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## Introduction

This chapter provides information about existing transportation facilities and plans. A series of goals and supporting objectives intended to help the Town of Empire achieve its vision for 2025 and address local transportation issues and concerns is found in Chapter 12: Implementation.

### VISION, VALUES & SWOT EXERCISES

During the values exercise conducted as part of the Kick-Off Meeting held in February 2005, residents identified the Town's good roads and safe areas to walk as valued features of the community. During the SWOT exercise portion of the same meeting, existing transportation facilities, low traffic volumes and proximity to highway corridors were identified as strengths of the Town. Hiking and biking trails, as well as, traffic planning were cited as opportunities for the Town of Empire to consider. Primary transportation threats facing Empire, as identified by residents at this initial meeting, included increasing traffic volumes and the USH 151 bypass.



Portion of the Wall Graphic created March 31, 2005 at the Empire Vision Meeting.  
Residents identified safe walking & biking trails and safe roads as part of their vision for 2025.

The vision statement below provides a description of the desired transportation features in 2025. Many of the concepts defined in this vision relate directly to the ideas expressed by residents at the Kick-Off Meeting and the follow-up Vision Meeting.

### Transportation Vision

**A well-maintained system of roads and highways accommodates automobile and farm equipment needs and provides easy access to Fond du Lac and other communities. By 2025, personal vehicles remain the primary choice for transportation, however, pedestrians, bicyclists, and other alternative modes of transportation utilize a network of designated routes linking Empire with surrounding areas.**

## Inventory of Existing Transportation Facilities

Transportation facilities in Empire range from rural roads to state highways. Residents enjoy easy access to STH 23, USH 151 and USH 45. Residents rely mainly on their personal vehicles to meet their transportation needs. Other modes of transit, including light rail and air transportation, are not available, nor are they likely to be developed in the Town in the next 20 years.

### WALKING & CYCLING OPPORTUNITIES

The safest areas for walking in the Town are within subdivisions. Town and County roads have limited shoulder areas and posted speed limits of 45 miles per hour or more in most areas. These conditions hinder safe pedestrian travel. Moreover, short site distances in some areas also present a danger to pedestrians. Walking to places of work, shopping or entertainment is not realistic for most residents, given that nearly all goods and services are located several miles away (in Fond du Lac and other nearby communities). This situation is not anticipated to change over the next 20 years.

**Trails.** At this time there are no established trail routes in the Town of Empire. The nearest existing trails to Empire include:

- *Ice Age National Scenic Trail.* One of only eight national scenic trails in the United States, the Ice Age Trail when completed will be a 1,000-mile walking/hiking trail located in and unique to Wisconsin. About 600 miles of the trail are now available for use. A segment of the trail is open east of Empire in Sheboygan County. For more information about the trail visit [www.iceagetrail.org](http://www.iceagetrail.org).
- *Wild Goose State Trail.* This trail is located on the west side of the City of Fond du Lac. It runs south from the CTH VVV (near the Rolling Meadows Golf Course) to STH 60 in Dodge County. The Wild Goose State Trail runs along an abandoned railroad corridor and passes through the Horicon Marsh.
- *Peebles Trail.* The Peebles Trail is a two and one-half mile segment of abandoned railroad right-of-way between Fond du Lac and Peebles. The trail was acquired from the Wisconsin Department of Transportation in 1994 and is currently undeveloped. When developed, the trail will be utilized for walking, running, bicycling and cross-country skiing.
- *Prairie Trail.* As part of the new USH 151 bypass, the Prairie Trail will be extended along the entire route of the bypass with a connection to the Wild Goose State Trail at Martin Road and the Peebles Trail.

**Bicycle Routes/Corridors.** Currently there are no officially designated bicycle routes or corridors through the Town. The Wisconsin Department of Transportation (WisDOT) completed a statewide bicycling conditions assessment to identify key bicycle linkages in each county. The assessment suggests, but does not officially establish bicycle routes. Potential bicycle routes identified along state highways are planned and maintained by WisDOT. The bicycle conditions assessment completed by WisDOT evaluated potential bicycle linkages based on:

- Road width (i.e. ability to accommodate a shoulder path);
- Traffic volume;
- Truck traffic as a percentage of all traffic (secondary consideration); and,
- Site distance restrictions (secondary restriction).

WisDOT limited the scope of its assessment to County and State corridors. WisDOT generally considers Town roads acceptable for bicycling given their limited traffic flows. In the Town of Empire, WisDOT identified CTH H and CTH UU as having the best conditions for a cycling route. CTH T was also identified (east of CTH UU) as having moderate conditions for a bicycle route.

WisDOT suggestions for bicycle routes are not firm recommendations. WisDOT suggestions for bicycle routes are simply suggestions. Where appropriate, recommendations from this assessment are included on the *Transportation Network Map and Plan* presented in this chapter.

## **SNOWMOBILE TRAILS**

Though a seasonal transportation choice, primarily used for recreational purposes, residents of Empire have access to snowmobile trails. The Fond du Lac County Snowmobile Association (and its member clubs) coordinate with private landowners to establish and maintain trail routes throughout the County.

## **RAILROAD CORRIDORS**

A Canadian National Railroad corridor runs near the southwestern corner of the Town of Empire. This railroad corridor runs between the City of Fond du Lac and Eden. South of Eden, the track has been abandoned and is being considered as a potential trail route. There are no plans to establish new rail corridors in Empire.

## **MASS TRANSIT**

Fond du Lac Area Transit - a joint and cooperative effort between the City of Fond du Lac and Fond du Lac County - serves portions of the Town of Empire with bus, JOBTRANS, and Paratransit service.

- **Bus Service.** Bus route #120 runs parallel to STH 23 on weekdays to serve Saint Mary Springs High School and the Aurora Health Care Center.
- **JOBTRANS.** In the Town of Empire, all areas north of STH 23 and areas within 3/4 of a mile south of STH 23, east of Saint Mary Springs High School are JOBTRANS eligible. JOBTRANS is a general public shared ride taxi arrangement between Fond du Lac Area Transit and a private taxi company. JOBTRANS marketing objective is to support work commuting, but the service is available for any purpose.
- **Paratransit Service.** Paratransit service offered through Fond Du Lac Area Transit provides curb-to-curb service to residents of Empire living within with 3/4 of a mile from a fixed bus route (i.e. route #120). This program offers a reduced fare to senior citizens (65 years of age or older) and qualifying handicapped individuals.

Transit dependent Town residents who are not living within a service area as defined by Fond du Lac Area Transit must rely on the assistance of friends, family, or hire private transportation providers to meet their needs.

Mass transit via bus, high-speed rail, or other means is not likely to be established throughout Empire in the next 20 years given limited demand, low population density and a small overall population base. Simply put, Empire cannot provide the ridership needed to support a complete transit system serving all areas of the Town.

## WATER TRANSPORTATION

There are no water features in Empire used as transportation routes. The nearest port facilities to the Town of Empire are located in Sheboygan and Milwaukee.



### AIRPORTS

There are no airports in the Town of Empire. The nearest airport to the Town of Empire is the Fond du Lac County Airport. This facility is classified as a transport/corporate airport intended to serve corporate jets, small passenger and cargo jet aircraft. Commercial passenger service is not available at the Fond du Lac County Airport. The nearest airports which provide regular commercial passenger service are Outagamie Regional Airport in Appleton and the General Mitchell International Airport in Milwaukee.

## TRUCK TRANSPORTATION

STH 23 and USH 151 are the primary trucking routes through Empire. WisDOT has officially designated these corridors as truck routes. This designation is based on the design of the roadway to withstand truck weight and traffic.

The Wisconsin Statutes define standards for the length, width and weight of trucks allowed on certain roadways to prevent road degradation and untimely maintenance. In Empire, the Town does have the option of designating roadways as “Class B Highways” (see definition in box above). This can be done by ordinance. At this time there are no Class B Highways in the Town.

### CLASS B HIGHWAYS

May include county and town roads, or portions thereof, on which no person, without a permit, shall operate any vehicle or combination of vehicle and imposing wheel, axle, group of axels, or gross weight exceeding 60 percent of the listed capacity weight of the roadway. For additional information, refer to Wisconsin Statutes, Chapter 348.

## STREETS AND HIGHWAYS

Streets and highways are classified according to their primary function, either to move vehicles or to serve adjacent land. For example, *arterials* accommodate the movement of vehicles, while *local roads* are designed to provide direct access to individual parcels of land. *Collectors* serve both local and through traffic by providing a connection between *arterials* and *local roads*.

Facilities classified under the Federal Aids Secondary System (county trunks and state highways) qualify for federal aid for capital projects involving construction, reconstruction or repair. State highway aids are available to communities for construction and maintenance. Federal aids cannot exceed 85% of expenditures based on a 3-year average.



Town of Empire Garage  
Fourth Street Road, Empire, WI

**Principal Arterials.** STH 23 and USH 151 are classified as principal arterials in Empire.

**Minor Arterials.** USH 45 is the only minor arterial in Empire.

**Major Collectors.** County highways T (Fourth Street Road), UU, and K are considered major collectors in the Town of Empire.

**Minor Collectors.** CTH H is the only minor collector in Empire.

**Local Roads.** The remaining roads in the Town are local. They provide access to residential, commercial and industrial uses within the Town.

All the roads described in this section are illustrated on the *Transportation Network Map and Plan* provided in this chapter. Available traffic count information at key intersections is also provided on the map.

The Town values the road network given its central role in meeting the transportation needs of Town residents. Therefore, the Town considers road maintenance an important priority.

## Summary of Existing Transportation Plans

This summary is provided to understand how existing plans relate to the Town of Empire.

### FEDERAL TRANSPORTATION PLANNING

A number of federal and state policies guide the planning, development, maintenance, and operation of the transportation network. As tends to be the case with federal and state policies, their implementation is accomplished with the development of regulations, often with tight ties to funding. Federal regulations most closely related to this chapter include:

- Title VI, Civil Rights Act, and specifically the Americans with Disabilities Act of 1990 (ADA) and the Executive Order concerning Environmental Justice;
- Clean Air Act;
- Planning requirements under the Inter-modal Surface Transportation Efficiency Act of 1991 (ISTEA), and the subsequent Transportation Equity Act of 1998 (TEA-21); and,
- Federal historic preservation regulations also affect transportation planning, project development and construction.

The most recent federal transportation planning efforts are included within the Transportation Equity Act for the 21st Century (TEA-21). This act largely reaffirms the tenets of the ISTEA. This legislation sets out all federal transportation funding programs and the planning requirements of those programs. For

Streets and highways are classified according to their primary function, either to move vehicles or to serve adjacent land.

- ✓ **Principal Arterials** – serve interstate and interregional trips.
- ✓ **Minor Arterials** – accommodate inter-regional and inter-area traffic movements, often in conjunction with principal arterials.
- ✓ **Major Collectors** – provide service to moderate sized communities and other intra-area traffic generators. Many county trunk highways fall into this classification.
- ✓ **Minor Collectors** – these roads collect traffic from local roads and provide links to all remaining portions of smaller communities and other higher function roads.
- ✓ **Local Roads** – provide direct access to residential, commercial and industrial development.



instance, TEA-21 spells out the existence of the Transportation Enhancement Program, the minimum level at which it will be funded, and the general principles and intentions of the program. Also, requirements for transportation/land use plans for urbanized areas are also included in ISTEA and TEA-21. Administrative rules are used to flesh out these and other federal program requirements. Monies from ISTEA and TEA-21 have been used to finance the USH 151 corridor bypass and will be used to make improvements to STH 23.

### **WDNR STATE RECREATIONAL TRAIL NETWORK PLAN<sup>1</sup>**

The *State Recreational Trail Network Plan* (see map on next page) was drafted by WDNR and approved by the Wisconsin Natural Resources Board. The plan provides a long-term, big-picture vision for establishing a comprehensive trail network thru Wisconsin. It identifies existing and proposed trails and connections that would serve as the main corridors for a statewide trail system. The plan doesn't include every trail in Wisconsin, just the major arteries. It focuses mainly on abandoned rail corridors, utility corridors, critical road connections, and natural feature corridors that link places where people live and play, natural resource features, public lands, and other destinations.

The *State Recreational Trail Network Plan* recognizes that trails developed by local units of governments serve as critical links. Under the plan, WDNR staff will continue to work with local governments and encourage them to connect trails onto this network as they update local plans.

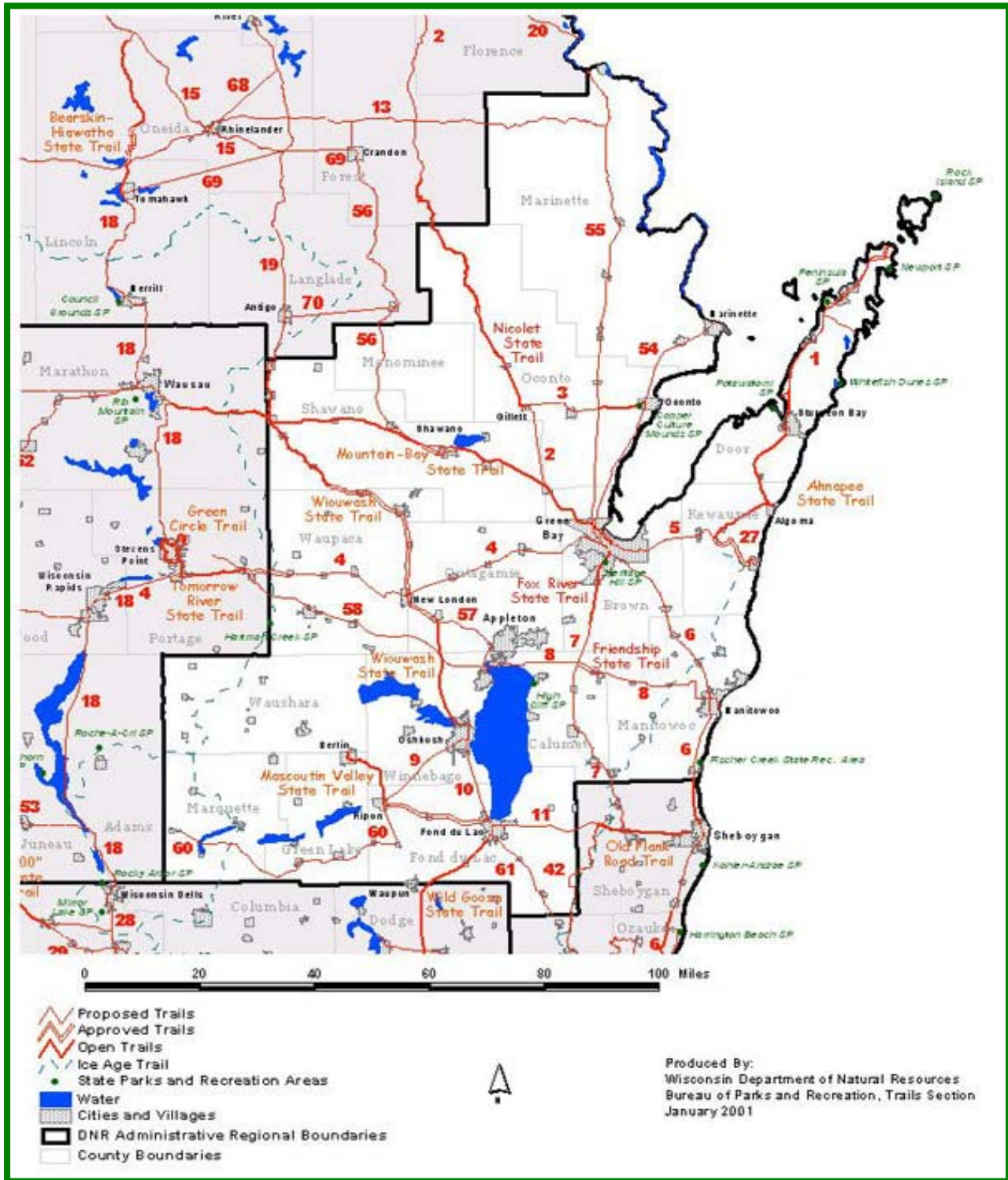
On the *State Recreation Trail Network Map* three (3) trails are shown in and near Empire.

- **Trail #11** – This segment along the STH 23 right-of-way from Sheboygan to Greenbush is known as the Old Plank Road Trail. This trail bisects key WDNR wildlife areas and takes advantage of large highway right-of-way expanses. The gap between Fond du Lac and Greenbush will probably be best accomplished along various roadways, including the planned widening of STH 23.
- **Trail #42** - From north to south, this corridor connects the Kettle Moraine State Forest-Northern Unit, Pike Lake State Park, Loew Lake Unit, Lapham Peak Unit, Glacial Drumlin State Trail, and Kettle Moraine State Forest-Southern Unit. Extending south from proposed Segment 7, Segment 42 will also run on a rail line to Elkhart Lake in Sheboygan County. From Elkhart Lake, the route will switch to local roadways and continue south through much of the Kettle Moraine State Forest-Northern Unit, paralleling the Ice Age Trail. At the Fond du Lac/Washington County line, the proposed corridor connects with the proposed Milwaukee River Trail and extends south to West Bend.
- **Trail #61** - This segment of rail corridor would connect Fond du Lac with Washington County via the Fond du Lac area communities of Eden and Campbellsport. Currently, the portion of rail corridor between Eden and West Bend in Washington County has been abandoned and is being appraised for WDNR purchase following significant public interest in the project.

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<sup>1</sup> Text modeled from language provided on *WDNR State Recreational Trail Network Plan* website, 2005.





SOURCE: Wisconsin Department of Natural Resources State Recreational Trails Network Plan, 2005.

## **WISCONSIN STATE BICYCLE PLAN 2020**

The *Wisconsin Bicycle Transportation Plan 2020* was drafted by WisDOT in December 1998. The vision statement in the plan is: “To establish bicycling as a viable, convenient and safe transportation choice throughout Wisconsin.” The document included eight elements: Plan Vision, Goals and Objectives, Current Bicycling Conditions, Benefits and Impacts of Bicycling, Public Involvement, Intercity, Urban/Suburban, Bicycle Safety, and, Implementation. In the implementation section, WisDOT identified the roles and responsibilities of various levels of state and local government. Local governments are encouraged to:

- Develop, revise, and update long-term bicycle plans and maps;
- Consider the needs of bicyclists in all street projects and build bicycle facilities accordingly;
- Promote and offer bicycle safety programs;
- Consider providing locker room facilities for employees;
- Consider bicycle racks on buses;
- Encourage business involvement as a means to increase bicycle commuting and other functional trips; and,
- Help promote bike to work/school day.

Empire’s ability to support trail development is closely tied to its support for planned trails identified within the WDNR *State Recreational Trail Network Plan*, coordination with Fond du Lac County with respect to planned County Trunk Highway upgrades, and coordination with local developers and citizen groups who may consider trails as part of subdivision developments or in other areas.

## **WISCONSIN STATE HIGHWAY PLAN 2020<sup>2</sup>**

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

In relation to Empire, the relocation of USH 151 was undertaken as a result of the *WisDOT State Highway Plan 2020*. Similarly, STH 23 is classified as a connector highway in *WisDOT State Highway Plan 2020*, which means it has been designated as a highly important state roadway which requires widening between Fond du Lac and Plymouth.

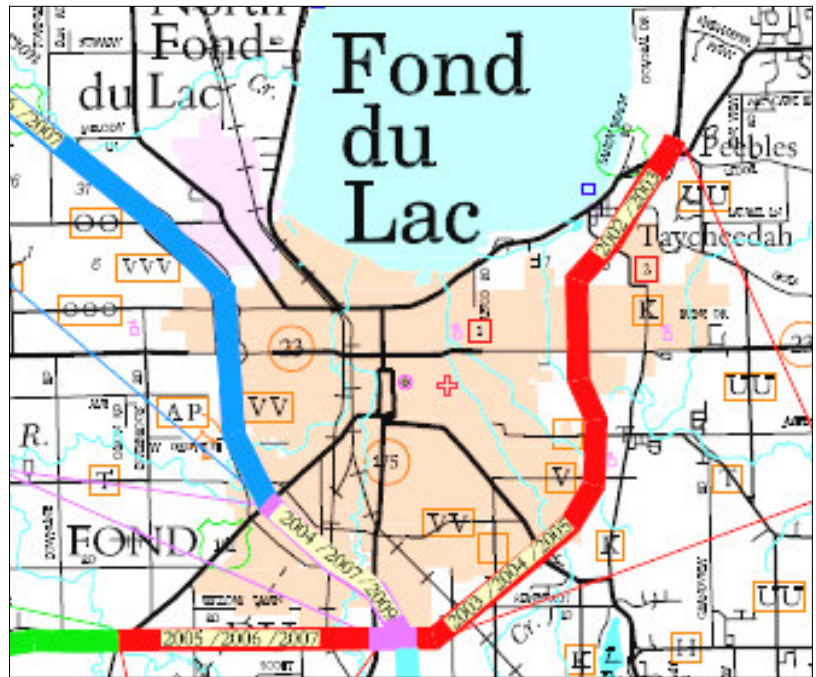
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<sup>2</sup> Information in this section obtained from the WDOT web site.

**USH 151 Corridor Bypass.**

Construction on the USH 151 bypass began in 2002. When completed, it will consist of a newly constructed 8.1-mile highway from USH 41 south of Fond du Lac to Peebles. The bypass plan includes:

- Constructing a four-lane divided highway from USH 41 to STH 23.
- Limiting access to public roads with at-grade intersections.
- Constructing a two-lane highway from STH 23 to the existing USH 151, just north of USH 149. The two lanes will be constructed within the right-of-way to ultimately accommodate four lanes.
- Building an overpass to carry USH 45 traffic over the USH 151 bypass with connector roads to provide access between USH 151 and USH 45.
- Constructing a diamond interchange and an overpass on USH 151 to carry traffic over STH 23.
- Adding a recreation trail along the entire route of the bypass with a connection to the Wild Goose State Trail at Martin Road and the STH 149 trail in Peebles.



USH 151 North from USH 45

**STH 23 Corridor.** As STH 23 travels through Fond du Lac and Sheboygan Counties it serves two distinct user groups - motorists passing through the area and local residents of the areas surrounding STH 23. In 1999, STH 23 was selected by the State Legislature to receive funding for improvements. The objective of the STH 23 expansion project is to add capacity and increase safety by expanding the existing 2-lane highway to a 4-lane expressway from the east side of the City of Fond du Lac to the City of Plymouth.

The STH 23 expansion project is still in the planning stages of development. WisDOT has completed an Environmental Impact Statement (EIS), which outlines the purpose and need for improvements, three possible construction alternatives and their respective environmental consequences. In April of 2005, WisDOT decided the widening of STH 23 would be completed along the existing route (as opposed to two alternative alignments discussed in the EIS). Construction is currently slated for 2013.



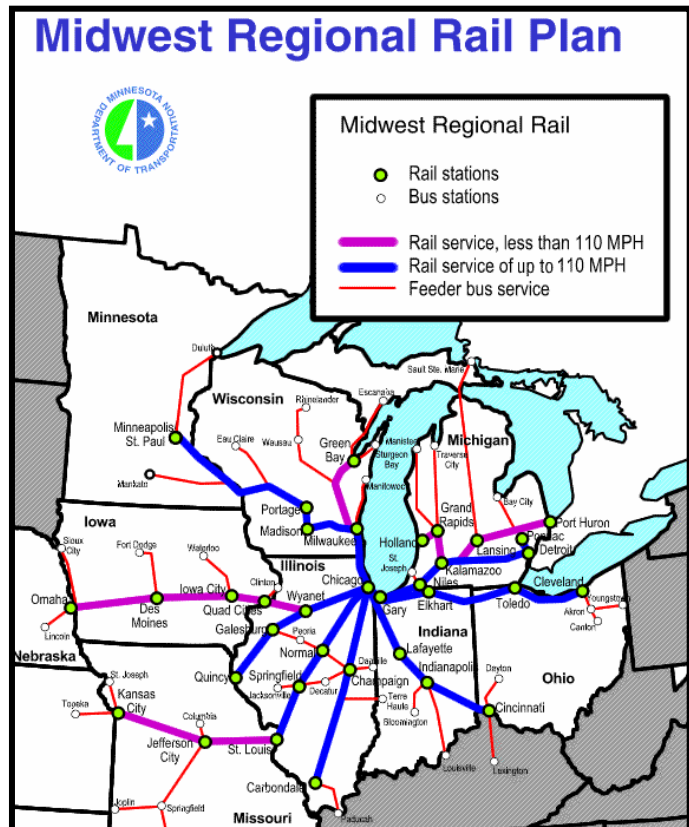
To budget for future highway projects, WisDOT uses a six year *Highway Improvement Plan*. That plan included the USH 151 bypass projects and identifies the STH 23 corridor project for 2013. No additional plans within or immediately adjacent to Empire are budgeted.

WisDOT is also working to prepare its long-range transportation plan through the year 2030. *Connections 2030* will set forth a broad vision as well as strategies and policies for all the state’s transportation modes: highways, rail, air, water, pedestrian, bicycle, transit and local roads.

## MIDWEST REGIONAL RAIL INITIATIVE PLAN

Since 1996, the Midwest Regional Rail Initiative (MWRI) advanced from a series of service concepts, including increased operating speeds, train frequencies, system connectivity and high service reliability, into a well-defined vision to create a 21<sup>st</sup> century regional passenger rail system. This vision has been transformed into a transportation plan known as the Midwest Regional Rail Systems (MWRRS). The primary purpose of the MWRRS is to meet future regional travel needs through significant improvements to the level and quality of regional passenger rail service. The major MWRRS elements will improve Midwest travel. These elements include:

- Use of 3,000 miles of existing rail rights-of-way to connect rural, small urban and major metropolitan areas throughout Minnesota, Iowa, Missouri, Illinois, Indiana, Ohio, Michigan and Wisconsin.
- Operation of “hub-and-spoke” passenger rail system through Chicago to locations throughout the Midwest.
- Introduction of modern train equipment operating at speeds up to 110 mph.
- Provision of multi-modal connections to improve system access.
- Improvements in reliability and on-time performance.



The cost to provide the improvements needed to facilitate a Chicago-Milwaukee-Minneapolis/Fond du Lac Route would be \$978 million, including rolling stock (i.e. passenger cars) and infrastructure improvements (i.e. track improvements). If the plan is carried out, residents of Empire will be able to access a train in Fond du Lac to connect in Milwaukee to a high-speed rail line. The current schedule provided in the MWRRS plan calls for the entire project to be completely on-line by 2012. The first phase of the MWRRS plan in Wisconsin calls for 110 mph rail service between Madison and Milwaukee, and continuing to Chicago.

## EAST CENTRAL WISCONSIN REGIONAL PLANNING COMMISSION

The East Central Wisconsin Regional Planning Commission (ECWRPC) has adopted transportation goals and supporting objectives, which it uses to evaluate transportation plans developed in the region. As part of the comprehensive planning process, these goals were reviewed to ensure consistency with the *Town of Empire Comprehensive Plan*. Many of the ECWRPC goals relate to services and facilities that are not available in the Town of Empire (i.e. airports, etc.).

The overall goal for the regional transportation program is “*to provide a safe, efficient and environmentally sound transportation system that provides personal mobility for all segments of the population and supports the economy of the region.*” This statement is consistent with the vision and goals set forth by Empire. To support this goal, the ECWRPC has outlined a series of objectives pertaining to: integrated planning, maximum street effectiveness, an efficient street and highway system, safety, minimum environmental disruption, compatibility with land use patterns, conservation of energy, and multi-modal interaction. Each of these objectives is addressed to the fullest extent practical in this chapter.

## FOND DU LAC COUNTY TRANSPORTATION PLANNING EFFORTS

The Fond du Lac County Highway Department does not have an officially adopted transportation plan. Such a plan will likely be developed as part of the Fond du Lac County “Smart Growth” Comprehensive Plan. Nevertheless, Fond du Lac County does plan for future transportation improvements as part of the annual budget process. Current priorities for the Fond du Lac County Highway Department include continuing to provide required maintenance and improvements to existing county roads. The Town of Empire coordinates with the Fond du Lac County with respect to these road improvements.

## PASER RATING SYSTEM REPORT

All Empire roads are evaluated in accordance with WisDOT requirements using Pavement Surface Evaluation and Rating (PASER). PASER is a visual inspection system to develop a condition rating for community roads. PASER is an important tool for smaller government unit planning because it gives a picture of road conditions on all roads and can identify candidates for maintenance and rehabilitation. Surface defects, cracking and potholes are all examined during a typical PASER evaluation. Paved roads are rated 1 – 10 based on their condition.

<b>Paved Roads Rating</b>	<b>Need(s)</b>
Rating 9 & 10	no maintenance required
Rating 7 & 8	routine maintenance, crack sealing and minor patching
Rating 5 & 6	preservative treatments (seal coating)
Rating 3 & 4	structural improvement and leveling (overlay or recycling)
Rating 1 & 2	reconstruction

It is important to understand that the roads are rated in segments. As a result, a portion of a particular road may rank as 9, whereas a different segment may only rank as 6. These fluctuations can greatly impact the overall need for construction improvements.

According to the PASER manual, it is recommended that communities strive to attain a rating of 7 for all paved roads. If, in the future, the Town of Empire decides that additional tools are necessary to assess local roads, it is recommended that the Town consider analyzing its PASER results using PASERWARE. This software program is designed to help communities consider different scenarios for optimizing road maintenance and improvements expenses. Using PASERWARE, a community can determine what

sequence of improvements is recommended to meet a certain goal (i.e. get all roads to a 7 rating). PASERWARE also will provide cost estimates for maintenance and construction projects. Assistance with this program (including funding) is available through the East Central Wisconsin Regional Plan Commission. Contact the Town for Town of Empire road PASER ratings.

## **COMPARISON TO STATE AND REGIONAL PLANS**

Jurisdiction over transportation facilities and services is divided among several layers of government (i.e., State Highways, County Trunk Highways, and Town Roads). Planning for the transportation network in the Town of Empire requires coordination among these jurisdictions. During the development of this plan, the Town researched regional and state transportation plans, policies, and programs (several of which are highlighted in this section). Available information indicates that the most significant future transportation project will be the widening of STH 23. The recent completion of the USH 151 bypass will also likely impact development patterns in the Town. The improvements to these corridors were an important consideration in the preparation of the *Future Land Use Maps* presented later in this plan.

The transportation goals, policies, objectives, and programs in this plan seek to complement regional transportation goals, objectives, policies, and programs by providing local transportation facilities and services that connect to county, regional, and state facilities.

## Transportation Issues and Concerns

What follows is a discussion of area transportation issues and concerns raised during the planning process. Actions to address these items are provided in the Transportation section of the Implementation Chapter.

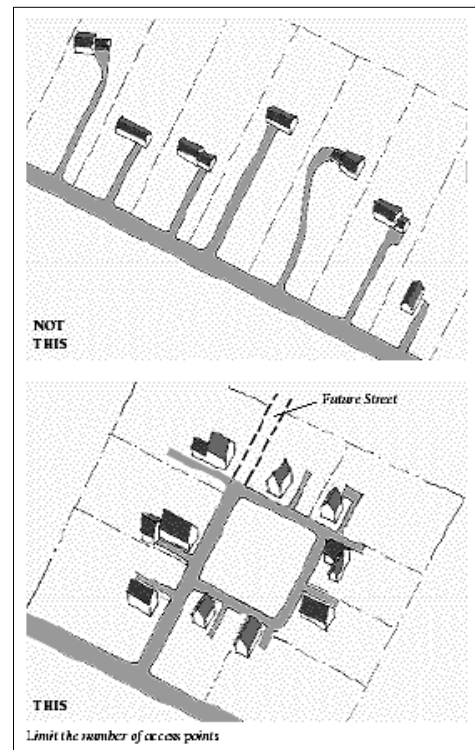
### INCREASED TRAFFIC AND SAFETY

As Empire’s population has increased, traffic volumes on Town, County and State Highways adjacent to the area have also increased. In reaction to traffic increases, WisDOT is completing a USH 151 bypass project and is in the planning stages of a project to widen STH 23. At the same time, improvements to these corridors also make the Town of Empire that much more accessible for new residents seeking rural housing choices in close proximity to Fond du Lac. Therefore, these corridors also serve as a catalyst for additional Town growth. Accordingly, Fond du Lac County and the Town of Empire must consider necessary changes to their roadways to accommodate future traffic demands.

Over the last ten years, traffic volumes have increased substantially on CTH K (between 1995 and 2003 traffic volumes increased from 2,600 to 4,600 average annual daily traffic (AADT) south of STH 23 and from 2,450 AADT to 4,000 AADT south of CTH T). Traffic volume increases have also occurred on CTH T (increasing from 1,840 AADT in 1995 to 2,500 AADT in 2003 at the westernmost Town limits and increases from 1,250 AADT near CTH UU to 1,600 AADT).

To address traffic issues associated with increasing traffic volumes, the following potential actions should be considered. Final improvement decisions would be based on specific traffic studies.

- **Require larger setbacks along major and minor arterials** so if expansion of roadways is needed, space is available. This action will require revisions in the *Town Zoning Ordinance* to create an overlay setback zone.
- **Utilize managed roadway access techniques** to control traffic access and maintain rural roadside character. “*Roadway access*” refers to the number of points of ingress and egress from a roadway. Managing roadway access points helps to promote safe and efficient travel and minimizes disruptive and potentially hazardous traffic conflicts. Managed roadway access involves minimizing the number of driveways along a roadway and establishing standards for driveway spacing. Rather than promoting driveway after driveway along rural roads, shared driveways and streets are encouraged (see diagram). Driveway/roadway spacing is determined based on the posted speed limit, not property lines. The table details possible spacing requirements Empire may want to consider enforcing on local roads.



Posted Speed Limit (MPH)	Minimum Driveway Spacing (in Feet)
25	90 - 125
30	155
35	185
40	225
45+	300

SOURCE: E. Humstone & J. Campoli, *Access Management: A Guide for Roadway Corridors*, Planning Commissioners Journal, Winter 1998.

- **Consider upgrades to local roads.** The *Transportation Network Map and Plan* identifies several potential road upgrades and intersection improvements. These possible projects were identified by the Town’s planning consultant, OMNNI Associates, as part of the plan preparation. Specific traffic studies by qualified traffic experts are needed to determine the exact scale of necessary improvements. In some cases coordination with Fond du Lac County and WisDOT officials is also required. Potential projects are described in Table 20.

TABLE 16 POTENTIAL ROAD IMPROVEMENT PROJECTS			
Facility	Segment	Potential Project Description	Purpose
CTH K	STH 23 to USH 45	Complete a corridor study to identify future public road access points, bypass lanes to accommodate the flow of traffic around left-turning vehicles accessing intersecting subdivision streets, lane widening projects and geometric changes.	This corridor has seen steady and significant increases in average annual daily traffic (AADT) from 2,600 cars per day south of STH 23 in 1995 to 4,500 cars per day in 2003. Similarly traffic counts south of CTH T have increased from 2,540 in 1995 to 4,000 cars per day in 2003.
CTH K & CTH T	Intersection	Complete an intersection study to consider the need for lane improvements to accommodate turning traffic (i.e. turning lanes, traffic signals, roundabouts).	Based on traffic volume increase and potential future increases upgrades to this intersection may be necessary to safely accommodate local traffic.
CTH K & STH 23	Intersection	Complete an intersection study to consider the need for lane improvements to accommodate turning traffic (i.e. turning lanes, traffic signals, roundabouts).	Given planned upgrades to STH 23, improvements to the intersection at CTH K may be needed to accommodate local traffic.
CTH UU & STH 23	Intersection	Complete an intersection study to consider the need for lane improvements to accommodate turning traffic (i.e. turning lanes, traffic signals, roundabouts).	CTH UU and STH 23 are important travel routes in the Town of Empire. While traffic volumes at this intersection do not presently require upgrades, the Town may want to monitor traffic counts to determine if in the future (i.e. 15 years out) potential intersection improvements are needed.
CTH UU & CTH T	Intersection	Complete an intersection study to consider the need for lane improvements to accommodate turning traffic (i.e. turning lanes, traffic signals, roundabouts).	CTH UU and CTH T are both considered major collectors in the Town of Empire. Traffic volumes at the intersections of these streets do not currently require upgrades, but the Town may want to monitor traffic counts to determine if in the future (i.e. 10 – 15 years) potential intersection improvements are needed.
USH 151 & CTH T	At-Grade Crossing	Complete an intersection study to consider the need for improvements to this at-grade crossing.	Since USH 151 was completed, this at-grade intersection has been of concern to residents from a safety standpoint. While it is possible safety concerns may fade as people grow more accustomed to this new crossing, a study and possible improvements (i.e. signage or even grade separation) are recommended.
CTH H & STH 45	Intersection	Complete an intersection study to consider the need for land improvements to accommodate traffic flowing through this area (i.e. turning lanes, traffic signals, roundabouts).	This 3-legged intersection has the potential to accommodate a roundabout that will provide safer traffic flows through this area.



## TRAIL DEVELOPMENT

Several residents at the Kick-Off and Vision Meetings held in early 2005 indicated trail development was an opportunity for the Town of Empire to consider. To increase trail opportunities in the Town the *Transportation Network Map and Plan* recommends on-road bicycle routes be designated to accommodate area cyclists. In addition, trail development is encouraged within subdivisions and along STH 23 and USH 151 in accordance with WDNR and WisDOT plans. Moreover, as County and Town Roads are updated (particularly CTH K and CTH T east of CTH UU), opportunities for adjacent trails should also be considered.

It is important to note here that not all residents favor trails. Two common issues expressed by residents opposed to trails are the potential for decreases in property values and impacts on private property (i.e. vandalism and crime). Studies have shown that trails in northeast Wisconsin actually increase property values for homes located along established trail routes and increase exposure (and profits) for local businesses that have trail access. As is sometimes speculated, elevated vandalism and crime rates have not been seen along trail routes.<sup>3</sup>

## FARM TRAVEL NEEDS

The Town of Empire has historically been a farming community. Town residents take pride in its farming operations and believe farming should be an important part of the Town's future. Modern farming operations often require farmers to travel with large equipment on local roads. These large, slow moving vehicles can present a potential hazard for other motorists. To improve safety the Town may want to consider installation of warning signage and, in some areas, wider shoulders to make passing easier.

## MAINTENANCE OF TOWN ROAD SHOULDER AREAS

A few roads in Empire have limited shoulder areas where vegetation grows to the edge of the pavement. This situation presents some potential issues with stormwater drainage, pedestrian and cyclist use of right-of-ways, and limited sight distances. To address this issue, the Town could pursue a more aggressive brush removal effort to clear ditches. Many Wisconsin Towns have programs to annually (or semi-annually) clear ditches.

### ...COMMUNITY SURVEY SPOTLIGHT...

#### Trails in the Town of Empire

Q29: Would you like to see recreation trails developed in Empire?

Yes: 46.0% No Opinion: 8.3%

No: 45.7%

Residents are clearly divided on this issue, but it is more clear from the response to Q30, that if trails are to be developed, grants, private donations, and other non-tax sources should be used to finance any trail construction projects.

Q30: Would you be willing to pay additional taxes to purchase and maintain trails?

Yes: 35.5% No Opinion: 7.6%

No: 56.9%

Q31 and Q32 asked about frequency of use and where trails, if developed, should be located. Less than half of residents (44.5%) said they would not use the trails. The most desired location for trails was leading into natural areas (52.6%), followed by within neighborhoods to provide connections between subdivisions (26.3%) and within new subdivisions (22.6%).

<sup>3</sup> Fox River Trail Study, Brown County Planning Commission December 2001; Omaha, Nebraska Recreational Trail Effects on Property Values & Public Safety Study, Donald L. Greer, PhD, U of Nebraska at Omaha, Recreation and Leisure Studies Program, 2001; Economic and Social Benefits of Trails, Gary Sjoquist, Park and Trail Council of Minnesota, 2003; Community Amenities Survey, National Association of Homebuilders and Realtors, 2002.

## ROAD MAINTENANCE CONCERNS

At the Kick-Off Meeting held in early 2005, a few residents listed sub-standard transportation features (i.e. narrow roads and small cul-de-sacs) and inadequate road maintenance as perceived weaknesses of the Town of Empire. The *Empire Land Division Ordinance* provides requirements for street design that are consistent with State guidelines and requirements enforced in surrounding Towns. The revised development review process recommended in the Housing Chapter provides additional opportunities for technical review and public education that may help to address these perceptions. With respect to perceived maintenance concerns, Empire may wish to consider using PASERWARE and a capital improvements plan and budget as additional tools to assist in road maintenance activities.

### ...COMMUNITY SURVEY SPOTLIGHT...

The survey results indicate that the vast majority of residents are satisfied or very satisfied with road maintenance in Empire. This result refutes the comments expressed by a few at the Kick-Off Meeting.

**Q: How would you assess the maintenance of town roads?**

Excellent	12.6%
Good	68.1%
Fair	15.9%
Poor	3.1%
Don't Know	0.3%

## LOCATING DRIVEWAYS ON CUL-DE-SACS

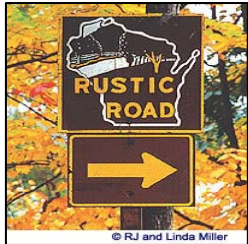
An issue that was raised by residents in attendance at a public meeting held on June 22, 2005 to review this chapter related to snow plowing cul-de-sac streets. Due to the fact that driveways are located in close proximity to one another around cul-de-sacs, during the winter months when snow removal is necessary, piles of snow are pushed onto driveways at the end of cul-de-sacs. With limited lawn area between driveways snowplow drivers block driveways when pushing snow off the street.

The issue of snow removal from cul-de-sacs is of concern to many communities. Some techniques used to address this issue are highlighted below. In the future, the Town may want to consider opportunities to limit (or even prohibit) cul-de-sac developments in favor of looped streets. Where cul-de-sacs are provided, careful review should be done to ensure that the radius is sufficient for a snowplow to maneuver around the cul-de-sac and ample space is available to deposit snow.

- **Education.** Residents who live along cul-de-sac streets should be made aware of the challenges of snow removal, including the fact that snowplows do not have the ability to lift and carry snow from one area to another. Some communities post information about their snow removal practices on their web site. SOURCE: Brighton Township, MI
- **Double Back Method.** With this method, during the initial pass the snowplow driver pushes the snow to a *single area* most suitable to expedite the plowing and open the road for the majority of residents. This is the practice currently used in the Town of Empire. To supplement this initial pass, a second plow returns to cul-de-sac for a more thorough clearing after all other roads have been properly plowed and treated. In some communities this second effort is handled with smaller plow equipment (often under contract with private providers). SOURCE: Lafayette, IN
- **Center Storage Method.** Center storage can be accomplished while trucks complete the street leading to the cul-de-sac and other surrounding streets. In this method, an initial full pass around the perimeter of the cul-de-sac is made with the snowplow, pushing the snow to the center of the cul-de-sac, and thus, creating a pile. As time allows (i.e. after other priority streets are cleared), the snow left in the pile in the middle of the cul-de-sac may be evenly dispersed to the sides of the cul-de-sac; pushed out of the cul-de-sac entirely to areas on other streets where additional snow storage is available; or if necessary, the use of a front-end loader may be necessary. If snow accumulation is minimal, the snow pile may remain in the center of the street. The center storage method usually

reduces or eliminates the number of support vehicles needed to clear cul-de-sacs, saving time and money. In addition, center storage reduces the large piles of snow otherwise stored on resident driveways or yard. SOURCE: Woodbury, MN.

## Transportation Programs



### RUSTIC ROADS<sup>4</sup>

The Wisconsin Legislature established the Rustic Roads Program in 1973 to help citizens and local units of government preserve what remains of Wisconsin's scenic, lightly traveled country roads. Unique brown and yellow signs mark the routes of all officially designated Rustic Roads. These routes provide bikers, hikers, and motorists an opportunity to leisurely travel through some of Wisconsin's scenic countryside. Although there are no designated Rustic Roads in Empire at this time, the Town may submit an application to WisDOT to have one or more of its roads designated. To qualify for the Rustic Roads Program, a road:

- Should have outstanding natural features along its borders such as rugged terrain, native vegetation, native wildlife, or include open areas with agricultural vistas which singly or in combination uniquely set this road apart from other roads;
- Should be a lightly traveled local road, one which serves the adjacent property owners and those wishing to travel by auto, bicycle, or hiking for purposes of recreational enjoyment of its rustic features;
- Should be one not scheduled nor anticipated for major improvements which would change its rustic characteristics; and,
- Should have, preferably, a minimum length of 2 miles and, where feasible, should provide a completed closure or loop, or connect to major highways at both ends of the route.



7 Hills Road (as seen here with intersection with Walnut Road)

In order to begin the process for Rustic Road designation, the Town should identify roads it would like to see included as part of the Rustic Roads system. The next step would be to initiate and circulate petitions among resident property owners along the candidate road. WisDOT encourages local governments to work with civic, recreational, and environmental groups to publicize and encourage the success of the Rustic Roads program. An application for Rustic Roads designation can be found by visiting the WisDOT website at: [www.dot.wisconsin.gov/travel/scenic/rusticroads](http://www.dot.wisconsin.gov/travel/scenic/rusticroads).

<sup>4</sup> Text excerpted from WisDOT Rustic Roads website, 2005.

## **Coordination with Other Required Plan Chapters**

### **ISSUES AND OPPORTUNITIES**

The Issues and Opportunities Chapter establishes the framework for planning. The chapter lists strengths, weaknesses, opportunities and threats, as well as important local values identified by residents. These ideas provide the basis for developing this plan. The Transportation Chapter Vision was created in response to the strengths, weaknesses, opportunities, threats and values expressed in the Issues and Opportunities Chapter. This Transportation Vision will impact the way the Town considers and approves changes to the transportation network. To realize the vision presented in this chapter, the Town should focus on maintaining its quality roadways and establishing bicycle routes.

### **HOUSING**

Each new home developed is estimated to generate 10 vehicle trips per day.<sup>5</sup> These include trips by the resident(s) to school, work, shopping and other destinations, as well as, trips by school busses, postal route drivers, private delivery services, service repair providers, etc. to the home. This increased traffic, over time, impacts traffic volumes on the road network. As a result, transportation impacts should continue to be considered with any new subdivision and commercial development projects. As necessary, the Town may want to require traffic impact studies (at the expense of the developer) to ensure that new development will not overwhelm existing transportation facilities.

### **AGRICULTURAL, NATURAL AND CULTURAL RESOURCES**

The critical question with respect to the Agricultural, Natural and Cultural Resources Chapter and this chapter is: how will changes to the transportation system impact the preservation / protection of environmental resources? Given the development limitations presented by the local wetlands, floodplains and geologic features in Empire, new road construction (and associated development) must continue to respect these attributes in accordance with Empire's codes and ordinances.

### **UTILITIES AND COMMUNITY FACILITIES**

How will Empire ensure that the transportation decisions made preserve existing facilities and reduce the need for expansion or realignment? The answer to this question is realized in the Land Use Chapter, whereby the location of future development and associated transportation improvements is correlated to the location of adequate utilities and community facilities.

### **ECONOMIC DEVELOPMENT**

Providing a quality transportation system is important to the success of any business. Just as businesses need access, employees also want to be able to efficiently access their places of employment. Lack of access to employment opportunities may affect individual decisions to live in a community. In the Town, these issues were carefully considered, particularly with respect to the location of new commercial and industrial development, parking locations, and the long-term maintenance of important inter-community transportation routes like STH 23 and CTH T. The local solutions to these issues are reflected on the *Future Land Use Maps*.

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<sup>5</sup> SOURCE: Institute of Transportation Engineers Trip Generation Manual

## **FUTURE LAND USE**

What steps will be taken to ensure that transportation decisions and land use decisions are compatible? Although transportation is not the only influence on land use, it is important to be aware that decisions regarding the transportation system may impact land use both directly and indirectly. Direct impacts are caused by the construction of a new transportation facility, changes to an existing facility, and/or decisions to change traffic patterns along a facility. These may result in positive or negative impacts. Efforts were made to plan for land uses along local roadways and promote new development adjacent to existing development so that existing roads can be utilized. The result of these efforts is reflected on the *Future Land Use Maps*.

## **IMPLEMENTATION**

Using a local capital improvements plan and budget, the associated costs of the transportation needs can be addressed. A capital improvements plan and budget can not only help the Town plan for expenditures but also to locate grant and low interest loan opportunities that may exist to fund needed improvements.