

CHAPTER 3: TRANSPORTATION

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CHAPTER 3: TRANSPORTATION

INTRODUCTION

The Town of Leon is comprised of a transportation system that is made up of local roads, collectors and arterial streets. There are three county roads making up the predominant transportation corridors in the Town of Leon. North and south travel is provided by CTH E and CTH EE connecting the Town with the Village of Redgranite and the STH 21 corridor. East and west travel is provided by CTH H connecting the Town to STH 49 to the east and the Village of Wild Rose and STH 22 to the west. While private vehicles are the primary mode of transportation in the area, there are several biking and pedestrian opportunities available to residents and visitors.

INVENTORY AND ANALYSIS

This chapter provides an inventory of the existing transportation, pedestrian, cycling, trucking, and airport facilities in the area. In addition, a summary of the existing transportation plans, policies and funding sources associated with these facilities are discussed.

Streets and Highways

The primary transportation system consists of a hierarchal network of highways, byways, and other roads and streets that pass through a community. ***The entire transportation network in the Town of Leon is comprised of 78.8 miles of local roads and county highways (Table 3-1). Local town roads compromise over half (66%) of the road network.***

Table 3-1. Road Network

| Town of Leon | | | | | | | | |
|--------------|----------|------------|-----------|------------|-----------|------------|-------------|------------|
| Total | IH Miles | % of Total | STH Miles | % of Total | CTH Miles | % of Total | Local Miles | % of Total |
| 78.8 | 0.0 | 0% | 0 | 0% | 27.0 | 34% | 51.8 | 66% |

Source: WisDOT 2008

The hierarchy of the road network calls for each roadway to be classified according to its primary function, ranging from its ability to move vehicles (i.e., a freeway) to its ability to provide direct access to individual properties (i.e., a local street). The three general categories of functional classification used by transportation officials include arterials, collectors, and local roads.¹

Because traffic volumes are typically a good indicator of a roadway's appropriate functional classification, the Wisconsin Department of Transportation (WisDOT) conducts traffic counts at key locations throughout the state on a regular rotating basis. Displayed as average annual

¹ WisDOT. 2002. *Facilities Development Manual: Procedure 4-1-5.*

daily traffic (AADT), these counts are statistically adjusted to reflect daily and seasonal fluctuations that occur on each roadway.² The most recent counts in Waushara County were conducted in 2000, 2003 and 2006. When a significant difference in the two counts is encountered, it can generally be explained by a road closure, detour, or similar circumstance that temporarily disrupts the normal flow of traffic (Exhibit 3-1).

Principal Arterials

Principal arterials serve interstate and interregional trips. These routes generally serve all urban areas with populations greater than 5,000. These roadways are most important in terms of commerce and the transport of goods and services. Rural principal arterials are further subdivided into 1) Interstate highways and 2) other principal arterials. ***There are no principal arterials in the Town of Leon.***

Minor Arterials

In conjunction with the principal arterials, minor arterials serve other population centers and major traffic generators providing intra-regional and inter-area traffic movements. ***There are no minor arterials within the Town of Leon.***

Major Collectors

Major collectors provide service to moderate sized communities and other intra-area traffic generators. Major collectors often link those generators to nearby larger population centers or higher function routes.

- **CTH E** is considered a major collector running north and south, splitting the Town east and west. AADTs were collected between CTH NN and CTH H. An increase of 160 vehicles per day was recorded between 2000 (690) and 2003 (850).
- **CTH EE** parallels CTH E in the western portion of the Town; it collects and channels traffic into the Village of Redgranite. AADTs were collected in 2000 and 2003 on the north and south side of CTH H. AADTs located north of the CTH H intersection increased by 240 vehicles per day between 2000 (710) and 2003 (950), traffic counts recorded south of the CTH H intersection increased by 130 vehicles per day between 2000 (530) and 2003 (660). AADTs were also recorded north of the Village of Redgranite and south of Buttercup Drive. Traffic counts remained the same (1,300) between 2000 and 2003.
- **CTH H** goes through the northern portion of the Town running east and west; it provides a route to STH 49 to the east and STH 22 to the west. AADTs recorded to the east of 30th Drive showed a large increase between 2000 (500) and 2003 (1,900). This large increase was likely influenced by local factors (i.e. road construction). AADTs recorded at the 25th Lane and CTH H intersection showed a more moderate increase of 210 vehicles per day from 2000 (500) and 2003 (710).

² WisDOT. 2000, 2003 2006. *Wisconsin Highway Traffic Volume Data.*

- **CTH W** is considered a major collector from CTH EE west to where it leaves the Town of Leon and continues as a major collector into the Town of Mount Morris. AADTs were not recorded on this section of CTH W.

Minor Collectors

Minor collectors collect traffic from local function roads and provide links to all remaining smaller communities, locally important traffic generators, and higher function roads. All developed areas should be within a reasonable distance of a collector road.

- **CTH NN** is considered a minor collector from the CTH H intersection east to where it exits the Town. It continues into the Town of Saxeville as a minor collector. AADT counts were not recorded on this section of CTH NN.

Local Function Roads

Local function roads provide access to adjacent land and provide for travel over relatively short distances. All roads not classified as arterials or collectors are local. These roads provide access to residential, recreational, commercial, and industrial uses within the area. WisDOT does not generally conduct official traffic counts on local function roads; however these roads probably carry fewer than 200 vehicles per day. The following roads local function roads carry approximately 75 or more vehicles per day:

- **CTH Q** - between CTH E and CTH SS;
- **CTH SS** – between CTH H and CTH Q
- **North Pearl Lake Road** – between CTH EE and South Pearl Lake Road;
- **South Pearl Lake Road** – between North Pearl Lake Road and CTH EE;
- **Brown Deer Road** – between CTH Q and CTH SS

Every two years all jurisdictions in Wisconsin are required to rate the condition of their local roads and submit the information to WisDOT. The surface condition rating of each roadway is updated in the State's computer database, the Wisconsin Information System for Local Roads (WISLR). The WISLR database is available to all jurisdictions via the internet and can be used to develop a capital improvement and maintenance program. The WISLR analysis is based, in most cases, on the PASER road rating method.³

³ WISLR. 2007. *Wisconsin Information System for Local Roads*. <https://trust.dot.state.wi.us/wislr/>.

Table 3-2. PASER Ratings and Maintenance Needs

| Paved Road Rating | Condition | Needs |
|--------------------|-----------|---|
| 9 & 10 | Excellent | None |
| 8 | Very Good | Little maintenance |
| 7 | Good | Routine maintenance, crack filling |
| 6 | Good | Sealcoat |
| 5 | Fair | Sealcoat or nonstructural overlay |
| 4 | Fair | Structural improvement - recycling or overlay |
| 3 | Poor | Structural improvement - patching & overlay or recycling |
| 2 | Very Poor | Reconstruction with extensive base repair |
| 1 | Failed | Total reconstruction |
| Gravel Road Rating | Condition | |
| 5 | Excellent | Little maintenance |
| 4 | Good | Routine maintenance |
| 3 | Fair | Regarding, ditch & culvert maintenance, additional gravel |
| 2 | Poor | Additional aggregate, major ditch & culvert maintenance |
| 1 | Failed | Complete rebuild and/or new culverts |

Source: Transportation Information Center, UW-Madison; 2000, 2001, and 2002

PASER pavement management system (PMS) has been developed and improved over the years by the Transportation Information Center (TIC) at the University of Wisconsin – Madison in cooperation with WisDOT and others. In general, PASER rates paved roadway surfaces on a scale of 1 to 10, with 1 being a road that needs to be reconstructed and 10 being a newly constructed road.⁴ Unpaved roads are rated on a scale of 1 to 5, with 1 being a road that needs rebuilding and 5 being a brand new road.⁵ This inventory provides the basis for developing a planned maintenance and reconstruction program and helps the town to track necessary improvements. Prompt maintenance can significantly reduce long-term cost for road repair and improvement. Table 3-3 and Appendix C provide a breakdown and display of the PASER ratings, conditions and maintenance needs.

Table 3-3 provides a summary of the total miles of local roads in the Town of Leon by PASER rating. ***Approximately eighty-one percent (42.7 miles) of the roads within Leon are paved.*** Of the total paved roads, roughly 3 percent (1.2 miles) of the paved roads are in excellent to very good condition and require little maintenance. ***The vast majority of paved roads in Town (41.5 miles, 97%) are considered to be in good to fair condition.*** While they are in good condition structurally, they will need slightly more maintenance work. This work may involve seal coating, crack filling, non-structural overlay and possibly structural improvements. There are no roads rated less than 4 (fair) within the Town. As roads age

⁴ Transportation Information Center. 2000, 2001, and 2002. *PASER Manuals: Asphalt, Brick & Block, Concrete, and Sealcoat.*

⁵ Transportation Information Center. 2001 and 2002. *PASER Manuals: Gravel and Unimproved Roads.*

these ratings may fall below a fair rating and will require structural improvements that could involve pavement recycling, overlay and patching.

Table 3-3. Total Miles of Local Roads by PASER Rating

| Town of Leon | |
|---------------------------|--------------|
| Paved Road Rating | Total |
| 10 | 0.0 |
| 9 | 1.0 |
| 8 | 0.2 |
| 7 | 10.0 |
| 6 | 13.0 |
| 5 | 9.8 |
| 4 | 8.8 |
| 3 | 0.0 |
| 2 | 0.0 |
| 1 | 0.0 |
| Not Rated | 0.0 |
| Subtotal | 42.7 |
| Gravel Road Rating | Total |
| 5 | 3.7 |
| 4 | 3.0 |
| 3 | 1.9 |
| 2 | 0.5 |
| 1 | 0.0 |
| Not Rated | 0.7 |
| Subtotal | 9.8 |
| Total | 52.5 |

Source: WISLR. 2008. Wisconsin Information System for Local Roads.

Gravel roads within the Town are also generally well-maintained. The Town has a total of 9.8 miles of unpaved roads, 68 percent (3.7 miles) of unpaved roads are considered to be in excellent to good condition requiring only routine maintenance, while 19% (1.9 miles) of the Town's unpaved roads are considered to be in fair condition requiring a more intensive maintenance schedule. Five percent (0.5 miles) of the Town's unpaved roads are considered to be in poor condition (Bighorn Lane from CTH SS to 30th Drive) requiring additional aggregate or major ditch and culvert maintenance. Just over one half mile of unpaved roads were listed as "not rated". A "not rated" does not necessarily mean that the road was not evaluated; it just means that it was not recorded in the WisDOT-WISLR data base.

Rustic Roads

The Rustic Roads System was created by the State Legislature in 1973 to help citizens and local units of government preserve scenic lightly traveled country roads for the leisurely enjoyment of bicyclists, hikers, and motorists.⁶ They offer excellent opportunities to travel through an attractive rustic area. The scenic qualities of these roads are protected by agreement with bordering property owners and by implementing roadside maintenance practices that allow wildflowers and other native flora to extend to the edge of the pavement. The WisDOT lists two roads in Waushara County that are in the Rustic Roads program. Rustic Road 48 (26th Road.) is a 2.1 mile road that begins at CTH H and runs northwest to CTH W in the Town of Saxeville. ***A portion of Rustic Road 48 falls within the Town of Leon stretching from CTH H northwest into the Town of Saxeville.*** Rustic Road 102 forms a loop off of STH 21 beginning at Cumberland Avenue and ending at 9th Avenue in the Town of Richford, just east of the Village of Coloma. Several other town roads within Waushara County may have the potential of being listed as a Wisconsin Rustic Road.

Truck Transportation

There are several designated truck routes within Waushara County. STH 21 is the primary truck transportation route in Waushara County and provides direct access to Oshkosh and the Fox Cities to the east. STH 21 also provides access to western destinations in Wisconsin including the I39/USH 51 corridor, I90, and I94. STH 49 provides access to Fremont and Waupaca to the north and Berlin and Waupun to the south. ***No listed truck routes pass through the Town of Leon.*** Local truck traffic occurs on several other county highways throughout the County, but is more limited in volume.

There are two major corridors passing through Waushara County⁷.

- ***The Cranberry Country Corridor (STH 21) stretches 100 miles across the state from east to west (Oshkosh to Tomah).*** This corridor connects the Fox Valley to I39, southern Minnesota, South Dakota and beyond.
- ***The Wisconsin River Corridor (I-39/USH 51) stretches 260 miles linking north central Wisconsin to south central Wisconsin and Illinois.*** This corridor provides critical economic links for industrial and commercial communities in north central Wisconsin (i.e. Wausau, Wisconsin Rapids, Stevens Point and Marshfield).

Railroads

Rail service to Waushara County was discontinued several decades ago. The nearest rail service is available at Stevens Point, which is a division headquarters for the Canadian National railroad. Other rail lines include the Union Pacific, which passes through southern Marquette County, and the Canadian Pacific Railway, which has a major yard facility in Portage. All three lines generally connect Chicago with the Twin Cities and points westward. Amtrak

⁶ WisDOT. 2005. *Wisconsin's Rustic Roads: A Positive Step Backward.* <http://www.dot.state.wi.us/travel/scenic/rusticroads.htm>.

⁷ Draft Connections 2030 Long Range Multimodal Transportation Plan.

utilizes the Canadian Pacific line to provide passenger service. In addition to Portage, station stops include Columbus, Wisconsin Dells, and Tomah.

Waterways

There are no commercial ports in Waushara County. The nearest commercial port is located in Green Bay. Passenger ferries are located in Manitowoc and Milwaukee. Both ports offer passage across Lake Michigan to Lower Michigan.

Several municipalities and Waushara County operate recreational boat facilities throughout the county. There is one boat landing and one walk-in access located within the Town of Leon:

- **Pearl Lake Launch** is located on North South Pearl Lake Road; owned by the Town of Leon; and
- **Pearl Lake Walk-in Access** is located along South Pearl Lake Road; owned by the Town of Leon.

Pedestrian Facilities

Walking is emerging as an important exercise as well as mode of transportation. The *Wisconsin Pedestrian Policy Plan 2020* outlines statewide and local measures to increase walking throughout the state as well as promote pedestrian safety and comfort. Pedestrians, by definition, are anyone who travels by foot. In addition, this definition has been extended to disabled persons who require the assistance of a mobility device. Pedestrian traffic can be difficult along highways where sidewalks are not present, safety measures are absent, or traffic volume is heavy.

Waushara County has several pedestrian opportunities. Hiking trails are located at several county parks. The county also operates the Bannerman Trail. A trailhead is located in downtown Redgranite on the south side of STH 21. The trail provides recreational opportunities for pedestrian activities as well as cross-county skiing, bicycling, and snowmobiling. The trail utilizes the former railroad grade that served quarries located in the Redgranite/Lohrville area. The seven mile trail terminates at STH 73 north of Neshkoro. The Ice Age National Scenic Trail is a thousand-mile-long footpath located entirely within Wisconsin. It is one of only eight National Scenic Trails in the County. Approximately 60 percent of Wisconsin residents live within 20 miles of the Ice Age Trail.⁸ A portion of the Ice Age Trail passes through western Waushara County. The trail provides recreational opportunities through the Chaffee Creek and Mecan River State Fishery areas and the Greenwood State Wildlife Area.

Most of the town roads in Waushara County have limited shoulder areas, and the posted speed limits are 45 miles per hour or greater. These conditions often hamper safe pedestrian travel. The relatively low density development and lack of sidewalks do not facilitate increased pedestrian mobility. The centralization of goods and services often requires residents to use motor vehicles for routine trips.

⁸ Ice Age Park and Trail Foundation; <http://www.iceagetrail.org/faqs.htm>

Cycling Opportunities

Over 1,000 miles of highly scenic low volume roads provide abundant opportunities for bicycling in Waushara County. As such, ***Waushara County has established an interconnected system of bicycle routes throughout the county.***⁹ The rolling topography offers several challenges for bicyclists of all fitness levels. The routes follow existing town roads and county trunk highways. Bicycle routes range in distance from 23 to 35 miles in length and offer several rest stops at municipal and county parks as well as local tourist attractions. ***Waushara County's Route 9 – Poy Sippi-Pine River totals 25.8 miles and traverses the Town of Leon and portions of the towns of Saxeville, Mount Morris, Poy Sippi, and Warren.*** This route is challenging at times with various steep grades. Highlights of Route 9 include views of the Pine River and Poy Sippi millponds and access to the Poy Sippi Park (Exhibit 3-2).

Roadways with traffic volume less than 1,000 vehicles per day are considered generally safe for bicycling. Roadways meeting this criterion that are located within a primary bicycle corridor identified by WisDOT provide potential linkages between existing bicycle trails and are considered to be part of an interconnected statewide bicycle route network. Currently, the Bannerman Trail is the only multi-use recreational trail within Waushara County.

WisDOT has made several recommendations for bicycle traffic for Waushara County in the *Wisconsin State Bicycle Transportation Plan 2020*.¹⁰ The following recommendations have been made for the Town of Leon bicycle traffic:

Best Conditions for bicycling:

- CTH E
- CTH EE – north of 26th Court
- CTH H – west of CHT E
- CTH SS
- CTH W
- CTH Q

Moderate Conditions for bicycling:

- CTH E – between 26th Court and Buttercup Drive

Undesirable Conditions for bicycling (high traffic volume)

- CTH H – from CTH E east to STH 49

Airports

The four airports most convenient to area residents that provide scheduled commercial air service are: Central Wisconsin Regional Airport in Mosinee, Outagamie County Regional Airport in Appleton, Dane County Regional Airport in Madison, and Austin Straubel Airport in Green Bay. Other airports/airfields offering a lesser range of services include those in Oshkosh, Stevens Point, Wisconsin Rapids, Wautoma, Waupaca, and Wild Rose.

⁹ Waushara County Parks Department. 2007. *Bike Routes*. http://www.co.waushara.wi.us/bike_routes.htm.

¹⁰ WisDOT. 1998. *Wisconsin State Bicycle Transportation Plan 2020*.

Two Basic Utility airport facilities are located in Waushara County. A Basic Utility (BU) airport is capable of handling single engine piston aircraft and smaller twin engine aircraft. Basic Utility airport facilities are sub-classified as class B (BU-B) and class A (BU-A) according to the gross weight and wingspan of the aircraft. These aircraft typically seat up to six persons and are used for private corporate travel, charter flying, recreational flying, and crop dusting. The Wautoma Municipal Airport is a BU-B facility located southwest of the City of Wautoma in the Town of Dakota. The airport has two paved runways measuring 1,190 feet and 3,300 feet in length and a turf runway measuring 2,280 feet. Aircrafts with gross weights of less than 12,500 pounds and wingspans less than 49 feet can be accommodated at this airport. Besides serving local air needs, the airport is utilized by pilots attending the annual EAA fly-in in Oshkosh. The Wild Rose Idlewild Airport is BU-A facility. The airport can accommodate aircraft with gross weights less than 6,000 pounds and wingspans less than 49 feet. A helipad is also located at the Wild Rose Community Memorial hospital for "flight for life" emergencies.¹¹

Several private airports are located throughout Waushara County. Private facilities are generally characterized by short (2,500 to 3,000 feet) turf covered runways. Private runways primarily provide services for recreational flyers.

Transit and Transportation Facilities for the Disabled

There is no scheduled bus service within the county. However, the Department of Aging administers two programs on a county-wide basis that serve the elderly and disabled residents of Waushara County. These two programs are a volunteer driver program and a mini-bus program. The mini-bus program is based in the City of Wautoma and provides transportation for both medical and personal trips. Other members of the public can also utilize the mini-bus if space is available.¹²

Current and Future Transportation Projects

There is one major transportation project scheduled for the Town of Leon (see project in bold below).¹³ The WisDOT has listed the following projects in Waushara County:

- **CTH E Pine River Bridge Rehabilitation – Town of Leon (2010)**¹⁴
- CTH XX Fox River Bridge Rehabilitation – City of Berlin (2010)¹⁴
- CTH XX – STH 21 to CTH D Resurface (2009)¹⁴
- STH 21 – Cambridge Street Road Maintenance – City of Wautoma (2011)^{14,13}
- STH 22 – Main Street Road Maintenance – Village of Wild Rose (2011)¹⁴
- STH 49 – Poy Sippi to Fremont Road Maintenance (2010)^{14, 13}
- STH 49 – Auroraville to Waupaca, Mosquito Creek Bridge Replacement (2010)^{14, 13}
- STH 73 – Wautoma to Plainfield, Construction/Pavement Replacement (2011)^{14, 13}
- STH 73 – Princeton to Wautoma, Road Resurface (2010 – 2013)¹³

County trunk and state highways comprise the Federal Aids Secondary System, thus qualifying them for federal aid for capital projects involving construction or repair. Waushara County is

¹¹ WisDOT. 1999. *Wisconsin State Airport System Plan*.

¹² Baugrud, P. 2005. Personal Communication. Waushara County Aging and Disability Resource Center.

¹³ WisDOT. 2008. *Wisconsin 2008-2013 Six Year Highway Improvement Program*.

¹⁴ 2009 – 2012 Statewide Transportation Improvement Program Final, Jan. 2009. WisDOT.

responsible for routine maintenance on these roadways. Maintenance of roads such as town roads and city/village streets not on the state or county system rests with the local jurisdiction. As Table 3-1 indicates, these local roads comprised the bulk of a community's total roadway mileage. To assist communities with the cost of constructing and maintaining these roads, the state provides general transportation aids (GTA) which are available based on lane mileage and aidable local costs. Aidable local costs generally include the local share of all road and street construction and construction materials. The rate-per-mile is statutorily specified and will be \$2,015 in 2009.¹⁵ It should be noted that road spending fluctuates, especially for larger municipalities, and depends on the number and types of projects that have been allocated for that year. Cities and villages also have more costly facilities, such as curb and gutter, storm sewer, and sidewalks which raise the cost per mile above town spending amounts.

Key Findings

Streets and Highways

- The entire transportation network in the Town of Leon is comprised of 78.8 miles of local roads and county highways. Local roads comprise over half (66%) of the road network.
- There are no principal arterials within the Town of Leon.
- There are no minor arterials within the Town of Leon.
- Approximately eighty-one percent (42.7 miles) of the roads within Leon are paved.
- The vast majority of paved roads in Leon (41.5 miles, 97%) are considered to be in good to fair condition.

Other Transportation Modes

- A portion of Rustic Road 48 falls within the Town of Leon stretching from CTH H northwest into the Town of Saxeville to CTH W.
- No listed truck routes pass through the Town of Leon.
- There are two major corridors passing through Waushara County. The Cranberry Country Corridor (STH 21) stretches 100 miles across the state from east to west (Oshkosh to Tomah). This corridor connects the Fox Valley to I39, southern Minnesota, South Dakota and beyond. The Wisconsin River Corridor (I-39/USH 51) stretches 260 miles linking north central Wisconsin to south central Wisconsin and Illinois.
- There are two major freight corridors passing through Waushara County. The Cranberry Country Corridor (STH 21) stretches 100 miles across the state from east to west (Oshkosh to Tomah). This corridor connects the Fox Valley to I39, southern Minnesota, South Dakota and beyond. The Wisconsin River Corridor (I-39/USH 51) stretches 260 miles linking north central Wisconsin to south central Wisconsin and Illinois.
- Rail service to Waushara County was discontinued several decades ago.
- There are no commercial ports in Waushara County.
- Waushara County has established an interconnected system of bicycle routes throughout the county. Waushara County's Route 9 – Poy Sippi-Pine River totals 25.8 miles and traverses the Town of Leon and portions of the towns of Saxeville, Mount Morris, Poy Sippi, and Warren.

¹⁵ WisDOT. 2005. *General Transportation Aids*. <http://www.dot.wisconsin.gov/localgov/highways/gta.htm>

- The four airports most convenient to area residents that provide scheduled commercial air service are: Central Wisconsin Regional Airport in Mosinee, Outagamie County Regional Airport in Appleton, Dane County Regional Airport in Madison, and Austin Straubel Airport in Green Bay.
- There is no scheduled bus service within the county.
- There is one major transportation project scheduled for the Town; CTH E Pine River Bridge Rehabilitation.

INTERRELATIONSHIPS WITH OTHER COMPREHENSIVE PLAN ELEMENTS

Economic Development

Providing a quality transportation system is important to the economic success of the area. Businesses need to assess the transportation system as to its ability to ship and receive goods and provide access and increase visibility for customers. Employee access to the business facility is also crucial, especially if the jobs offered will be in the lower-wage category. These jobs are frequently filled by second wage-earners in the household or by persons with limited job options, including untrained persons with disabilities or young people. These groups of people are frequently not able to drive or cannot afford reliable transportation. Service occupations, which employ over 20 percent of people in the county, encompass such jobs.

Additionally, it is important to remember that different businesses have different transportation requirements. For example, retail businesses in villages or cities may value on-street parking and pedestrian accommodations more than service businesses elsewhere in the County. Businesses which are located along major transportation corridors will require off-street parking.

Housing

Housing plays a strong role in transportation since either the origin or the destination of most trips is the home. When new residential developments are planned, it is important to consider how the new development will affect the transportation infrastructure, community accessibility, and the safety of the area. Affordable housing, including mixed income development, should be located in a manner that facilitates transportation access to services and employment. Consideration to both pedestrian and bicycling facilities should be given in all housing developments.

Utilities and Community Facilities

Joint and/or coordinated planning of public and transportation facilities is essential. The location of schools is closely related to transportation. Ideally, primary and secondary schools should have safe pedestrian and bicycle access. Trip distances should be minimized to reduce the need for school busing and automobile transportation to the school. Access to public transportation can also help minimize transportation costs. Colleges and universities can also benefit greatly by having public transit available by reducing the need for parking space and by making the campus more accessible to a broader range of students including local, low-income, and disabled students.

Similar to schools, it is important that government buildings as well as human services be located with access to public transportation. Coordinating transportation planning with sewer service area planning helps minimize the overall cost of providing infrastructure.

Agriculture Resources

The transportation system provides access and mobility for rural residents and the farming community. Farmers utilize the transportation system to both transport goods to market and to provide mobility between their various farming operations. State and county highways throughout Waushara County provide farmers in the county access to both local and regional markets. When considering possible highway expansion projects, the impact on existing farming operations, especially as it relates to the creation of split parcels of agricultural land, must be considered. Access to these parcels may require unsafe highway crossings by farm equipment, or ultimately the loss of use of this land for agricultural purposes.

Natural Resources

Transportation decisions can both positively and negatively impact the environmental quality of the area. Development and subsequent transportation improvements on state and county highway corridors or other potential projects may impact the area's natural resources (wetland areas and forestland). Loss of wetlands, which act as a natural buffer to filter nutrients and other pollutants, can be harmful to the wildlife habitat, including endangered species, and groundwater recharge. Finally, sprawl leads to longer travel times, which could result in increased air quality issues due to automobile emissions.

Cultural Resources

Early Native American habitation, the geological landscape, and the area's historic buildings are significant to the local history. It is imperative that as growth occurs and transportation projects are proposed, sensitivity be given to both the identified resources and to the areas where other historic and cultural resources may exist. Since the identity and integrity of the community depends on the preservation of these unique features, the impact from expanded transportation corridors and new land development must be kept to a minimum. Consideration should also be given to the impact of future transportation projects on the cultural identity of the historic downtown areas.

Land Use

Transportation, as with other planning elements, has a strong connection to land use. While transportation's primary purpose is to serve land use, land use patterns are dependent upon the condition and effectiveness of the transportation system. Expanded arterials, such as US 10, spur development by attracting development in proximity to new interchanges. Secondly, the traffic may be relocated if county highways or local roads are bisected or re-routed. Existing businesses may be negatively impacted as the former traffic flows for economic survival.

The efficient movement of vehicular traffic provides a quicker connection from one place to another. The expansion of STH 21 from two lanes to four lanes may reduce travel times from the Fox Cities to Waushara County and other areas. However, the increased accessibility may

create additional development pressure as people are able to move further from urban centers without significantly increasing travel time to work and shopping.

Intergovernmental Cooperation

Transportation systems go beyond municipal boundaries. Regional development patterns and municipal land use policies affect the transportation network. This network must efficiently move people and goods from one place to another. The transportation system is made up of local roads, collector and arterials, none of which stop at municipal borders but continue from one community to another. An efficient transportation system can not be dependent on the decisions of one community but instead upon the input and cooperation of many different entities working together. For instance the possible expansion of STH 21 would affect many jurisdictions throughout the County. Each of these jurisdictions, along with the State of Wisconsin, would have input into the expansion of these transportation corridors. The resulting expansion will not only impact the local jurisdictions that it passes through, but could also impact the economics of the state as goods and people are more quickly and efficiently transported.

POLICIES AND PROGRAMS

State, Regional, County, and Local Policies

State of Wisconsin

Wisconsin State Highway Plan 2020. Wisconsin's State Trunk Highway system, consisting of approximately 11,800 miles of roads, is aging and deteriorating at the same time traffic congestion is increasing. In response to this critical issue, WisDOT, in partnership with its stakeholders, has developed the *Wisconsin State Highway Plan 2020*, a 21-year strategic plan that considers the highway system's current condition, analyzes future uses, assesses financial constraints, and outlines strategies to address its preservation, traffic movement and safety needs.¹⁶ The plan is updated periodically to reflect changing transportation technologies, travel demand, and economic conditions in Wisconsin.

According to the Wisconsin State Highway Plan 2020, STH 21 from Oshkosh to I-39/U.S. 51 has been identified as a potential major project. Potential projects are subject to environmental analysis and legislative approval; they will be re-evaluated in future state transportation plans.

This plan also stressed the need to develop a safe inter-modal transportation system which can accommodate alternate forms of transportation, including designating specific state and county highways capable of safely accommodating bicycle transportation. Specific accommodations recommended in the plan include the use of designated bicycle lanes in urban areas, widening traffic lanes to allow for bicycle travel, and paving shoulders to allow for increased bicycle use.

Connections 2030 Long Range Multimodal Transportation Plan – *Draft*. A draft of the Connections 2030 Long Range Multimodal Transportation Plan was released in the fall of 2008. The plan address all forms of transportation; integrates transportation modes; and identifies

¹⁶ WisDOT. 1999. *Wisconsin State Highway Plan 2020*.

policies and implementation priorities to aid transportation decision makers when evaluating program and project priorities over the next 20 years. The plan is organized around transportation themes rather than modes. The seven themes are to (1) Maintain Wisconsin's transportation system; (2) Promote transportation safety; (3) Foster Wisconsin's economic growth; (4) Provide mobility and transportation choice; (5) Promote transportation efficiencies; (6) Preserve Wisconsin's quality of life; and (7) Promote transportation security. Corridor management will be one of the main tools that WisDOT will use to achieve the plans goals. Two corridors are found in Waushara County: the Cranberry Country Corridor and the Wisconsin River Corridor. The Cranberry Country Corridor links the Fox Valley and I-94 to locations west in southern Minnesota, South Dakota and beyond. The corridor also serves the Wisconsin River flowage, Waushara County and Winnebago County tourism/recreation areas. The Wisconsin River Corridor is a critical tourist corridor that connects the population centers in Illinois and southern Wisconsin to major recreation areas on the north. Neither corridor passes through the Town of Leon.

Wisconsin State Bicycle Transportation Plan 2020. The *Wisconsin State Bicycle Transportation Plan (WSBTP) 2020* specifically addresses the future needs of bicycle transportation. Two primary goals exist in the plan: to double the number of bicycle trips made by 2010 and to reduce the number of motor vehicle-bicycle crashes by 10 percent by 2010. To achieve these goals, objectives for engineering, education, enforcement and encouragement were identified. These included not only the need for the construction of an expanded network of transportation facilities that allows for safe bicycle travel, but also for the promotion of education to advance vehicle driver awareness of bicyclists (drivers licensing and bicycle safety courses). Finally, tips to promote the utility and ease of bicycle transportation were identified as well as the mandate to increase the enforcement of reckless driving behavior by motorists and bicyclists alike.

The *WSBTP* provides suggestions for both intercity (rural) and urban/suburban bicycle facilities. For the purposes of the *WSBTP*, urban areas were defined as villages or cities with populations of 5,000 persons or greater. Providing paved shoulders for bicycle accommodations along rural highways and the widths of these shoulders are determined by ADT, percentage of trucks, and curves and hills (see Wisconsin Rural Bicycle Planning Guide, Appendix A, Road Evaluation Method).

Wisconsin State Airport System Plan 2020. The *Wisconsin State Airport System Plan 2020* provides a framework for the preservation and enhancement of a public-use airport system which will meet future aviation demands for the state. It provides an inventory of existing public-use airport facilities; and categorizes them according to their current services, projected use, and future scheduled maintenance and construction projects. Based on existing conditions and projected improvements that are listed within airport master or layout plans, forecasts are made for future airport classifications. No projected changes have been made in the status of Waushara County's airport classifications. Several improvements have been completed in recent years at the Wautoma Municipal Airport. These have included taxing and runway expansion; entrance repairs, hanger improvements, etc. The 5-year Airport Improvement Program¹⁷ indicates that a number of projects are planned at the Wautoma and Wild Rose Airports. These include seal coating, constructing a terminal building, runway expansion, and a

¹⁷ <http://www.dot.wisconsin.gov/projects/state/docs/air-5yr-plan.pdf>

land acquisition at the Wautoma Municipal Airport. In admission site improvements are planned for the Wild Rose Idlewild Airport.

Regional

East Central Wisconsin Regional Planning Commission. East Central Wisconsin Regional Planning Commission has adopted a regional smart growth plan. As part of this planning process, East Central adopted five core transportation goals:

- To act to help ensure that the negative effects of sprawl development on our regional transportation system are minimized by encouraging new development to locate where adequate services and facilities exist.
- To work with all levels of government and organizations throughout the region to pursue adequate funding for transportation projects and programs which meet short term and long term needs.
- To help ensure that the regional transportation network links economic centers and efficiently moves people and freight throughout the region.
- To help maintain and continue the balance between transportation and the environment through efficient and consistent transportation and land use planning.
- To help ensure that alternative modes of transportation to the automobile exist and mobility options for all are efficient.

In 2002, East Central prepared a *STH 21 Corridor Study* that examined the corridor from Oshkosh to the Town of Rushford in Winnebago County. While this study looked at only a small portion of STH 21, it did address the long term needs of the entire corridor. According to the study, "In the future it may be desirable to construct STH 21 as a four lane expressway to Interstate 90/94".

County

Zoning. The *Waushara County Zoning Code* sets standards for access driveways and streets. Sec. 58.828. regulates access driveways (access permits, spacing standards, and number and width of driveways per land use) while Sec. 42-81 regulates street design within subdivisions.

The county zoning ordinance (Sec. 42-81) requires all roads within subdivisions to be built to certain standards. This is important to the continued success of the transportation network.

Highway Department. The Waushara County Highway Department provides maintenance on county highways found in the area. It also provides roadway and ditch maintenance for the towns within the county on a contract basis. The County does not have an officially adopted transportation plan or Capital Improvement plan. However, it is the policy of the County to evaluate the county road system in the spring of the year and set a specific roadway maintenance schedule for the coming year.

Federal, State and Regional Programs

Federal Agencies

Surface Transportation Program – Rural (STP-Rural). This program allocates federal SAFETEA-LU funds to complete a variety of improvements to rural local highways and roadways. To be eligible, two conditions must be met: the road must be located outside of an urban area and must be classified as at least a rural major collector. Project proposal applications are accepted only in odd numbered years. More information can be found at <http://www.dot.wisconsin.gov/localgov/highways/stp-rural.htm>.

Surface Transportation Program – Urban (STP-U). This program allocates federal funds to complete a variety of improvements to federal-aid-eligible roads and streets in urban areas. More information can be found at <http://www.dot.wisconsin.gov/localgov/highways/stp-urban.htm>. Berlin is an urban area that qualifies for STP-Urban and a portion of this is located in Waushara County.

State of Wisconsin

General Transportation Aid. Road maintenance is in part funded by disbursement of the State Transportation Fund. The largest portion comes from General Transportation Aids. The State provides an annual payment to each county and municipality, which augments the local government's cost for activities such as road construction, crack and pothole filling, snow removal, and other related transportation maintenance. Disbursements from the account are determined by the total mileage of local roads within the municipality or by a formula based on historic spending. This information must be reported annually. More information can be found at <http://www.dot.wisconsin.gov/localgov/highways/gta.htm>.

Local Roads Improvement Program (LRIP). This program provides funding to improve or replace seriously deteriorating county highways, town roads, and city or village streets. New roads are not eligible. LRIP funds pay up to 50% of total eligible costs while the remaining amount must be matched by the local government. The program has three basic programs: County Highway Improvement (CHIP); Town Road Improvement (TRIP); and Municipal Street Improvement (MSIP). Additional discretionary funds are available for high cost projects. More information can be found at <http://www.dot.wisconsin.gov/localgov/highways/lrip.htm>.

Connecting Highway Aids (CHA). The CHA program assists municipalities with costs associated with increased traffic and maintenance on roads that connect segments of the State Trunk Highway system. Over 120 municipalities receive quarterly payments on a per lane mile basis. There are no connecting highways currently located in Waushara County. More information can be found at <http://www.dot.wisconsin.gov/localgov/highways/connecting.htm>.

Flood Damage Aids. This program provides funds to assist local units of government to improve or replace roads or roadway structures that have sustained major damage from flooding. The program helps defray costs for damaged streets, highways, alleys, or bridges which are not associated with the State Trunk Highway System. More information can be found at <http://www.dot.wisconsin.gov/localgov/highways/flood.htm>.

Rural and Small Urban Area Public Transportation Assistance Program. This program allocates federal funds to local units of government to provide both capital and operating costs for public transit services which operate within rural areas. All municipalities with populations less than 50,000 are eligible. More information can be found at <http://www.dot.wisconsin.gov/localgov/transit/ruralsmall.htm>.

Wisconsin Employment Transportation Assistance Program (WETAP). This program is designed to provide transportation for low-income workers to jobs, training centers, and childcare facilities through enhanced local transportation services. Funding is provided by a combination of federal, state, and local funds. This program provides a crucial link to allow low-income workers to remain in the workforce. More information can be found at <http://www.dot.wisconsin.gov/localgov/transit/wetap.htm>.

Local Transportation Enhancement Program (TE). This program provides funds that increase multi-modal transportation within a region while enhancing the community and the environment. Eligible projects include multi-use recreational trails, landscaping, or the preservation of historic transportation structures. Funds cover up to 80% of the total eligible project costs. More information can be found at <http://www.dot.wisconsin.gov/business/econdev/te.htm>.

The Bicycle and Pedestrian Facilities Program (BFPF). This program funds projects that construct or plan for bicycle or bicycle/pedestrian facilities. For information on this program, go to www.dot.wisconsin.gov/localgov/aid/bike-ped-facilities.htm.

Transportation Economic Assistance Grant Program (TEA Grant). This program provides a 50% state grant to local governments, private businesses, and consortiums for road, rail, harbor, and airport projects that are necessary to help attract employers to Wisconsin. These grants have a performance-based incentive and successful funding requires that businesses and industries created by the grant program retain and expand local economies in Wisconsin. More information can be found at <http://www.dot.wisconsin.gov/business/econdev/tea.htm>.

County Elderly and Disabled Transportation Assistance Program. County governments are eligible for funds to establish a transit program for elderly and disabled citizens. The program allows for flexibility in various transportation options to their clients. County governments must provide a 20% match in funds. More information can be found at <http://www.dot.wisconsin.gov/localgov/transit/countyelderly.htm>.