. A passenger service route along U.S.H. 12 could connect the City of Menomonie to the Twin Cities and the City of Eau Claire. The West Central Wisconsin Rail Coalition is an active group that has been spearheading the revival of passenger rail in western Wisconsin since 1999. The Coalition provides leadership and coordination to develop passenger rail service as part of a regional strategy to ensure a transportation system that is necessary for long-term sustainable economic growth. Their efforts have resulted in the State of Wisconsin and State of Minnesota to include passenger rail though the City of Menomonie in their respective long-range plans. This would provide opportunities for additional economic development employment in Menomonie.

## Transit

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Transit options are limited but growing for Menomonie residents. Currently, there are two taxi services in the City, 231-Taxi and Klassic Cab.

Menomonie residents now have access to bus service again. Jefferson Lines drops off and picks up passengers in front of the Memorial Student Center on the UW-Stout campus. Tickets must be purchased online.

Until recently, specialized transportation services in Menomonie were provided by Disabled and Elderly Transportation, Inc. (DET), a private non-profit transportation provider serving elderly and disabled residents. On December 31, 2009, DET ceased to exist and on January 1, 2010, the Dunn County Transit Commission (DCTC) began operation. There are two representatives from the City of Menomonie on the Commission.

With the creation of the DCTC, a more diversified transit system was established that provides lower fares and more service. The new system is based on federal transit funds and serves all types of passengers. The DCTC operates on existing DET schedules and service levels are not expected to change in 2010. Doorstop service to all passengers is available Monday through Friday from 7:30 a.m. to 5:30 p.m. and the first Saturday of the Month from 7:30 a.m. to 2:30 p.m. Services will also be offered the last four Saturdays of the year.

The I-94 Corridor Coalition is a non-profit multi-jurisdictional group. The group includes members from St. Croix, Dunn, Barron, Chippewa, and Eau Claire Counties. The group has been organized through West Wisconsin Regional Planning Commission. The Coalition's focus is all modes of transportation along the I-94 corridor.

## Trucking

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Menomonie has a number of industries and businesses that rely on trucking for transportation of inventory, raw materials, and products. In order for these businesses to remain viable, the transportation network must provide adequate truck access for those industries and businesses.

## Water Transportation

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Currently, the surface waters in and around the City of Menomonie do not provide conventional means of transportation. However, they can be used for recreation for boating and fishing. The City of Menomonie does not have a need to utilize the existing surface waters for conventional transportation.

## Bridges

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Bridges carry motor vehicle traffic and reduce travel time for commuters and the transport of goods and commodities. The Wisconsin DOT generally defines bridges as having a span 20' or more and carrying vehicle traffic. Six bridges in Menomonie are owned by the City. The bridges are inspected every two years and rated (*see Map 4-7*).

Table 4-2 shows the location of bridges under City Jurisdiction. Bridges can require significant expenditures for maintenance or replacements. There are federal programs that provide monies for both and these are typically managed through the Wisconsin DOT.

Table 4-2: Bridges under City of Menomonie Jurisdiction

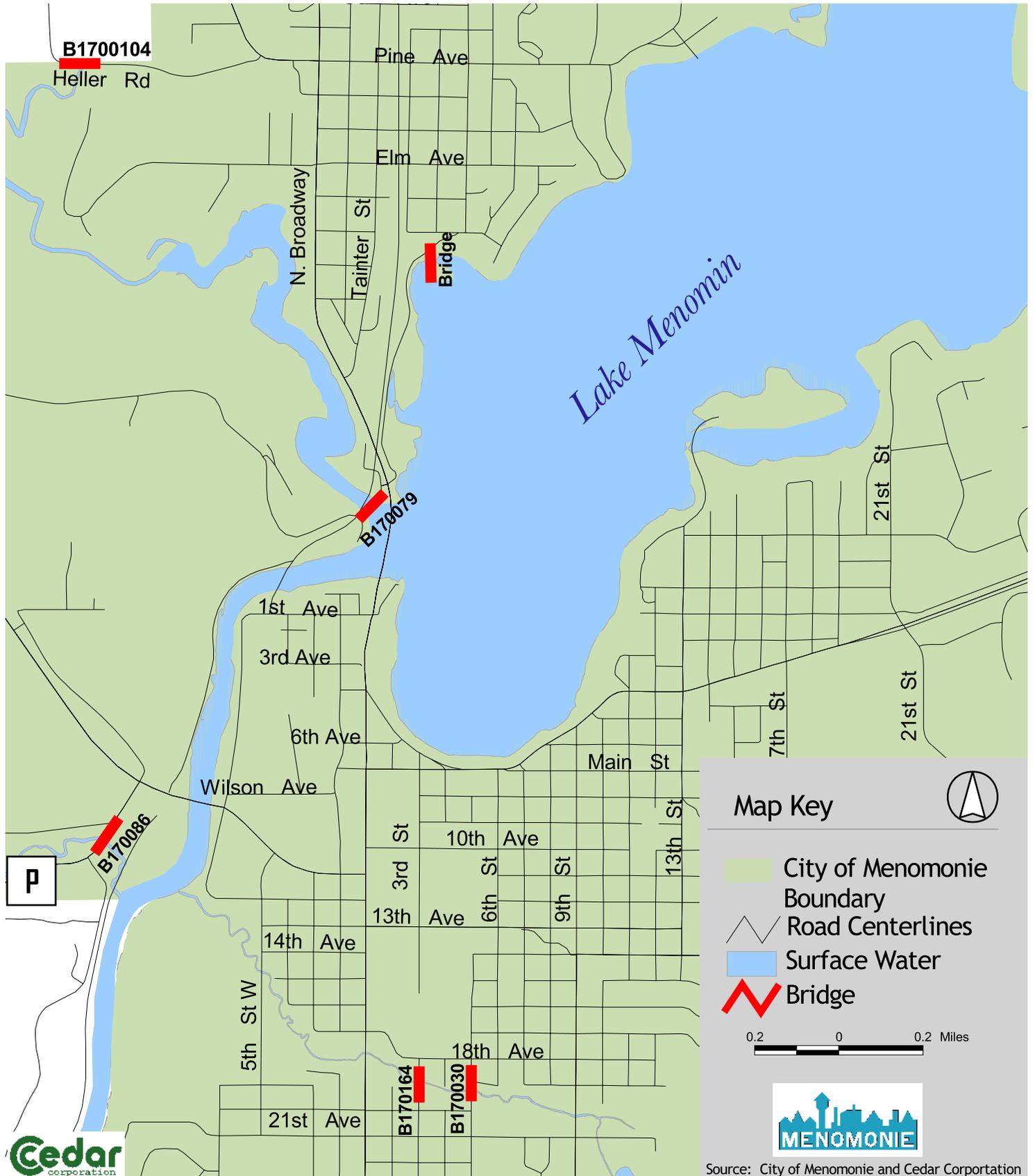
Structure #	Feature On	Feature Under
B1700079	Meadow Hill Drive	Wilson Creek
B1700086	890 <sup>th</sup> Street	Gilbert Creek
B1700104	Heller Road	Wilson Creek
B1700164	East 3 <sup>rd</sup> Street	Red Cedar River
B1700030	East 5 <sup>th</sup> Street	Galloway Creek
-	Wolske Bay Road	Wolske Bay

Source: Wisconsin Department of Transportation

# Bridge Locations

## City of Menomonie

Map 4-7



### Map Key



- City of Menomonie Boundary
- Road Centerlines
- Surface Water
- Bridge

0.2 0 0.2 Miles



Source: City of Menomonie and Cedar Corporation

## Parking Requirements

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Parking is needed or required for most landuses. Often, the minimum parking requirements specified in a community's code are more than enough to meet the daily needs of the land use.

Parking lots create large amounts of impervious surfaces that create runoff and require stormwater management through the construction of storm sewers, ditches, and ponds. By looking at ways of reducing parking lot areas, less infrastructure is needed and water quality is improved. Listed below are several examples of ways the City can look at ways of reducing the amount of parking spaces required in development.

1. Allow shared parking based on peak hours of existing and proposed businesses.
2. Higher building densities and sidewalks promote walking and reduce the need for parking.
3. Create trade-offs for reduced parking such as reduce the number of parking stalls in exchange for bicycle racks.
4. Consider centralized parking versus individual parking lots.
5. Construct a portion of the required parking as long as the concept shows where parking can be expanded if needed.
6. Use the City code as a maximum requirement

## Street Design

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Depending on the situation, narrow streets may be preferable over wide street widths and vice-versa. Narrow width streets may be appropriate in a new residential subdivision where new homes have large driveways that can accommodate a large number of cars. It may also be appropriate where traffic is limited and the ability to expand a development is impeded by a river, railroad, or other development.

Wider streets may be appropriate for local collector roads where more traffic is normal. It may also be appropriate where parking is needed on both sides of the roads. Each case should be evaluated individually to look at capacity, age of neighborhood, land use, and future growth potential.

Benefits of taking a closer look at street widths is that the City may be able to reduce the amount of impervious surfaces, which would have a positive impact on stormwater quantity and quality. This would require less stormwater infrastructure and maintenance over time. Street widths will also influence the cost of constructing or reconstructing streets. Table 4-3 shows street widths in relation to storm water impacts and construction quantities. As street widths get wider, the storm water impacts and construction quantities increase. The information in this table can be considered when determining street widths in any future development.



Other aspects of design that can be considered are the use of roundabouts or boulevards. Roundabouts are designed to reduce the need for stopping at intersections, which consumes less fossil fuel and reduces accidents. Boulevards can be used to separate traffic on high traffic roads while being aesthetically pleasing.

Table 4-3: Street Width Analysis

Street Geometry			Storm Water Impacts		Construction Quantities					Notes:
Right of Way (FT)	Street Width (FT)	Total Sidewalk Width (FT)	% Impervious of ROW	% Reduction	Excavation (CY/FT)	Road Base Materials (CY/FT)	% Reduction	Asphalt Surface (SY/FT)	% Reduction	
66	44	5	75.8%	3.0%	4.8	1.9	3.8%	4.6	4.9%	Major Village Collectors with on-street parking on both sides
66	42	5	72.7%	3.0%	4.6	1.9	4.0%	4.3	5.1%	Major Village Collectors with on-street parking on both sides
66	40	5	69.7%	6.1%	4.4	1.8	8.3%	4.1	10.8%	Minor Village Collectors with on-street parking on both sides
66	36	5	63.6%	3.0%	4.1	1.6	4.5%	3.7	6.1%	Minor Village Collectors with on-street parking on both sides
66	34	5	60.6%	3.0%	3.9	1.6	4.8%	3.4	6.5%	Minor Village Collectors with limited on-street parking
66	32	5	57.6%	3.0%	3.7	1.5	5.0%	3.2	6.9%	Major Access Streets with limited on-street parking
66	30	5	54.5%	3.0%	3.5	1.4	5.3%	3.0	7.4%	Major Access Streets with limited on-street parking
66	28	5	51.5%		3.3	1.3		2.8		Minor Access Streets with limited on-street parking

Source: Cedar Corporation

## Transportation Goals, Objectives, Programs, Policies & Actions

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### Goal 1: Provide for the ease of movement within and through the City of Menomonie.

#### Objectives

1. Increase connectivity of roads to encourage dispersing of traffic.
2. Limit access points on major traffic carriers.
3. Limit dead ends and cul-de-sacs.

#### Programs, Policies, and Actions

1. Review development plans to ensure there are adequate access points.
2. Encourage developers to design subdivisions that fit into the City's future transportation plan.
3. Update bicycle and pedestrian plans as needed.
4. Map current truck routes and identify areas where those routes could be altered or new routes added to improve traffic flow and access.
5. Continue to provide four traffic lanes to service the industrial park as it expands.

### Goal 2: Provide for safe pedestrian and bicycle movement.

#### Objectives

1. Develop designated bike routes.
2. Clearly mark bike and pedestrian crossings.
3. Identify major traffic generators and make them accessible to bikes and pedestrians.

#### Programs, Policies, and Actions

1. Require new developments to design sidewalks that connect to existing/future sidewalks and trails.
2. Provide safe street crossings for pedestrians and bicyclists by utilizing signs, lights, striping and eliminating view obstructions.
3. Continue to analyze and update future sidewalk and bike trail plans.
4. Increase safe pedestrian/bicycle corridors.
5. Improve visibility of crosswalk and bike lanes.
6. Establish a citizen pedestrian/bike committee to recommend improvements in existing routes and future policies.
7. Use traffic calming techniques to create safe pedestrian and biking corridors.
8. Widen sidewalks along arterials and collectors in areas where bike lanes are not feasible.
9. Review required street widths.
10. Form a campaign to fund signs and maps for the local bike system.

### Goal 3: Promote transportation alternatives.

#### Objectives

1. Encourage pedestrian and bicycle use as viable means of commuting and recreation.
2. Develop an official park-and-ride lot for commuters.
3. Encourage the development of a passenger rail service.

#### Programs, Policies, and Actions

1. Provide the infrastructure that allows for alternative means of transportation outside of the automobile.

## *City of Menomonie 2016-2036 Comprehensive Plan*

2. Explore funding sources and volunteer opportunities to meet the transportation needs for the elderly and disabled citizens of Menomonie.
3. Continue to encourage and support efforts to maintain and improve rail freight service to Menomonie shippers in cooperation with the Union Pacific Railroad.
4. Work with the local schools, medical facilities, and bikes shops to promote and establish a walk, bike, carpool to work week each month.
5. Support the WDOT and West Central Wisconsin Rail Coalition to promote rail passenger service and development.
6. Create a committee to explore potential passenger rail depot sites, potential passenger bus routes, and surrounding long-term development plans.
7. Establish park and ride lots near both I-94 interchanges.
8. Explore mass transit/public transportation options.

### **Goal 4: Promote environmentally and fiscally responsible road and trail design.**

#### **Objectives**

1. Coordinate street and highway improvement work with municipal utility needs.
2. Take into consideration topography and natural features.

#### **Programs, Policies, and Actions**

1. Seek out transportation options that minimize the need for tree removal and earth movement.
2. Pursue available grant monies to help offset the cost of infrastructure upgrades.
3. Identify all future transportation projects that coincide with utility needs so they can be prioritized and completed at the same time to minimize costs.
4. Continue working with the surrounding Towns to update and develop an official road map, bike plan, trail map, etc.
5. Review sidewalk code and update if/when necessary.
6. Require new development to include sidewalks/trails and connect to existing corridors.