Wausau Area Crossroads

WAUSAU METROPOLITAN AREA LONG RANGE TRANSPORTATION PLAN – 2035

For the

Wausau Metropolitan Planning Organization

Marathon County Metropolitan Planning Commission

Prepared by:

URS

July 2006

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GLOSSARY OF TERMS

The acronyms and abbreviations listed below are used throughout this text. The glossary of terms is provided as a convenient reference:

ADA -Americans with Disabilities Act
AADT-Annual Average Daily Traffic
BCI-Bicycle Compatibly Index
CBD-Central Business District
CTH -County Trunk Highway
FAA-Federal Aviation Administration
FHWA -Federal Highway Administration
FRA-Federal Rail Administration
FTA -Federal Transit Administration
GIS-Geographic Information System
HCV-Heavy Commercial Vehicle
I-Interstate
IM -Interstate Maintenance Program
ISTEA -Intermodal Surface Transportation Efficiency Act (1991)
ITS-Intelligent Transportation System
LOS-Level of Service
LRTP-Long Range Transportation Plan
MCD-Minor Civil Division
MEV-Million Entering Vehicles
MPA -Metropolitan Planning Area
MPO -Metropolitan Planning Organization
NCWRPC-North Central Wisconsin Regional Planning Commission
NHS -National Highway System
ROW -Right of Way
RR-Railroad
SAFETEA-LU -Safe, Accountable, Flexible, Efficient, Transportation Equity Act; a Legacy for Users (2005)
STH -State Trunk Highway
STIP -Statewide Transportation Improvement Program
STP -Surface Transportation Program
TAC-Technical Advisory Committee
TAZ-Transportation Analysis Zone
TDM-Travel or Transportation Demand Management

TEA-21-Transportation Equity Act for the Twenty-first Century (1998)
TIP -Transportation Improvement Program
TSM-Transportation System Management
USH -United States (Federal) Highway
VPD-Vehicles Per Day
WIDOA-Wisconsin Department of Administration
WisDOT -Wisconsin Department of Transportation
WISLR-Wisconsin Information System for Local Roads

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CHAPTER 1 – INTRODUCTION

OVERVIEW

The Wausau Area 2035 Long Range Transportation Plan (LRTP) was prepared by URS Corporation for the Marathon County Metropolitan Planning Commission (MCMPC). MCMPC is the federally recognized Metropolitan Planning Organization (MPO) for the urbanized area consisting of the cities of Wausau, Mosinee, and Schofield; the villages of Weston, Rothschild, Kronenwetter, and Brokaw; and the surrounding area.

The Wausau Metropolitan Planning Organization (MPO) was created upon reaching the threshold of a population over 50,000 within the urbanized area indicated from the 1980 census figures. The Marathon County Planning Commission was subsequently designated as the agent for the Wausau area MPO in 1983. In May 1996, the Marathon County Planning Commission was renamed the Marathon County Metropolitan Planning Commission. The Wisconsin Department of Transportation (WisDOT) approved the adjusted urbanized area (UZA) in 2003. The UZA is shown in Figure 1-1.

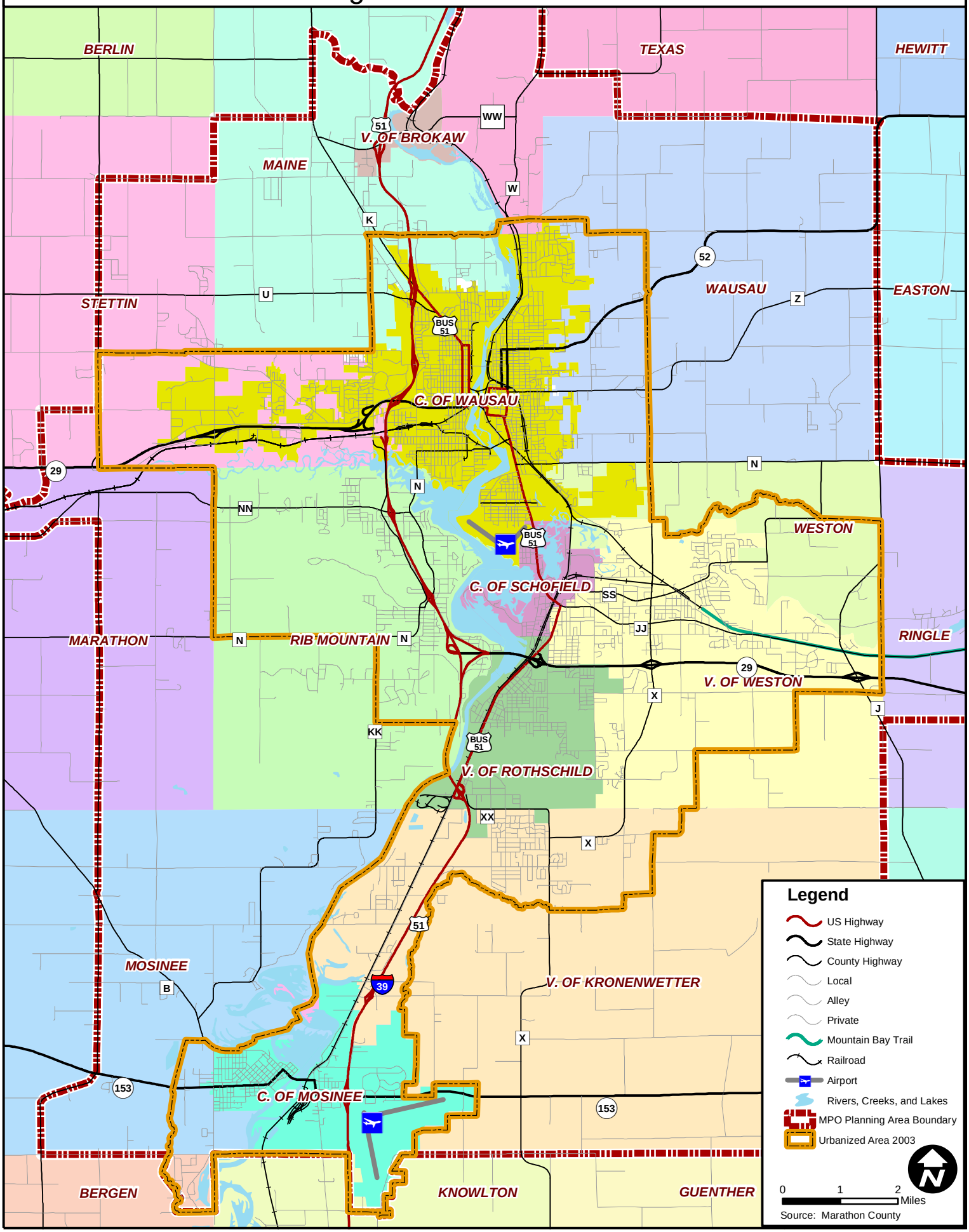
The MCMPC is composed of the chief elected officials of the communities within the Wausau urbanized area, as well as representatives of the agencies having jurisdiction over roadways within the urbanized area. This committee is referred to as the Policy Committee and maintains the decision-making authority. The MPO includes another standing committee, the Technical Advisory Committee (TAC), which is composed of administrative, transportation, and planning professionals employed by the MPO representative communities. The TAC serves an advisory role to the Policy Committee.

MPO PLANNING AREA

The Long Range Transportation Plan (LRTP) study area is shown in Figure 1-1. The planning area encompasses all the urbanized area, developing areas, and areas related to the urbanized area that could potentially develop by 2035. The MPO may expand the planning area to ensure that the study area adequately addresses anticipated growth impacting the metropolitan area.

figure 1-1

Wausau MPO Planning Area



URS Corporation N:\31034060\Projects\wausau_MPO_area.mxd Date: 9/30/2004 3:56:53 PM Name: jwill

The study area includes all or part of the following communities.

City of Mosinee	Village of Kronenwetter	Town of Ringle
City of Schofield	Town of Bergen	Town of Stettin
City of Wausau	Town of Mosinee	Town of Texas
Village of Brokaw	Town of Rib Mountain	Town of Wausau
Village of Rothschild	Town of Maine	Town of Weston
Village of Weston	Town of Marathon	

Figure 1-1 serves as the LRTP's "base map" and includes the locations of major roadways, railroads, and trails within the study area.

The LRTP addresses transportation in terms of the movement of people and goods, not just vehicles. While the plan analyzes specific transportation modes (e.g. roadways, public transportation, bicycles/pedestrians, rail, and aviation), it stresses the interrelationships between modes and, when possible, encourages the integration of the various transportation components into a system that efficiently and cost-effectively meets the mobility needs of the area's citizens, businesses, industries, institutions, and the traveling public.

The LRTP is required to be fiscally constrained or based on reasonable future financial assumptions. The recommendations are based on projections of available federal, state and local revenue. There is not an assumption that significant additional funding will be available beyond current funding levels. Furthermore, the plan is intended to be flexible and capable of responding to new or changing conditions.

The plan is essentially a work in progress, and not a fixed or final product. Land use and transportation studies are continuously being completed and/or updated, which may result in substantial changes to the plan. Moreover, the plan must be updated at least every five years, and amendments may occur more frequently in response to the changing realities of an urban transportation system.

Perhaps most importantly, the LRTP reflects the vision and direction of local officials, relevant agencies, stakeholders, and the general public. From the beginning of the plan development, a proactive public involvement process was undertaken that assured opportunities for the public to be involved in all phases of the planning process. The public provides valuable information needed to develop, maintain, and carry out an effective transportation plan. The public involvement process also provides an opportunity to educate the public about transportation planning and creates an informed community, which in turn leads to better planning.

PUBLIC PARTICIPATION PLAN AND ACTIONS

The purpose of a public participation plan is to establish a proactive public involvement process that ensures the opportunity for the public to be involved in all phases of the planning process. This is accomplished by providing complete information, timely public notice, opportunities for making comments, full access to key decisions, and early and continuing involvement in developing transportation plans and programs.

The following sections describe the public participation plan for the Wausau Area 2035 Long Range Transportation Plan.

- Introduction
- Federal Requirements
- Involvement Opportunities
- On-going Communication

Introduction

Public involvement means participation in planning by people (public) within the Wausau Metropolitan Planning Area (MPA) and its encompassing communities. It is a process of taking part in the transportation planning and decision-making that affects their community.

The public can provide valuable information needed to develop, maintain, and implement the transportation plan. The project team, local planning staff, and local officials need comments from those who know the community best: the people who live and work here.

The public involvement process is two-fold. First, it gives the community an opportunity to provide input. Second, it allows the public to obtain information they may not have otherwise received, creating a more informed community. This information exchange, through the public involvement process, can lead to better planning and give the public a sense of ownership of the plan.

The project team attempted to secure participation from stakeholders throughout the Wausau MPA. Stakeholders are individuals or entities that could be significantly affected by the transportation plan recommendations or could significantly influence implementation. Stakeholders include, but are not limited to: the general public; low income, minority and disabled groups; neighborhood representatives; chambers of commerce; special transportation interests such as freight shippers, transit users and bicycle organizations; local officials; military installations; and federal and state transportation agencies.

Federal Requirements

The metropolitan transportation planning process is a federally required planning process aimed at developing programs to meet a region's transportation needs by analyzing the existing system and preparing plans and studies in a continuing, cooperative, and comprehensive manner (the 3-C planning process). These plans and programs are the basis for the development and operation of an integrated, inter-modal transportation system that facilitates the efficient and economic movement of people and goods. Public involvement is required under Federal Statute 23 USC 134 (g) (4), which is from the Transportation Equity Act for the Twenty-first Century (TEA-21). The plan is designed to comply with this legislation.

The following regulations identify the federal requirements for public participation. The Code of Federal Regulations (CFR) is the source document for these regulations and is located on-line at www.access.gpo.gov/nara/cfr/index.html.

Metropolitan Transportation Planning Process – 23 CFR 450.316(b)(1). Include a proactive public involvement process that provides complete information, timely public notice; full public access to key decisions, and supports early and continuing involvement in the local transportation planning process.

Title VI of the Civil Rights Act of 1964 – 23 CFR 450.316(b)(2). Ensure that no person shall, on the grounds of race, color, sex, national origin, or physical handicap, be excluded from participation in, be denied benefits of, or be otherwise subjected to discrimination under any program receiving federal assistance from the United States Department of Transportation.

Americans with Disabilities Act of 1990 – 23 CFR 450.316(b)(3). Identify actions necessary to ensure that the local transportation planning process involves the entire community, particularly those with disabilities, in the development and improvement of services. The local process must also ensure that physical locations for such activities, as well as the information presented, shall be accessible to persons with disabilities.

Specialized Transportation Stakeholders – 23 CFR 450.316(b)(4). Provide for the involvement of traffic, ride-sharing, parking, transportation safety, and enforcement agencies; commuter rail operators; airport and port authorities; toll authorities; appropriate private transportation providers; and where appropriate, local officials.

Environmental Agencies – 23 CFR 450.316(b)(5). Provide for the involvement of local, state, and federal environmental resources and permitting agencies as appropriate.

National Environmental Policy Act – 40 CFR 1500. Encourage and facilitate public involvement in decisions that affect the quality of the human environment. The National Environmental Policy Act (NEPA) is the basic national charter for

protection of the environment. Public involvement under NEPA is subject to the regulations of the Council on Environmental Quality (CEQ).

Environmental Justice Executive Order 12898. Ensure that existing programs identify and address disproportionately high and adverse environmental effects on minority and low-income communities. Environmental Justice is addressed in detail in Chapter 10.

The involvement of a broad cross-section of the community is an essential element in planning the Wausau area's surface transportation system. Establishing community consensus early in the planning process helps identify acceptable alternatives that link transportation strategies to related issues such as environmental and socioeconomic goals. A transportation strategy that reflects and accommodates community views is a basic goal of the transportation planning process.

Public Involvement Opportunities

The project team provided opportunities for the public to be involved early and often throughout the LRTP study. Public notices were distributed prior to study meetings/workshops/open houses. A list of concerned citizens was developed and continually updated as additional citizens attended the informational public meetings and made comments. The list was not intended to be fully encompassing, but expanded through the public informational meetings and comment process. The public had several opportunities to participate and comment during the LRTP process. All public meetings were held in accordance with the requirements of the Transportation Equity Act for the 21st Century (TEA-21).

Issues Identification Workshop

The Issues Identification Workshop, the first of two public workshops, was held early in the study process to solicit input on transportation problems/deficiencies within the Wausau MPO Planning Area. The workshop was held from 6:30 p.m. to 8:30 p.m. on October 13, 2004 at the Marathon County Library, a central and ADA accessible location to encourage minorities and persons with disabilities to attend. The intent of the Issues Identification Workshop was for the public to provide input on existing transportation deficiencies so those concerns could be adequately addressed as part of the plan.

Advertisement

The Issues Identification Workshop was advertised through the use of a press release and paid advertisement. The press release was sent to four area media sources on October 4, 2004, which included:

- Wausau Daily Herald
- WSAW TV 7
- WAOW TV 9

- WFXS FOX 55

A paid advertisement was placed in the Wausau Daily Herald and ran on the dates listed below:

- Thursday, October 7, 2004
- Sunday, October 10, 2004
- Wednesday, October 13, 2004

An announcement was also placed in the second edition of *Crossroads*, the project's electronic newsletter. Extra copies of the first and second newsletter were made available at the workshop (newsletters are included in Appendix B).

Workshop Format

The informal structure of the workshop provided citizens with an opportunity to view display boards and data maps, discuss issues with project staff one-on-one, and respond to a questionnaire and comment sheet.

During the evening a 15-minute slide show presentation was repeated twice to reach all citizens who attended the workshop. The presentation provided citizens with a project overview that included the approach for completing the LRTP, project schedule, and next steps.

Comment Summary

The workshop drew a group of eight citizens and interested individuals. The identification workshop provided an opportunity for the public and project staff to share information on transportation issues within the Wausau MPO Planning Area. Workshop attendees and staff discussed issues such as roadway deficiencies and enhancements, transit services, pedestrian and bicycle facilities and other general transportation improvements.

Of the eight citizens who attended the workshop, six individuals completed a comment sheet. In addition to asking citizens for their general comments, the comment sheet solicited feedback from citizens about roadway issues, transit usage, and bicycle and pedestrian facilities in the Wausau area.

When residents were asked about the worst transportation problems in the Wausau area, issues identified included bottlenecks at certain locations; for example, incidents on Grand Avenue between Townline and Sturgeon Eddy Road can cause a major bottleneck. Posted speed variation on roadways was

listed as a concern in places such as the Scott Street Bridge area on the west side. It was noted that traffic speeds pose a safety hazard to pedestrians crossing roadways. The intersection of Bridge Street and 3rd Street was identified as a problem area and it was also suggested that a widening of Bridge Street should occur from 3rd Avenue to 3rd Street. A comment was also received that there are "too many one-way streets in downtown Wausau."

While a comment was received that bicycle and pedestrian facilities are improving in the Wausau area, workshop attendees suggested locations for improvements such as new and improved trails along the Wisconsin River and connection to Mountain-Bay Trail from Rib Mountain State Park and the Rothschild Bridge.

Better public transportation and the addition of passenger rail service or an intercity bus were desires of respondents. It was suggested that transit service be extended to Cedar Creek, the Rib Mountain shopping area, and the Village of Weston. Respondents had concerns about further reduction in service and the need to better serve the disabled population.

A complete listing of the comments received is included in Appendix A.

Media Coverage

The workshop received television media coverage from WAOW-TV 9. On-camera interviews with Marathon County transportation planner, David Mack, and a citizen participant occurred at the beginning of the workshop. The segment was scheduled to air that same evening during the ten-o-clock news. Additionally, on October 16, 2004, an article was published in the Wausau Daily Herald.

Transportation Alternatives Public Workshop/Open House

The second of two public workshops scheduled during the course of the LRTP study was held on September 13, 2005, at the Marathon County Library. The workshop drew a group of nine citizens and interested individuals. Held from 4:00 p.m. to 7:00 p.m., the Transportation Alternatives Workshop/Open House provided an opportunity for the public and project staff to discuss potential transportation improvements within the Wausau Metropolitan Area. The intent of the Transportation Alternatives Workshop was to provide the public with information related to alternative solutions for addressing transportation needs and allow the public a forum to give input as to what alternatives should be pursued in the LRTP recommendations.

Attendees and staff discussed issues such as transit safety, transit services, roadway deficiencies, pedestrian and bicycle facilities and other potential transportation improvements. The input obtained at the Open House has been integrated into the plan.

Advertisement

The Transportation Alternatives Public Workshop and Open House was advertised through the use of a press release and paid advertisement. The press release was sent to the Wausau Daily Herald on September 4, 2005.

A paid advertisement was placed in the Wausau Daily Herald and ran on the dates listed below:

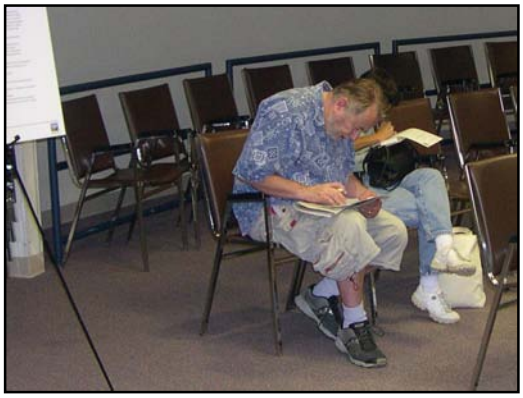
- Tuesday, September 6, 2005
- Wednesday, September 7, 2005
- Saturday, September 10, 2005
- Sunday, September 11, 2005

An announcement was also placed in the third edition of *Wausau Area Crossroads*, the project's electronic newsletter.

Workshop Format

The informal structure of the workshop provided citizens with an opportunity to view display boards and data maps, discuss issues with project staff one-on-one, and respond to a questionnaire/comment sheet.

During the Open House, a 45-minute slide show presentation was conducted in which attendees were encouraged to ask questions and provide input. The presentation provided information to citizens on the study process for analyzing alternative transportation improvements.



Comment Summary

Of the nine citizens who attended the workshop, four individuals completed comment sheets. In addition to asking citizens for their general comments, the document solicited information regarding desired improvements for roadways, transit, and bicycle and pedestrian facilities in the Wausau area.

When residents were asked about what transportation improvements they would like made in the Wausau Area, additional bus services to communities surrounding Wausau was listed, as well as a higher priority given to bicycles and

mass transit. Another resident suggested the need to improve safety by using better information signs for ramps and exits; reflectors and more visible lines on roads and ramps.

When asked about specific roadways or intersections that needed improvements one resident noted that the Bridge Street bus stop across from the Pick-N-Save grocery store was very dangerous for transit users given there is no crosswalk at the location and no sidewalk or a safe place to wait for the bus on that side of the street. A safety concern was mentioned at 3rd Street and Bridge Street where a tight corner results in truck traffic driving over the curb.

Bicycle and pedestrian related improvements recommended by residents included, adding 5-foot paved shoulders along all County highways, similar to improved CTH KK. A new sidewalk north of Bridge Street from the Pick-N-Save to N. 1st Avenue was recommended as well as along Ross Avenue. Citizens mentioned their concerns with gaps in the area pedestrian and bicycle facilities. These gaps make it very difficult to use these transportation modes in order to navigate the Wausau community.

A complete listing of the comments received is in Appendix A.

Media Coverage

The workshop received radio media coverage from WSAU. An on-air phone interview was conducted with Marathon County's transportation planner, David Mack, prior to the workshop. An article was published in the Wausau Daily Herald on Monday September 12, 2005 detailing his interview and inviting individuals to participate in the Open House.

Final Draft LRTP Public Open House

Two Open Houses were held at 210 River Dr. at 4:00 pm and were accessible to disabled residents; one on May 4, and one on May 23. The first Public Open House presented the Draft LRTP and its recommendations and signaled the beginning of the 30 day public comment period required prior to final adoption by the Marathon County Metropolitan Planning Commission. The second meeting gave the public an opportunity to comment after the Technical Advisory Committee made their initial comments.

Advertisement

The Draft LRTP Public Open Houses were advertised through the use of Display ads and legal notices. The notices were sent to the Wausau Daily Herald on April 17, 2006 and May 4, 2006

The display ads were placed in the Wausau Daily Herald and ran on the dates listed below:

- Thursday, April 20, 2006
- Monday, May 3, 2006

Workshop Format

The informal structure of the Open House provided citizens with an opportunity to view display boards and data maps, discuss issues with project staff one-on-one, and respond to a questionnaire/comment sheet. Neither meeting generated public attendance or comment.

On-going Communication

As part of the public communication process, several e-newsletters were developed and emailed to a list of interested individuals. The e-newsletters, titled *Wausau Area Crossroads*, were provided in a PDF format in an easy to print format. The e-newsletter email list grew as public meeting participants were encouraged to sign up to receive the e-newsletters. Hard copies of the newsletters were also handed out at the public workshop. The e-newsletters are included in Appendix B. The newsletters highlighted transportation issues corresponding with the development of the LRTP.

LRTP CHAPTERS AND FORMAT

The LRTP is divided into nine Chapters. These chapters cover the following topics, which are described below.

- Goals and Objectives
- Demographics and Land Use
- Transportation System
- Safety Analysis
- 2035 Conditions
- Transportation Improvement Alternatives Analysis
- Financial Plan
- Recommendations
- Environmental Justice

Goals and Objectives

A critical component of this LRTP is that the recommended improvements reflect the values of the area's citizens, businesses, industries, and traveling public. The goals and objectives illustrated in Chapter 2 provide guidance in the planning process and define the means by which specific transportation improvements are evaluated.

The Wausau Metropolitan Planning Commission adopted the goals and objectives on August 9, 2005. The finalized the goals and objectives were developed with consideration of the previous LRTP goals and objectives, a survey, community issues and concerns, and federal guidelines.

The 1996 LRTP goals and objectives were also reviewed for relevance and consistency with survey results, community issues and concerns identified in stakeholder and public meetings, and consistency with the seven guidelines included in the Transportation Equity Act for the 21st Century (known as "TEA-21").

Demographics and Land Use

Chapter 3 examines the demand for transportation generated from human activity. As such, population is a key variable in understanding and forecasting travel demand. Additional variables are also useful in understanding travel behaviors. For example, variables such as the number and size of households and the amount and type of employment relate to the number of trips that are made in a community. Furthermore, the geographic locations of these activities (i.e. land uses) affect travel patterns throughout the community. In order to understand and

ultimately forecast travel demand, it is necessary to look at those variables that create the demand for transportation.

Transportation System

Understanding travel patterns and behaviors is essential to understanding transportation system use and needs. It is also important to understand how the existing transportation system affects those travel patterns and behaviors. Chapter 4 focuses on several different aspects of the transportation system including roadway capacity, pavement condition, congestion level, and access for modes of travel other than automobiles. Each of these components of the regional transportation network determines how residents of the Wausau MPA use the existing network to meet their daily needs.

Safety Analysis

The safety of every transportation mode is important to ensuring that residents of the MPA feel that they have multiple transportation options. Areas of concern for crashes involving automobiles not only affect the people who drive a car as their primary transportation mode, but also pedestrians and bicyclists. Chapter 5 focuses on the number and rate of crashes involving automobiles throughout the MPA. Overall, crash rates are fairly low in the area; however, several intersections and roadway segments stand out as potential safety concerns in this analysis.

2035 Conditions

The purpose of Chapter 6 is to review future conditions in the Wausau MPA primarily as they relate to the demand for transportation. Growth in population and employment are two of the driving forces impacting the transportation demand. It is these two factors that serve as inputs to the travel demand model for forecasting future transportation demand. A third input factor is land use, or where different types of households and employment are located. Chapter 6 examines these growth factors and the corresponding forecasted travel demand calculated from the area's travel demand model.

Transportation Improvement Alternative Analysis

It is not feasible to analyze every potential solution for every problem. Chapter 7 describes the process for evaluating alternatives and determining which projects, strategies and actions should move forward toward implementation. A set of criteria was developed to identify measures of effectiveness for evaluating those alternatives that were deemed most likely to address transportation deficiencies.

Alternatives considered in Chapter 7 can be categorized under the following types of transportation system improvements:

- **System Preservation (SP):** These alternatives focus on preserving the transportation system to its existing level of service (including all committed projects).
- **Travel Demand Management (TDM**): These alternatives consider strategies for reducing the overall demand for transportation. These strategies include policy changes as well as system changes that reduce the demand for single-occupancy vehicles.
- **Transportation Systems Management (TSM):** Transportation system management improvements focus on small scale less expensive improvements that increase capacity or level of service.
- **Construction/Expansion (CE):** This category of improvements includes the construction of new corridors, the addition of through-traffic lanes to existing facilities, and the addition of new interchanges.

Financial Plan

Prior to the 1991 Intermodal Surface Transportation Efficiency Act (ISTEA) and the 1998 Transportation Equity Act for the 21st Century (TEA-21), Long Range Transportation Plans often contained "wish lists" of projects that had very little chance of being constructed. The planning regulations of ISTEA and TEA-21 brought about a change that required MPOs to consider the financial implications of their planning efforts. To this end, the federal planning regulations put in place the requirement for financial constraint of these documents. This plan is designed to comply with TEA-21 requirements, which addresses the issue of financial plans in 23 CFR 322(b)(11) of the legislation and the details for this analysis can be found in Chapter 8.

Recommendations

Chapter 9 illustrates the recommendations that were developed through a process involving: a review of public comment, technical committee discussions, past planning studies, staff review of the existing transportation system, and staff analyses of forecast transportation system demand and deficiencies. These recommendations are designed to achieve or move toward achieving the goals and objectives developed and adopted by the Wausau MPO, which are described in Chapter 2. Recommendations fall into two categories: Policies and Projects. Policy recommendations focus on specific policies, strategies and/or actions that are recommended for achieving the stated goals and objectives of the plan. Project recommendations address MPO goals and objectives through the allocation of funding resources available to the MPO.

Environmental Justice

In 1994, federal Executive Order 12898 directed every federal agency to make environmental justice part of its mission by identifying and addressing the effects of all programs, policies and activities on "minority populations and low-income populations." Chapter 10 includes an assessment of environmental justice issues within the Wausau MPA and includes an analysis of the impacts this plan's recommendations have on environmental justice populations.

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CHAPTER 2 – GOALS AND OBJECTIVES

OVERVIEW

This chapter defines goals and objectives used in developing the Wausau 2035 LRTP. A critical component of this LRTP is that the recommended improvements reflect the values of the area's citizens, businesses, industries, and traveling public. The goals and objectives provide guidance in the planning process and define the means by which specific transportation improvements are evaluated.

The Wausau Metropolitan Planning Commission adopted the goals and objectives on August 9, 2005. The final list of goals and objectives were developed with consideration of the previous LRTP goals and objectives, a survey, community issues and concerns, and federal guidelines.

To initiate the process of establishing MPO goals and objectives for the 2035 LRTP, the MPO's policy and technical committees were asked to participate in a survey to highlight guiding principles for the LRTP and for future MPO planning efforts. Survey participants were asked to consider the twelve statements related to transportation priorities and rate each one's importance. A discussion of the survey and its results are discussed in greater detail in the Appendix.

The 1996 LRTP goals and objectives were also reviewed for relevance and consistency with survey results, community issues and concerns identified in stakeholder and public meetings, and consistency with the seven guidelines included in the Transportation Equity Act for the 21st Century (TEA-21).

DEFINING GOALS AND OBJECTIVES

The plan's goals describe the general qualities, characteristics and conditions desired for the metropolitan area. Objectives outline the more specific outcomes that the plan recommendations should attempt to achieve. The goals and objectives are critical to the plan as they serve as the basis for the measures of effectiveness when analyzing transportation improvement alternatives.

Goals are general statements that pertain to area-wide or systematic issues, yet should be specific enough to tell whether the goal has been achieved. For example, "to improve the safety and efficiency of travel" can be a goal. The goal statement is measurable although provides no further information on how the goal may be achieved. Some goals may overlap with other goals. Decision-makers assign priority to the various goals when making implementation decisions.

Objectives are more specific and measurable statements that expand upon the goal, identifying types of actions that advance the larger goal. Using the goal of "to improve the safety and efficiency of travel" as an example, an objective could be "to maintain or improve existing cross-town travel times on arterial corridors." Another objective could be "to reduce accidents by implementing safety improvements at intersections with the highest crash rates." There are generally several objectives associated with a particular goal and there may be some overlap between them.

GOALS AND OBJECTIVES

Goals and objectives are an integral part of the LRTP as they set forth a direction, or focus, to the community's vision. The Goals and Objectives were categorized under three (3) general headings: land use and development, transportation system, and planning process.

Land Use & Development

1. **Regional Character –** Maintain the character of the Wausau Metropolitan Area.
   - Create a transportation system that enhances existing activity centers.
   - Encourage land uses and housing opportunities consistent with the area character that minimize travel demand and increase transportation efficiencies.
   - Promote the area's continued economic, cultural and recreational development.
2. **Growth and Development –** Encourage compact and contiguous growth to maximize transportation system efficiencies and minimize costs.
   - Promote growth that efficiently utilizes existing infrastructure and minimizes the need for additional infrastructure, while maintaining compatibility with the community's character.
   - Minimize urban sprawl and leapfrog development.
3. **Economic Development –** The transportation system should support and enhance economic development.
   - Provide transportation infrastructure and services that enhance economic conditions for primary regional markets.
   - Provide transportation systems to create a pattern of accessibility that matches and supports the land use development plans in the region.
4. **Environmental and Natural Resource Protection –** Recognize the region's significant natural resources and environmentally sensitive areas and minimize negative encroachments and disruptions on these areas.

- Protect the area's significant natural resources and environmental sensitive areas from negative transportation system impacts whenever feasible.
- Maximize natural resource benefits to the community via planned vistas, linkages, and land use relationships (e.g., use of buffers, locating low density land uses near natural resources, etc.).

5. **Quality of Life –** Maintain and enhance the quality of life within the Wausau Metropolitan Area.
   - Minimize residential neighborhood through traffic.
   - Protect residential areas from negative transportation system impacts (e.g. noise pollution, speeding, safety concerns).
   - Promote neighborhood identity and cohesion.
   - Design roads to be compatible with surrounding areas and be pedestrian, bicycle and transit friendly.

Transportation System

6. **Safety –** Provide for a safe transportation system.
   - Minimize the number and severity of vehicular crashes with particular emphasis on reducing vehicle-bicycle and vehicle-pedestrian conflicts and crashes.
   - Design safe facilities that promote appropriate travel speeds, enhance predictability, and provide a safe and comfortable environment for all transportation system users including non-motorized users.
7. **Mobility –** Maintain and improve the quality of travel on the transportation network.
   - Reduce travel delays and minimize congestion on roads.
   - Reduce traffic demand on congested roads.
   - Address multi-modal regional mobility issues (e.g. intercity bus, air, highways).

8. **Transportation Performance –** The transportation system should provide quality service with reasonable speed, convenience, and safety for all users.
   - Provide a roadway system with the capability of achieving appropriate performance levels consistent with community goals.
   - Enhance the opportunity for using transportation modes other than the auto for single person-trips, including pedestrian travel, bicycles, and public transportation.
   - Promote bicycle and pedestrian travel modes by linking pedestrian and bicycle systems throughout the region.
   - Provide transportation service for all modes that is accessible to residential areas and to primary trip attraction areas (e.g., places of employment, shopping, education, public services, and recreation).
   - Provide effective linkages to non-local transportation systems (statewide, national) for all modes.
   - Promote transportation system and land use coordination that reduces trip lengths and travel times for all modes of travel.
9. **Freight –** Provide for freight modes including trucks, rail, and air transportation.
   - Provide safe and convenient freight access via truck, rail, and air transportation systems.

Planning Process

10. **Interagency Coordination –** Foster cooperation and coordination among member municipalities and agencies through the planning process and implementation of the LRTP.
    - Provide transportation services that achieve benefit and cost equity among member communities.
    - Ensure that social justice is considered in the planning and financing of MPO transportation project improvements.
    - Promote functional hierarchy with appropriate jurisdictional responsibility (statewide, regional, and sub regional services) so that transportation system elements are balanced with level of responsibility. For example, the county should be responsible for elements having countywide or sub regional impacts or benefits and municipalities for elements having local community impacts.
    - Enhance intergovernmental coordination and cooperation for improving multimodal transportation.

11. **Financial Feasibility –** The LRTP must be financially feasible.
    - Prepare fiscally constrained financing strategy.
    - Leverage the use of non-local resources to increase the amount and/or effectiveness of federal and state resources available to the region.
    - Promote equitable balance of financial support from local communities.
    - Increase the use of private sector financial resources for transportation improvements.
12. **Commitment to Implementation –** The LRTP should be supported by a commitment to implement the recommended improvements according to an identified schedule.
    - Provide a management system for the LRTP.
    - Define specific milestones for implementation.
13. **Future Infrastructure Planning –** Proactively plan for anticipated infrastructure needs of residential and business development.
    - Acquire and preserve right-of-way prior to development to minimize disruptions to existing and future homeowners and businesses.
    - Minimize the amount of land needed for improvements.
    - Maximize traffic flow efficiency within future development areas by planning for road systems within these areas that provide adequate travel mobility, along with land access.

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CHAPTER 3 – DEMOGRAPHICS & LAND USE

OVERVIEW

The demand for transportation is generated from human activity. As such, population is a key variable in understanding and forecasting travel demand. Additional variables are also useful in understanding travel behaviors. For example, variables such as the number and size of households and the amount and type of employment relate to the number of trips that are made in a community. Furthermore, the geographic locations of these activities (i.e. land uses) affect travel patterns throughout the community. In order to understand and ultimately forecast travel demand, it is necessary to look at those variables that create the demand for transportation.

The following socioeconomic data serves as input into the Trip Generation Module of the Wausau Area Travel Demand Model (WATDM). This information is available from the 2000 Census. However, additional data sources were used for providing employment data.

- Population
- Households
- Household Size Distribution
- Autos Available by Household for Region
- Retail Employment
- Service Employment
- Other Employment
- Total Employment

SOCIOECONOMIC DATA: YEAR 2000

Population

The US Census Bureau provides the number of persons and households by census block. Census blocks are the smallest geographic area in which some census data is made available to the public. Census blocks are areas bounded on all sides by visible features, such as streets, roads, streams and railroad tracks, and by invisible boundaries, such as political borders, property lines, and short, imaginary extensions of streets and roads. In general, census blocks are small in area; for example, a block bounded by city streets. However, census blocks in

sparsely settled areas, or areas not divided by physical barriers or political boundaries, may contain many square miles of territory.

Population by census block for the Wausau Metropolitan Area is shown in Figure 3-1. Outside the urbanized area, census block sizes are quite large. Therefore, the population map may be mistakenly interpreted suggesting a greater concentration of people in the rural areas. To better illustrate population concentrations, a population density map was created, which indicate the number of people per acre for each census block (see Figure 3-2). This map provides a more comprehensive depiction of the distribution of people throughout the area.

Most of the urban areas within the Cities of Wausau, Schofield, Mosinee, and the Village of Rothschild, have population densities above 6 to 10 persons per acre. However, many blocks within the City of Wausau's older neighborhoods have densities between 11 to 15 persons per acre and several blocks with 16 to 30 persons per acre. The Village of Weston, the Village of Kronenwetter, and the Town of Rib Mountain have a few blocks with 5 to 10 persons per acre and larger areas with 2 to 5 persons per acre. Most of the planning areas outside the urban centers have densities less than two persons per acre.

Approximately 83,600 people and 32,700 households live within the designated Metropolitan Planning Area. The area has continued to grow over the last couple decades, increasing in population by five percent between 1980 and 1990 and nine percent 1990 and 2000. Several communities report a continued growth in new housing starts, which suggests that the area has continued to grow in population since 2000.

Table 3-1: MPO Municipal Populations 1980-2000

MPO Municipality	1980	1990	2000
C of Mosinee	3,015	3,820	4,063
C of Schofield	2,226	2,415	2,117
C of Wausau	32,426	37,060	38,426
T of Maine	2,163	2,206	2,407
T of Mosinee	1,464	1,638	2,146
T of Rib Mountain	5,344	5,605	7,556
T of Stettin	4,436	2,191	2,191
T of Texas	1,634	1,643	1,703
T of Wausau	2,215	2,133	2,214
T of Weston	11,342	11,450	514
V of Brokaw	298	224	107
V of Kronenwetter	5,012	4,850	5,369
V of Rothschild	3,338	3,310	4,970
V of Weston	0	0	12,079
Total MPO Communities	**74,913**	**78,545**	**85,862**
Marathon County	**111,270**	**115,400**	**125,834**

Source: 2000 Census

figure 3-1

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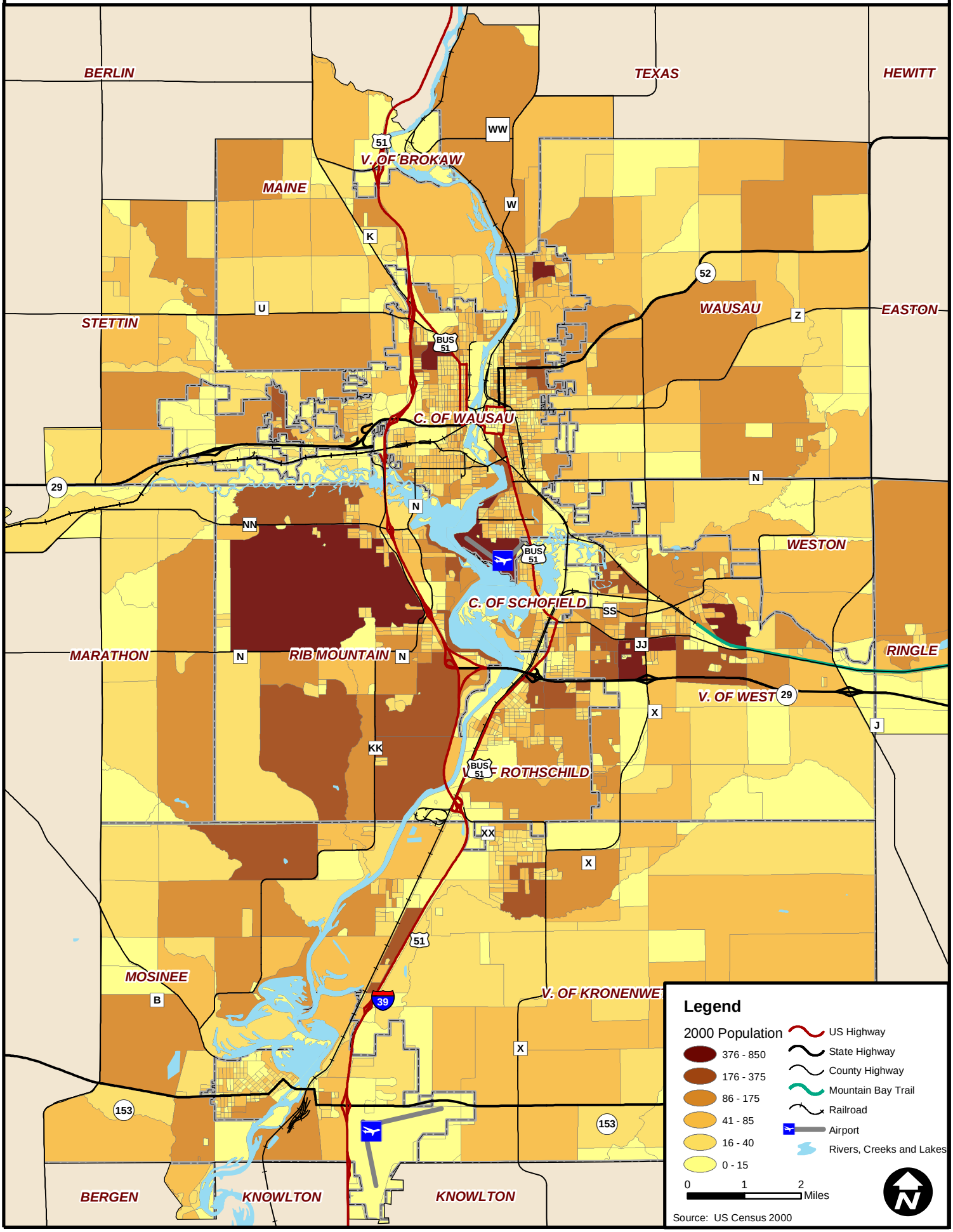
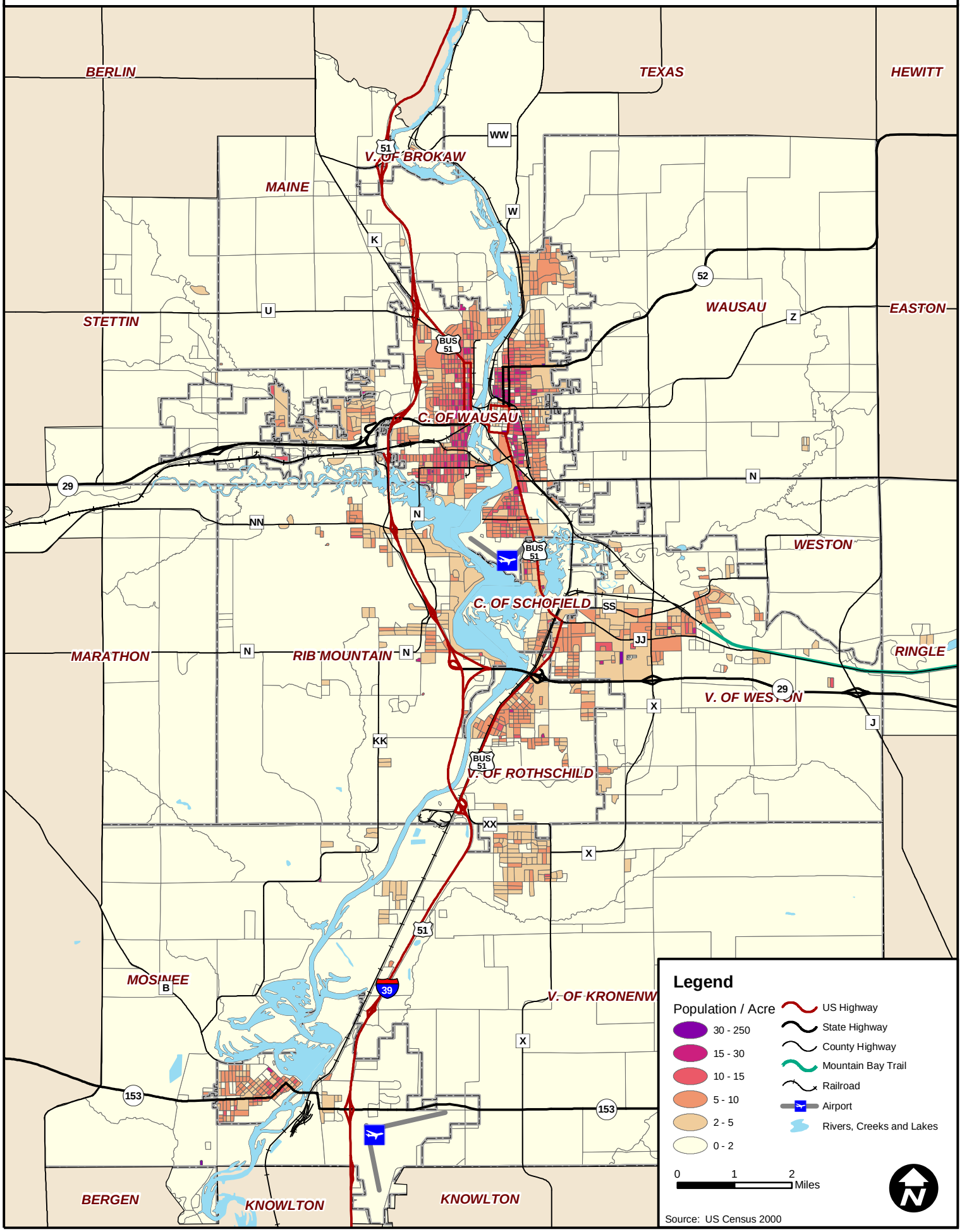
Population by Census Block - 2000



URS Corporation N:\31034060\Projects\Figure 3-1 - MPO Pop x Census Blk Date: 10/6/2005 3:56:53 PM Name: jhenr

figure 3-2

Population per Acre by Census Block - 2000



URS Corporation N:\31034060\Projects\Figure 3-2 - MPO Pop Dens x Census Blk.mxd Date: 10/6/2005 11:32:53 AM Name: jhenr

Households

Households by census block are shown in Figure 3-3. Households or dwelling units are typically used as the variable for calculating travel trips based on corresponding trip generation rates. The existing WATDM provides trip generation rates for households by size (persons per household) and by the number of autos available.

The number of households generally corresponds with population. However, there are subtle differences between geographic areas based on type of housing units and household size. For example, areas with primarily single-family detached housing will likely have larger families, whereas areas with apartments and townhouses are likely to have more one or two person households. Not surprisingly, larger households tend to generate more travel trips than do smaller households.

The Wausau area average household size in 2000 was 2.6 persons per household. However, average household size can vary significantly by neighborhood. Household size can also change over time. Over the last several decades, average household size has decreased dramatically, due to people having fewer children, people waiting longer to have children, more single-parent families, people living longer and thus more older people living alone, and rising incomes which allow persons to afford to live alone.

Figure 3-4 illustrates household density per acre by census block. The household density map highlights the concentrations of residential land uses. Housing density information is a useful consideration in the evaluation of various transportation facilities. Transportation improvements that serve more households per unit of improvement generally will produce greater utility, all else being equal. For example, public transit service in a higher density residential area can serve more households per vehicle mile of service than transit service in a lower density residential area. Similarly, a mile of sidewalk or trails in a high-density area can serve more people than in a low-density area.

Employment

Employment data by type of employment is required input into the trip generation component of the travel demand model. The US Census Bureau provides employment data by Transportation Analysis Zone (TAZ) through the Census of Transportation Planning Package (CTPP). However, the current TAZ boundaries are much larger than census blocks providing very generalized employment location information. Furthermore, this data is derived from the census survey long-form, which only goes to about one in every six households.

Table 3-2: MPO Municipal Employment 2000

MPO Municipality	2000
C of Mosinee	3,374
C of Schofield	4,950
C of Wausau	27,342
T of Maine	943
T of Mosinee	243
T of Rib Mountain	2,638
T of Stettin	1,721
T of Texas	184
T of Wausau	316
T of Weston	107
V of Kronenwetter	1,598
V of Rothschild	2,543
V of Weston	4,740
Total MPO Communities	**50,699**

Source: North Central Wisconsin RPC

In order to provide more detailed employment location information, the Dunn and Bradstreet 1999 employment database was used to review employment data by street address and type of business. While this data provides detailed geographic information, the number of employees is displayed according to range categories (e.g., 25 – 50 employees, 50 – 100 employees, etc.). For the purposes of mapping the data, the range midpoint number was assigned to the respective employer. Total employment aggregated to census blocks is shown in Figure 3-5.

Figure 3-6 shows the employment density per acre for the metropolitan area. Identifying concentrations of employment, and thus travel destinations, is useful in evaluating transportation improvement options. While there are significant numbers and concentrations of employment throughout the metro area, downtown Wausau shows the most consistent employment density in the area. Wausau Insurance and the hospital area also have notable employment concentrations. Both retail/commercial areas and industrial park areas offer prominent employment concentrations as well.

To determine and assign accurate employment data to the TAZs for the development of the 2001 WATDM, Wisconsin Department of Transportation (WisDOT) used the Wisconsin Department of Workforce Development (DWD) unemployment compensation master file to provide 2001 employment-based data. WisDOT geo-coded the employer records in the DWD master file to Wausau TAZs.

figure 3-3

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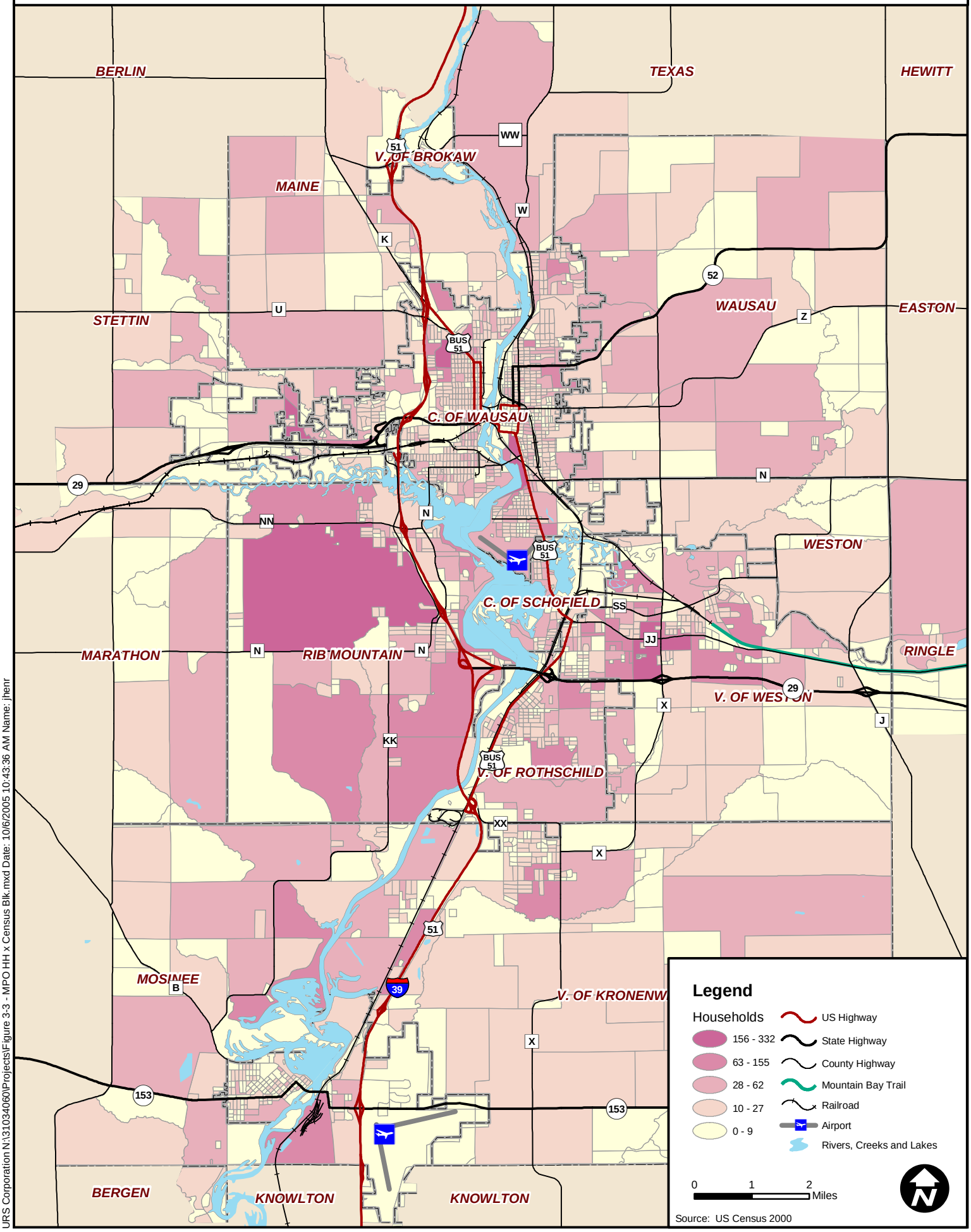
Households by Census Block - 2000



Source: US Census 2000

URS Corporation N:\31034060\Projects\Figure 3-3 - MPO HH x Census Blk.mxd Date: 10/6/2005 10:43:36 AM Name: jhenr

figure 3-5

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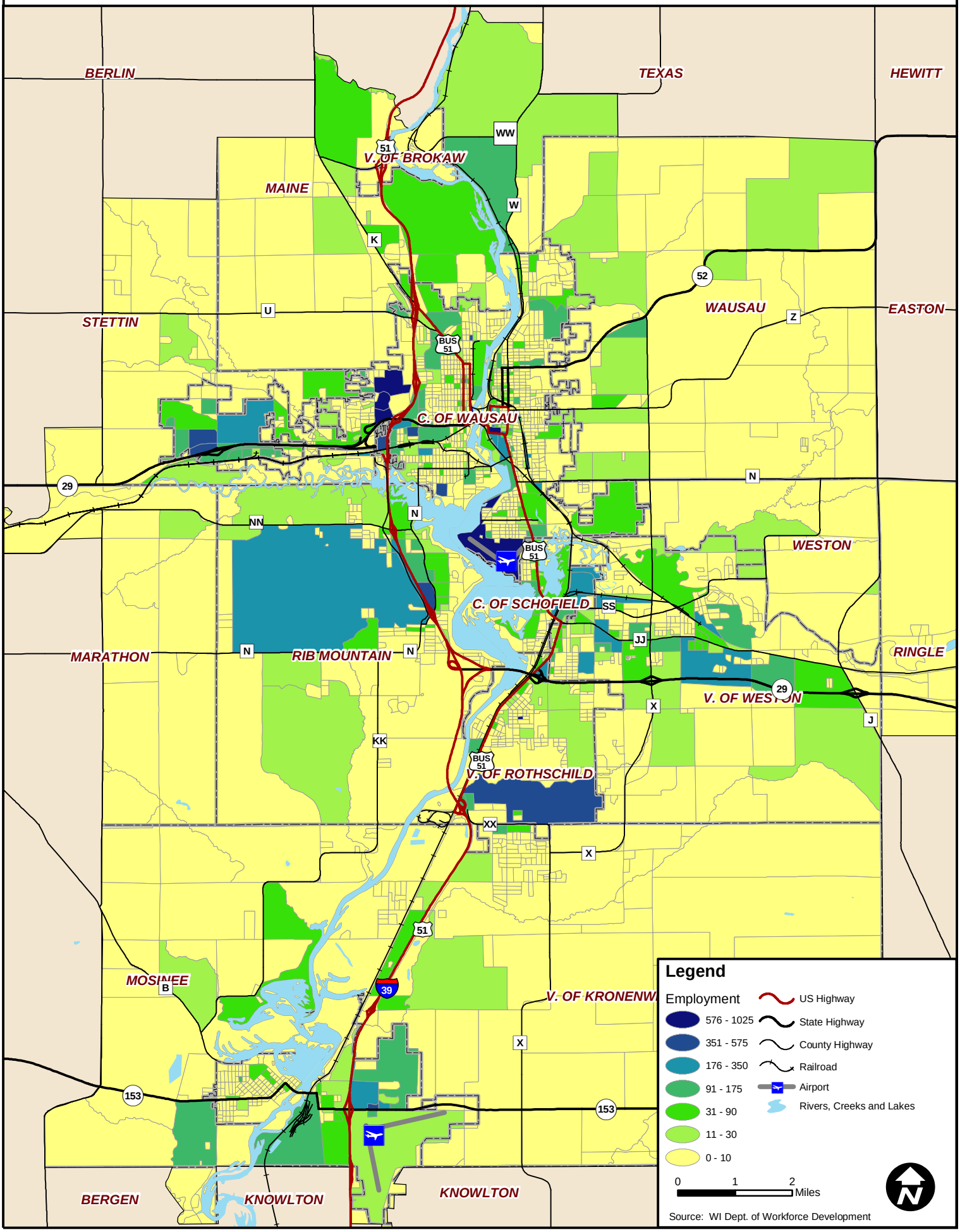
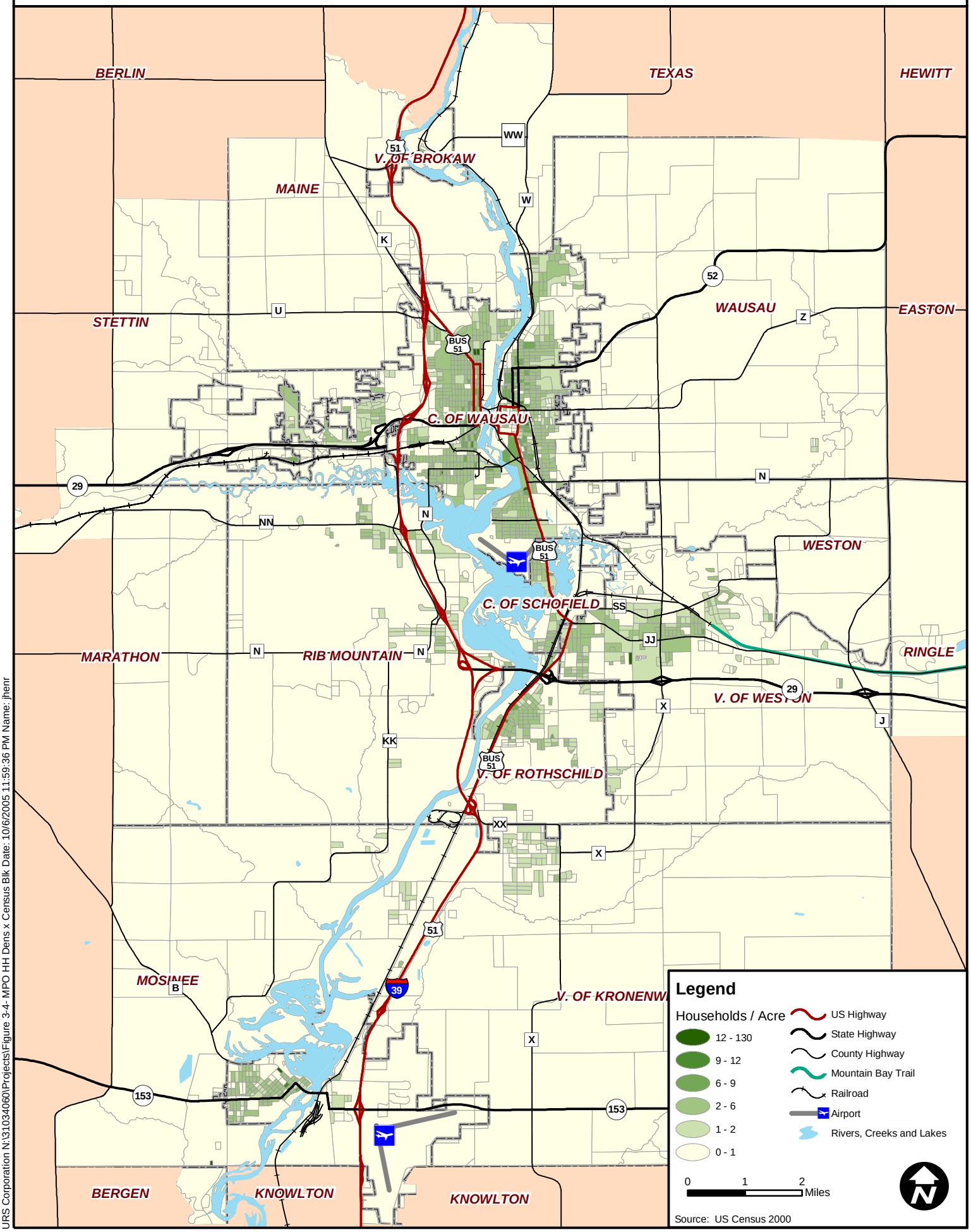
Employment by Census Block - 2001



URS Corporation N:\31034060\Projects\Figure 3-5 MPO Emp x Census Blk.mxd Date: 10/6/2005 2:30:53 PM Name: jhenr

figure 3-4

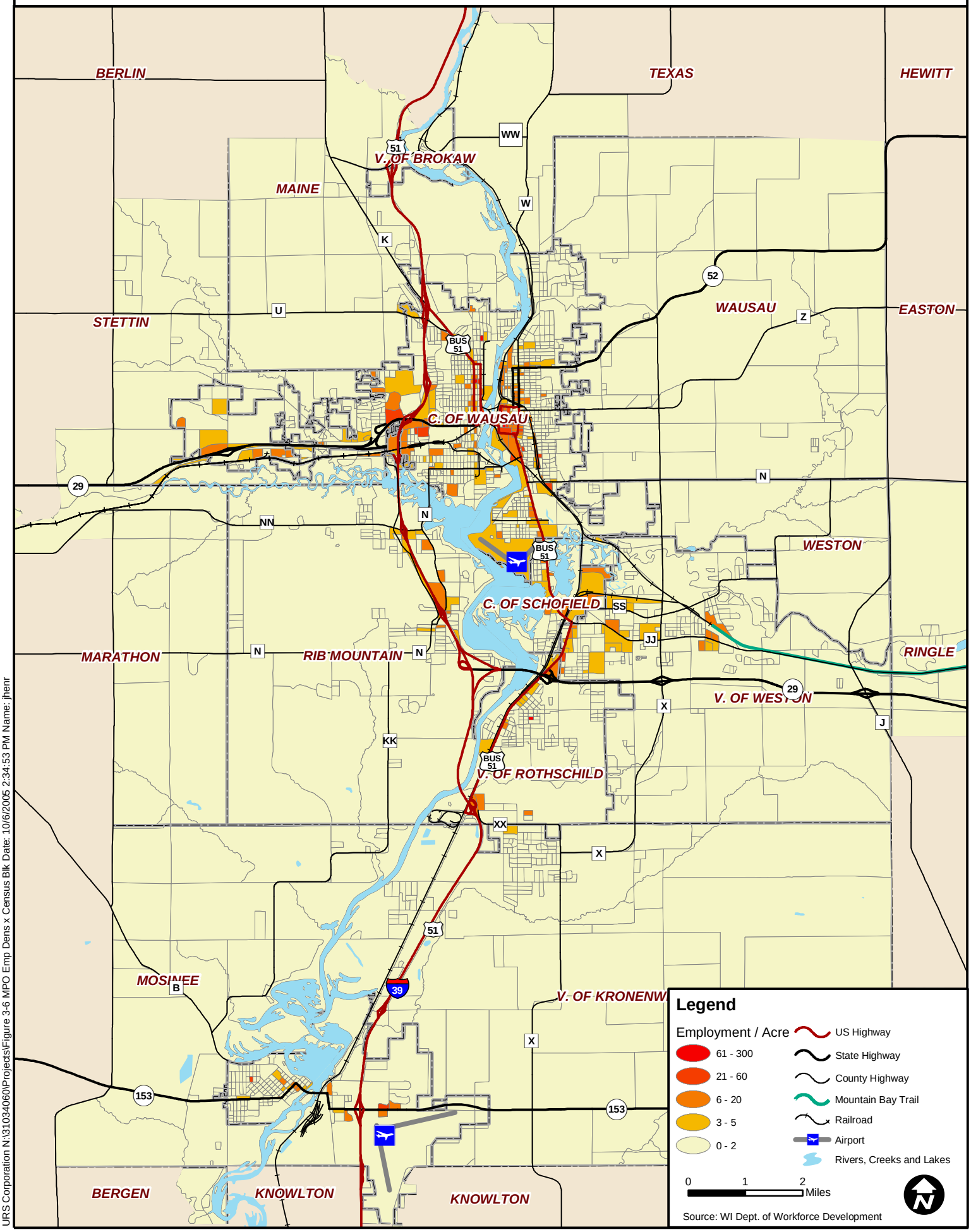
Households per Acre by Block - 2000



URS Corporation N:\31034060\Projects\Figure 3-4- MPO HH Dens x Census Blk Date: 10/6/2005 11:59:36 PM Name: jhenr

figure 3-6

Employment per Acre by Block - 2001



URS Corporation N:\31034060\Projects\Figure 3-6 MPO Emp Dens x Census Blk Date: 10/6/2005 2:34:53 PM Name: jhenr

Employer confidentiality was maintained in the geo-coding process as WisDOT staff conducted it and the resulting employment totals sorted by standard industrial classification code were provided to HNTB for model use and dissemination at the TAZ level. A cooperative effort between WisDOT, the Wausau MPO, and HNTB was used to check and refine the geo-coded databases to ensure the data used in this model was the best available at the time of construction.

Unfortunately, the original 2001 geo-coded employer records were only available in an aggregated format to the old TAZ system. However, a new TAZ structure was developed in order to better differentiate between land uses at a more detailed geographic scale. New employment data from DWD was needed to assign employment to this new TAZ system. The data was provided by WisDOT in a database format, which was not geographically referenced in a Geographic Information System (GIS). The employer addresses were geo-coded into GIS and re-aggregated to the new TAZ boundaries.

LAND USE

The following discussion relates to how land is utilized by the population and specifically how land use relates to transportation and vice versa.

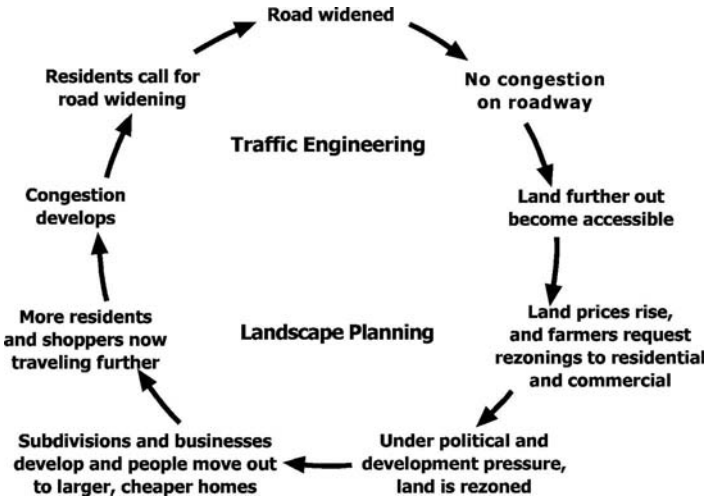
The Transportation and Land Use Relationship

The organization of daily life has created a demand for travel. The demand for publicly accessible transportation connections between geographic locations grew into a desire for faster and more comfortable travel. The result of this demand has been the development of extensive transportation networks and technological advances in the means of transportation. These transportation improvements in turn have impacted daily activities, where geographic distances are less of an impediment than in the past.

Not long ago, walking distances defined the geographic relationship between daily activities. The destination of one's work, shopping, social and religious institutions needed to be within a reasonable walking distance of one's home. These distances were a function of time; that is, the location of one's home and one's daily destinations were tied to how much time they were willing to take to travel between destinations. These "time budgets", were defined by the transportation system and the transportation modes available. Households still make travel decisions based on time budgets. However, the development of automobiles and the corresponding roadway infrastructure has made it possible to travel much greater distances within an allotted time, allowing daily activities to be located much farther from one's home.

Just as the transportation system impacts location and destination decisions, the location, mix, and design of destinations greatly impact the demand for the transportation system. Improved transportation systems allow greater accessibility between dispersed land uses. In turn, dispersed land uses require more travel and thus more demand for transportation infrastructure.

Transportation and Development Cycle



The importance between land use and transportation should not be underestimated. Land use patterns and development decisions are often seen as controlled solely by market forces, leaving public agencies to respond to the transportation demand created in their wake. However, public land use policies directly affect private land use decisions such as zoning regulations and minimum parking requirements. Therefore, land use policies need to be considered in relation to the impact of transportation just as transportation policies need to be considered in relation to land use.

Transportation systems and land use patterns have a well-documented reciprocal relationship. As communities have grown, the demands for transportation system improvements have also grown. However, these transportation improvements have also provided more convenient access to land farther out, thus spurring further growth. More than any other transportation system, it has been the road network and the prevalence of the automobile that has impacted land use patterns over the past half-century.

The diagram below is meant to provide a simplistic representation of the reciprocal relationship land use and transportation has had and continues to have.

Wausau Area History

US Highway (USH) 51 has long been a major transportation corridor following the Wisconsin River, connecting communities to the south with the Northwoods. The presence of this road corridor also fostered the growth of the various urban centers along its route. The City of Wausau began at Big Bull Falls on the east side of the Wisconsin River in 1848 and was one of several sawmill settlements.

The City of Mosinee grew in the 1850s at Little Bull Falls farther south, while Schofield was the site of another mill in 1851 at the point where the Eau Claire River entered the Wisconsin River south of Wausau. The villages of Brokaw (1899) and Rothschild (1909) both developed as paper mill towns, and along with the other communities that lined the Wisconsin River, formed the commercial and industrial heart of Marathon County. Several outlying communities in the county began as saw milling sites, or as station stops as the railroads were built through the area. Most communities became more focused on agriculture by the beginning of the twentieth century as lumbering declined.

Increasingly the communities along USH 51 have grown toward each other and today function as a contiguous metropolitan area. Through the years, Wausau has expanded, mostly to the west into Stettin, along State Trunk Highway (STH) 29, in part to establish the Wausau West Industrial Park. Formerly rural communities on the edge of Wausau, such as Rib Mountain and the Village of Weston, have rapidly urbanized during the last decade. Both communities have followed standard suburban development patterns, with major commercial and/or industrial growth as well as burgeoning residential development. Recent improvements to the STH 29 corridor have also spurred development to communities south of the City of Wausau; effectively shifting the center of the metropolitan area to the south and east. The Village of Weston in particular, with ample frontage and access on STH 29, is currently experiencing substantial development pressures.

Existing Land Use

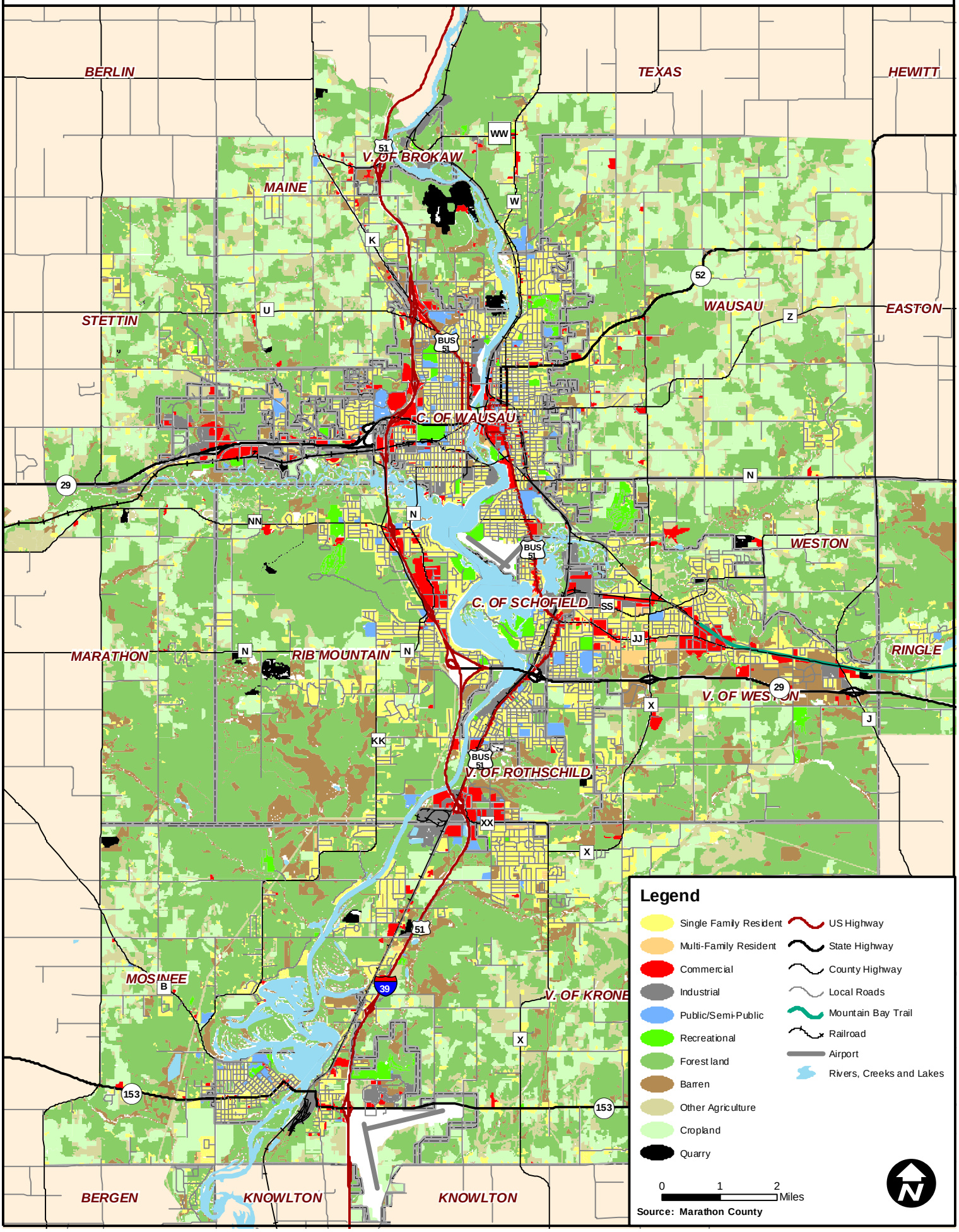
Land cover was used as a proxy for existing land use. This was done to achieve consistency in describing existing land uses throughout the area, since some communities have adopted land use plans that use slightly different categories to describe land uses.

Figure 3-7 shows land cover for the Wausau Metropolitan Planning Area. Noteworthy land use patterns or issues include:

- Rivers divide the urbanized area between east and west and to a lesser extent from north to south.
- Development is not contiguous; in general, jurisdictions have their distinct areas of both residential and commercial development. In many cases, water, or undeveloped land separates communities from their neighboring community.
- Development corresponds to the freeway system.

figure 3-7

Land Use Coverage - 2000



URS Corporation N:\31034060\Projects\Figure 3-7 MPO Land Use 2000.mxd Date: 9/30/2004 3:56:53 PM Name: jwill

ENVIRONMENTAL JUSTICE

In 1994, federal Executive Order 12898 directed every federal agency to make environmental justice part of its mission by identifying and addressing the effects of all programs, policies and activities on "minority populations and low-income populations."

The order reads: "Each federal agency shall make achieving environmental justice part of its mission by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of its programs, policies and activities on minority populations and low-income populations."

The order reinforces Title VI of the Civil Rights Act of 1964, which reads: "No person in the United States shall, on the ground of race, color or national origin be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any programs or activity receiving federal financial assistance." The executive order requires all government agencies receiving federal funds to address discrimination as well as the consequences of all their decisions or actions that might result in disproportionately high and adverse environmental and health impacts on minority and low-income communities.

In 1997, the United States Department of Transportation issued its Order to Address Environmental Justice in Minority Populations and Low-Income Populations (DOT Order). The *DOT Order* addresses the requirements of Executive Order 12898 and sets forth DOT's policy to promote the principles of environmental justice in all programs, policies and activities under its jurisdiction.

Since the *DOT Order* was issued, the Federal Highway Administration (FHWA) and Federal Transit Administration (FTA) have been working with their state and local transportation partners to make sure that the principles of environmental justice are integrated into every aspect of their mission.

The three fundamental environmental justice principles include:

- To avoid, minimize or mitigate disproportionately high and adverse human health and environmental effects, including social and economic effects, on minority and low-income populations.
- To ensure the full and fair participation by all potentially affected communities in the transportation decision-making process.
- To prevent the denial of, reduction of or significant delay in the receipt of benefits by minority and low-income populations.

MPO Role

As the primary forum where State DOTs, transit providers, local agencies, and the public develop metropolitan area transportation plans and programs, MPOs can help local public officials understand how Title VI and environmental justice requirements improve planning and decision-making. To certify compliance with Title VI and address environmental justice, MPOs need to:

- Enhance their analytical capabilities to ensure that the long-range transportation plan and the transportation improvement program (TIP) comply with Title VI.
- Identify residential, employment, and transportation patterns of low-income and minority populations so that their needs can be identified and addressed, and the benefits and burdens of transportation investments can be fairly distributed.
- Evaluate and, where necessary, improve their public involvement processes to eliminate participation barriers and engage minority and low-income populations in transportation decision making.

Minority Population

Figure 3-8 illustrates the percent minority population by census block in 2000 for the Wausau Metropolitan Area. Executive Order 12898 and the DOT and FWHA Orders on Environmental Justice address persons belonging to any of the following groups: Black, Hispanic, Asian, American Indian and Alaskan Native, Native Hawaiian or Other Pacific Islander[1].

The Asian population, by far, is the largest minority population in the area, accounting for about seven percent of the MPA population. The total MPA minority population is about nine percent.

Low-Income Populations

Figure 3-9 indicates the number of low-income persons by Census Block Group. Low-income population is defined as a person whose household income (or in the case of a community or group, whose median household income) is at or below the U.S. Department of Health and Human Services poverty guidelines.

Census income data is gathered from the census long form questionnaire, which is extrapolated from a sample size of approximately one in six households. Approximately seven percent of the MPA population lived under the poverty level in 2000.

[1] OMB, in its Bulletin No. 00-02, "Guidance on Aggregation and Allocation of Data on Race for Use in Civil Rights Monitoring and Enforcement," issued March 9, 2000, provided guidance on the way Federal agencies collect and use aggregate data on race. Added to the previous standard delineations of race/ethnicity was the category of: **Native Hawaiian or Other Pacific Islander -** a person having origins in any of the original peoples of Hawaii, Guam, Samoa, or other Pacific Islands.

figure 3-8

Percent Minority Population by Census Block - 2000

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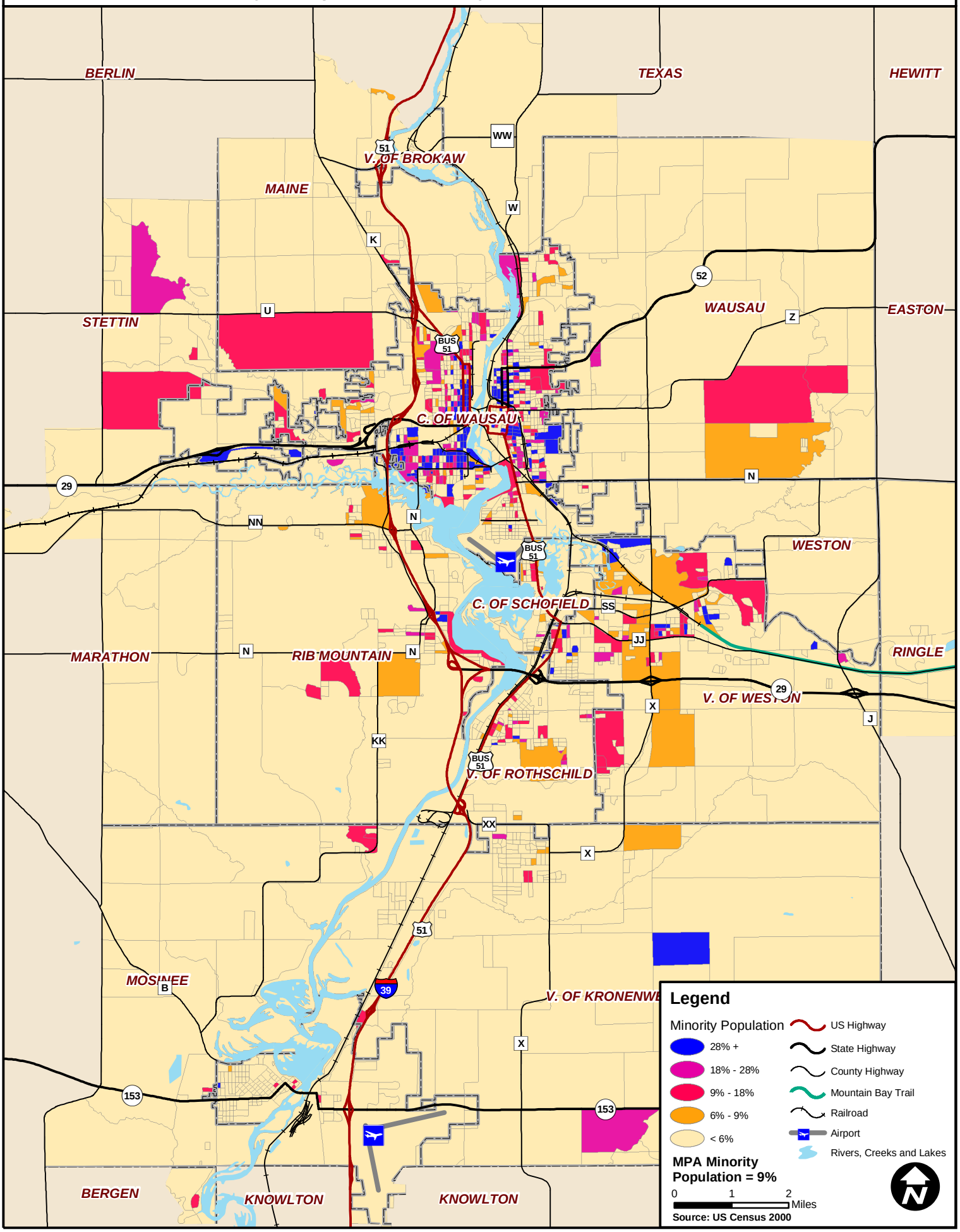

URS Corporation N:\31034060\Projects\Figure 3-8 MPO Minority Percent x Census Blk .mxd Date: 10/6/2005 2:51:53 PM Name: jhenr

figure 3-9

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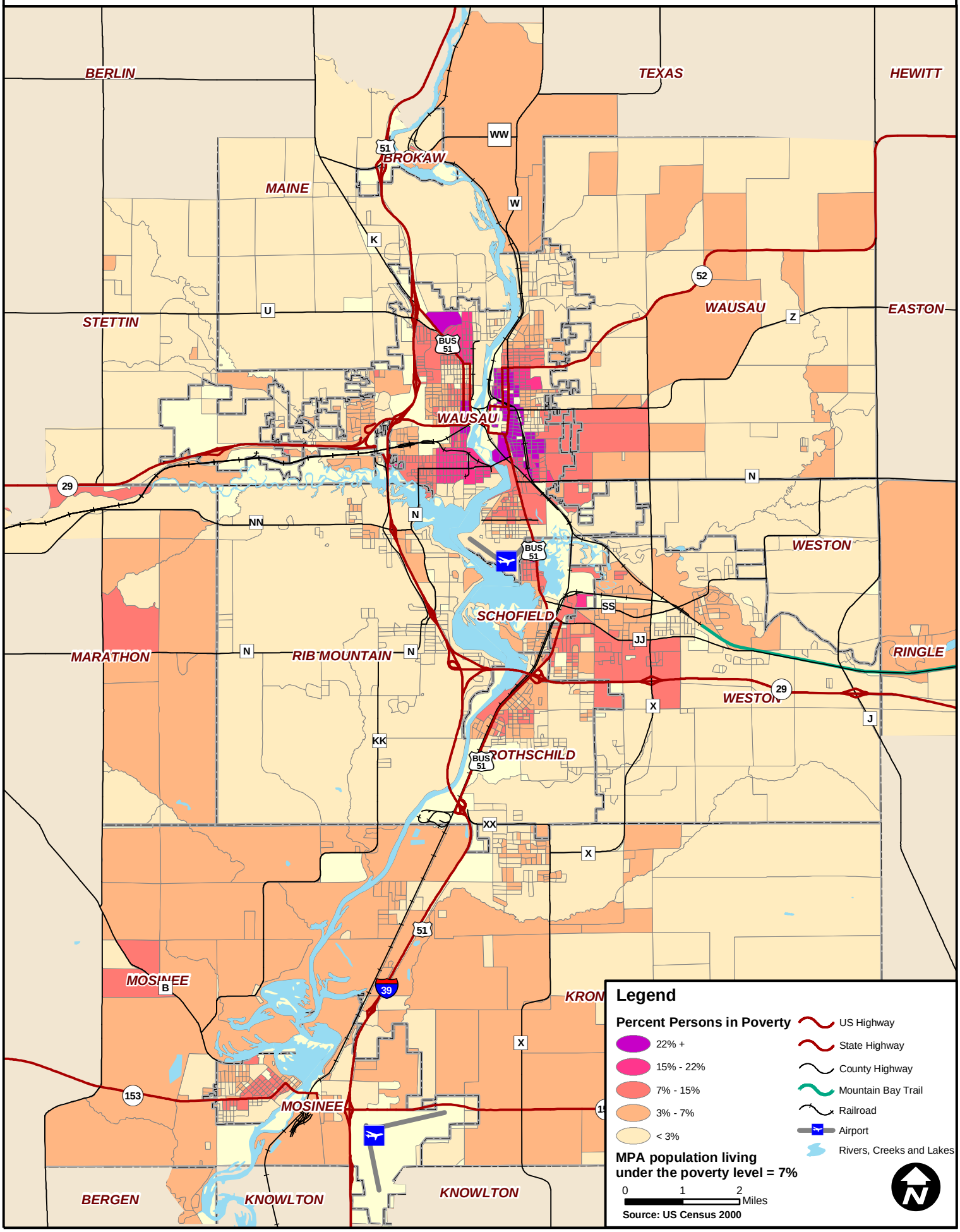
Percent Low Income Population - 2000



URS Corporation N:\31034060\Projects\Figure 3-9 MPO Low Income Percent x Census Blk .mxd Date: 10/6/2005 3:08:53 PM Name: jhenr

CONCLUSION

As noted, population is a key variable in the demand for transportation. While births and deaths impact population, migration, both in and out, plays a more critical role in population shifts. Employment is often the key factor impacting migration. Even though there is a bit of the chicken and egg conundrum with respect to employment and population, in our increasingly mobile society, people generally tend to move to where there are jobs.

Employment locations can also be used as a surrogate variable for identifying trip destinations, given that employment sites not only attract workers, but they also attract shoppers, students, truckers, etc. depending on the type of work being conducted. By using socioeconomic data, such as population and employment, it is possible to generate a better understanding of the distribution of human activities and travel demand.

The Wausau Metropolitan Area has seen significant growth in population and employment over the past several decades. Population and employment are projected to continue to grow and the location and distribution of this growth will impact future transportation demand. Likewise, future transportation improvements may impact where and how future growth occurs further impacting the transportation system and the area's quality of life. Population, households, and employment forecasts are discussed in greater detail in Chapter 5.

The socioeconomic and land use data presented here provide some of the data needed in the development of the travel demand model. The model can then be used to measure the transportation impacts of projected growth and test transportation system improvements in addressing those impacts.

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CHAPTER 4: TRANSPORTATION SYSTEM

This chapter provides a comprehensive analysis of the major transportation system components of the Wausau's Metropolitan Planning Area (MPA). The chapter seeks to provide a greater understanding of the strengths and weaknesses of the area's transportation system in order to determine how best to achieve the plan's stated goals and objectives.

The chapter includes an assessment of area travel behaviors via the following modes:

Roadways

Transit

Bicycle and Pedestrians

Regional Passenger

Freight Transport

TRAVEL BEHAVIOR

Understanding travel patterns and behaviors is essential to understanding transportation system use and needs. It is also important to understand how the existing transportation system affects those travel patterns and behaviors. The following data from the 2000 Census provides some understanding of travel behaviors within the Wausau MPA. The census commuter data is derived from the 2000 census long-form survey, which is delivered to approximately one in six households (i.e. 17%).

Commuter Mode Choice

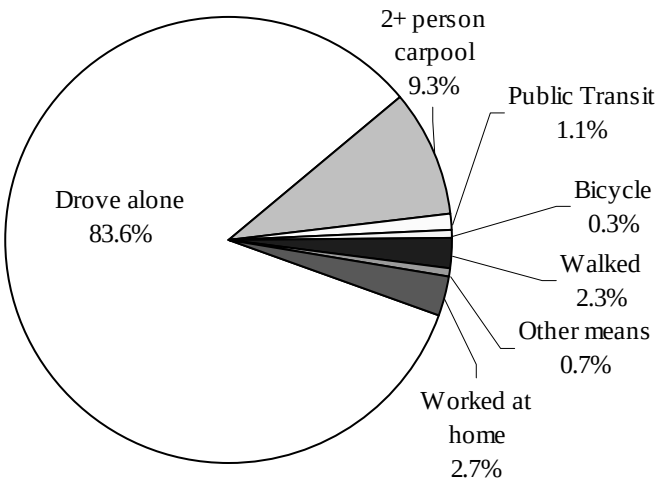
Almost 93 percent of Wausau area residents reported using a private vehicle to get to work on a regular basis in 2000; of those, about 84 percent drove alone and about nine percent carpooled with at least one other person (see Figure 4-1). According the 2000 Census, about one percent reported regularly using public transit to get to their job. A little over two percent reported regularly walking to work.

According to the US census findings, only a small percentage of workers in the Wausau MPA commute by transit (about 1 %). However, the census information only tells part of the story. The census data includes many areas that do not have transit service. Furthermore, the question used by the Census Bureau asks

respondents to identify the mode choice typically used to get to work, thus not including those who may occasionally use transit.

It is interesting to note that over one thousand (2.7 %) of the almost 43,000 workers living in the Wausau metropolitan area worked from home. While much has been written on the potential of telecommuting in reducing the demand for transportation, there does not appear to be much empirical or anecdotal evidence to support this. Unfortunately, the 2000 census does not provide information as to how many of those who report working from home are telecommuters.

Figure 4-1: MPA Commute to Work Mode Choice



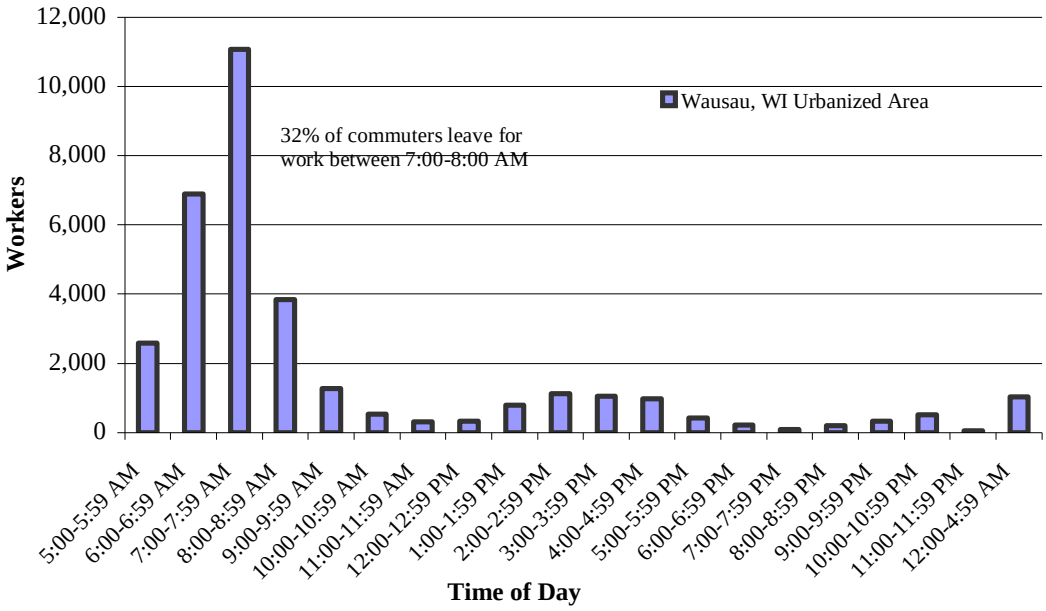
Source: 2000 US Census

Time Leaving for Work

About 30 percent of residents within the Wausau MPA reported leaving for work between 7:00 and 8:00 AM in 2000 (See Figure 4-2). Another 21 percent and 11 percent leave for work between 6:00 and 7:00 AM and 8:00 and 9:00 AM, respectively. Seventy-three percent of workers reported leaving for work between the four hour time period between 5:00 and 9:00 AM. Work start times throughout the remainder of the day are less concentrated.

The US Census does not provide information on work depart times. However, assuming an eight to nine hour work day, those leaving between 7:00 AM and 8:00 AM would likely be leaving work between 3:00 PM and 5:00 PM.

Figure 4-2: MPA Time Leaving Home to go to Work



Source: 2000 US Census

Travel Time to Work

Travel times are an important factor in measuring the effectiveness of the transportation system. Figure 4-3 shows the commute times of Wausau area workers. Almost half of Wausau MPA workers reported commuting times less than 14 minutes and over 70 percent reported commute times of 19 minutes or less.

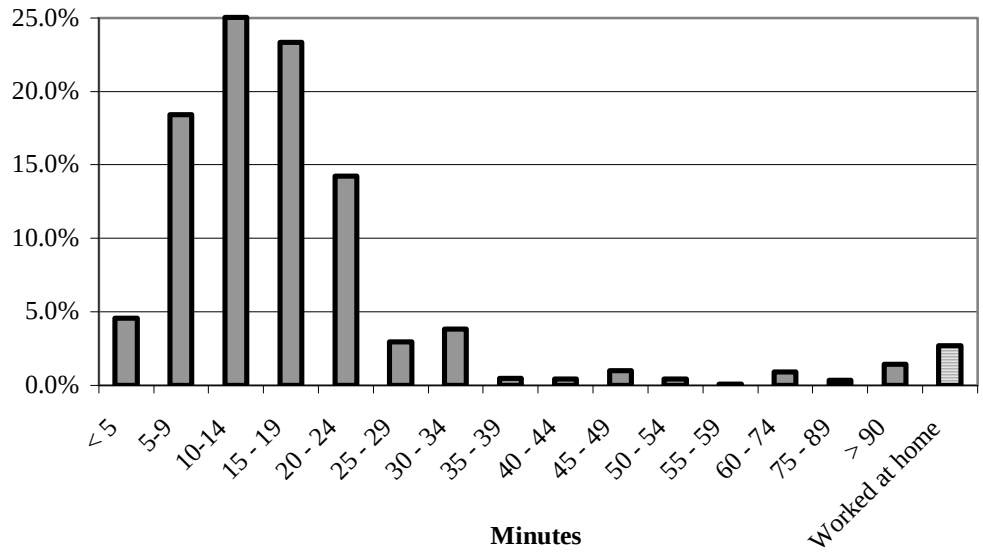
Twenty-three percent of Wausau MPA residents reported that their travel time to work was less than 10 minutes. One in four reported that their commute time was between 10 and 14 minutes. Another 23 percent reported commute times between 15 and 19 minutes. About seven percent reported commute times between 25 and 34 minutes. Only a small percentage of workers reported commute time greater than 35 minutes.

The travel time information suggests that most area workers are willing to spend between 18 and 40 minutes of total commuting time per day (i.e. 9-20 minutes one way). In general, people tend to set “travel time budgets” for various trip purposes. The time a person is willing to travel for a shopping trip may differ

from the time they are willing to spend traveling to work, or on a social trip. Generally, work trips tend to be longer than other trip purposes.

For most people, the actual spatial distance between destinations is less relevant than travel time. Not surprisingly, people tend to make housing decisions based on travel time rather than spatial distances. Therefore, transportation improvements that reduce travel times also tend to impact land use decisions. Because travel times vary by transportation mode, households without access to a car will make housing choices that account for different travel times.

Figure 4-3: Wausau MPA Travel Time to Work



Source: 2000 US Census

County Commuter Flows

Table 4-1 provides a regional perspective of commuting patterns by listing commuting flows between Marathon County and neighboring counties. The table indicates the number and percentage of Marathon County residents working within Marathon County or a neighboring county. The table also indicates the number and percentages of those working in Marathon County by the county in which reside.

In 2000, about 57,000 of Marathon County's total workforce, both lived and worked within the County. Of the almost 65,700 workers living in Marathon

County only about 13 percent worked outside the County. Of those, almost 4,000 (6%) were commuting to Wood County.

Wood County shares the western half of Marathon County's southern boundary. The City of Marshfield is predominately within Wood County, just south of the border with Marathon County. Marshfield's jurisdiction includes some area within Marathon County. There are likely many Marshfield area residents who commute the relatively short distance between the two counties, many of whom may both live and work with the Marshfield city limits.

Of the 67,380 workers working in Marathon County, about 2,800 (i.e. 4%) commute from Lincoln County. Approximately eight percent of those working in Marathon County commute from Wood, Portage, Clark, and Shawano Counties, or about two percent from each of the four counties.

About 1,700 more workers commute into Marathon County than commute out.

Table 4-1: Marathon County Commuter Flows by Residence and Workplace Counties

County	Marathon County Residents working in:	Percent	Marathon County Workers living in:	Percent	Difference
Marathon	57,000	87%	57,000	85%	0
Wood	3,944	6%	1,449	2%	-2,495
Portage	968	1%	1,408	2%	440
Lincoln	964	1%	2,826	4%	1,862
Clark	710	1%	1,407	2%	697
Taylor	442	1%	321	0%	-121
Shawano	391	1%	1,066	2%	675
Langlade	234	0%	679	1%	445
Other WI	693	1%	929	1%	236
Outside WI	334	1%	295	0%	-39
Total	65,680	100%	67,380	100%	1,700

Source: 2000 US Census

MCD Commuter Flows

The Census Transportation Planning Package (CTPP) provides information on commuting patterns between municipalities. The commuter flow data is from the US Census Bureau and is based on the 2000 Census long-form survey results, which are received by approximately one in six households. The CTPP data was used to generate Tables 4-2 and 4-3 and Figures 4-4 and 4-5 in order to increase our understanding of commuting patterns within, to and from the Wausau Metropolitan Planning Area (MPA).

Table 4-2 lists the number and percentage of workers that reside within or outside their workplace Minor Civil Division (MCD). The table also indicates

whether those who work in a particular MCD live within or outside the Wausau MPA.

The table also lists the percentage of workers who live within the MPA but outside their workplace MCD. For example, of the total 3,845 people working in the City of Mosinee, 43 percent live outside of Mosinee but within in the Wausau MPA.

Of the over 56,000 people working in the Wausau MPA, 27 percent live outside the MPA. Seventy-three percent of those who work in the MPA also live here. However, of those 56,000 workers, 42 percent were commuting from somewhere in the MPA other than the community they worked in. Still, over 17,000 workers in the Wausau MPA (31%) both live and work in the same municipality.

In 2000, the City of Wausau was estimated to have almost 32,000 people working at jobs within the city boundaries, of those, only 39 percent were residents. Approximately 19,300 Wausau workers (61%) commute from outside of Wausau, 8,300 (26%) of which commute to Wausau from outside of the MPA.

It is interesting to note that several communities within the Wausau area attract most of their workers from other communities. In the Village of Brokaw, almost all of their workers reside outside the community. The City of Schofield also attracts much of their workforce from outside their borders, with 95 percent of their 4,300 workers living outside of the city. The Village of Rothschild and the Town of Stettin, also see a significant percentage of workers traveling into their communities for work.

Table 4-2: Worker Commuter Flows by Workplace Minor Civil Division (MCD)

Workplace	Live outside workplace MCD		Live in workplace MCD		Live outside of workplace MPA		Live in workplace MPA		Total Workers	Live in MPA & outside work MCD
MCD	#	%	#	%	#	%	#	%	#	%
Mosinee C	3,001	78%	844	22%	1,335	35%	2,510	65%	3,845	43%
Schofield C	4,109	95%	209	5%	1,323	31%	2,995	69%	4,318	65%
Wausau C	19,260	61%	12,572	39%	8,323	26%	23,509	74%	31,832	34%
Brokaw V	576	97%	16	3%	224	38%	368	62%	592	59%
Kronenwetter V	489	68%	230	32%	195	27%	524	73%	719	41%
Rothschild V	3,112	87%	484	13%	927	26%	2,669	74%	3,596	61%
Weston V	3,211	71%	1,301	29%	930	21%	3,582	79%	4,512	51%
Maine T	613	78%	174	22%	283	36%	504	64%	787	42%
Marathon T	169	65%	92	35%	113	43%	148	57%	261	21%
Mosinee T	404	73%	151	27%	198	36%	357	64%	555	37%
Rib Mountain T	1,981	78%	566	22%	560	22%	1,987	78%	2,547	56%
Ringle T	100	63%	59	37%	48	30%	111	70%	159	33%
Stettin T	1,161	88%	159	12%	326	25%	994	75%	1,320	63%
Texas T	214	69%	94	31%	58	19%	250	81%	308	51%
Wausau T	465	69%	211	31%	222	33%	454	67%	676	36%
Weston T	29	56%	23	44%	8	15%	44	85%	52	40%
Total	38,894	69%	17,185	31%	15,073	27%	41,006	73%	56,079	42%

Source: 2000 US Census

Figure 4-4 provides a graphical representation of the data listed above. The size of the pie chart symbol reflects the total numbers of workers working within the MCD. The blue portion of the pie chart represents the proportion of workers who live outside the municipality and the red portion represents the percentage of those workers who both live and work within the municipality.

Table 4-3 indicates how many people work in the community they live. Of the communities that make up the Wausau MPA, there were about 46,000 area residents in the workforce in 2000. Of those resident workers, 91 percent lived within the Wausau MPA. Only about 4,000 (9%) travel outside the area to work. Of the workforce residing within the MPA, 38 percent live and work within the same municipality, while 62 percent work outside the community they live.

Sixty-nine percent of workers residing in Wausau also work in Wausau, whereas 23 percent work outside of the City but work within the MPA. Only seven percent of Wausau resident commuters work outside of the MPA.

The City of Mosinee reported having 42 percent of their resident workforce working in Mosinee; with 58 percent working outside of Mosinee. All the

remaining municipalities show the percentage of residents working outside their communities to be 70 percent or higher.

Figure 4-5 provides a graphical representation of the proportion of workers that work in or outside the community in which they reside. The size of the pie chart symbol reflects the total number of workers living in the municipality. The blue portion of the pie chart represents the proportion of workers who work outside the municipality and the red portion represents the percentage of those workers who work within their residing community.

The commuter flow data provided in these tables and figures illustrate the amount of mobility between communities within the Wausau MPA. These statistics suggest that most of the communities within the metropolitan area are well within acceptable travel time distances of each other offering a variety of communities from which to choose to live or work. The commute travel time data would seem to support this conclusion.

Another conclusion that may be drawn from the data is that the types of jobs available in a community may not be compatible with the skills and qualifications of that community's residents. For example, the housing in a community may attract higher income professional office workers; yet that community may have very few employment opportunities for those types of workers. Likewise, communities that have large retail centers may not have housing that is affordable to those working low wage retail jobs. As a result, these employees must commute from elsewhere.

figure 4-4

Workers Living Within or Outside Workplace MCD

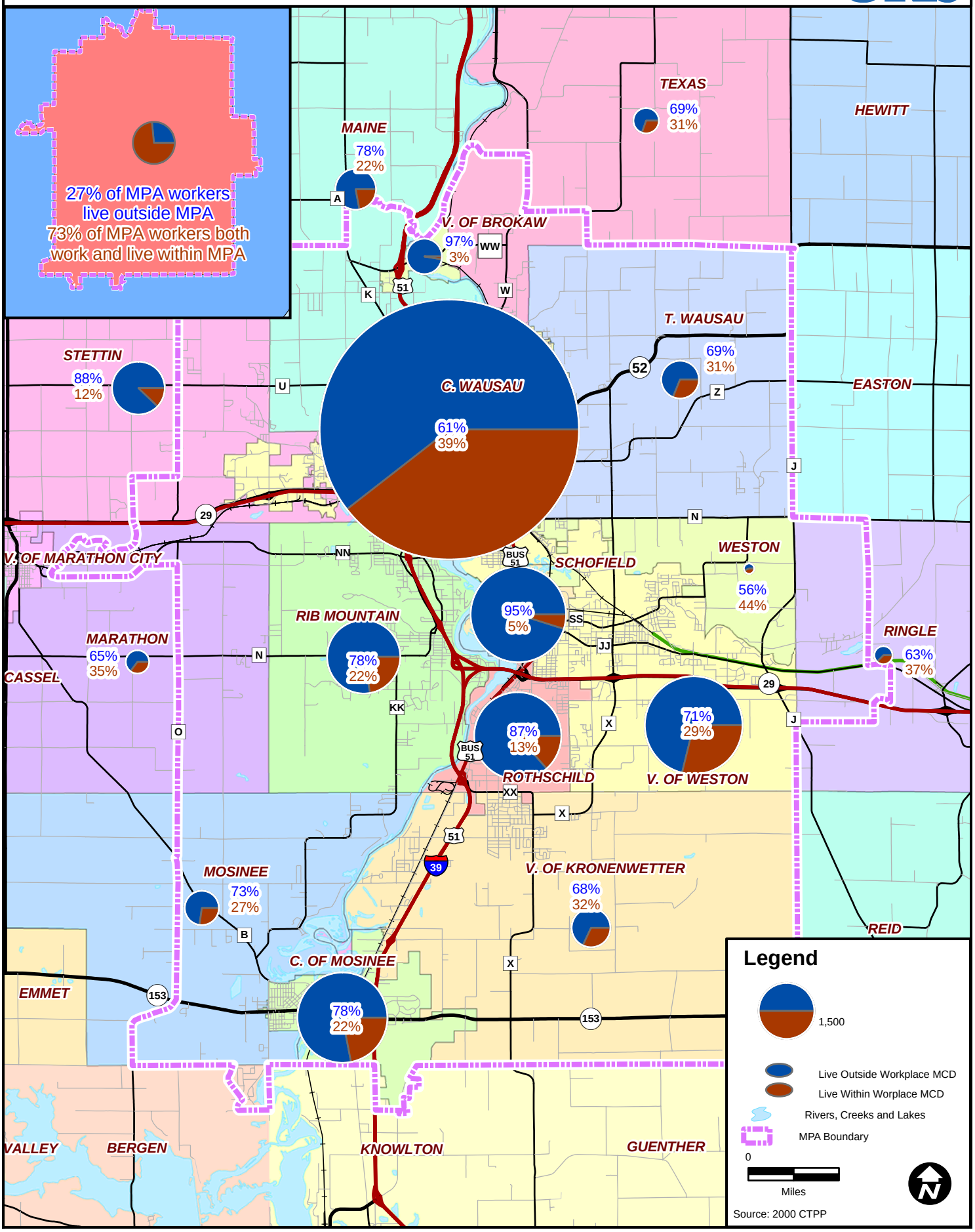


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figure 4-5

Residents Working Within or Outside Resident MCD

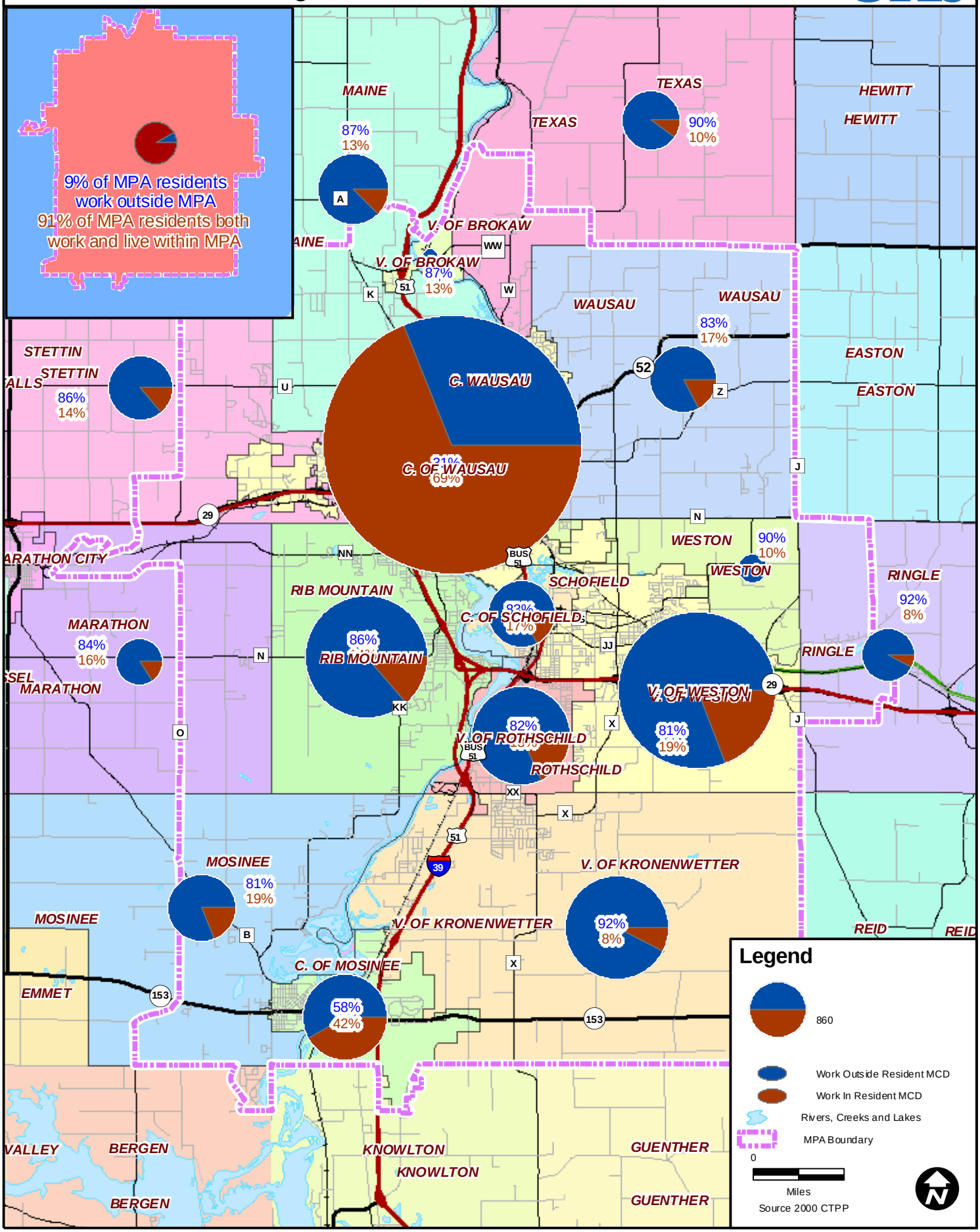

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Table 4-3: Worker Commuter Flows by Resident Minor Civil Division (MCD)

Resident	Work outside resident MCD		Work in resident MCD		Work outside resident MPA		Work in Resident MPA		Total Resident Workers	Live Inside MPA & outside MCD
MCD	#	%	#	%	#	%	#	%	#	%
Mosinee C	1,173	58%	844	42%	163	8%	1,854	92%	2,017	49%
Schofield C	1,014	83%	209	17%	109	9%	1,114	91%	1,223	73%
Wausau C	5,690	31%	12,572	69%	1,365	7%	16,897	93%	18,262	23%
Brokaw V	38	70%	16	30%	2	4%	52	96%	54	67%
Kronenwetter V	2,741	92%	230	8%	264	9%	2,707	91%	2,971	83%
Rothschild V	2,187	82%	484	18%	272	10%	2,399	90%	2,671	71%
Weston V	5,506	81%	1,301	19%	592	9%	6,215	91%	6,807	71%
Maine T	1,196	87%	174	13%	240	18%	1,130	82%	1,370	66%
Marathon T	501	84%	92	16%	92	16%	501	84%	593	66%
Mosinee T	1122	88%	151	12%	151	12%	1122	88%	1273	87%
Rib Mountain T	3,556	86%	566	14%	330	8%	3,792	92%	4,122	78%
Ringle T	721	92%	59	8%	94	12%	686	88%	780	79%
Stettin T	1,000	86%	159	14%	123	11%	1,036	89%	1,159	74%
Texas T	863	90%	94	10%	110	11%	847	89%	957	77%
Wausau T	1,026	83%	211	17%	92	7%	1,145	93%	1,237	75%
Weston T	201	90%	23	10%	6	3%	218	97%	224	87%
Total	28,535	62%	17,185	38%	4,005	9%	41,715	91%	45,720	59%

Source: 2000 US Census – Transportation Planning Package

Origin and Destination Survey

In 2001, WisDOT conducted a trip origin and destination survey for the Wausau MPA. This extensive survey was conducted along the perimeter of the Wausau MPA boundary on highway routes traveling through Wausau and the surrounding communities. The purpose of the survey was to examine the impact of externally generated vehicle trips that either terminated within the Wausau area or traveled through the Wausau area and terminated outside the area. The data also provided important information needed for updating the area's travel demand model used in forecasting traffic volumes.

The survey included 22 survey locations on every major roadway crossing the perimeter of the Wausau Metropolitan Planning Area (MPA). The survey was conducted through the months of June and July 2001. Each site was surveyed for eight (8) hours between 10 AM and 6 PM. Upon completion of the survey, the

data was processed and adjusted to reflect a 24 hour traffic period for the 22 interview sites.

Motorists were stopped and asked questions relating to: the origin of the trip being made, the destination of the trip, the type of vehicle used, the primary purpose of the trip and the number of occupants in the vehicle. At heavy traffic locations, motorists were given a survey card to be returned by mail. Heavy trucks, such as delivery trucks and semi-trailers with multiple axle configurations were counted separately to help understand the impact of truck/freight movements.

One of the key questions the survey attempted to answer is how much traffic passes through the study area without stopping (referred to as through-trips). Another key question is how much traffic begins their trip from outside the area and ends inside the area (i.e. external to internal trips) or begins their trip inside the area and ends outside the area (i.e. internal to external trips). External to internal trips and internal to external trips, for analysis purposes, are combined and referred to as local trips, as they have either a trip origin or destination within the study area.

Key findings from the origin-destination survey include:

- Local trips (i.e. internal to external and external to internal trips) accounted for 63 percent of all surveyed trips. Through-trips accounted for 37 percent of all trips.
- Of the total trips surveyed, about 15 percent were classified as medium or heavy-duty trucks. Of the truck traffic, 54 percent were through-trips and 46 percent had local destinations or origins.
- About 92 percent of all through-trips used USH 51, I 39, STH 29 East and/or STH 29 west freeways/expressways. Almost 55 percent of all the through-trips passed through the I 39 station south of Mosinee and the USH 51 station north of the Wausau area.
- Of the Wausau area through-trips, 86 percent had either an origin or destination within Wisconsin.
- Heavy trucks accounted for 15 percent of all trips through survey stations, with autos and light trucks (i.e. pickups and vans) accounting for 54 percent and 31 percent, respectively.
- Eighty-four (84) percent of the heavy truck traffic recorded at the 22 survey stations, passed by the I 39 south, USH 51 north, STH 29 east, and/or STH 29 west survey stations (i.e. interstate/freeway routes).
- Average vehicle occupancy was 1.55 persons per vehicle.

ROADWAYS

The Wausau Metropolitan area consists primarily of a grid pattern street system that is altered by the area's waterways and lakes. There are relatively few curvilinear streets and cul-de-sacs except where required due to topography. Within Marathon County, there are eight bridges that cross the Wisconsin River, which divides the County between east and west. Seven of these crossings are within the Wausau Metropolitan Planning Area (MPA), three of which are within the City of Wausau. There are about 18 miles between the State Trunk Highway (STH) 153 Bridge in Mosinee and the County Trunk Highway (CTH) WW Bridge in Brokaw.

The Wausau urbanized area is connected to the surrounding rural areas by a system of State and County highways. Interstate (I)-39/ United State Highway (US) 51 provides the primary north-south route through the County. I 39/USH 51 and Bus USH 51 are the only US highways through the Wausau MPA. The classification of US highway or Interstate highway is a naming convention only; these highways are under State jurisdiction. STH 29 is a mixed freeway/expressway facility that runs west to I-94 near Eau Claire and east to Green Bay. These two highways are the main routes through the MPA and are part of the National Highway System providing the main regional connection to other large urbanized areas.

Jefferson Street in Downtown Wausau

STH 29 is designed as a freeway within the metropolitan area except for a section west of the 72nd Avenue interchange. West of the MPA, STH 29 is a divided expressway with very limited at-grade access. STH 29 and USH 51 share a segment of highway between the STH 29 East interchange located south of Wausau and the STH 29 West interchange located in Wausau. The combined USH 51/STH 29 section of freeway is the most heavily traveled section of highway in the area.

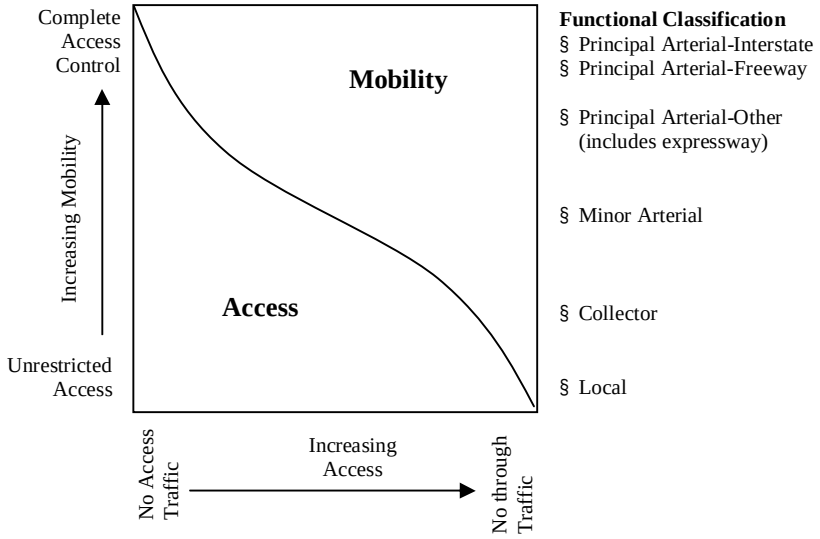
Most major traffic generators in Marathon County are located within the Wausau metropolitan area, although there is a significant amount of through-traffic. Much of the remainder of the County consists of rural agricultural lands and small villages generally served by two-lane State and County highways and local roadways.

Functional Classification

Roads are commonly classified in two ways: by ownership and by purpose. Jurisdiction refers to ownership of a particular road, while functional classification identifies the purpose of the road.

A functionally classified road system is one in which streets and highways are grouped into classes according to the character of service they provide, ranging from a high degree of travel mobility to primarily a land access function. At the upper limit of the system (e.g., principal arterials) are those facilities that emphasize traffic mobility (long, uninterrupted travel), whereas facilities at the lower limits (e.g., local streets) are designed for land access. Figure 4-6 below illustrates the access vs. mobility continuum.

Figure 4-6: Functional Classification Mobility vs. Access



Federal regulations require that each state classify roadways in accordance with the Federal Highway Administration's *Highway Functional Classification: Concepts, Criteria and Procedures*. In Wisconsin, all classified roadways within urban and rural areas must meet the State's functional classification criteria, which are consistent with federal guidelines. These criteria and other relevant information on functional classification are provided within the WisDOT *Functional Classification Criteria* document, which was prepared in 2003.[1]

Urban, urbanized and rural areas provide the category framework for the placement of routes within Wisconsin. An urban area is defined as any place or cluster of places within a designated urban boundary with a population between 5,000 and 49,999. An urbanized area is defined as a cluster of places within a

[1] Source: Functional Classification Criteria , Wisconsin Department of Transportation, April 2003.

designated urbanized boundary with a population of 50,000 or greater. Streets and highways within urban and urbanized areas are classified under the urban functional classification system.

Urban Functional Classification

The WisDOT functional classification process of urban streets and highways organizes routes according to the character of service provided, ranging from travel mobility to land access. The functional class system also sub-classifies routes by facility type and by their rural relationship (connecting links of the rural functional class system). Urban functions are as follows:

Urban Principal Arterials – Principal arterials serve major economic activity centers of an urban area, the highest Average Daily Traffic (ADT) corridors, and regional and intra-urban trip length desires. In every urban area, the longest trip lengths and highest ADT volumes are characteristic of the main entrance and exit routes. Because they have the longest trip lengths, highest volumes, and are generally extensions of the highest rural functional routes, such routes should be principal arterials. Principal arterial trip lengths are indicative of the rural-oriented traffic entering and exiting the urban area on the rural arterial system, as well as the longest trans-urban area travel demands.

Urban Minor Arterials – Urban minor arterials serve important economic activity centers, have moderate ADT volumes, and serve intercommunity trip length desires interconnecting and augmenting the principal arterial system. Trip lengths are characteristic of the rural-oriented traffic entering and exiting the urban area on the rural collector system. In conjunction with principal arterials, minor arterials should provide an urban extension of the rural collector system to the urban area Central Business District (CBD) and connect satellite community CBDs with the main CBD. Although the predominant function of minor arterials is traffic mobility, minor arterials serve some local traffic while providing greater land access than principal arterials. As such, minor arterials may be stub-ended at major traffic generators.

Urban Collectors – Collectors provide direct access to residential neighborhoods, commercial, and industrial areas, and serve moderate to low ADT volumes and inter-neighborhood trips. As the name implies, these routes collect and distribute traffic between local streets and arterials. In the CBD and areas of similar development and traffic density, the collector system may include the street grid, which forms the logical entity for traffic circulation. Collectors should not be continuous through several neighborhoods to discourage their use for through trips; however, they may have to be in order to connect to the nearest arterial. Generally, the travel mobility and land access functions of collectors are equal.

Urban Local Streets – Urban local streets predominantly serve to access adjacent land uses. They serve the ends of most trips. All streets not classified as arterials or collectors are local function streets.

Rural Functional Classification

Rural areas are the places in the state located outside of urban and urbanized areas. Roads and highways in these places are classified under the rural functional classification system. Rural highways are classified into the following functional types:

Rural Principal Arterials – Principal arterials serve corridor movements having trip length and travel density characteristics of an interstate or interregional nature. These routes generally connect urbanized areas (populations 50,000 and over) and urban areas (populations 5,000 to 49,999).

Rural Minor Arterials – Minor arterials, in conjunction with principal arterials, serve moderate to large-sized places (cities, villages, towns, and clusters of communities), and other traffic generators providing intra-regional and inter-area traffic movements. These routes generally serve places with populations of 1,000 and over.

Rural Major Collectors – Major collectors provide service to smaller-to-moderate sized places and other intra-area traffic generators, and link those generators to nearby larger population centers (cities, villages, and towns) or higher function routes. These routes generally serve places with populations of 100 and over.

Rural Minor Collectors – Minor collectors provide service to all remaining smaller places, link the locally important traffic generators with their rural hinterland, and are spaced consistent with population density so as to collect traffic from local roads and bring all developed areas within a reasonable distance of a collector road. These routes generally serve places with populations of 50 and over.

Rural Local Roads – Local roads provide access to adjacent land and provide for travel over relatively short distances on an inter-township or intra-township basis. All rural roads not classified as arterials or collectors will be local function roads.

Functional Classification System Review and Update

An update of the entire Wausau Urbanized Area functional classification system was finalized in August 2004. Updates to the system and urbanized area boundary are completed about every ten years. Amendments can be made on the system and boundary between updates. WisDOT allows 20 to 35 percent of public roadway miles within the urbanized area to be classified (collectors and arterials). The remaining 65 to 80 percent of the roadway miles should be local.

Through a review process in 2004, the MPO board recommended functional classification designation changes. WisDOT also proposed system changes. The MPO Board and WisDOT adopted the final agreed upon changes to the functional classification, which are listed in Table 4-4 below. Table 4-4 also shows WisDOT's desirable system mileage percentage ranges for functional

classifications within urbanized areas. Figure 4-7 illustrates the Wausau MPO's recently updated functional classification system.

Table 4-4: Urban Functional Classification System Mileage

Functional Classification	System Mileage August 2004	Percent of System	WisDOT Desirable System Mileage Percentage
Urban Principal Arterial	56.8	8.3%	5-10%
Interstate	9.8		
Freeway	20.9		
Other	26.2		
Urban Minor Arterial	79.8	11.6%	10-15%
Urban Collector	62.5	9.1%	5-10%
Urban Local	487.9	71.0%	65-80%
Estimated Total System Miles	687.0	100.0%	
Estimated Total Classified	199.1	29.0%	20-35%

Source: Wisconsin Department of Transportation.

Table 4-5 serves as a reference of general characteristics or design guidelines to consider when reviewing functional classification. The table provides functional classification descriptions and purposes and offers guidelines for assessing traffic flow (mobility vs. access) priorities, facility spacing, trip lengths, traffic volumes, traffic speeds, and pedestrian, bicycle and transit facility provisions. This table has been reviewed and updated by WisDOT to ensure compatibility with WisDOT standards.

figure 4-7

Functional Classification & NHS Routes

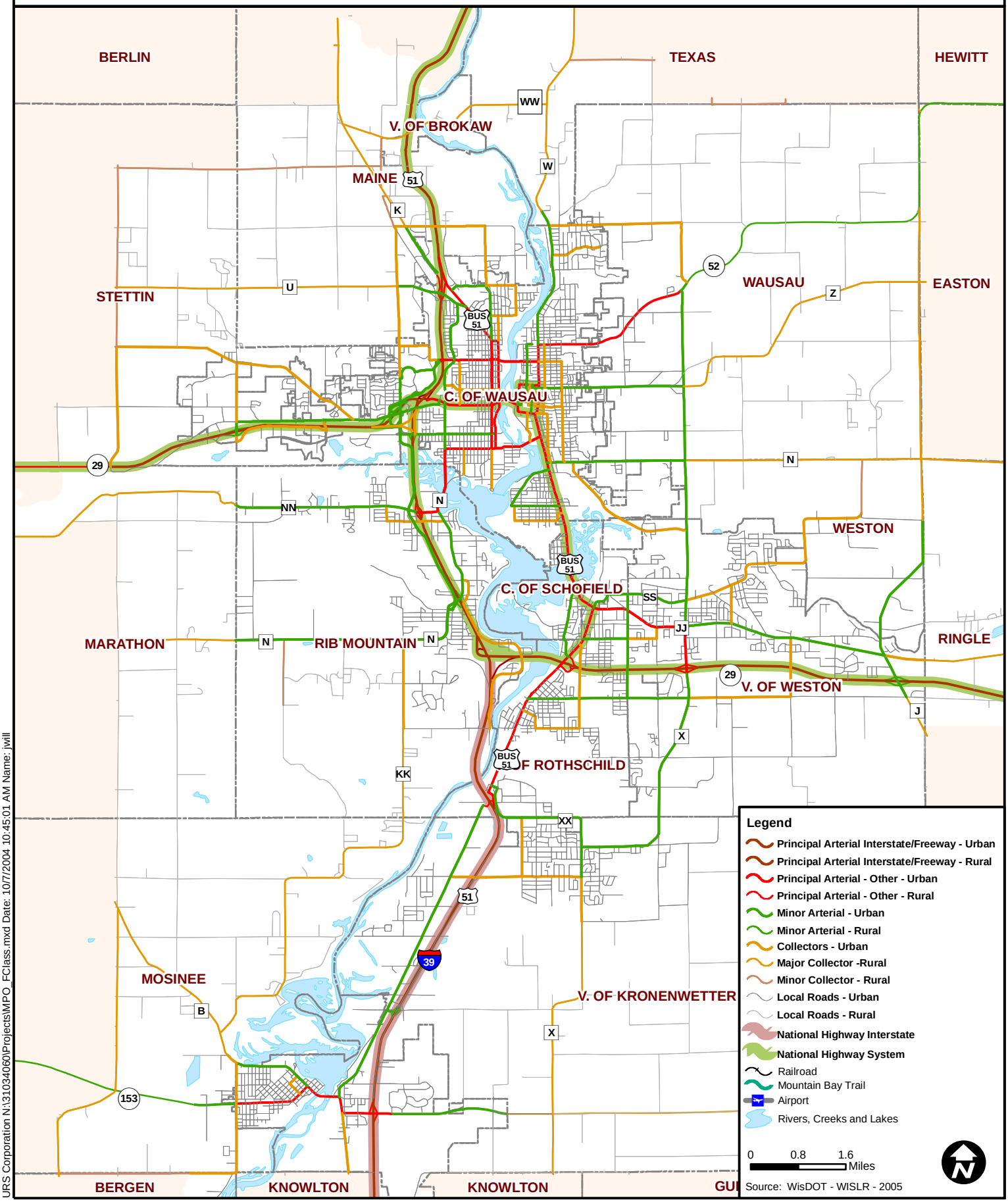


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Table 4-5: General Roadway Characteristics by Urban Functional Classification

Functional Class	Definition/Purpose	Traffic Flow/Access Priority	Facility Spacing	Trip Length	Traffic Volume	Traffic Speed	Pedestrian Provisions	Bicycle Provisions	Fixed Route Transit Provisions	Functional Class
Freeway	Full access control with continuous traffic flow separated in grade from other facilities. Intended for high-volume high-speed traffic movement between cities and across the metropolitan area. No direct access is provided to adjacent land.	*Traffic Flow/Access Priority 99/1* Access by grade-separated interchanges at 5 miles for freeway to freeway and 2 miles for service interchanges.	CBD = 1 mile Other = 3 miles	Between cities and across metropolitan area (2 or more miles).	20,000 - 100,000 vehicles per day.	Running: 55-70 mph Average: 55-60mph.	Pedestrians Prohibited.	Bicycles Prohibited.	No stops, Express routes only.	**Freeway**
Expressway	Partial access control and high priority for traffic flow with at-grade signalized intersections for major streets. Intended for high-volume moderate-to-high speed traffic movement across the metropolitan area with minimal access to adjacent land. *May be designed as a highway with separation from adjacent land uses or as a street with controlled access to adjacent land uses.*	Traffic Flow/Access Priority 80/20 At-grade intersections with arterial and collector streets (desirable = 2,640 ft.; minimum = 1,500 ft.). Signals are uniformly spaced for optimum traffic flow. Driveway and street intersections designed for maximum of 10 mph speed decrease in through-lane for turning vehicle.	CBD = 1 mile Other = 3 miles	Across metropolitan area and between major activity centers (2 or more miles).	20,000 - 50,000 vehicles per day.	Running: 40-55 mph Average: 30-40mph.	*Highways:* Pedestrians discouraged. *Streets:* Walkways required on both sides.	*Highways:* Paved Shoulders *Streets:* Separate path Paved Shoulders.	*Highways:* No stops, express routes only. *Streets:* Turnouts at major generators.	**Expressway**
Principal Arterial	Provides for high to moderate-volume moderate-speed traffic movement between and through major activity centers. Access to abutting property is subordinate to traffic flow and is subject to necessary control of entrances and exits.	*Traffic Flow/Access Priority 60/40* The State's Facility Development Manual (FDM) does not give recommendations on urban spacing. Safety and traffic flow are balanced in determining signal spacing.	CBD = 1 mile Other = 3 miles	Between and through major activity centers (2-8 miles).	10,000 - 30,000 vehicles per day.	Running: 30-40 mph Average: 25-30mph.	Walkways required on both sides.	Paved shoulders 6'. Wide Shared Outside lanes. Striped lanes 5'*.	Scheduled stops every ¼ mile.	**Primary Arterial**
Minor Arterial	Augments and feeds the primary arterial system and is intended for moderate-volume moderate-speed traffic movement. Access to abutting property is partially controlled.	*Traffic Flow/Access Priority 45/55* The State's FDM does not give recommendations on urban spacing. Safety is higher priority than traffic flow in determining signal spacing	CBD = ½ mile Other = 2 miles	Between and within activity centers (1-4 miles).	6,000 - 20,000 vehicles per day.	Running: 25-35 mph Average: 20-25mph.	Walkways required on both sides.	Wide Shared outside lanes. Striped lanes*.	Scheduled stops every ¼ mile.	**Secondary Arterial**
Collector	Collects and distributes traffic between arterial streets and local streets. Intended for short length trips while also providing access to abutting properties. *Design of collector streets varies depending on the character and intensity of traffic generated by adjacent land development.*	*Traffic Flow/Access Priority 30/70* The State's FDM does not give recommendations on urban spacing.	CBD = ¼ mile Other = 1 mile	Local street to arterial street (1/2-2 miles).	1,500 - 8,000 vehicles per day.	Running: 20-30 mph Average: 15-20mph.	Walkways required on both sides.	Wide Shared outside lanes. Striped lanes*.	Scheduled service and paratransit.	**Collector**
Local	Provides direct access to abutting property. Intending for low-speed low-volume traffic movement and for short length trips. *Design of local streets varies depending on the character and intensity of traffic generated by adjacent land development.*	*Traffic Flow/Access Priority 10/90* No restrictions. "Safely" Spaced.	As required	Access to individual property parcels (Less than ½ mile).	Commercial less than 1,000 residential vehicles per day.	Running: 20-25 mph Average: 10-15mph.	Walkways required on both sides.	Shared outside lanes.	Scheduled service if no viable collector access.	**Local**

Source: URS Corp. and WisDOT Central Office, October 2005. Based in part on US DOT FHWA *Highway Functional Classification: Concepts, Criteria, and Procedures*, 1989, and American Association of State Highway and Transportation Officials (AASHTO), *A Policy on Geometric Design of Highways and Streets*, Chapter 1, 2004.

* "Striped lanes" includes either a striped and designated bike lane or a striped-off lane without designation.

Roadway Jurisdiction

Jurisdiction is divided among Federal, State, and local governments. Nationally, states have jurisdiction over 20 percent of the road network, including all interstates and US highways. The Federal government only has direct responsibility for about five percent of the system, primarily in national parks, forests, and Indian reservations. Over 75 percent of the road system is the jurisdiction of local governments (i.e. counties and municipalities).

The center-line mileage and percentage of roadways by jurisdiction for Wausau MPA municipalities are shown in Table 4-6. Several municipalities are only partially located within the MPA boundary, although total mileage of the community is indicated in the table. The State controls about 80 center-line miles of roadway within the MPA, which accounts for eight percent of the total road miles. County roads accounted for 12 percent of total MPA road miles with about 120 center-line miles of roadway.

Table 4-6: MPA Community Roadway Mileage by Jurisdiction

	Miles				Percentage		
Municipality	**State**	**County**	**Municipal**	**Total**	**State**	**County**	**Municipal**
Mosinee C	7.7	0.0	40.5	48.3	16%	0%	84%
Schofield C	1.5	0.1	16.0	17.6	9%	1%	91%
Wausau C	23.5	0.9	200.7	225.1	10%	0%	89%
Brokaw V	0.3	1.1	2.0	3.4	7%	33%	60%
Kronenwetter V	11.0	8.4	91.9	111.3	10%	8%	83%
Rothschild V	6.2	1.6	39.0	46.7	13%	3%	83%
Weston V	5.2	6.9	105.8	117.9	4%	6%	90%
Bergen T	0.0	11.9	25.3	37.1	0%	32%	68%
Maine T	9.3	17.2	74.1	100.6	9%	17%	74%
Marathon T	5.9	22.4	35.4	63.6	9%	35%	56%
Mosinee T	6.6	18.5	47.3	72.4	9%	26%	65%
Rib Mountain T	6.7	11.5	70.6	88.8	8%	13%	80%
Ringle T	7.5	13.6	53.6	74.6	10%	18%	72%
Stettin T	7.2	11.9	71.8	90.9	8%	13%	79%
Texas T	0.0	21.2	57.3	78.5	0%	27%	73%
Wausau T	7.6	14.4	56.1	78.1	10%	18%	72%
Weston T	0.0	6.2	14.8	21.0	0%	30%	70%
Total Miles	**105.9**	**167.9**	**1,002.2**	**1,276.0**	**8%**	**13%**	**79%**
MPA Total	**79.6**	**118.3**	**777.7**	**975.6**	**8%**	**12%**	**80%**

Source: Wisconsin Department of Transportation (WISLR-2003)

Jurisdiction refers to ownership, but not always responsibility. Some State owned roads are maintained by local jurisdictions. In some cases, local municipalities are responsible for conducting routine maintenance and minor repairs on State owned highways within their jurisdictional boundaries. In return, the State generally provides financing to those jurisdictions. Major repairs and reconstruction are generally the responsibility of the State Department of Transportation. For example, Marathon County provides highway maintenance and snow removal on State highways within its borders in accordance with a contractual agreement with WisDOT.

A designation of a public road as a "Federal-aid highway" does not alter its ownership or jurisdiction as a State or local road, only that its service value and importance have made that road eligible for Federal-aid construction and rehabilitation funds.[2]

Roadway jurisdiction should correspond to roadway use. In other words, roadways serving primarily a local function should be the responsibility of the local jurisdiction; roadways providing connections between municipalities within the County should be the responsibility of the County, and roadways serving regional travel should be the responsibility of the State. Roadway jurisdictions within the Wausau MPA are shown in Figure 4-8.

In 1988, Marathon County adopted a the *Marathon County Functional / Jurisdictional Highway Classification Study* that sought to identify and group classes that provided similar types of service. The study recommended that the unit of government having the greatest basic interest in the roadway's function would carry out the operation, maintenance, and improvement of the classified roadways. The study also identified objective criteria, which were utilized to determine how each roadway within Marathon County functioned (i.e. they identified the roadway's functional classification).

At that time, the County concluded that it would be in their best interest to plan for and develop a collector roadway system that emphasized the overall County importance of those roadways designated as County Trunk Highways. For example, there were many miles of County Trunk Highways that carried little traffic and did not serve as connector roads between cities and villages. These roads primarily served local traffic and thus, should be the responsibility of the local jurisdiction. Likewise, there were a number of roads under town ownership that served a much wider population, carrying significantly higher traffic volumes, which would more appropriately be the responsibility of the County.

The 1988 study looked at numerous criteria alternatives for differentiating between collector and local functions. Some of these alternative criteria greatly increased the roadway miles the County would need to control, while other alternative criteria would have greatly decreased the miles of County roadways. The criteria created and adopted by the County Board, offered a reasonable

[2] US Department of Transportation, Federal Highway Administration Conditions and Performance Report.

compromise. The jurisdictional criteria used in the 1988 plan for rural and urban areas are listed below in Table 4-7 and Table 4-8, respectively.

Table 4-7: Rural Area Roadways Jurisdiction Criteria

Functional Classification:	Jurisdictional Responsibility:
Principal Arterial	State
Minor Arterial	State
Major Collector	County
Minor Collector	County
Local	Local Municipality

Source: Marathon County Functional / Jurisdictional Highway Classification Study; March 1988; p. 85.

Table 4-8: Urban Area Roadways Jurisdiction Criteria

Functional Classification:	**Jurisdictional Responsibility:**
Principal Arterial	
a) Connecting links of rural principal arterials to central city CBD or major land use with state-wide significance	State/Local[3]
b) Connecting links of rural minor arterials	State/Local[3]
c) Non-connecting links	Local
Minor Arterial	
a) Connecting links of rural major and minor collectors that serve the rural hinterland	County
b) Inter-urban non-connecting links	Local
Collectors	Local
Local	Local

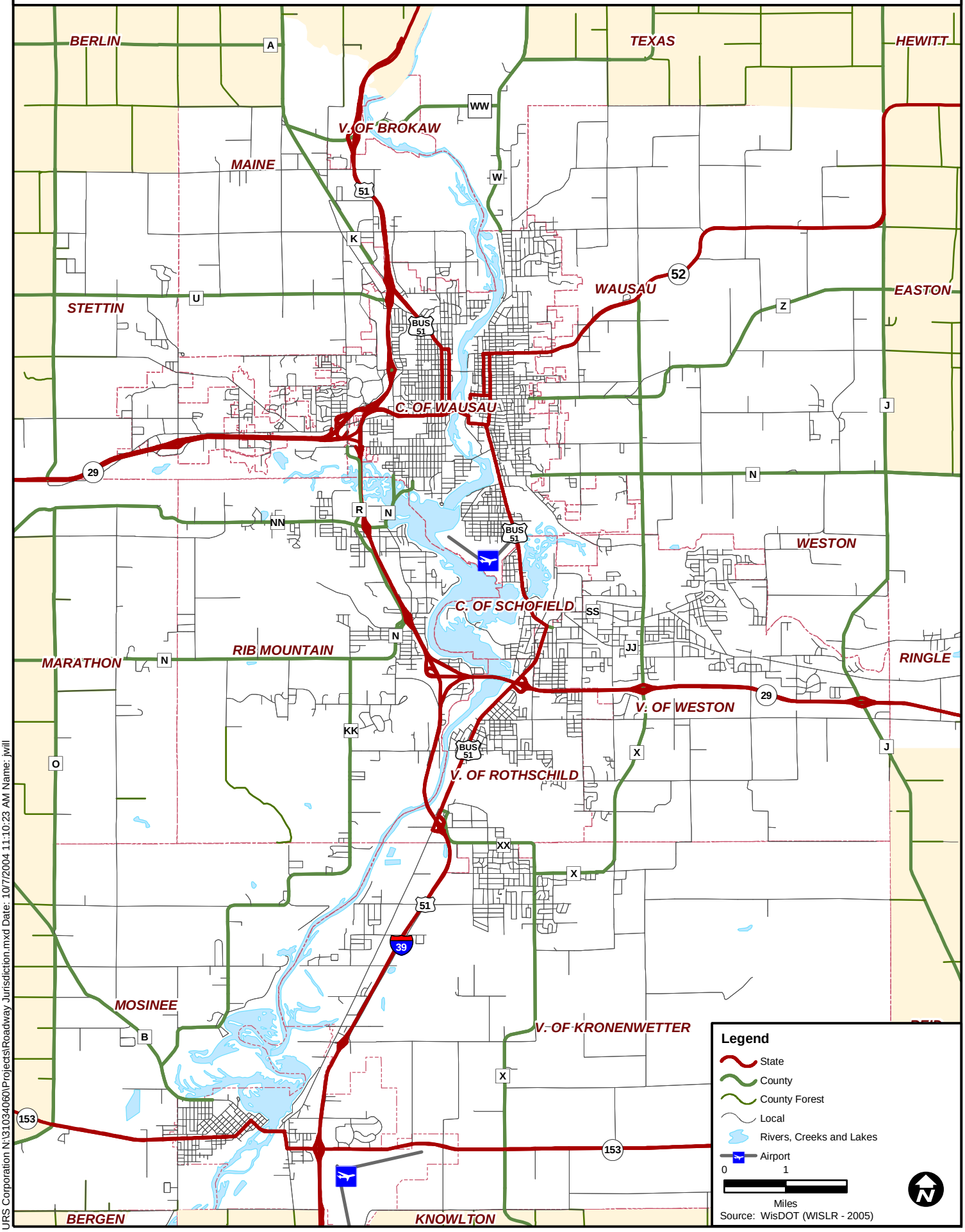
Source: Marathon County Functional / Jurisdictional Highway Classification Study; March 1988; P.86.

Phase two of the study developed a program for implementing changes in roadway ownership and listed all jurisdictional change recommendations. All changes recommended in the study required that the governmental entities involved in the transfer negotiate a transfer agreement. Under State statutes, local communities must agree before ownership is transferred. In addition, before a roadway can be transferred, it should be in good condition or provisions for improvements should be established prior to the transfer being finalized.

[3] Jurisdictional responsibility is determined by a mutually agreed upon "construction limit" established by the state and local unit of government. If no agreement exists, the state maintains jurisdiction.

figure 4-8

Roadway Jurisdictions



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The plan itself had no fiscal impact as each individual roadway transfer required separate negotiations and approvals by the governmental bodies involved. As such, the study's recommendations were not automatic.

A review of the study's recommended jurisdictional transfers with current Wisconsin Information System for Local Roads (WISLR) data[4] reveal that of the 57 proposed transfers countywide, only a couple appear to have been implemented, including the transfer of CTH SS to local jurisdiction, and the transfer of old STH 29 to local jurisdiction. It should not be surprising that many of the recommended transfers have not occurred to date, given that these transfers were to take place following major roadway improvements. Road segments in good condition may not require major improvements for ten, twenty or possibly thirty years.

Despite the age of the study, the issue of appropriate roadway jurisdiction may still be relevant and an issue worth pursuing by revisiting the study and perhaps conducting a study update.

US and State designated highways are controlled and maintained by WisDOT regardless of the jurisdiction that the road travels through. County designated roads through the City of Wausau are the maintenance responsibility of the City of Wausau. This policy has been a point of contention for the City of Wausau, as Wausau residents pay County taxes, yet are not receiving funding to maintain County roads within their community.

Roadway Jurisdiction and Functional Classification by Municipality

The linear miles of roadway by jurisdiction is important in assessing maintenance and reconstruction costs. Similarly, the functional classification associated with roadways relates to the standards to which those roadways are constructed and the associated costs. Table 4-9 indicates linear roadway mileage by functional classification and County and local jurisdiction for each municipality within the Wausau MPA. The information is provided by WisDOT through their WISLR database and is based on data gathered and submitted by local jurisdictions. The WISLR database did not include data on State roadways.

Of the almost 1,200 miles of roadways within the municipalities that make up the Wausau MPO, about 200, or 17 percent, fall under the jurisdiction of the City of Wausau. Of the 48 miles of arterial roadways, not including State roads, over half are within the City of Wausau. According to WISLR, the County has jurisdiction of one mile of arterial roadways within the City of Wausau.

The municipality with the second highest total centerline miles of roadway is the Village of Weston. Weston has 113 miles of road, seven miles of which are identified as County Roads. Weston has 17 miles of non-state arterial roads, six miles of which are under County jurisdiction.

[4] Wisconsin Information System for Local Roads (WISLR) database, the Wisconsin Department of Transportation.

The Village of Kronenwetter is the third largest municipality in terms of total linear miles of County and municipal roads. Of Kronenwetter's 100 miles of roadway, 92 percent are the responsibility of the municipality (see Table 4-9).

The Village of Brokaw, and the Towns of Marathon, Bergen, and Weston, have 30 percent or greater of their roadways under County jurisdiction.

Table 4-9: MPA Community Roadway Mileage by Jurisdiction and Functional Class

	County Jurisdiction						Municipal Jurisdiction						
	Arterial		Collector		Local		Arterial		Collector		Local		Total
Municipality	Miles	Percent	Miles	Percent	Miles	Percent	Miles	Percent	Miles	Percent	Miles	Percent	Miles
Mosinee C							3	6%	2	5%	36	89%	41
Schofield C	0	1%					2	13%			14	86%	16
Wausau C	1	0%					25	13%	20	10%	156	77%	202
Brokaw V			1	36%				0%	0	9%	2	56%	3
Kronenwetter V	3	3%	5	5%			4	4%	3	3%	85	85%	100
Rothschild V	2	4%					3	7%	3	6%	34	83%	41
Weston V	6	6%	1	1%			9	8%	8	7%	89	79%	113
Bergen T			12	32%					3	8%	22	60%	37
Maine T	1	1%	16	18%					12	13%	62	68%	91
Marathon T			17	29%	6	10%					35	61%	58
Mosinee T	1	1%	17	25%	1	2%			3	5%	44	67%	66
Rib Mountain T	9	10%	3	4%			2	2%	7	9%	62	75%	82
Ringle T	1	1%	13	19%					3	5%	50	75%	67
Stettin T			12	14%			1	1%	10	12%	61	73%	84
Texas T	0	0%	21	27%					12	16%	45	57%	78
Wausau T	5	7%	10	13%					3	4%	53	75%	71
Weston T	4	18%	2	11%					3	15%	12	56%	21
Total Miles	31	3%	130	11%	7	1%	48	4%	93	8%	861	74%	1,170

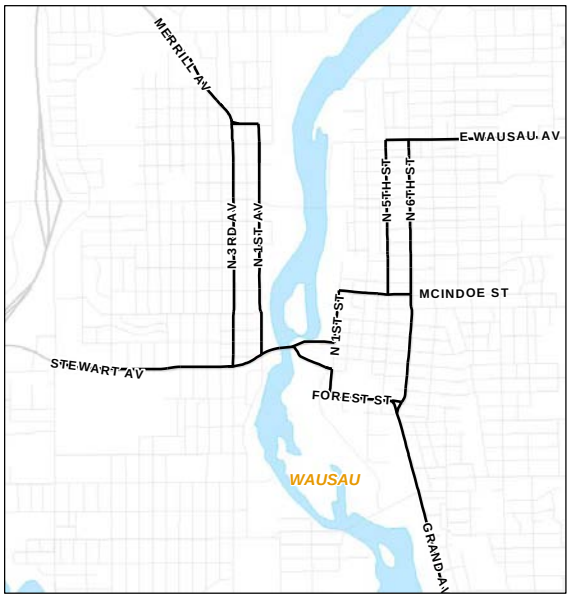
Source: WisDOT Wisconsin Information System for Local Roads (WISLR) Certified Mileage 2004.
Note: Mileage data excludes State and/or US highways. Figures are rounded to the nearest mile.

National Highway System (NHS)

The National Highway System Designation Act redefined federal aid roadways by authorizing the National Highway System (NHS) (see Figure 4-7). The NHS includes all interstate routes, a portion of principal arterials and the defense strategic highway network and its connectors. The NHS consists of approximately 160,000 miles of roadway that are important to the nation's economy, defense, and mobility. The NHS includes the following subsystems of roadways:

- ***Interstates –*** The Eisenhower Interstate System of highways retains its separate identity within the NHS.
- ***Other Principal Arterials –*** These are highways in rural and urban areas, which provide access between an arterial and a major port, airport, public transportation facility, or other inter-modal transportation facility.
- ***Strategic Highway Network (STRAHNET) –*** This is a network of highways which are important to the United States' strategic defense policy and which provide defense access, continuity and emergency capabilities for defense purposes.
- ***Major Strategic Highway Network Connectors –*** These are highways which provide access between major military installations and highways which are part of the Strategic Highway Network.
- ***Intermodal Connectors –*** These highways provide access between major inter-modal facilities and the other four subsystems making up the National Highway System.

Figure 4-9: Wisconsin Connecting Highways



Source: WisDOT

NHS routes through the Wausau MPA include I 39/USH 51, USH 51, Bus USH 51 and STH 29. As noted, the Eisenhower Interstate system, which includes I 39/USH 51, is included within NHS (see Figure 4-7).

Wisconsin Connecting Highways

Connecting Highways are a WisDOT designation of State Trunk Highway links through municipalities (see Figure 4-9). WisDOT assists municipalities with the costs associated with increased traffic and

maintenance on roads that connect segments of the State Trunk Highway System. Funds are distributed to municipalities with marked routes of the State Trunk Highway system over the streets and highways within their jurisdiction. Some 123 municipalities receive quarterly payments on a per lane mile basis, with rates varying according to population and appropriations set in the state budget. Connecting highways in the Wausau MPA include all sections of Bus USH 51 and STH 52 within the City of Wausau as shown above.

WisDOT Corridors 2020

Since 1988, Corridors 2020 has been an integral part of WisDOT's long-range highway improvement plans. It is designed to provide essential links to key employment and population centers throughout the state. As part of the planning process, Wisconsin's highways were classified based on operational and economic factors. Gaps in the system were identified and improvements scheduled. The original plan's goal was to complete all backbone improvements by 2005. To date, most of the improvements have been completed on schedule. WisDOT is in the process of updating the plan to project the state's needs through 2030 (Corridors 2030).

The multimodal corridors build on the idea of the Corridors 2020 network, first established in 1988. Corridors 2020 identified a system of two-lane and multi-lane highways. The network is made up of two subsystems:

- ***Backbone system:*** 1,550-mile network of multi-lane highways connecting all major population and economic regions of the state. Within the Wausau MPA, I 39/USH 51 and STH 29 are indicated as part of the backbone system identified in Corridors 2020.
- ***Connector system:*** 2,100-mile network of high quality two-lane highways directly linking significant economic and tourism centers to the Backbone system. There are no connector routes identified within the Wausau MPA.

WisDOT Connections 2030

WisDOT is in the process of developing a new long range multimodal transportation plan called Connections 2030. Each corridor will identify routes and/or services of several modes such as highways, local roads, rail, air, transit, etc. The multimodal corridors build on the idea of the Corridors 2020 network

Connections 2030 will address all forms of transportation: highways, local roads, air, water, rail, bicycle, pedestrian, and transit – and ways to make the individual modes work better as an integrated transportation system.

Connections 2030 will be a policy-based plan. The policies will be tied to "tiers" of potential financing levels. One set of policy recommendations will focus on priorities that can be accomplished under current funding levels. Another will identify policy priorities that can be achieved if funding levels increase.

While the final plan will include statewide policy recommendations, some of these recommendations may differ by specific corridors in the state.

Connections 2030 will also identify a series of key multimodal intercity corridors. These corridors are critical to serve Wisconsin's travel patterns and to support the state's economy. Corridors identified through the Wausau MPA include:

- ***Wisconsin Heartland Corridor: Green Bay to Eau Claire –*** This 200-mile corridor is part of a major passenger and freight corridor linking Green Bay, Wausau and Eau Claire to the Twin Cities and points farther west. It is a critical tourism link between the Twin Cities and tourism destinations in central and eastern Wisconsin. The corridor includes all of STH 29 through the Wausau MPA.
- ***Wisconsin River Corridor: Madison to Ironwood, MI –*** This 260-mile corridor is part of a major passenger and freight corridor linking north central Wisconsin and south central Wisconsin and Illinois. It is a critical tourist corridor between the population centers in Illinois and southern Wisconsin to the major recreation areas in the north. It also provides critical economic links for the industrial and commercial communities of Wausau, Wisconsin Rapids, Stevens Point and Marshfield. The corridor includes I 39/USH 51 to STH 29 and USH 51 north through the Wausau MPA.

As the plan progresses, these corridors will ultimately be used to portray plan recommendations and prioritize investments. Connections 2030 will also include recommendations on issues such as economic development, land use, transportation finance and the environment. The goal is to provide a plan that can aid policy-makers in future transportation decisions. Connection 2030 will be the statewide blueprint for the future.

System Traffic Volumes

Average Annual Daily Traffic (AADT) volumes for the Wausau MPA were obtained from WisDOT for the most recent year available at the time data was gathered for this project (i.e. 2001). WisDOT has since released 2004 AADT volumes.

Within the Wausau urbanized area, the freeways and the principal arterials carry the highest traffic volumes. The highest observed traffic volumes in the metro area are along the section of freeway where USH 51 and STH 29 merge. Traffic volumes along this segment of roadway ranged between 46,300 vehicles per day (vpd) and 61,000 vpd in 2004. Table 4-10 highlights traffic volumes along key principal arterials and provides some historic perspective by including 1998 and 2001 traffic volumes in addition to 2004 traffic volumes. The table lists both the high and low traffic counts along segments of key corridors. There is dramatic fluctuation in traffic volumes along some roadway corridors. It should be noted

that the high and low traffic count locations do not necessarily correspond between years. In some cases, a traffic count may have been taken in one year at a specific location and not taken in another year.

Table 4-10: Principal Arterial Summary

Principal Arterials	Jurisdiction	1998 Traffic Range		2001 Traffic Range		2004 Traffic Range	
		Low	High	Low	High	Low	High
§ USH 51/STH 29 (between STH 29 East and STH 29 West)	WisDOT	42,700[1]	51,100	49,900	58,900	46,300	61,000
§ I 39/USH 51 (south of STH 29)	WisDOT	17,400[1]	26,000	20,700	29,300	21,100	30,900
§ USH 51(north of STH 29 West)	WisDOT	17,400[1]	27,900	19,730	35,100	19,730	35,100
§ Bus USH 51 (between I 39/USH 51 and USH 51)	WisDOT	6,800	30,100	9,900	26,100	11,100	27,300
§ STH 29 (East of I 39)	WisDOT	6,400	28,500	9,100	29,400	13,000	31,800
§ STH 52 (between USH 51/STH 29 and E. Wausau Ave.)	WisDOT	13,300	20,800	14,000	19,300	15,200	24,000
§ CTH JJ (between Bus. 51 and CTH X)	County	14,200	16,900	11,800	12,800	14,000	18,500
§ CTH X (between CTH JJ and STH 29)	County	12,900	14,300	8,400	12,800	15,300	15,300
§ CTH NN & CTH N (between USH 51/STH 29 and Bus USH 51/Grand Ave.)	County & C. Wausau	7,500	29,200	9,300	17,400	12,600	16,900
§ S. 3rd Ave and S. 1st Ave. (between Stewart Avenue and W. Thomas St.)	C. Wausau	5,500	6,900	4,900	5,500	5,500	6,000
§ Bridge Street (between USH 51 and STH 52)	C. Wausau	15,900	23,400	16,400	25,700	14,100	27,300

Source: 1998 , 2001 and 2004 Wisconsin Highway Traffic Volume Data; Wisconsin Department of Transportation.
[1] 1999 Average Annual Daily Traffic Volume.
Note: The locations of low and high counts do not necessarily correspond between years.

Figures 4-10 illustrates the 2001 AADT volumes within the Wausau MPA. Detailed maps for the Wausau area and the Rothschild / Schofield area are provided in figures 4-11 and 4-12, respectively. The traffic counts indicated in Figures 4-10, 4-11, and 4-12 were provided by WisDOT and are actual traffic count volumes that have not been rounded or factored for season or day of week the count was taken.

Not including freeways, roads with the heaviest traffic volumes, include: Bus USH 51/Grand Avenue between Forest Street and Ross Avenue where AADT volumes range between 20,000 vpd and 28,500 vpd; Stewart Avenue between USH 51/STH 29 and downtown Wausau has AADT volumes ranging between 17,000 vpd and 20,000 vpd; and Bridge Street between North 5th Street and USH 51 has AADT volumes ranging between 16,000 vpd and 25,500 vpd.

figure 4-10

2001 Annual Average Daily Traffic Volumes - Map A

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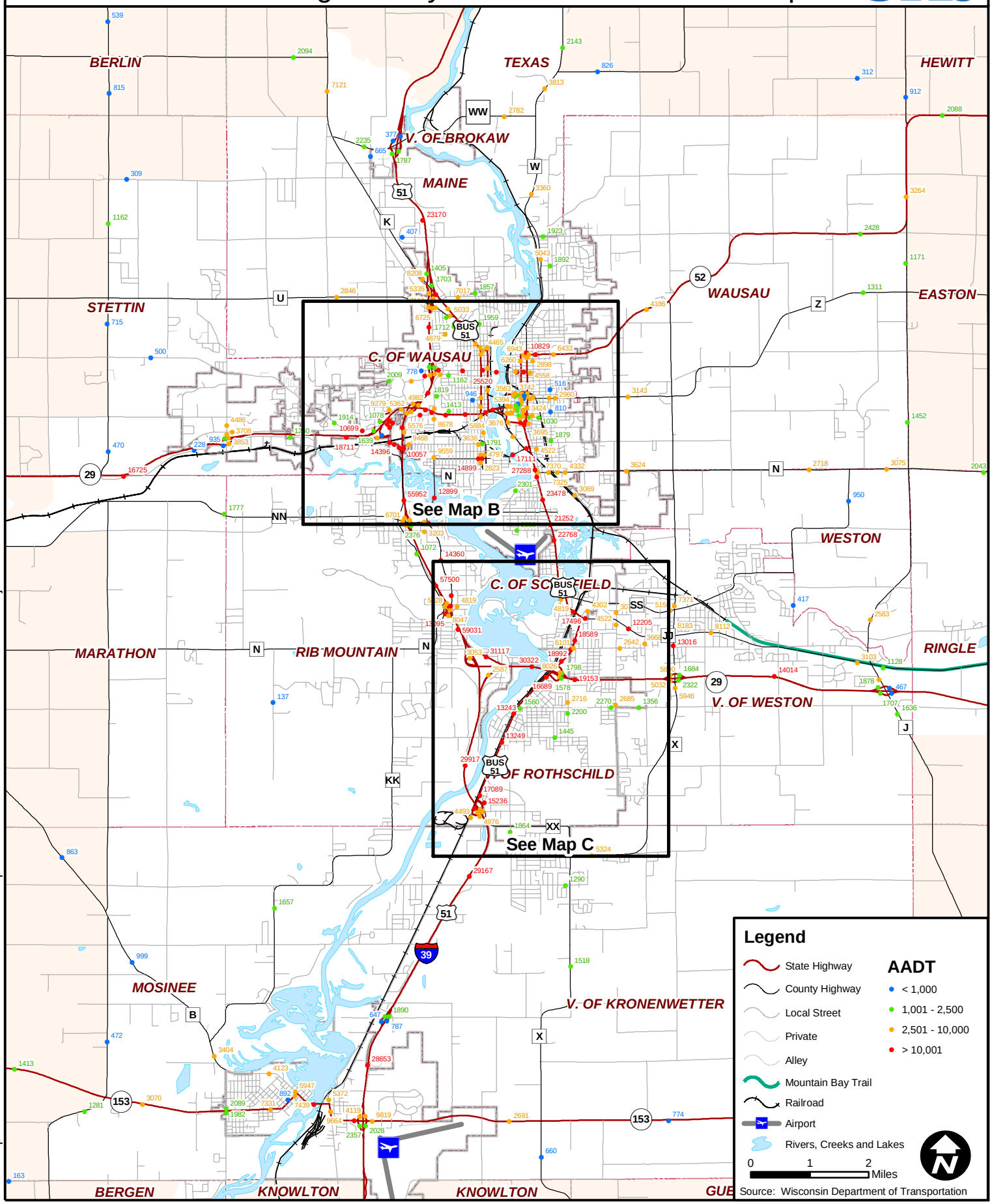

URS Corporation N:\31034060\MPO 2001 AADT Map A.mxd Date: 10/9/2005 12:08:45 PM Name: jhenr

figure 4-11

2001 Annual Average Daily Traffic Volumes - Map B

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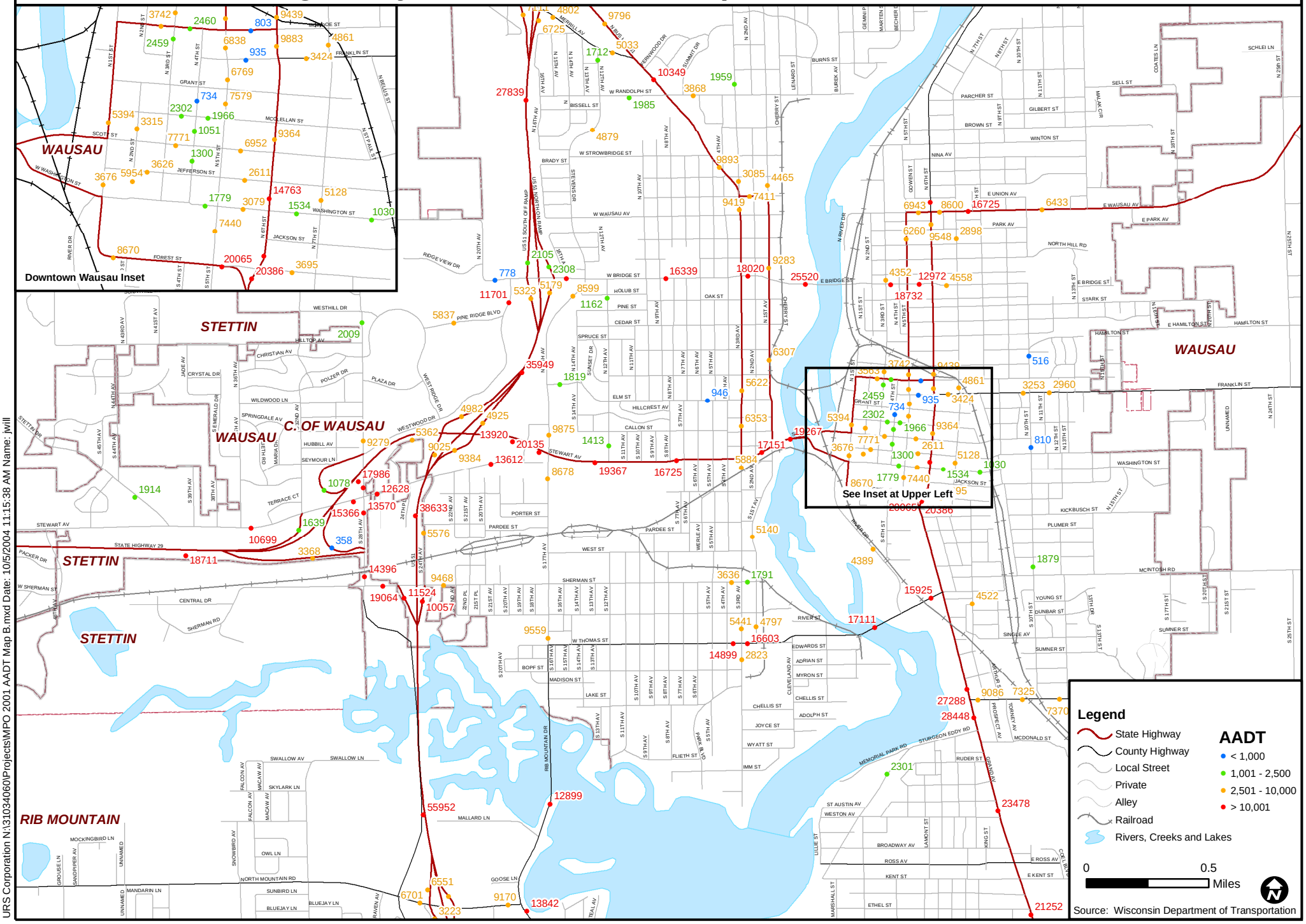

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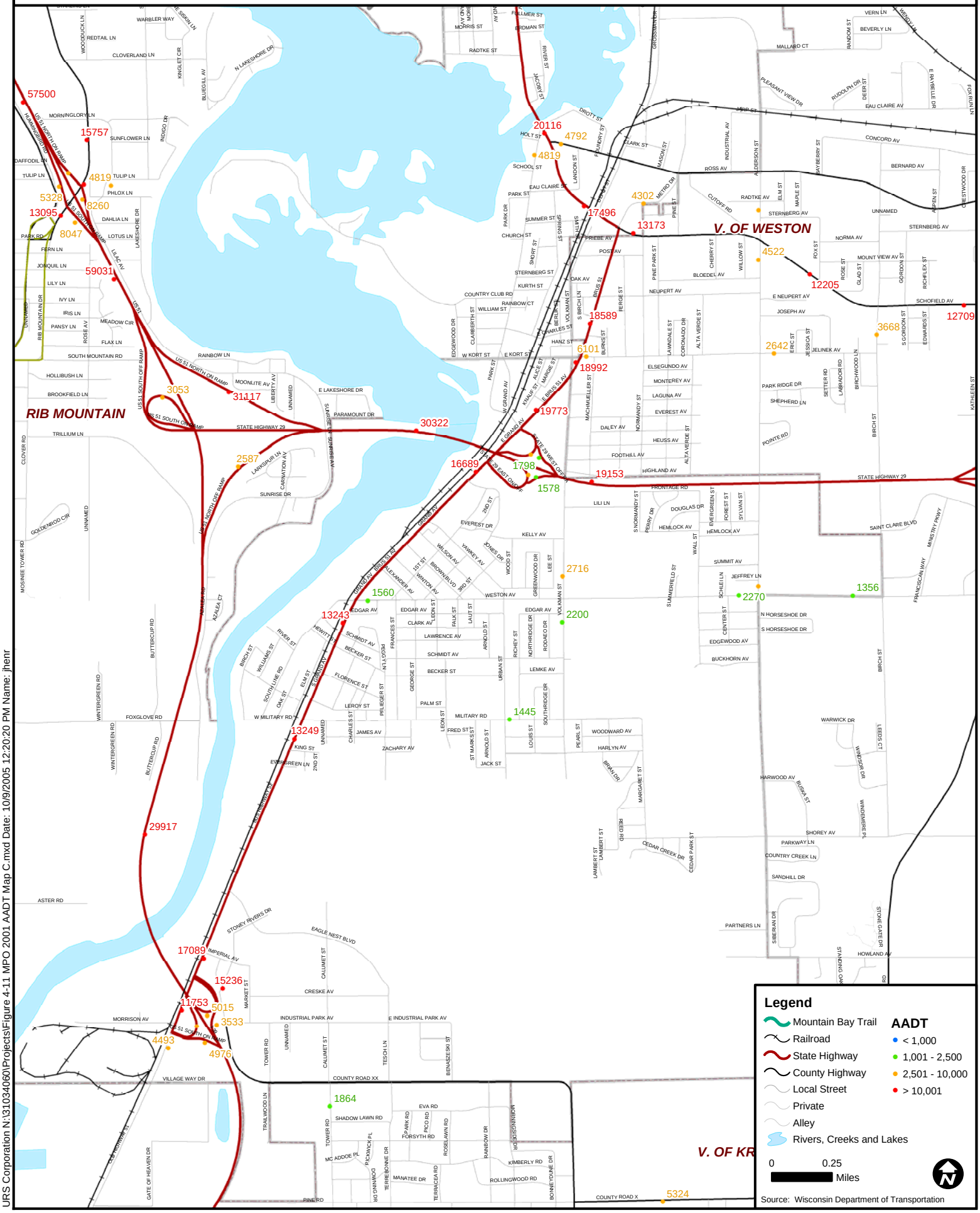
figure 4-12

2001 Annual Average Daily Traffic - Map C



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Roadway Infrastructure

Figure 4-13 illustrates the existing roadway infrastructure within the MPA. Roadway infrastructure, as described here, include: Number of through-traffic lanes, bridges and railroad crossings.

Through-Traffic Lanes

The majority of the roads within the MPA, whether local or County, are two-lane roads with traffic flowing in both directions. State Highways are primarily two and four-lane roads, however, some highway sections of USH 51/STH 29 are six-lanes wide. The section of USH 51/STH 29 between the STH 29 East interchange and the STH 29 West interchange is currently being upgraded to six lanes. Downtown Wausau also contains sections of three-lane, one-way roads.

Bridges

Figure 4-13 also illustrates structures (e.g. bridges), and railroad crossings within the MPA. The bridge data, originally from 1990, has been updated to include new information. Two new bridges have been constructed since 1990 including the CTH R Bridge which parallels the west side of USH 51/STH 29, and the new McCleary Bridge which crosses the Wisconsin River connecting Rib Mountain to the City of Wausau. The new bridge replaces the old McCleary Bridge and aligns with 17th Avenue South instead of 11th Avenue South.

Railroad Crossings

At-grade railroad crossings present safety concerns. As the number of trains and/or the amount of road traffic increases, safety concerns increase due to greater exposure. The WisDOT's Bureau of Transit, Local Roads, Railroads & Harbors have looked at criteria for determining what types of warning devices should be at crossings or if crossings should be grade-separated. The factors considered in the past have included:

- Number of trains per day,
- Speed of trains,
- Amount of vehicle traffic,
- Number of lanes of traffic,
- Speed of traffic,
- Amount of commercial traffic and school buses
- Sight distances, and
- Accident history.

An exposure rating can be calculated by multiplying the number of trains per day by the amount of daily vehicle traffic. Table 4-11 lists past guidelines for crossing improvements.

The southern area of the MPA sees about four trains per day. Train traffic is expected to increase with the completion of the new power plant in Rothschild. The tracks along the river near Downtown Wausau average about one train per day. There are eleven at-grade railroad crossings in the Village of Kronenwetter, all of which are local roads serving mostly low volume residential traffic.

Crashes at railroad crossing are discussed in greater detail in the Safety Analysis section.

Table 4-11: Guidelines for Railroad Crossing Improvements

Functional Class	Flashing Lights	Cantilevered Flashing Lights	Gates	Grade Separation
Urban Arterials	§ Exposure rating: 5,000 – 99,999 § 2 or fewer traffic lanes § 1 track § Maximum train speed < 60 mph. **Or** § Exposure rating: 5,000 – 19,999 § 2 or fewer traffic lanes § 2 or more tracks	§ Exposure rating: 5,000 – 99,999 § 3 or more traffic lanes § 1 track § Maximum train speed < 60 mph. **Or** § Exposure rating: 5,000 – 19,999 § 3 or fewer traffic lanes § 2 or more tracks	§ Exposure rating: 5,000 – 99,999 § 1 track § Maximum train speed < 60 mph. **Or** § Exposure rating: 20,000 – 99,999 § 2 or more tracks	§ Exposure rating over 100,000
Urban Collectors and Local Roads	§ Exposure rating: 7,000 – 99,999 § 2 or fewer traffic lanes § 1 track § Maximum train speed < 60 mph. **Or** § Exposure rating: 7,000 – 19,999 § 2 or fewer traffic lanes § 2 or more tracks	§ Exposure rating: 7,000 – 99,999 § 3 or more traffic lanes § 1 track § Maximum train speed < 60 mph. **Or** § Exposure rating: 7,000 – 19,999 § 3 or fewer traffic lanes § 2 or more tracks	§ Exposure rating: 5,000 – 99,999 § 1 track § Maximum train speed < 60 mph. **Or** § Exposure rating: 20,000 – 99,999 § 2 or more tracks	§ Exposure rating over 100,000

Source: Wisconsin Department of Transportation Bureau of Transit, Local Roads, Railroads & Harbors (1998)

figure 4-13

Roadway Infrastructure

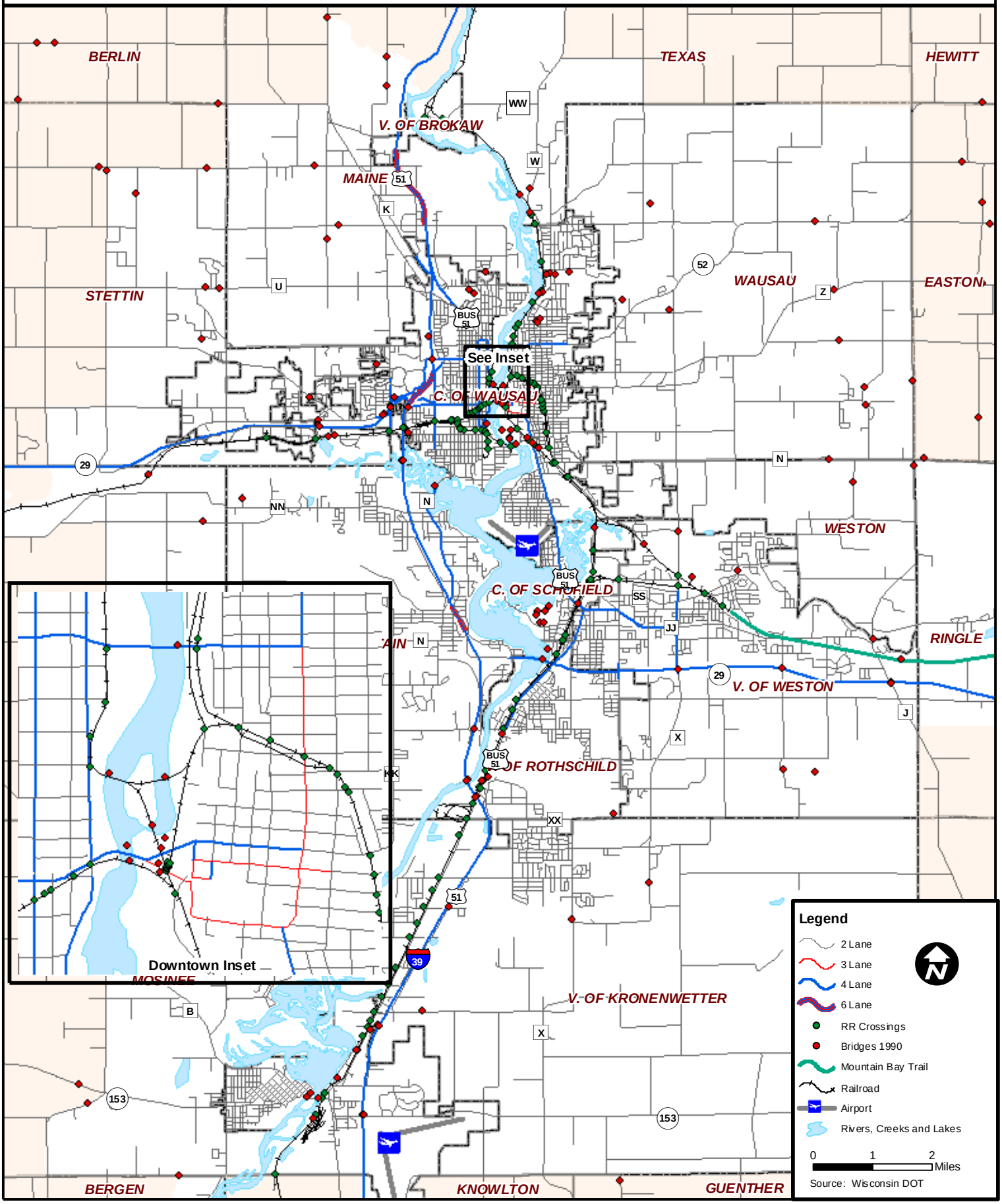

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figure 4-14

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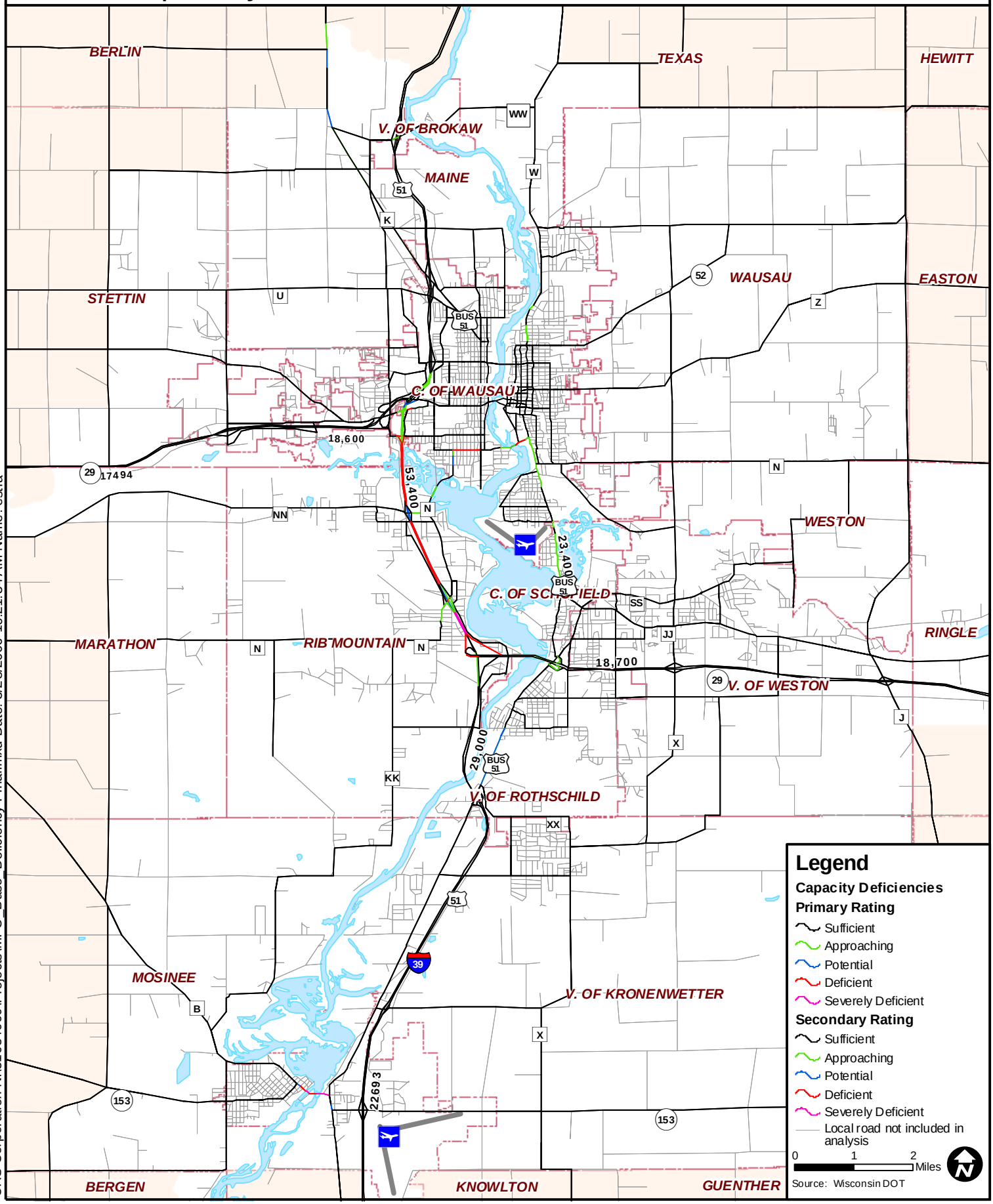
2001 Capacity Deficiencies



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Roadway Capacity

The number of through-traffic lanes and signalized intersections are important factors relating to vehicle capacity of a roadway. Table 4-12 provides generalized lane capacities on a per hour basis given the roadway's functional classification, speed and development type. This table was used in estimating capacities for the Wisconsin Statewide travel demand model, as well as the Wausau area travel demand model.

As a rule of thumb, peak hour traffic accounts for between eight and 12 percent of daily traffic. By dividing the vehicles per hour lane capacities in table 4-12 by ten percent and then multiplying that figure by the number of road through-traffic lanes, provides a rough estimate of daily capacity of a given roadway. Roadway capacity is discussed in greater detail in the Capacity Deficiency section.

Table 4-12: Lane Capacity by Functional Class, Development Type, and Posted Speed Limit

	Speed (MPH)				Lane Capacity (vehicles per hour)			
Functional Classification	**Dense Urban**	**Urban**	**Urban Fringe**	**Rural**	**Dense Urban**	**Urban**	**Urban Fringe**	**Rural**
Interstate	55	65	65	70	2,100	2,100	2,100	2,100
Freeway	55	60	60	65	2,000	2,000	2,000	2,100
Expressway	40	45	55	65	1,750	1,800	1,840	1,980
Principal Arterial	35	40	50	55	1,000	1,200	1,245	1,385
Minor Arterial	30	35	45	50	900	1,100	1,200	1,290
Major Collector	NA	NA	40	45	NA	NA	1,100	1,300
Minor Collector	NA	NA	40	45	NA	NA	1,100	1,300
Collector	25	30	35	NA	800	1,000	1,100	NA
Local	25	25	25	25	800	800	800	800
Ramps	35	35	35	35	1,200	1,200	1,500	1,500

Source: WisDOT and Wisconsin Statewide Model

Capacity Deficiency

The WisDOT travel demand model includes a deficiency analysis using a two-tiered approach.

Primary Deficiency Analysis

The primary analysis utilizes a numeric Level of Service (LOS) value and a Level of Service threshold as described in the Facilities Development Manual (FDM) Procedure 11-5-3 to determine roadway deficiency. This more complex method incorporates an adjusted traffic forecast value, an operationally sensitive roadway capacity and a sliding deficiency determination based on the importance of the roadway within the overall transportation system.

Secondary Deficiency Analysis

The secondary approach is a less complex method that uses the raw model assignment and the operational capacity on a link by link basis to determine the relative deficiency based on the importance of the roadway within the overall transportation system. The secondary approach is intended as a supplement to the primary approach and should only be used at locations where a primary deficiency is not available.

The difference between the two approaches is that the primary deficiency requires a current traffic count to adjust the model forecast volume. All model road segments, referred to as "links," cannot replicate every traffic count in the travel demand model network perfectly. There is almost always a certain amount of error for each link, which can be calculated based on an existing traffic count. To correct for this error, a correction factor is applied to the forecast model volume. If there is not an actual traffic count to determine the amount of error on link, the forecast volume cannot be adjusted. These links are included in the deficiency analysis as secondary links.

Existing Deficiencies

Several current deficiencies are identified on Figure 4-14 most notably the US-51/STH-29 corridor in Rib Mountain; however, this existing deficiency has been addressed through the recent infrastructure improvements. The deficiency analysis is based upon the 2001 travel model volumes and the 2001 traffic counts. Therefore any recent roadway improvements are not calibrated into this portion of the analysis.

Other segments of roadway that currently display capacity deficiencies are not addressed in any current construction schedule.

These segments include:

- State Highway 153 from Old Highway 51 to County Highway B
- Thomas Street from 17th Ave. to Bus USH 51

The regional nature of this analysis precludes the use of corridor specific tools that may demonstrate a greater level of congestion for a given segment of roadway. This is the case along Bus USH 51where the large number of access driveways, left hand turns without a turning lane, signalized intersections, and accidents contribute to a congestion level that is higher than actualized in the regional analysis tools. A corridor specific analysis may lend itself to providing a focalized set of issues to help minimize the actual congestion levels along this route.

Pavement Conditions

WisDOT requires all incorporated communities to prepare a Pavement Management Plan (PMP) using a pavement rating system for their local roads. A pavement rating system is an essential tool for identifying roadway maintenance priorities.

New Pavement in Excellent Condition
Near Wausau East High School

The Pavement Surface Evaluation Rating system (PASER) is the system used most by Wisconsin communities and is a simplified management program for evaluations of surface pavement conditions. PASER rates road surfaces on a scale ranging from 1 to 10; 1 being the worse (i.e. failed) and 10 being the best (i.e. new construction).

The PASER program promotes assessing the condition of each road section consistently and at regular intervals. A complete road section condition inventory allows the community to:

- select appropriate treatments for each road section,
- evaluate road sections competing for immediate attention,
- anticipate future deterioration and apply inexpensive maintenance options while they are still feasible, and
- justify budgets for roadway improvements that are adequate to keep the roads in good conditions so they will remain less expensive over the long term.

The rating system provides an assessment of the appropriate maintenance method for local and county roads and is listed in Table 4-13. This assessment can then be incorporated into the community's PMP.

Figure 4-15 illustrates pavement surface ratings provided from the WISLR database for roads within the Wausau MPA. WisDOT does not include pavement condition data for State highways in the WISLR database.

The linear miles of roadway by surface rating category is listed in Table 4-14 for each municipality within the MPA. Please note that the MPA total value and the total for all municipalities differ since the MPA area includes only portions of some municipalities.

Table 4-13: Pavement Rating Categories for Paved Roads*

Surface Category	Description
Failed	Needs total reconstruction (rating = 1).
Poor	Severe deterioration. Needs reconstruction with extensive base repair (rating = 2). Needs patching & major overlay or complete recycling (rating = 3).
Fair	Significant aging and first signs of need for strengthening. Would benefit from recycling or overlay (rating = 4). Significant aging, sound structural condition. Needs sealcoat or nonstructural overlay (rating = 5).
Good	Shows sign of aging. Sound structural condition. Could extend with sealcoat (rating = 6) First signs of aging. Maintain with routine crack filling. (rating = 7)
Very Good	Recent sealcoat or new road mix. Little or no maintenance required (rating = 8).
Excellent	Recent overlay, like new (rating = 9). New Construction (rating = 10)

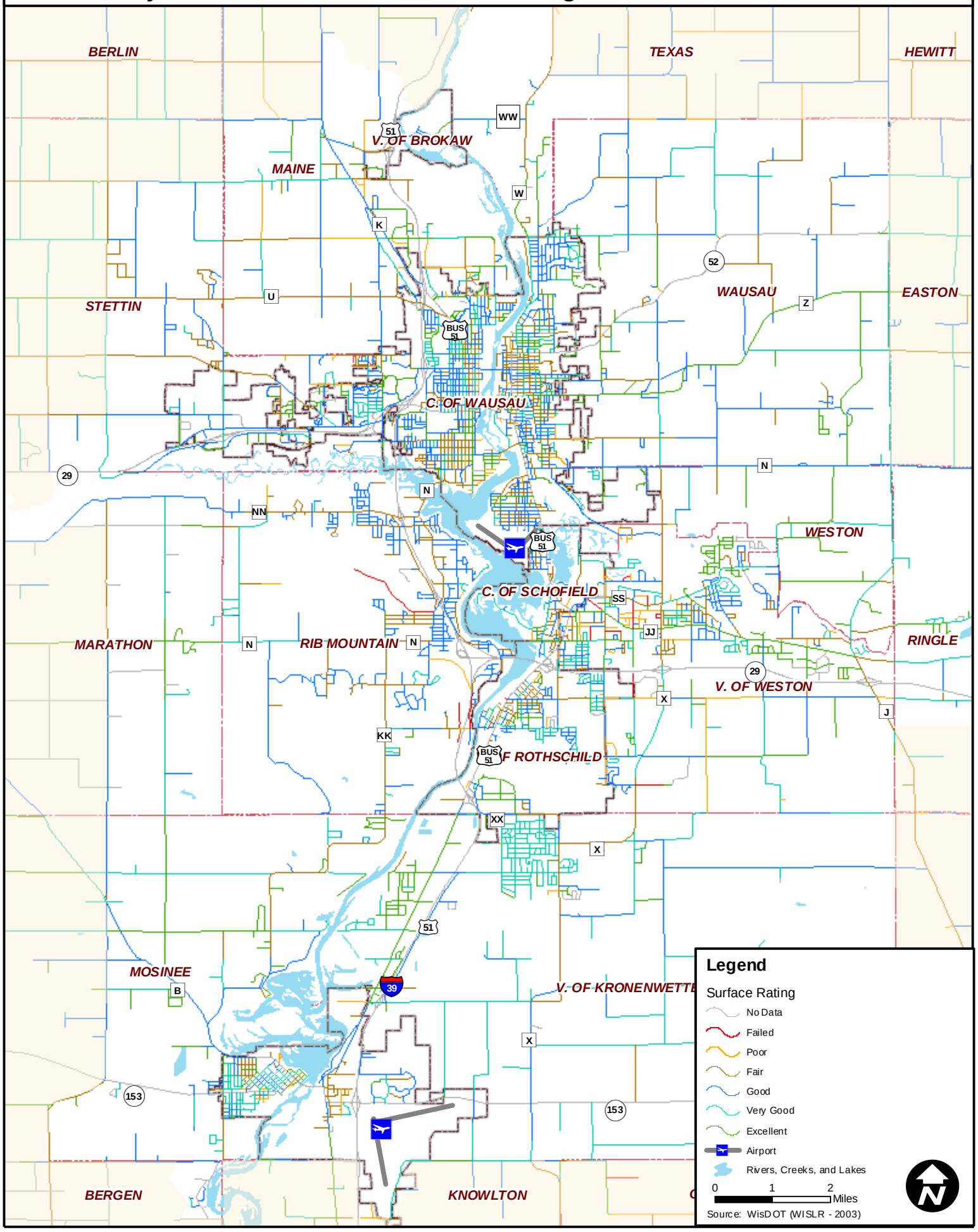
* Asphalt or concrete.
Source: WisDOT Pavement Rating Help Guide.

Maintaining current and accurate pavement condition data helps municipalities schedule roadway improvements and budget for future funding needs. All municipalities except for the Towns of Bergen and Marathon have surface ratings for 90 percent or more of their roadways.

Of the 940 miles of local and County roads within the MPA, 906 have been assigned a pavement rating and of those only six miles rated as failing and 35 miles were rated in poor condition. These roads comprise slightly more than four percent of the total lane miles within the MPA (see Table 4-14).

figure 4-15

Roadway Pavement Surface Rating



URS Corporation N:\31034060\Projects\Figure 4-13 MPO Roadway Surface Rating.mxd Date: 10/9/2005 3:21:53 PM Name: jhenr

Table 4-14: WISLR Roadway Surface Rating by MCD in Miles and percentages

Municipality	Failed	Failed	Poor	Poor	Fair	Fair	Good	Good	Very Good	Very Good	Excellent	Excellent	Total Rated	Total Rated	Total	Total
Mosinee C		0%	2.2	5%	9.2	23%	11.5	28%	12.4	12.4	3.2	8%	38.5	95%	40.5	100%
Schofield C		0%	1.3	8%	4.6	29%	4.4	28%	3.7	3.7	1.8	11%	15.8	98%	16.1	100%
Wausau C		0%	4.7	2%	42.7	21%	83.4	41%	29.6	29.6	35.1	17%	195.5	97%	201.6	100%
Brokaw V		0%	0.2	6%	0.2	5%	1.6	52%	0.1	0.1	1.0	32%	3.1	99%	3.1	100%
Kronenwetter V		0%	0.4	0%	7.2	7%	18.9	19%	56.6	56.6	15.7	16%	98.8	98%	100.4	100%
Rothschild V	0.2	0%	0.8	2%	9.4	23%	13.4	33%	9.0	9.0	6.4	16%	39.0	96%	40.5	100%
Weston V	2.9	3%	11.7	10%	17.5	16%	27.3	24%	23.4	23.4	24.4	22%	107.2	93%	112.7	100%
Bergen T		0%		0%	5.1	14%	1.1	3%	0.6	0.6	9.5	25%	16.3	44%	37.1	100%
Maine T		0%	11.7	13%	18.4	20%	26.3	29%	13.9	13.9	19.7	22%	90.0	99%	91.3	100%
Marathon T		0%		0%	2.5	4%	16.5	28%	7.1	7.1	15.1	26%	41.2	71%	58.3	100%
Mosinee T		0%		0%	9.3	14%	20.4	31%	17.2	17.2	18.6	28%	65.5	100%	65.8	100%
Rib Mountain T	2.9	3%	2.3	3%	24.6	29%	43.8	52%	9.5	9.5	0.9	1%	83.9	96%	84.7	100%
Ringle T		0%	5.0	7%	7.8	12%	16.0	24%	24.7	24.7	12.3	18%	65.9	98%	67.3	100%
Stettin T		0%	1.2	1%	27.6	33%	19.7	24%	29.1	29.1	4.5	5%	82.1	98%	83.7	100%
Texas T		0%	3.6	5%	23.9	30%	27.2	35%	10.7	10.7	5.1	6%	70.3	90%	78.5	100%
Wausau T		0%	1.4	2%	10.8	15%	28.9	41%	13.3	13.3	15.8	22%	70.2	99%	70.6	100%
Weston T	0.1	0%	0.2	1%	2.9	14%	4.4	21%	6.1	6.1	7.3	35%	20.9	99%	21.0	100%
Total Miles	6.0	1%	46.6	4%	223.8	19%	364.6	31%	266.9	266.9	196.3	17%	1,104.1	94%	1,173.3	100%
MPA Summary	6.1	1%	35.4	4%	183.9	20%	313.3	33%	216.8	216.8	150.6	16%	906.0	96%	939.8	100%

Source: WisDOT Wisconsin Information System for Local Roads (WISLR) Certified Mileage 2003.
Note: Mileage data does not include State and/or US highways.

TRANSIT

The Wausau Area Transit System (WATS) provides public transportation services in the Wausau area. WATS is the only intra-city transit service available to the general public within the MPA. WATS is owned by the City of Wausau. WATS does provide some service to the Village of Rothschild and the City of Schofield. The Village of Weston recently added fixed route transit service, which started in January 2006. Still, transit service outside the City of Wausau is limited.

WATS Bus in Downtown Wausau

WATS Transit Routes

Service includes ten fixed bus routes, as well as a curb-to-curb van paratransit service for the disabled. During the school year, nine express routes are offered. The routes are designed primarily for secondary school students getting to and from school without the need to transfer downtown. However, all express routes are available to the general public.

Regular Fixed Route Service

Regular fixed route service refers to the regularly scheduled daily transit routes that operate during normal operating hours and days. WATS operates eight regularly scheduled fixed bus routes in the City of Wausau, which run at 30 minute intervals during the peak periods and 60 minutes during off peak periods and on Saturdays. WATS also operates one bus route to Rothschild and Schofield, which operates at 60 minute intervals. The Village of Weston recently contracted with WATS to provide service through Weston. This service commenced in January 2006. Route descriptions are listed below[1] and illustrated in Figure 4-16.

§ ***Route A –*** This route operates between the Downtown Wausau Transit Center and North Central Health Care Facilities in southeast Wausau via South Grand Avenue. Generators served by this route include North Central Health Care Facilities, Mount View Care Center, Wausau Municipal Airport, John Marshall Elementary School, Sturgeon Bluff Apartments, Riverview Towers East, and Downtown Wausau. Roundtrip travel time on this route is 30 minutes, allowing one bus to operate on this route all day on weekdays and Saturdays.

[1] Wausau Area Transit System Transit Development Plan, Technical Memorandum #2 WATS service Overview, Urbitran Associates, April 2005.

- ***Route B –*** This route is operated between the Downtown Wausau Transit Center and North Central Technical College in the northern part of Wausau, via 1st Avenue North and 3rd Avenue North. Generators include North Central Technical College, Thomas Jefferson Elementary School, Grant Elementary, and Downtown Wausau. Roundtrip travel time on this route is 30 minutes, allowing one bus to operate on this route all day on weekdays and Saturdays.
- ***Route C –*** This route operates between the Downtown Wausau Transit Center and the City of Schofield and Village of Rothschild, operating along South Grand Avenue and Business Highway 51. Generators served by this route include Rothschild Elementary School, ShopKo, Schofield Elementary School, Sturgeon Bluff Apartments, the Social Services Office in Wausau, Riverview Tower, and Downtown Wausau. Roundtrip travel time on this route is 60 minutes, allowing one bus to operate this route all day on weekdays and Saturdays.
- ***Route D –*** This route operates between the Downtown Wausau Transit Center and Kanneberg Plaza via 6th Avenue North and 10th Avenue North. Generators served by this route include Kanneberg Plaza, Wausau West High School, Randolph Court Apartments, Newman High School, Saint Anne School, and Downtown Wausau. Roundtrip travel time on this route is 30 minutes allowing one bus to operate all day on weekdays. On Saturdays this route is interlined with Route E, providing 60 minute service.
- ***Route E –*** This route operates between the Downtown Wausau Transit Center and Marshfield Clinic via West Bridge Street. Generators served by this route include Marshfield Clinic, Wausau Insurance Companies, Aspirus-Wausau Hospital, Wausau Insurance Regional, Newman High School, Saint Anne School, Grant Elementary School, and Downtown Wausau. Roundtrip travel time on this route is 30 minutes allowing one bus to operate all day on weekdays. On Saturdays this route is interlined with Route D, providing 60 minute service.
- ***Route G –*** This route operates between the Downtown Wausau Transit Center and ShopKo in West Wausau via West Sherman Street. Generators served by this route include ShopKo, John Muir Middle School, Trinity Elementary School, and Downtown Wausau. Roundtrip travel time on this route is 30 minutes, allowing one bus to operate on this route all day on weekdays and Saturdays.
- ***Route H –*** This route operates between the Downtown Wausau Transit Center and North Wausau via North 6th Street and Center Street. Generators served by this route include Riverview Elementary School, Horace Mann Middle School, Franklin Elementary, Saint Michael's School, and Downtown Wausau. Roundtrip travel time on this route is 30 minutes, allowing one bus to operate on this route all day on weekdays and Saturdays.

figure 4-16

Wausau Area Transit Service (WATS) Bus Routes

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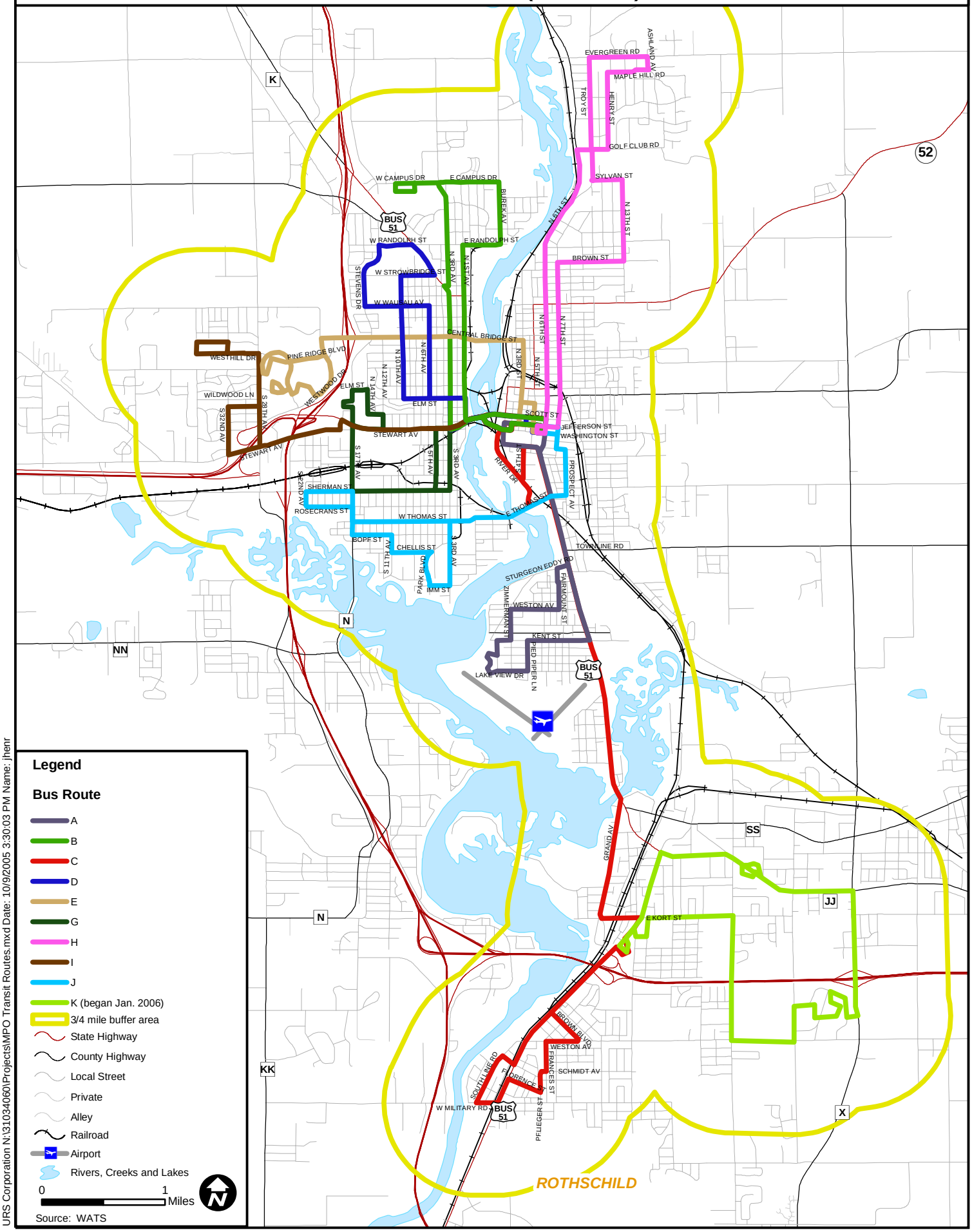

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figure 4-17

WATS Express Bus Routes & Schools

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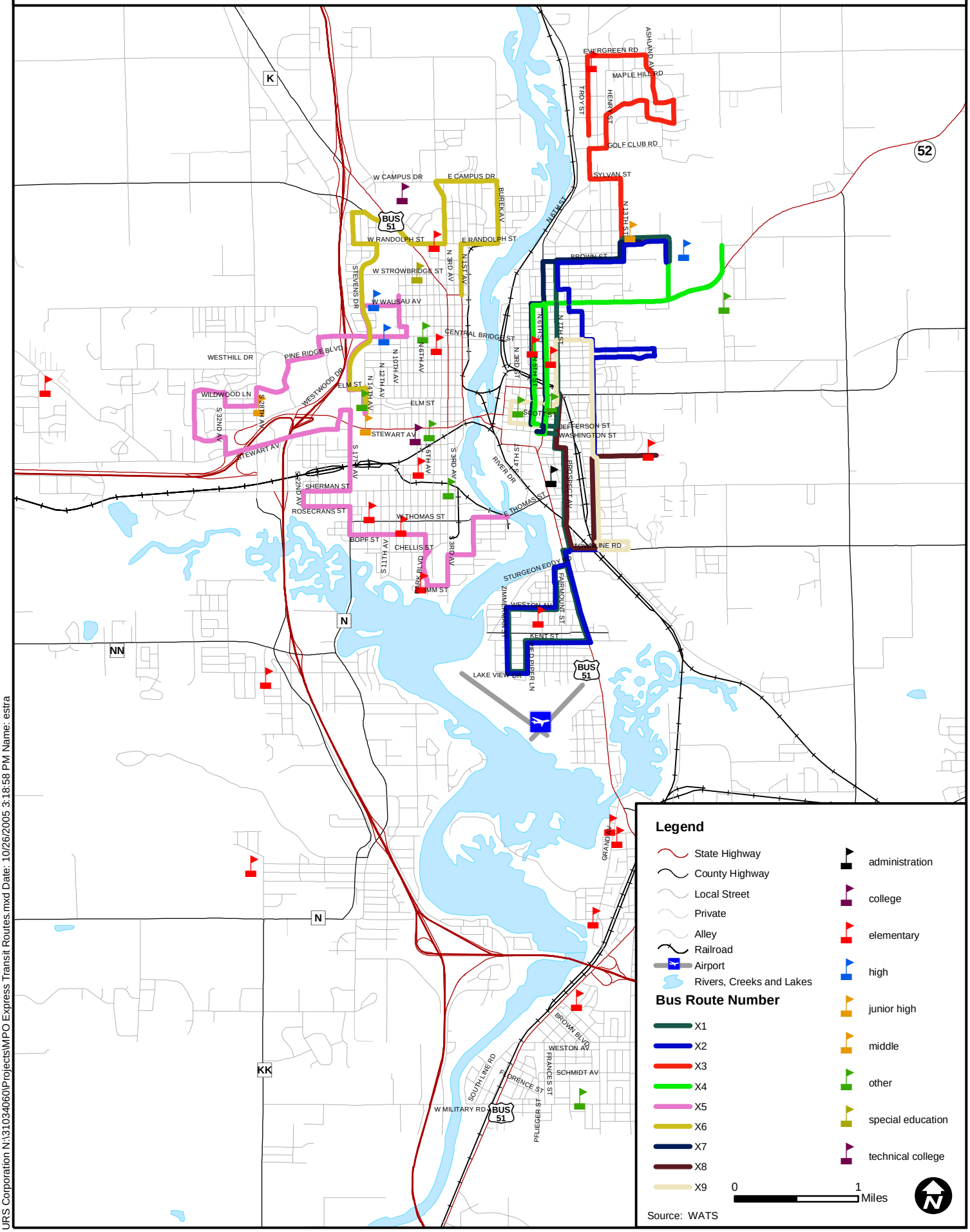

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- ***Route I –*** This route operates between the Downtown Wausau Transit Center and the CHC Rehab Clinic via West Stewart Avenue. Generators served by this route include: CHC Rehab Clinic, CHC Hospice House, VNA, Wausau Manor, Westhill Professional Center, Saint Mathew's School, University of Wisconsin-Marathon Campus, Trinity School, and Downtown Wausau. Roundtrip travel time on this route is 30 minutes, allowing one bus to operate on this route all day on weekdays and Saturdays.
- ***Route J –*** This route operates between the Downtown Wausau Transit Center and southwest Wausau via East Thomas Street. Generators served by this route include G.D. Jones Elementary School, Our Savior's School, Wausau Social Services, Riverview Tower East, and Downtown Wausau. Roundtrip travel time on this route is 30 minutes, allowing one bus to operate on this route all day on weekdays and Saturdays.
- ***Route K –*** This route was recently introduced in January 2006 following the Weston Village Board December 2005 approval to fund $48,600 of the total annual $81,100 cost of providing the service. Local businesses agreed to contribute $32,500 toward the service. The route operates around a 7.5-mile loop through Weston beginning at 5:50 a.m. and ending at 6:20 p.m. Generators served by this route include Weston Regional Medical Center, D.C. Everest High School and the Target area on Schofield Avenue. The route operates with 30 minute headways, which allows one bus to operate on this route all day on weekdays and Saturdays. The bus will connect each hour to an existing WATS bus route at ShopKo in Rothschild, so riders can travel to downtown Wausau and WATS' main transfer facility.

Passengers can transfer between routes at WATS' main transfer facility, which is located in the downtown area, one block from the Wausau Center Mall.

Express Routes

WATS provides nine express route services during the school year to alleviate crowding on regular routes. Most of these routes are designed to get passengers, mostly secondary school students, to their destination by eliminating the need to transfer downtown. All express routes are open to the general public. These routes only operate when school is in session and all but two of these routes provide one or two trips timed to arrive at Wausau schools before classes and depart after classes. However, one express route (X4) provides all day service, and another express route (X9) operates during peak periods. Express routes and school locations are shown if Figure 4-17.

Express bus stops are signed differently than regular routes. The express bus route network is presented on Figure 4-17, with route descriptions provided below:

- ***Route X1 –*** This route operates between Southeast Wausau and Wausau East High School via Grand Avenue and North 7th Street. Schools served by this route include the John Marshall School, Horace Mann Middle School, and

Wausau East School. This route provides additional capacity to routes A, C, and H as well as providing a direct connection between the southeast and northeast areas of Wausau. The PM trip does serve the Wausau Transit Center.

§ ***Route X2 –*** This route operates between Southeast Wausau and Wausau East High School via North 10th Street. Schools served by this route include the John Marshall School, Horace Mann Middle School, and Wausau East High School. This route provides additional capacity to routes A, C, and H as well as providing a direct connection between the southeast and northeast areas of Wausau. This route does not serve the Wausau Transit Center.

§ ***Route X3 –*** This route operates between Northeast Wausau and Wausau East High School. Schools served by this route include the Riverview School, Horace Mann Middle School, and Wausau East High School. This route provides additional capacity to route H and provides connections to areas of Wausau that are not served by route H. This route does not serve the Wausau Transit Center.

§ ***Route X4 –*** This route operates between the Wausau Transit Center in Downtown Wausau and East High School. This route provides 30 minute service all day, with midday service paid for by the Board of Education. One bus is necessary to run this route all day. This route meets every pulse at the Wausau Transit Center. While this route does operate all day service, it does not operate on Saturdays and summer months. This route provides service to the Franklin School, Saint Michael's School, and Wausau East High School.

§ ***Route X5 –*** This route operates between Southwest Wausau and John Muir Middle School. This route provides service to G.D. Jones School, John Muir Middle School, Newman Middle School, Newman High School, Wausau West High School, and Saint Anne School. This very indirect route provides additional capacity to routes D, E, G, I, and J and provides connections between the areas of Wausau that are west of the Wisconsin River. This route does not serve the Wausau Transit Center.

§ ***Route X6 –*** This route operates between Northwest Wausau and John Muir Middle School. This route provides service to Wausau West High School, Newman High School, and John Muir Middle School. This route provides additional capacity to routes B and D while providing a direct connection through Northwest Wausau. This route does not serve the Wausau Transit Center.

§ ***Route X7 –*** This route operates between the Wausau Transit Center and Horace Mann Middle School via North 6th Street. Schools served by this route include Saint Michael, Franklin School, and Horace Mann Middle School. This route provides additional capacity to route H, providing a more direct route to Horace Mann Middle School from the Wausau Transit Center.

§ ***Route X8 –*** This route provides service between North 7th Street and Franklin Street and Hawthorn Hills School via North 7th Street, Prospect

Street, and North 10th Street. The only school served by this route is Hawthorn Hills School. This route does not augment any other route rather it provides service to a school that is not along any other WATS route.

§ ***Route X9*** **–** This route follows the routing of the former route F between the Wausau Transit Center and Terrace Heights Apartments. Service is provided only during peak periods when school is open. This route operates to the Wausau Transit Center, meeting every peak period "pulse." Generators served by this route include Terrace Heights Apartments and Downtown Wausau. Service is provided using one bus.

Wausau MPA Transit Service Coverage

Of the approximately 83,600 people and 32,700 households living within the Wausau MPA, about 52,400 people and 21,200 households reside within ¾ mile of at least one of WATS' regular service fixed bus routes (see Table 4-15). About 41,200 people and 17,000 households live within a ¼ mile of a regular service bus route, which accounts for about 49 percent and 62 percent of MPA residents and households, respectively.

Table 4-15: Wausau MPA Population and Households Served by Transit

	1/4 mile of Transit		3/4 mile of Transit		MPA Total	
	Value	Percent	Value	Percent	Value	Percent
Total Population	41,198	49%	52,442	63%	83,594	100%
Total Households	16,973	62%	21,195	65%	32,676	100%

Source: 2000 Census & URS Corp. Figures calculated from census blocks with center within ¼ mile and ¾ mile of WATS regular fixed bus routes (excluding express routes).

Residential Transit Markets

Population density is an important factor in being able to provide cost-effective transit service. A review of population densities and transit route locations suggest there are some significant residential areas within the MPA not being served with transit. Residential areas in the Villages of Rothschild, Kronenwetter and the Town of Rib Mountain have significant numbers of households without access to public transit. However, these areas tend to have densities in the range of one to three households per acre. Most of the areas currently served by transit have three to six households per acre with some areas within the six to nine households per acre range.

Given the low residential densities, it is less likely that regular fixed route transit services could serve these areas cost-effectively. However, other transit service options may prove more viable, such as dial-a-ride services or flex-route services. Flex-routes are a hybrid service that incorporates a traditional transit bus service (with a defined route, schedule, and bus stops) and a "route

deviation" concept that allows the bus to serve areas beyond the defined route. This "route deviation" allows the service to reach more people and destinations.

Major Trip Generators

Similar to residential areas, the concentration or density of employment is important for providing effective transit service. Major trip generators are single destinations, such as businesses, schools, government offices that attract a significant number of trips or traffic. Major trip generators are often measured in terms of the number of employees associated with the activity.

The type of employment is important for understanding the number of trips attracted to the business or activity center. Retail businesses tend to attract substantially more total trips per employee than service or manufacturing businesses as a result of customer trips.

When retail businesses cluster together, they tend to draw larger numbers of customers than similar businesses separated from each other. Retail Centers tend to draw customers from a larger geographic area, the larger the retail concentration becomes.

In the Wausau area, 58 percent of the MPA's total employment is within ¼ mile of fixed route transit service with 68 percent within ¾ mile of a fixed route service. The percentage of retail employment within ¼ mile and ¾ mile of a transit route is about 70 percent and 75 percent, respectively. About 1,800 retail jobs are located along Rib Mountain Drive in Rib Mountain and within the Cedar Creek Retail area in Rothschild; both areas are not accessible by transit.

In 2004, there were about 2,100 jobs within ¼ mile of the recently implemented Route K in Weston. About 450 of those jobs were in the retail sector. The number of jobs along this route will likely increase substantially with the completion of the new St. Clare's Hospital at STH 39/CTH X Interchange in Weston.

Figure 4-18 illustrates the locations of employers within the Wausau MPA with respect to fixed bus routes. The map indicates different ranges of employees per location. Retail employment locations are indicated separately in order to identify concentrations of retail activity.

The provision of transit service to growing destination areas may attract more commuters and shoppers to transit. At a minimum, it would provide greater employment and shopping options for existing transit customers.

Several growing employment and retail areas are not currently served by transit, including:

- Wal-Mart and the Rib Mountain Drive retail corridor
- West Wausau Industrial Park
- Weston commercial and industrial areas
- Cedar Creek retail area

figure 4-18

Major Trip Generators (2004) and Transit Routes

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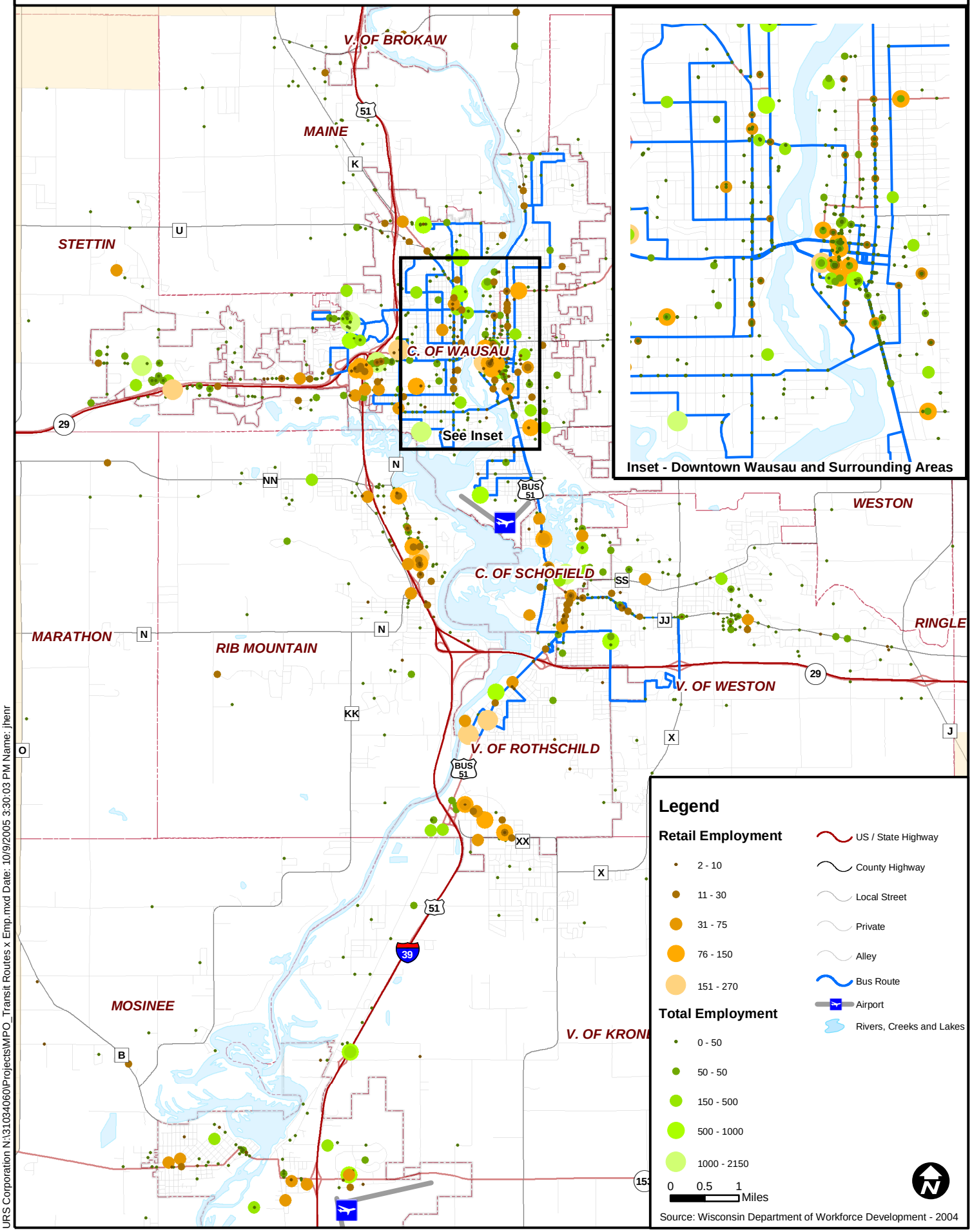

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Service Operation and Cost

WATS provides service between 6:00 a.m. and 6:30 p.m. Monday through Friday and from 8:30 a.m. to 5:30 p.m. on Saturday. However, Saturday service is not available during the summer months. There is no service on Sundays and holidays. The fare structure is listed in Table 4-16 below. Since the beginning of 2003, an adult fare has cost $1.00 or $26 for the monthly pass. School aged children can ride for $0.75 and seniors are charged $0.50. Fares remain constant for both peak and off-peak time periods.

Table 4-16: Fare Structure

	Cash	Token	Ticket	Monthly Pass
Adult (post H.S.)	$1.00	10 for $6.00	NA	$26
Senior/Disabled	$0.50	NA	NA	$13
Student (age 5-H.S.)	$0.75	NA	10 for $4.50	$13
Children under Age 5		Free when accompanied by an adult		
Paratransit (WATS+)	$2.00	NA	NA	NA

Note: Rates effective January 1, 2003
Source: Wausau Area Transit Service

In 2003, the average fleet age for WATS regular route buses was 6.7 years. Demand Response WATS+ vehicles had an average fleet age of 10.4 years. In 2003, about 623,000 vehicle revenue miles were driven during the 42,000 hours of service provided (see Table 4-17). Twenty-six of the 32 vehicles available are needed for peak service. Twenty vehicles are required for fixed route bus service and six are required for WATS+ demand response service. Ten buses are required for base period or off-peak service.

Table 4-17: Transit Service Summary

	1996	1997	1998	1999	2000	2001	2002	2003
Annual Vehicle Revenue Miles	630,794	641,554	631,388	645,122	644,145	633,723	634,457	623,334
Annual Vehicle Revenue Hours	44,179	43,283	42,964	44,177	44,085	42,699	42,710	42,010
Vehicles Operated in Maximum Service	28	30	26	27	28	27	26	26
Vehicles Available for Maximum Service	33	37	35	36	37	34	30	32
Base Period Requirement	10	10	10	10	10	10	10	10

Source: 2003 National Transit Database, US Department of Transportation.

Public Transit Use

In 2003, WATS provided approximately 725,000 unlinked[2] trips for the year on their fixed route service. The demand-response service (paratransit) provided an additional 18,000 trips for a total of about 743,000 unlinked transit trips in 2003. Paratransit trips have consistently accounted for between two and three percent of all transit trips and passenger miles, while bus ridership generally accounts for the remaining 97 to 98 percent of ridership (see Table 4-18).

Table 4-18: WATS Transit Service Consumption

	1996	1997	1998	1999	2000	2001	2002	2003
Annual Passenger Miles	3,016,003	3,039,866	3,132,500	2,834,294	2,769,990	2,688,102	2,535,203	2,351,251
		1%	3%	-10%	-2%	-3%	-6%	-7%
Annual Unlinked Trips	957,301	964,402	964,692	871,500	851,912	827,207	779,459	743,249
		1%	0%	-10%	-2%	-3%	-6%	-5%
Average Weekday Unlinked Trips	3,589	3,636	3,627	3,255	3,213	3,127	2,944	2,809
		1%	0%	-10%	-1%	-3%	-6%	-5%
Average Saturday Unlinked Trips	1,038	1,006	1,005	999	881	806	777	732
		-3%	0%	-1%	-12%	-9%	-4%	-6%

Source: 2003 National Transit Database, US Department of Transportation.
Note: Figures not adjusted for inflation.

[2] A passenger boarding a vehicle is counted as one unlinked trip even though he/she may be on the same journey from origin to destination. An unlinked Transit Passenger Trip is a trip on one transit vehicle regardless of the type of fare paid or transfer presented. A person riding only one vehicle from origin to destination takes one unlinked passenger trip; a person who transfers to a second vehicle takes two unlinked passenger trips; a person who transfers to a third vehicle take three unlinked passenger trips. The number of unlinked transit passenger trips is about two to four times higher than the number of people riding transit; most people take two trips per day, those who transfer take four or six.

In 2003, about 2,800 trips were made on a typical weekday and an average of 730 trips made on Saturdays. About 800 fewer trips were made on an average weekday in 2003 than were made in 1996, 1997 and 1998. Saturday trips also experienced a reduction in trips between 1998 and 2003.

Of the approximately 2,350,000 total passenger miles in 2003, fixed route service accounted for 2,284,000 passenger miles and demand response accounted for 66,800 passenger miles. 1999 saw the largest decrease in both passenger miles and trips with a ten percent decrease from the previous year. This decrease was likely to do to the fare increase initiated that year. Even though ridership decreased, fare revenues increased by 11 percent in 1999.

Another fare increase occurred between 2002 and 2003 from $0.90 to $1.00 with ridership decreasing in both 2002 and 2003 by six percent and seven percent, respectively. However, according to WATS, ridership stabilized in 2004 increasing two percent from 2003 levels.

Rider Profile

As part the 2006 WATS Five Year Transit Development Plan (TDP), an opinion survey was conducted of WATS riders. The survey found that WATS riders tend to be disproportionately female and had significantly lower income levels when compared to the City of Wausau's overall population. Most riders walk to access their bus or to complete their trip to their final destination. About 40 percent of WATS riders transfer from or to another bus to complete their trip. While school and work are the dominant trip purposes during weekdays, WATS riders frequently use the system for a variety of trip purposes on Saturday. Many of the riders have been using the bus service for five years or more, although a large group of new riders have been riding for less than one year.

WATS Financial Summary

The following is a summary of WATS' financial data between 1996 and 2003. The summary addresses operating expenses, operating revenues and capital expenditures and revenues. The financial data comes from the US Department of Transportation's National Transit Database and is not adjusted for inflation.

Operating Expenses – Table 4-19 provides a summary of WATS' operating expenses from 1996 through 2003. WATS' total operating expenses in 2003 was $2.7 million. Labor costs, including salaries, wages and employee benefits accounted for $1.8 million or 68 percent of total operating costs. Labor costs consistently accounted for around 70 percent of operating expenses between 1996 and 2003. Operating expenses increased about five percent per year on average between 1996 and 2003.

Table 4-19: Operating Expense Summary

	1996	1997	1998	1999	2000	2001	2002	2003
Salary, Wages and Benefits	$1,316,946	$1,388,687	$1,466,716	$1,598,581	$1,625,860	$1,675,038	$1,747,908	$1,855,601
Materials and Supplies	$170,982	$179,640	$171,407	$204,372	$257,395	$308,347	$298,712	$361,665
Purchased Transportation	$173,514	$198,487	$212,354	$228,620	$250,499	$257,203	$268,260	$237,502
Other Operating Expenses	$219,880	$212,246	$223,585	$244,138	$233,563	$236,292	$241,516	$267,883
Total Operating Expenses	$1,881,322	$1,979,060	$2,074,062	$2,275,711	$2,367,317	$2,476,880	$2,556,396	$2,722,651
Percent Annual Change		5%	5%	10%	4%	5%	3%	7%

Source: 2003 National Transit Database, US Department of Transportation.
Note: Figures not adjusted for inflation.

Figure 4-19: 1996 Source of Operating Expense Funding

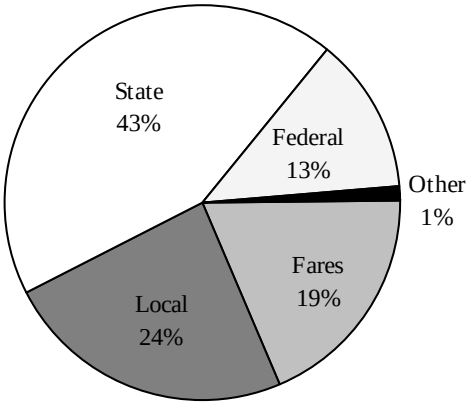
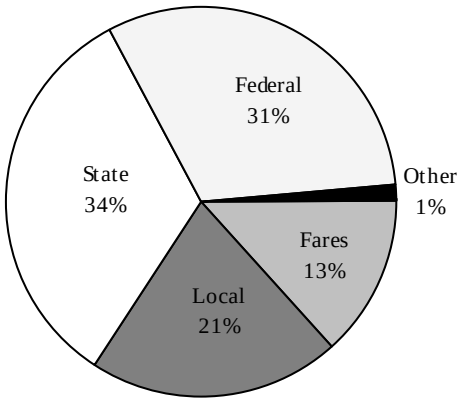


Figure 4-20: 2003 Source of Operating Expense Funding



Operating Revenues – Operating funds come from several sources. Figure 4-19 and Figure 4-20 indicate the sources and percentages of funding used to cover the total operating costs described above for 1996 and 2003. In 1996, fare box revenues covered 19 percent of all operating costs. In 2003, fares covered 13 percent of total operating costs.

The pie charts also illustrate the greater proportion of operating expenses being funded by federal assistance. In 1996, Federal funding only accounted for 13 percent of total operating revenues. By 2003, that percentage increased to 31 percent. The State's percentage of revenue made up 43 percent in 1996 and 34 percent in 2003. Most of the federal funds are from the 5307 program, while most of the state funds are from the 85.20 program

Local funds accounted for 24 percent of revenues in 1996 and 21 percent of revenues 2003. Other funds, which refer to revenues generated from advertising and/or purchased transit services, made up only one percent of total funding in both 1996 and 2003.

Table 4-20 lists the dollar amounts from WATS revenue sources and the annual percentage increase/decrease between 1996 and 2003. Federal assistance increased significantly between 1996 and 1998, with a 20 percent increase in 1997 and a 42 percent increase in 1998. Federal dollars also saw substantial increases each year between in 2000 and 2003, which is likely the result of TEA-21 funding increases.

Table 4-20: Sources of Operating Funds Expended

	1996	1997	1998	1999	2000	2001	2002	2003
Fare Revenues	$352,555	$356,712	$342,697	$382,046	$368,937	$372,044	$357,958	$364,986
		1%	*-4%*	*11%*	*-3%*	*1%*	*-4%*	*2%*
Local Funds	$443,745	$454,041	$414,436	$482,986	$572,845	$524,569	$527,002	$562,440
		2%	*-9%*	*17%*	*19%*	*-8%*	*0%*	*7%*
State Funds	$821,699	$852,298	$878,488	$936,142	$923,493	$950,677	$899,096	$904,187
		4%	*3%*	*7%*	*-1%*	*3%*	*-5%*	*1%*
Federal Assistance	$242,370	$290,901	$411,945	$454,898	$472,274	$601,333	$741,310	$856,304
		20%	*42%*	*10%*	*4%*	*27%*	*23%*	*16%*
Other Revenues	$20,953	$25,108	$26,496	$19,639	$29,768	$28,257	$31,030	$34,735
		20%	*6%*	*-26%*	*52%*	*-5%*	*10%*	*12%*
Total	$1,881,322	$1,979,060	$2,074,062	$2,275,711	$2,367,317	$2,476,880	$2,556,396	$2,722,652
		5%	*5%*	*10%*	*4%*	*5%*	*3%*	*7%*

Source: 2003 National Transit Database, US Department of Transportation.
Note: Figures not adjusted for inflation.

State funding has remained relatively stable between 1996 and 2003. However, WATS received slightly less funding from the State in 2002 and 2003 than in 1999, 2000 and 2001. These funding decreases are more significant if adjusted for inflation. Local revenues have fluctuated with substantial increases in 1999

and 2000 and with notable decreases in 1998 and 2001. As noted earlier, the 1999 11 percent increase in fare revenue was due to higher fare prices initiated that year. Excluding the 1999 fare increase, fare box collections have shown slight declines.

Capital Expenditures and Revenues – Capital expenditure funding has varied greatly from year to year depending upon specific capital needs, funding availability, and project priorities. Table 4-21 lists the amount of annual funding by source for capital investments between 1996 and 2003. Federal dollars, mostly from the 5309 program, accounted for the largest funding source for capital expenses. Local funding accounted for 20 percent, the local match required for federal transit dollars.

Table 4-21: Sources of Capital Funds Expended

	1996	1997	1998	1999	2000	2001	2002	2003
Local Funds	$66,112	$123,130	$473,707	$14,418	$12,794	$2,648	$13,437	$6,668
State Funds	$0	$20,642	$0	$0	$0	$0	$0	$0
Federal Assistance	$237,702	$512,041	$1,994,828	$57,671	$51,176	$10,592	$53,750	$26,671
Total	$303,814	$655,813	$2,468,535	$72,089	$63,970	$13,240	$67,187	$33,339

Source: 2003 National Transit Database, US Department of Transportation.
Note: Figures not adjusted for inflation.

System Measures of Effectiveness

Typical measures of effectiveness used by transit systems are designed to measure service efficiency, cost effectiveness and service effectiveness. The following tables include measures calculated by the US Department of Transportation's National Transit Database from 1996 to 2003.

Service Efficiency – The operating expense per vehicle revenue mile and operating expense per vehicle revenue hour are used as measures of service efficiency. The figures in Table 4-22 represent the average cost to WATS to provide one mile and one hour of bus service (i.e. fixed route) and demand response service (i.e. paratransit).

The operating expense per revenue mile for bus service was $4.37 in 2003 and $4.34 for demand response service. In 1996, operating expense per vehicle revenue mile for bus and demand response was $3.08 and $2.26, respectively. Increases in these costs averaged about five percent annually over this time period.

Operating expense per revenue hour was $64.10 in 2003, and $71.44 for demand response service. Between 1996 and 2003, the operating expense per revenue hour for demand response service increased faster than the operating expense per revenue hour for bus service. The operating expense per vehicle revenue hour for demand response service surpassed that of bus service in 2002. The difference between the hourly costs for providing each service was even greater in 2003.

Table 4-22: Service Efficiency Measures

		1996	1997	1998	1999	2000	2001	2002	2003
Operating Expense per Vehicle Revenue Mile	Bus	$3.08	$3.20	$3.33	$3.63	$3.80	$3.99	$4.04	$4.37
	Demand Response	$2.26	$2.35	$2.93	$2.83	$2.86	$3.31	$3.93	$4.34
Operating Expense per Vehicle Revenue Hour	Bus	$44.31	$47.40	$49.10	$52.72	$55.23	$58.47	$59.37	$64.10
	Demand Response	$30.78	$34.69	$42.10	$42.73	$43.50	$54.29	$63.71	$71.44

Source: 2003 National Transit Database, US Department of Transportation.
Note: Figures not adjusted for inflation.

Cost Effectiveness Measures – Operating expense per passenger mile and operating expense per unlinked passenger trip are transit cost effectiveness measures, and are displayed in Table 4-23. These measures are calculated by taking the system's total operating costs and dividing it by the total number of passenger miles served or the total number of passenger trips provided for the year. In other words, it cost $1.06 on average to take one passenger a distance of one mile on a bus in 2003. Similarly, it cost $3.35 on average to provide one ride on the bus in 2003. Cost per vehicle passenger mile and per passenger trip increased an average of nine percent per year between 1996 and 2003.

Table 4-23: Cost Effectiveness Measures

		1996	1997	1998	1999	2000	2001	2002	2003
Operating Expense per Passenger Mile	Bus	$0.58	$0.60	$0.61	$0.74	$0.79	$0.85	$0.92	$1.06
	Demand Response	$2.26	$2.35	$2.93	$2.83	$2.86	$3.32	$3.93	$4.34
Operating Expense per Unlinked Passenger Trip	Bus	$1.82	$1.88	$1.97	$2.41	$2.56	$2.76	$2.97	$3.35
	Demand Response	$10.16	$10.45	$10.45	$10.56	$10.45	$11.94	$14.59	$16.08

Source: 2003 National Transit Database, US Department of Transportation.
Note: Figures are not adjusted for inflation.

The operating expense per passenger trip in 2003 was $3.35 for fixed route service and $16.08 for demand-response service. The cost per passenger mile for paratransit service is four times that of bus service. Paratransit accounts for 11 percent of total operating expenses and about 2.5 percent of passenger trips.

Service Effectiveness Measures – Unlinked passenger trips per vehicle revenue mile and unlinked passenger trips per vehicle revenue hour indicate how much riders are using the available transit service. The benefit of using these measures, unlike total or average ridership, is that they account for, or control for, the amount of transit service provided in a given year.

In 2003, buses served an average of 1.3 trips per mile of service and 19.11 trips per hour of service. In comparison, demand response service, on average, provided 0.27 trips per mile and 4.44 trips per hour of service (see Table 4-24).

Bus service trips per mile and trips per hour remained relatively constant from 1996 through 1998. In 1999, both measures dropped significantly, which was likely the result of the fare rate increase that year. Bus service effectiveness measures continued to decline through 2003, albeit at a slower rate.

Demand response service effectiveness measures saw increases between 1996 and 2003. Unlinked passenger trips per mile jumped from 0.22 in 1997 to 0.28 in 1998, and has remained relatively constant since. Unlinked passenger trips per vehicle mile saw a notable increase from 1996 to 1997 and another significant increase between 1997 and 1998. Demand response services reached a passenger trips per vehicle revenue hour peak in 2001 with 4.55 trips per hour.

Table 4-24: Service Effectiveness Measures

		1996	1997	1998	1999	2000	2001	2002	2003
Unlinked Passenger Trips per Vehicle Revenue Mile	Bus	1.70	1.70	1.69	1.51	1.49	1.45	1.36	1.30
			0%	*-1%*	*-11%*	*-1%*	*-3%*	*-6%*	*-4%*
	Demand Response	0.22	0.22	0.28	0.27	0.27	0.28	0.27	0.27
			0%	*27%*	*-4%*	*0%*	*4%*	*-4%*	*0%*
Unlinked Passenger Trips per Vehicle Revenue Hour	Bus	24.40	25.17	24.90	21.89	21.60	21.22	20.00	19.11
			3%	*-1%*	*-12%*	*-1%*	*-2%*	*-6%*	*-4%*
	Demand Response	3.03	3.32	4.03	4.05	4.16	4.55	4.37	4.44
			10%	*21%*	*0%*	*3%*	*9%*	*-4%*	*2%*

Source: 2003 National Transit Database, US Department of Transportation.

While these measures of effectiveness are useful for comparing multi-year trends, they do not provide a reference for how WATS compares with similar transit systems. Table 4-25 provides peer system comparisons of system efficiencies. These Wisconsin transit systems were chosen, in part, because data was readily available from the National Transit Database.

Of the transit systems included in Table 4-25, Wausau's service area population is significantly smaller. For each of the measures of effectiveness, WATS' numbers are generally in the mid range among the other four systems and compare favorably given the greater population size of the peer communities.

Table 4-25: Peer Transit System Comparison of Fixed Route Service

	Service Area		Service Efficiency		Cost Effectiveness		Service Effectiveness	
	Population	Square Miles	Operating Expense per Vehicle Revenue Mile	Operating Expense per Vehicle Revenue Hour	Operating Expense per Passenger Mile	Operating Expense per Unlinked Passenger Trip	Unlinked Passenger Trips per Vehicle Revenue Mile	Unlinked Passenger Trips per Vehicle Revenue Hour
Wausau	**45,513**	**27**	**4.37**	**64.1**	**1.06**	**3.35**	**1.3**	**19.11**
Oshkosh	64,327	24	3.96	58.99	0.86	2.55	1.55	23.14
La Crosse	65,000	10	4.25	58.02	1.09	3.35	1.27	17.34
Kenosha	91,500	30	5.07	74.59	0.87	3.23	1.57	23.09
Racine	112,100	27	4.33	58.87	1.35	4.08	1.06	14.45

Source: 2003 National Transit Database, US Department of Transportation.

Transit Planning

Recent transit planning activities include: the 2005 WATS Transit Development Plan (TDP), the Transit System Management Performance Audit for the Wausau Area Transit System adopted in 2001, the WATS Transit Development Plan (TDP) adopted in 1999, and the Long Range Transportation Plan Wausau Metropolitan Area adopted in 1996 and re-affirmed in 2001. The following is a summary of those plans.

WATS Transit Development Plan (TDP) (2005) **–** The TDP was prepared by Abrams-Cherwony & Associates with Urbitran Associates. It is updated every five years and provides a five-year capital improvement program and service recommendation plan. The 2005 TDP is anticipated to be adopted in June 2006. Draft versions of the plan were referenced for the development of this plan.

The 2005 TDP provides information on the service area's socioeconomic characteristics, existing services assessment, a peer group analysis, service standards assessment, and input sought from drivers, community stakeholders and the general public. The TDP's recommended service plan describes a set of operating recommendations phased in over the five year period of the TDP and will subsequently be supported by a capital program, financial plan, and ancillary recommendations in support of the service recommendations, all of which comprise the five-year Transit Development Program.

The service plan forms the core of the program describing route and service recommendations. If this plan is implemented as described in the TDP recommendations, at the end of the five-year program, WATS will truly be a regional system with:

- Service to Cedar Creek and Rib Mountain, in addition to services already provided in Wausau, Rothschild, Schofield, and Weston
- 30 minute weekday daytime headways

- Year-round Saturday service with 45 minute Saturday headways
- 45 minute evening headways six days a week
- A U-Pass program
- A new system identity program

Transit System Management Performance Audit Wausau Area Transit System (2001) – WisDOT is required by statute to conduct a management performance review of all urban transit systems receiving State aid. Performance reviews are conducted at least once every five years. Abrams-Cherwony & Associates produced the last audit in 2001. The report focused on three major areas: a peer group analysis to determine overall system effectiveness and operating effectiveness, a review of policy and decision-making processes of the system and impact on system operating effectiveness and efficiency, and a detailed audit of each functional area of the system.

The audit's peer analysis determined that WATS generally ranks in the middle of the national peer group for the amount of service it provides, operating costs and revenues, and ridership. WATS was the smallest among the systems included in the national peer group, suggesting a strong performance. Similarly, WATS' performance ranked in the middle of selected Wisconsin systems, which also tended to have larger population service areas.

WATS functions as a department of the City of Wausau. WATS's process for policy and decision-making involves the transit director reporting to a special Transit Committee established by the City Council of Wausau. The Transit Committee consists of five mayoral appointees from Wausau (3 council members and 2 citizens) and one representative each from Rothschild and Schofield.

The management performance review component of the transit audit focused on the following eight functional areas: management and organization, internal environment, service planning, vehicle maintenance, transportation, accounting and finance, marketing, and personnel and labor relations.

Recommendations from the 2001 transit audit are summarized below and are followed by a status report on each recommendation (*in italics*):

- WATS should create a mission statement and a series of measurable goals and objectives for the system and each employee as part of their performance evaluation.

  WATS's mission statement was created in the late 1980's, with goals and objectives last updated during the development of the 1992 Transportation Development Plan.

- WATS should monitor ridership and revenue on a route-by-route basis. Comprehensive on/off counts should be conducted as well as public hearings held to allow community involvement, prior to significant service changes.

  WATS does monitor ridership and revenue on a route-by-route basis and is currently working to improve the software application used for this purpose. A 100% actual passenger count is conducted daily. WATS does have a

written policy for the solicitation of public input, which has been approved by the Federal Transit Administration. Input is solicited for all proposed service reductions and fare increases.

§ WATS should work to identify new market opportunities and strategies for long-term growth.

Areas for growth were identified in the last two Transportation Development Plans. However, policy decisions and a lack of funding have limited growth opportunities.

§ WATS, with the City, should find ways to fill maintenance department vacancies within the context of the City's hiring freeze.

The vacancies have not been filled. WATS had six maintenance positions when this recommendation was made and now has four. Vehicle maintenance and facility cleaning continues to be a problem given the lack of personnel.

§ Maintenance staff should be increased to 4.5 full-time equivalent bus mechanics.

WATS currently has three full-time bus mechanics. The fourth position was eliminated.

§ Road supervision should be increased to continually ensure quality transit service system wide.

Ensuring quality service continues to be a goal. Video cameras were installed on all busses as a step toward this goal.

§ The City should conduct independent audits of WATS' cash management to ensure continued money handling procedure security.

In early 2004, an independent auditing firm audited cash handling procedures.

§ Expand existing marketing initiatives.

Marketing has not been expanded due to budget constraints.

§ Establish annual goals and targets for the marketing and information plan.

Annual goals and targets for marketing and information plan have not been accomplished due to budgeting constraints.

§ Explore options for providing public service announcements and issue press releases to local media for low cost advertising in addition to paid campaigns.

WATS does issue press releases whenever possible. Most advertising is via radio with most stations matching paid advertising with public service advertising at no charge.

Long Range Transportation Plan Wausau Metropolitan Area (1996) – The 1996 LRTP transit recommendations consisted primarily of providing new service in the form of four routes to serve employment and activity areas in Rothschild, Kronenwetter, Rib Mountain, and possibly east Weston, and the development of a new transfer Center in the Weston/Schofield area.

Many of these recommendations have not come to fruition, although the areas identified for new service have continued to develop as major destinations. One key success has been the implementation of a new Weston route which began in January 2006 and serves some of Weston's employment and activity areas. However, the design and auto-orientation of development in these areas make providing effective transit service a challenge.

Paratransit Services (WATS+)

WATS contracts with Badger Care-A-Vans for the provision of a curb-to-curb van service for persons who, because of a disability, are unable to use WATS fixed route bus service. WATS+ paratransit users must be certified by WATS. WATS+ service was designed to meet the service standards established by the Americans with Disabilities Act (ADA) of 1990.

Reservations must be made at least one day prior to the requested trip. The service area includes any area, which is within 3/4 mile of a regular bus route in Wausau, Rothschild, Schofield, and Weston. Approximately 65 percent of households and 63 percent of people live within the ¾ mile buffer zone of existing fixed route transit service. Figure 4-16 identifies the ¾ mile buffer zone around WATS' regular bus routes representing WATS+ service area.

WATS+ service hours correspond to regular WATS Bus service hours, which is Monday through Friday from 6:00 AM to 6:30 PM and Saturday 8:30 AM to 5:30 PM. Fare price is currently $2.00 per ride.

Paratransit Planning

Marathon County Program Evaluation Team (P.E.T.) Transportation Services Recommendations (2002) – The P.E.T. Transportation Services Recommendations were completed in September 2002. The Marathon County Human Services Committee directed the P.E.T. to study the specialized transportation issues facing Marathon County Departments. Currently, specialized transportation services are provided by a variety of departments and organizations, many of which provide overlapping services. The P.E.T. recommended creating a new Transportation Department in which current services would be provided under a single transportation provider. To date, this recommendation is still being evaluated.

Marathon County Paratransit Study (2001) – The study, prepared by Urbitran Associates, Inc. with Abrams-Cherwony & Associates, reviewed paratransit

services within the Wausau area provided primarily by Wausau Area Transit System Plus (WATS+)

This study identified numerous issues with regard to providing demand responsive services for persons in the Greater Wausau Area and Marathon County. The study also provided a plan for enhancing paratransit services over a five-year period geared primarily toward controlling costs and increasing efficiency and trip sharing on the WATS+ system. It suggested that the recommendations proposed would allow WATS to maintain better control of the program and provide more flexibility in service delivery. It also noted that regional transportation coordination in Marathon County had many issues to overcome prior to instituting a new program, although there was an opportunity for agencies to begin to work together toward the common goal of improving transportation for persons with disabilities.

Transit Related Public Comments

Through the Wausau LRTP public involvement process, several comments were received regarding transit service, specifically the desire to see increased evening service and more weekend service.

Several comments related to expanding service to other areas of the community. Rib Mountain and specifically Wal-Mart and the Rib Mountain Drive commercial area were mentioned. Target, Goodwill, the new St. Claire's Hospital in Weston and the Cedar Creek mall area in Rothschild were also named as locations where more transit service was desired. As previously mentioned, the Weston locations have been receiving transit service as of January 2006.

Transit related safety issues were discussed as another important transit issue. There was particular concern for safety at the Bus stops along Bridge Street across from the Pick-N-Save where there is not a sidewalk for waiting transit riders. The safety concern is compounded during the winter when snow piles up near the curb forcing transit riders to wait in the street.

Transit Issues and Opportunities:

§ Future development patterns in general and site development specifically will be a major factor in limiting access to transit riders and limiting the potential for reaching new transit markets.

§ Kronenwetter, Rothschild, and Schofield, are pursuing efforts to provide public transit service to their residents. These communities are considering alternative service providers to WATS. Rothschild and Schofield currently have a contract with WATS through 2006.

§ The Village of Weston's decision to provide transit service in Weston may encourage other municipalities to work with WATS to extend transit services to their communities.

§ The Wausau metropolitan area does not have metropolitan area wide transit service. The entire urbanized area should have access to transit service. While residential densities in Schofield, Weston, Rothschild and Rib Mountain are not ideal for providing transit service, a lower level service may be feasible in these areas. Several large employment and commercial destinations provide potential opportunities for enhancing transit service in serve these communities.

PEDESTRIANS

Walking is often overlooked and undervalued as a transportation mode. Yet, in the Wausau MPA, 2.3 percent of commuters reported regularly walking to work. Walk commuting percentages are even higher within the City of Wausau's older neighborhoods near downtown. These percentages do not include other pedestrian activity, such as walking trips to school, to shopping, or for recreation, many of these pedestrians are children and seniors, requiring special consideration regarding pedestrian needs. Pedestrians also include persons using wheelchairs, who also require access to pedestrian facilities.

Everyone is a pedestrian at some point in his or her trip, whether it is walking to the parking lot, a bus stop, or to work from home. The most common pedestrian facilities people think of are sidewalks. Other facilities include pedestrian ramps, pedestrian islands (i.e. road medians), crosswalks and pedestrian signals. Where sidewalks are not available, roads and/or road shoulders provide the public right-of-way for pedestrians. However, what constitutes a "pedestrian-friendly" or "walkable" neighborhood or business district is much more than merely having the aforementioned facilities in place.

A walkable or pedestrian-friendly community is one that provides a comfortable and safe environment for pedestrians. Having sidewalks certainly is one part of the equation; however, other amenities such as street trees, pedestrian-scale lighting, street furniture and boulevard space separating vehicle traffic lanes from sidewalks are also important.

Another important element of walkable communities is having something to walk to. Destinations, such as commercial areas, parks, churches, and schools, need to be within walking distance and accessible if walking is going to be a serious transportation alternative. The scale and interest of buildings can add or detract from the pedestrian experience. Studies have also found that pedestrians like company and seeing other pedestrians increases one's comfort level and sense of safety and security.

Requirements for pedestrian facilities within the Wausau MPA vary by municipality. Municipalities within the urbanized area generally do not require sidewalks in residential areas. The Village of Rothschild is the exception, requiring sidewalks within new residential developments. The City of Wausau addresses the issue of sidewalks with developers on a case by case basis. However, interest in creating walkable neighborhoods and downtown areas has been increasing.

Neighborhoods constructed prior to World War II generally included sidewalks. Post war era neighborhoods tended to be built without sidewalks. Retrofitting areas with sidewalks is often controversial given cost and funding issues (i.e. who should pay).

Sidewalk Inventory

The City of Wausau and the Village of Weston maintain relatively comprehensive GIS sidewalk inventories, which indicate where sidewalks exist and whether sidewalks are on one or both sides of the street (see Figure 4-21 and Figure 4-22).

Wausau's sidewalk inventory illustrates that the City generally has sidewalks on both sides of the street throughout most of the community's older (i.e. pre-World War II era) neighborhoods. The streets in these areas also tend to adhere to a strict grid pattern system, which provides pedestrians more direct routes between destinations in contrast with curvilinear streets and cul-de-sacs.

The City of Wausau also identifies proposed sidewalks within the inventory. These proposed sidewalks are focused primarily along key arterial roadways that serve destinations in the outlying areas of the City, such as the new high school, the hospital, and the West Wausau Industrial Park.

The Village of Weston has sidewalks on one or both sides of several key streets including sections of: Schofield Avenue, Jelinek Avenue, Alderson Street and Camp Phillips Road. Roughly half of the streets that make up the WATS Route K, serving Weston, have sidewalks. However, sidewalks are lacking along some key roads, such as Ross Avenue and much of Weston Avenue. Most residential areas do not have sidewalks.

Figure 4-21 and Figure 4-22 includes the locations of transit routes and schools. As noted previously, most transit users access the bus system on foot and therefore rely on pedestrian facilities. Inadequate pedestrian facilities, not only make it more difficult to use the bus, they can also pose safety hazards to riders.

Pedestrian Facilities within the Wausau MPA

Downtown Wausau pedestrian mall

Newly constructed sidewalk along existing road

School locations are shown in Figure 4-21 to highlight pedestrian access to schools. Pedestrian facilities near schools are essential for providing safe routes to schools for children, a particularly vulnerable population.

Sidewalk data was either unavailable or not provided by other municipalities within the MPA.

Pedestrian Safety

Pedestrian related crash data from January 1994 through 2004 was obtained from the WisDOT Motor Vehicles Traffic Crash Section. Less than two percent of all reported crashes between 1994 and 2004 involved pedestrians. Over the ten year period there was, on average, about 20 pedestrian related crashes per year. Table 4-26 below summarizes the annual number of crashes involving pedestrians for each municipality.

The City of Wausau has consistently experienced the highest numbers of crashes involving pedestrians. This is not surprising given that Wausau is the largest community by population and employment. Furthermore, Wausau's pedestrian-oriented downtown and older neighborhoods attract more pedestrian activity than newer auto-oriented communities. More pedestrians using the transportation system results in a greater potential for vehicle-pedestrian conflicts.

The cities of Mosinee and Schofield and the villages of Weston and Rothschild saw about the same total numbers of crashes involving pedestrians over the ten year period. However, the Village or Rothschild did not have a crash involving a pedestrian reported during the three year period encompassing 2002, 2003, and 2004. In contrast, the Village of Weston had seven crashes involving pedestrians reported during the same three year period.

Table 4-26: Pedestrian Crashes by Municipality

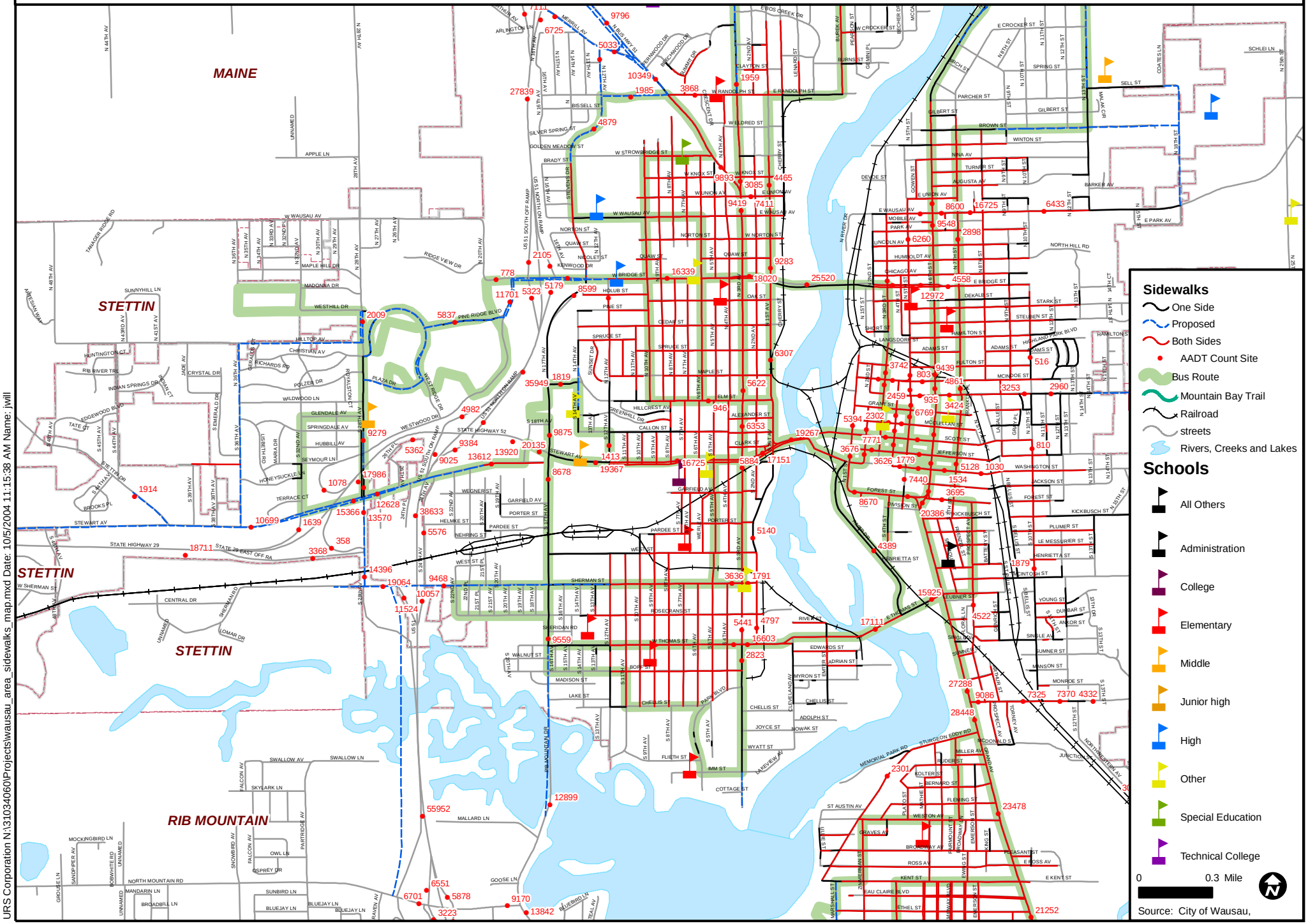
	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	Total
C-Mosinee	1	3		1	1		4			1	1	12
C-Schofield	1	3	1		2		1				3	11
C-Wausau	19	18	14	9	13	14	15	13	15	10	6	146
T-Knowlton			1									1
T-Maine			1									1
T-Stettin	1									1		2
T-Wausau								1				1
T-Weston		1			1							2
V-Rothschild		2	2	1	2	1	2	1				11
V-Weston				1	1		1	1	2	2	3	11
Total	22	27	19	12	20	15	23	16	17	14	13	198

Source: WisDOT Motor Vehicles Traffic Crash Section
Note: Only include municipalities with reported crashes involving pedestrians.

About 35 percent of pedestrian-involved crashes occurred between the hours of 3:00 PM and 6:00 PM. Another 18 percent of pedestrian crashes occurred between 12:00 PM and 2:00 PM. Thursdays and Mondays had the highest number of pedestrian crashes with 39 (20%) and 38 (19%) of the 198 total crashes involving pedestrians, respectively.

figure 4-21

City of Wausau Sidewalk Inventory

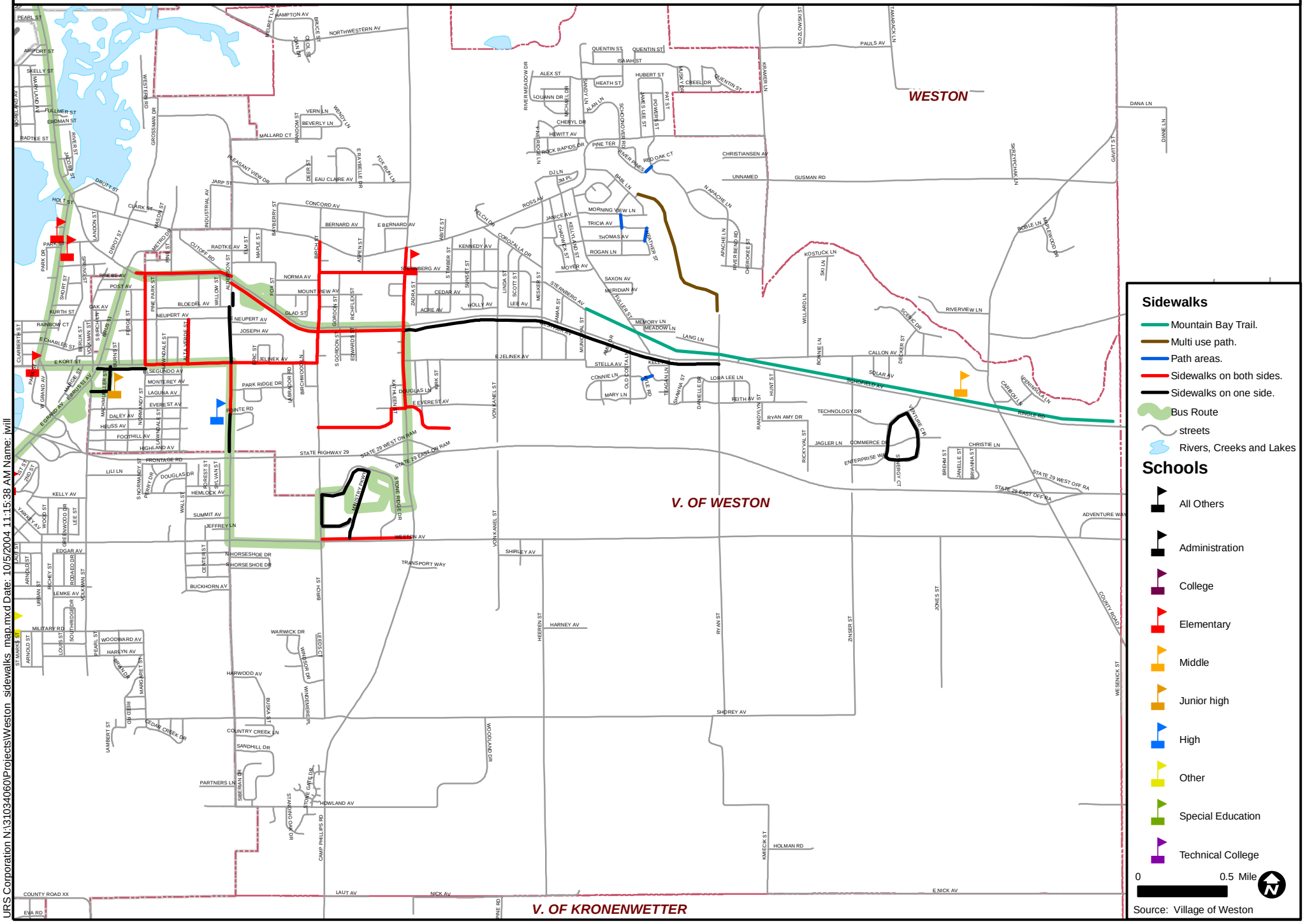


URS Corporation N:\31034060\Projects\wausau_area_sidewalks_map.mxd Date: 10/5/2004 11:15:38 AM Name: jwill

figure 4-22

Village of Weston Sidewalk Inventory

URS



URS Corporation N:\31034060\Projects\Weston sidewalks map.mxd Date: 10/5/2004 11:15:38 AM Name: jwill

During the ten year period, there were 203 people injured and nine fatalities as a result of the 198 crashes involving pedestrians. Table 4-27 lists the nearest intersection of crashes involving pedestrians between 1994 and 2004. The table includes all locations that had two or more crashes involving a pedestrian near the identified intersection.

Two intersections had four crashes involving pedestrians from 1994 through 2004 and one intersection had three crashes involving pedestrians. Fifteen intersections had two crashes and 157 locations had one crash involving a pedestrian over the ten year period. The two intersections with the highest number of crashes involving pedestrians are within one block of each other. Both these intersections are also about one block from the WATS Downtown Transit Center, which raises concerns regarding what is likely a high pedestrian area. It is unclear whether the people involved in these crashes were transit users.

Table 4-27: Crashes Involving Pedestrians by Location to Nearest Intersection

Municipality	On Street at Closest Crossing Street	Crashes
C-Wausau	6 St at Jefferson St	4
C-Wausau	6 St at Washington St	4
C-Wausau	Stewart Ave at 3 Ave	3
C-Wausau	3 Ave at Rosecrans St	2
C-Wausau	3 Ave at West St	2
C-Wausau	3 St at Dekalb St	2
C-Wausau	6 St at Wausau Ave	2
C-Wausau	7 St at Jackson St	2
C-Wausau	7 St at Washington St	2
C-Wausau	Adams St at 9 St	2
C-Wausau	Bridge St at 10 Ave	2
C-Schofield	Grand Ave at Lakeview Dr	2
V-Weston	Machmueller St at Jelinek Ave	2
C-Mosinee	Pine St at 9 St	2
C-Wausau	Scott St at 3 St	2
C-Wausau	Stewart Ave at 7 Ave	2
C-Wausau	Thomas St at 6 Ave	2
C-Wausau	Wausau Ave at Stevens Dr	2
Intersections with 1 Crash Involving Pedestrians		157
Total Crashes Involving Pedestrians		198

Source: WisDOT Motor Vehicles Traffic Crash Section.

Pedestrian Crash Locations

Figure 4-23 illustrates pedestrian and bicycle related crash locations throughout the Wausau MPO from January 2000 through 2004. Several pedestrian crashes have occurred along US Bus 51/Grand Avenue between Townline Road and Ross Street. Grand Avenue is a heavily traveled street, with little or no separation between through-traffic lanes and sidewalks. There are also numerous driveway

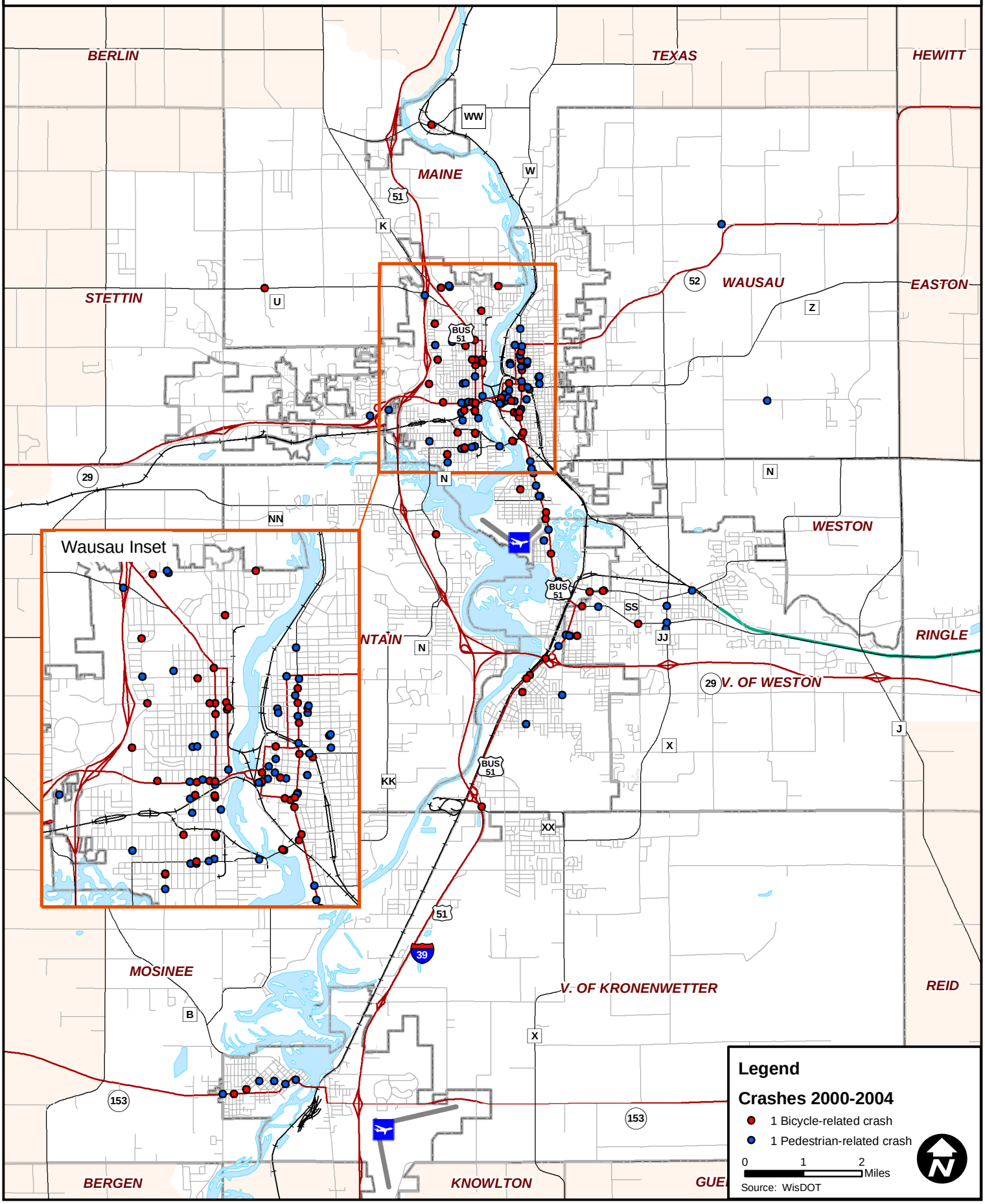
accesses along this stretch of roadway, which create conflict points for pedestrians and vehicles.

Several crashes involving pedestrians are indicated in the Downtown Wausau area, although perhaps not as many as one might expect given the high amount of pedestrian activity in this area. Stewart Avenue and Thomas Street show distinct clusters of crashes involving pedestrians along these corridors. Four crashes involving pedestrians occurred within a four block area between 7th Avenue and 3rd Avenue along both Stewart Avenue and Thomas Street. Both Stewart Avenue and Thomas Street should be assessed for pedestrian safety design problems.

The MPO should consider conducting a comprehensive pedestrian safety analysis. The State has gathered a significant amount of crash data involving pedestrians. However, much of this data needs to be cleaned and geo-referenced in a Geographic Information System (GIS) to better identify and map problem areas. Additional data on the amount of pedestrian activity is needed as well as a more complete inventory of pedestrian facilities to allow for a more complete and comprehensive pedestrian safety analysis to be conducted.

figure 4-23

Pedestrian and Bike Crashes: 2000-2004



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ADA Compliance

The Americans with Disabilities Act (ADA), enacted on July 26, 1990 gave civil rights protection to individuals with disabilities. The ADA is divided into five sections or titles and provides protection from discrimination on the basis of disability in the following areas:

- Title I Employment
- Title II Public Services
- Title III Public Accommodations and Commercial Facilities
- Title IV Telecommunications
- Title V Miscellaneous

Of the five, Title II and Title III of the ADA are the two sections that most affect existing improvements within the public right of way. Title II, Subpart A of the ADA, requires that State and Local Governments provide people with disabilities access to all programs, services and activities. Title III prohibits discrimination on the basis of disability in public places and in commercial facilities. Architectural barriers are required to be removed in existing public facilities (e.g. replace curbs and provide curb ramps). Title III strongly recommends that public places comply with barrier-removal requirements according to the following priorities (US DOJ, 1991):

1. Access to a place of public accommodation from public sidewalks, parking, or public transportation.
2. Access to those areas of a place where goods and services are made available to the public.
3. Access to and usability of restroom facilities.
4. Any other measures necessary to provide access to the goods, services, facilities, privileges, advantages, or accommodations of a place of public accommodations.

Complying with ADA requirements should be a high priority for all Wausau MPO jurisdictions. Federal regulations through the US Department of Justice have set ADA standards for accessible design, which can be accessed through their website at www.ada.gov along with other ADA-related information.

Pedestrian Planning

This section provides a summary of the pedestrian elements from recent planning documents.

1996 Wausau Area Long Range Transportation Plan – The 1996 Wausau Area LRTP identified safety and convenience as the two pedestrian objectives. The pedestrian safety component of the plan called for improved physical facilities,

traffic control devices, pedestrian safety education and attention given to traffic signal timing, provisions of pedestrian refuge island, and well marked pedestrian crossings.

The Pedestrian component called for improved physical facilities, new subdivision and development designs convenient to pedestrians, special attention given to providing direct pedestrian routes to street and parking facilities that minimize walking distances between streets and transit stops to commercial destinations.

Recommended pedestrian improvements included:

- The River Edge Parkway improvements.
- New bridges should be built with adequate pedestrian paths.
- New and existing urban and suburban streets should be provided with sidewalks and shoulders on rural roads. The 1996 LRTP recommended following WisDOT's guidelines for installing sidewalks, which called for sidewalks on both sides of all streets except when residential street densities were lower than one unit per acre, in which case a sidewalk on one side of the street was recommended.
- New and existing rural roads should be provided with shoulders.

Rivers Edge Master Plan – The *Rivers Edge Master Plan* was prepared by the Rivers Edge Commission and adopted by the City of Wausau in 1995. The plan identifies short and long term strategies for improving public access to the Wisconsin River, which runs through the heart of Wausau. The plan addresses many management and use issues related to the river with a focus on continuing development of a river edge parkway along the river that links parks along the river by improving pedestrian and bicycle transportation facilities and enhancing recreational opportunities. The plan envisions a web of walkways along the corridor that reaches from City limit to City limit. The plan's proposed and existing multi-use trails are illustrated in Figure 4-26. While focusing on the recreational aspects of the trails, the plan's proposed trail system also has the potential to serve as a viable transportation corridor for pedestrians and bicyclists.

Wisconsin Pedestrian Policy Plan 2020 – WisDOT published the *Wisconsin Pedestrian Policy Plan 2020* in March 2002. The plan outlines statewide and local measures to increase walking and to promote pedestrian safety. The plan establishes state goals and objectives and identifies action steps for WisDOT to take toward achieving these goals and objectives. The plan does provides some pedestrian planning guidance for MPOs and recommends that MPOs set specific pedestrian objectives, develop sidewalk inventories, review existing ordinances regarding the installation and retrofitting of sidewalks. Other planning elements to consider included reviewing cost assessment practices for financing pedestrian projects, analyzing pedestrian crashes, reviewing snow removal issues relating to pedestrian travel, and developing pedestrian improvement recommendations.

Pedestrian Issues and Opportunities

§ Retrofitting sidewalks along one or both sides of streets has been a contentious issue given that fifty percent of the costs are deferred to the property owner adjacent to the newly constructed or rebuilt sidewalk. Still, residents generally support creating a regional network of bicycle and pedestrian facilities. However, there is less agreement on how such improvements should be funded.

§ All urbanized communities need to address the provision of sidewalks within and between their communities in order to development a comprehensive and complete pedestrian system.

BICYCLE AND MULTI USE TRAILS

Bicycling can serve both a recreational function and a utilitarian transportation function. Bicycling, as a mode of transportation, is likely to be most viable within more densely developed urban areas, provided safe bicycling routes are available to desirable destinations.

Bicyclists vary by age, experience and knowledge, attitudes toward traffic, physical fitness levels, and reasons for riding (e.g. recreational trips, commuting, shopping, or exercise). Because of these differences, bicycle facilities that are appropriate or desirable for some riders may not be appropriate or desirable for other riders. An experienced bicyclist may be very comfortable and prefer to ride in mixed traffic whereas more casual bike riders may prefer to stay on dedicated trails and local roads. It is important to understand these differences when considering what types of facilities should be provided.

Bicycle Planning

***Wisconsin Bicycle Transportation Plan 2020* –** WisDOT acknowledges the importance of bicycling as a legitimate transportation mode and clarifies its role in encouraging bicycling in the *Wisconsin Bicycle Transportation Plan 2020.* This plan presents a blueprint for improving bicycling conditions and encouraging bicycling in the state and calls for the implementation of metropolitan area bicycle plans prepared by Metropolitan Planning Organizations.

***Wisconsin Bicycle Planning Guidance& Wisconsin Bicycle Facility Design Handbook* –** WisDOT has published two recent documents relating to bicycle planning and bicycle facility design. *Wisconsin Bicycle Planning Guidance* was published in June 2003 and provides guidelines for metropolitan planning organizations and communities in planning bicycle facilities. The document is available on the Internet (http://www.dot.wisconsin.gov/projects/state/docs/bike-guidance.pdf). The *Wisconsin Bicycle Facility Design Handbook* was published in January 2004 and provides a wealth of detailed information for designing a range of bike facilities, from on-road bike routes to dedicated trails.

Rural Bike Facilities

***Bicycle & Pedestrian Plan for the Non-Urbanized Area of Marathon County, Wisconsin*, (1996) –** The *Bicycle & Pedestrian Plan for the Non-Urbanized Area of Marathon County, Wisconsin*, (1996) suggested bike routes along a network of County roads throughout Marathon County. The plan focused solely on rural areas and suggested routes that were based on road and shoulder widths, pavement conditions, traffic volumes and connectivity. With the exception of the Mountain-Bay Trail, none of the other suggested routes have been officially designated or signed as bike routes.

Urban Bike Facilities

1996 Long Range Transportation Plan – The 1996 LRTP identified some existing designated bike routes and several proposed bike routes. However, the plan states that narrow street widths present a major challenge to adding bicycle lanes to existing streets, thus limiting the implementation of a comprehensive and safe system of bicycle lanes throughout the metro-area.

The 1996 LRTP recommended long-term bike improvements in conjunction with new bridge construction and road widening projects. Such improvements have been included in recent projects or planned projects. The new McCleary Bridge is one example where bike and pedestrian facilities were included in the design of the bridge. Similarly, the planned west arterial bridge includes dedicated pathways to accommodate bicyclists and pedestrians. A new bike/pedestrian bridge is also being constructed to cross the Wisconsin River connecting Rothschild to the east and Rib Mountain to west.

Bicycle Compatibility Index (BCI)

The BCI is a tool developed for the Federal Highway administration, which is used to analyze the "bicycle-friendliness" of a particular segment of roadway. The BCI is based on traffic volume, speed, width of outside travel lanes, presence of bike lanes; paved shoulders, land uses, parking, etc. (see below). The BCI provides a valuable tool for assessing on-road bike conditions. However, detailed data on parking, pavement type, pavement width, area type, curb-lane width, curb-lane traffic volume, other lane traffic volume, and traffic speed data are required to calculate the index. Some of this data is provided in the WISLR database.

Bicycle Compatibility Index

$$BCI = 3.67 - 0.966BL - 0.410BLW - 0.498CLW + 0.002CLV + 0.0004OLV + 0.022SPD + 0.506PKG - 0.264AREA + AF$$

where:

BL = presence of a bicycle lane or paved shoulder $\geq$ 0.9 m
no = 0
yes = 1

BLW = bicycle lane (or paved shoulder) width
m (to the nearest tenth)

CLW = curb lane width
m (to the nearest tenth)

CLV = curb lane volume
vph in one direction

OLV = other lane(s) volume - same direction
vph

SPD = 85th percentile speed of traffic
km/h

PKG = presence of a parking lane with more than 30 percent occupancy
no = 0
yes = 1

AREA = type of roadside development
residential = 1
other type = 0

AF = $f_t + f_p + f_{rt}$

where:

f_t = adjustment factor for truck volumes (*see below*)

f_p = adjustment factor for parking turnover (*see below*)

f_{rt} = adjustment factor for right-turn volumes (*see below*)

Adjustment Factors

Hourly Curb Lane Large Truck Volume[1]	f_t	Parking Time Limit (min)	f_p
$\geq$ 120	0.5	$\leq$ 15	0.6
60 - 119	0.4	16 - 30	0.5
30-59	0.3	31 - 60	0.4
20-29	0.2	61 - 120	0.3
10-19	0.1	121 - 240	0.2
< 10	0.0	241- 480	0.1
		> 480	0.0

Hourly Right-Turn Volume[2]	f_{rt}
$\geq$ 270	0.1
< 270	0.0

Source: *Wisconsin Bicycle Planning Guidance*; Wisconsin Department of Transportation; June 2003.

On-Street Bicycle Facilities

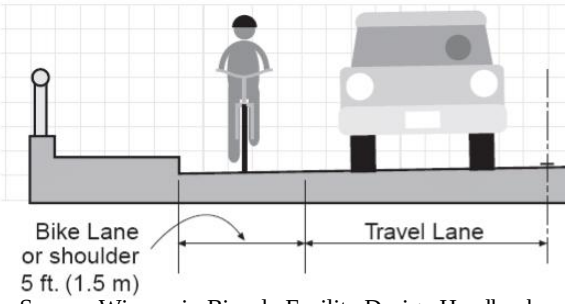
On-road bicycle facilities provide some of the most cost-effective alternatives for providing accommodations for bicyclists. One of the difficulties with creating on-road facilities is finding enough road width space to provide both safe and convenient routes that offer good access to major destinations. Bicyclists need access to major arterials which serve key destinations or they need convenient parallel routes where busy arterials cannot accommodate safe bicycle facilities.

Arterials need to accommodate bicyclists, for bicycling to be a viable mode of transportation for commuting and other utilitarian trip purposes. On-street bicycle

facilities also serve as important connections between off-street bicycle facilities. Off-street bicycle facilities are great for recreational bicycling but often do not provide access to destinations needed for utilitarian bike trips.

Bicycle lanes – A bicycle lane is a portion of the roadway designated for exclusive or preferential use by bicyclists (see Figure 4-24). Designated bike lanes provide the bicyclist with a five foot designated lane and a clear delineation between bike areas and car area. Bicycle lanes are always one-way facilities and are identified with pavement markings and signing. On two-way streets, a one-way bicycle lane should be provided on each side. Bicycle lanes are the preferred bicycle facility on higher volume urban and suburban roadways (i.e., collector and arterial streets) but are seldom justified on residential streets. Among the benefits of bicycle lanes are:

Figure 4-24: Bike Lane spacing

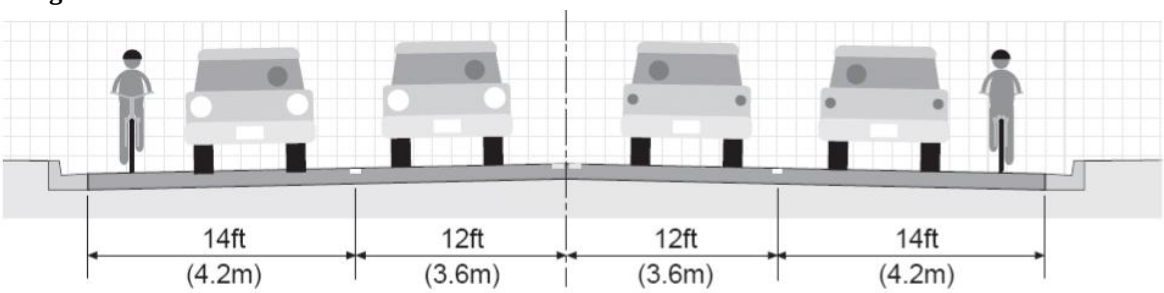


Source: Wisconsin Bicycle Facility Design Handbook, January 2004, Wisconsin Department of Transportation.

- Defining a space for bicyclists to ride;
- Helping less experienced bicyclists feel more confident and willing to ride on busier streets;
- Reducing motorist lane changing when passing bicyclists;
- Guiding bicyclists through intersections;
- Increasing bikeway visibility in the transportation system.

Wide outside lanes – Where there is insufficient room to install bicycle lanes on urban and suburban arterial and collector streets, creating wide outside travel lanes can help accommodate both bicycles and motor vehicles (see Figure 4-25). It is WisDOT's policy to give strong consideration to bicycle lanes and wide outside travel lanes on all urban cross-section projects.

Figure 4-25: Wide Outside Lanes



Source: Wisconsin Bicycle Facility Design Handbook, January 2004, Wisconsin Department of Transportation.

Wide outside lanes have numerous benefits in addition to providing space for bicyclists and motorists to share. They improve roadway capacity by reducing conflicts between motorists traveling straight and those turning into or out of driveways and cross streets. And they provide space for temporary storage of snow and disabled motor vehicles.

If on-street parking is provided along with the wide outside travel lane, the parking lane should be standard width. Narrowing a parking lane to provide the space for bicyclists may or may not encourage motorists to park closer to the curb. If a standard travel lane is used, a total of 12-ft of combined parking/bicycling space is highly recommended for this type of shared use. And an opening car door may take up the extra space in the travel lane. As a result, the effective width of the outside travel lane in such cases may not be as great as the measured width.

Figure 4-26 shows existing bike routes in the City of Wausau and the Village of Kronenwetter. While these routes are not signed as bike routes, they have been designated as routes than can better serve bicycle traffic.

Bus 51/Grand Avenue provides a good example of a major arterial that is lacking good bike access. Not only is there limited right of way to provide bike lanes, there is not a good alternative route paralleling the corridor.

The *Wisconsin Bicycle Facility Design Handbook* provides a wealth of information on specific design issues relating to both on-street and off-street facilities.

Multi-Use Trails

Figure 4-26 illustrates existing bike and pedestrian trails within the metro area. The map includes areas where trails have been proposed in the City of Wausau's Rivers Edge Plan along the riverfront near downtown Wausau. The other major trail facility is the Mountain-Bay trail that is a rail to trail project that connects Weston to Green Bay to the east.

The Villages of Rothschild, Weston, and Kronenwetter and the Town of Rib Mountain have all expressed interest in developing multi-use trails within their communities and are working to coordinate their efforts to contribute to a comprehensive regional system. Rib Mountain's Pedestrian/Bicycle Safety Committee have discussed their bike/ped plans with other communities. Current plans would link a regional trail system to the 83-mile Mountain Bay Trail.

Bicycle/multi-use trails present opportunities for recreational and utilitarian transportation trips. Communities along the Wisconsin River are currently examining the creation of a regional trail system along the river between Brokaw and Rothschild. Extending a trail north to Merrill could also help attract tourists and greatly expand the availability of bicycle facilities for residents of the region. Other plans call for the creation of new facilities along the southeast perimeter of Cedar Creek and across the Wisconsin River into Rib Mountain.

Well-planned and designed multi-use trails/paths can provide good pedestrian and bicycle mobility. The trails/paths can serve both commuter and recreational cyclists. According to the Oregon Department of Transportation, the following points are critical to developing successful trails/paths as part of a bicycle network.

- ***Continuous separation from traffic***, by locating paths along a river or a greenbelt such as a rail-to-trail conversion, with few street or driveway crossings (paths directly adjacent to roadways are less desirable as they tend to have many conflict points);
- ***Scenic qualities***, offering an aesthetic experience that attracts cyclists and pedestrians;
- ***Connection to land-uses***, such as shopping malls, downtown, schools and other community destinations;
- ***Well-designed street crossings***, with measures such as bike and pedestrian activated signals, median refuges and warning signs for both motor vehicles and path users;
- ***Shorter trip lengths than the road network***, with connections between dead-end streets or cul-de-sacs, or as short-cuts through open spaces;
- ***Visibility***, proximity to housing and businesses increases safety. Despite fears of some property owners, paths have not attracted crime into adjacent neighborhoods;
- ***Good design***, by providing adequate width and sight distance, and avoiding problems such as poor drainage, blind corners and steep slopes; and
- ***Proper maintenance***, with regular sweeping and repairs. The separation from motor vehicle traffic can reduce some maintenance requirements, such as sweeping the debris that accumulates on roads.[3]

Connectivity to major transportation destinations increases the likelihood that the bicycle facilities will be used for utilitarian trips. A major challenge for the creation of any regional trail network is the acquisition of property and/or obtaining easements.

Bicycle Safety

Data on the number of crashes involving bicycles was obtained from the WisDOT Motor Vehicles Traffic Crash Section for a ten year period between 1994 and 2004. The annual number of crashes involving bicycles for the ten year period is indicated by municipality in Table 4-28. The 22 Crashes involving bicycles during this period accounted for one percent of all reported crashes in the MPO.

The City of Wausau consistently has the highest number of crashes involving bicycles, with 149 of the 222 total crashes in the metropolitan area during the ten

[3] Oregon Department of Transportation

year period. 1995 experienced the highest number of crashes involving bikes during the ten year period with 32 crashes. The lowest number of crashes involving bikes occurred in 2001 with 11 crashes.

Table 4-28: Bicycle Crashes by Municipality

	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	Total
C-Mosinee		1	1	1	3	3				1	1	11
C-Schofield	3	2	1		2	1	3	1		1	1	15
C-Wausau	21	21	16	16	11	9	12	9	13	11	10	149
T-Bergen		1										1
T-Maine										1		1
T-Marathon								1				1
T-Mosinee					1							1
T-Rib Mountain	2	1	1	1		1			2		1	9
T-Stettin	1											1
T-Weston		3			1							4
V-Rothschild	2	3	1	5	1	3	1		1	2	1	20
V-Weston			1	1	1	3	1			1	1	9
Total	29	32	21	24	20	20	17	11	16	17	15	222

Source: WisDOT Motor Vehicles Traffic Crash Section
Note: Only municipalities with reported bicycle crashes are shown.

Given that bicycling tends to be a fair weather activity, most crashes involving bicycles occur during warm weather months. About 90 percent of all crashes involving bikes occurred during the seven month period from April through October. Almost 55 percent of crashes involving bikes occurred during the three summer months of June, July and August.

Bicycle Crash Locations

Four intersections had four crashes each involving bicycles between 1994 and 2004. Two locations had three crashes involving bicycles during this period. Thirty-two locations had two crashes and 168 locations had a single crash involving bicycles over the ten year period.

Between 1994 and 2004, only one crash was reported involving a bike which resulted in one fatality. There were 213 crashes involving bikes that resulted in injuries. A total of 220 people were injured as a result of those crashes. There were eight crashes involving bikes that resulted in property damage only.

figure 4-26

Non-Motorized Multi-use Trails and Bike Routes

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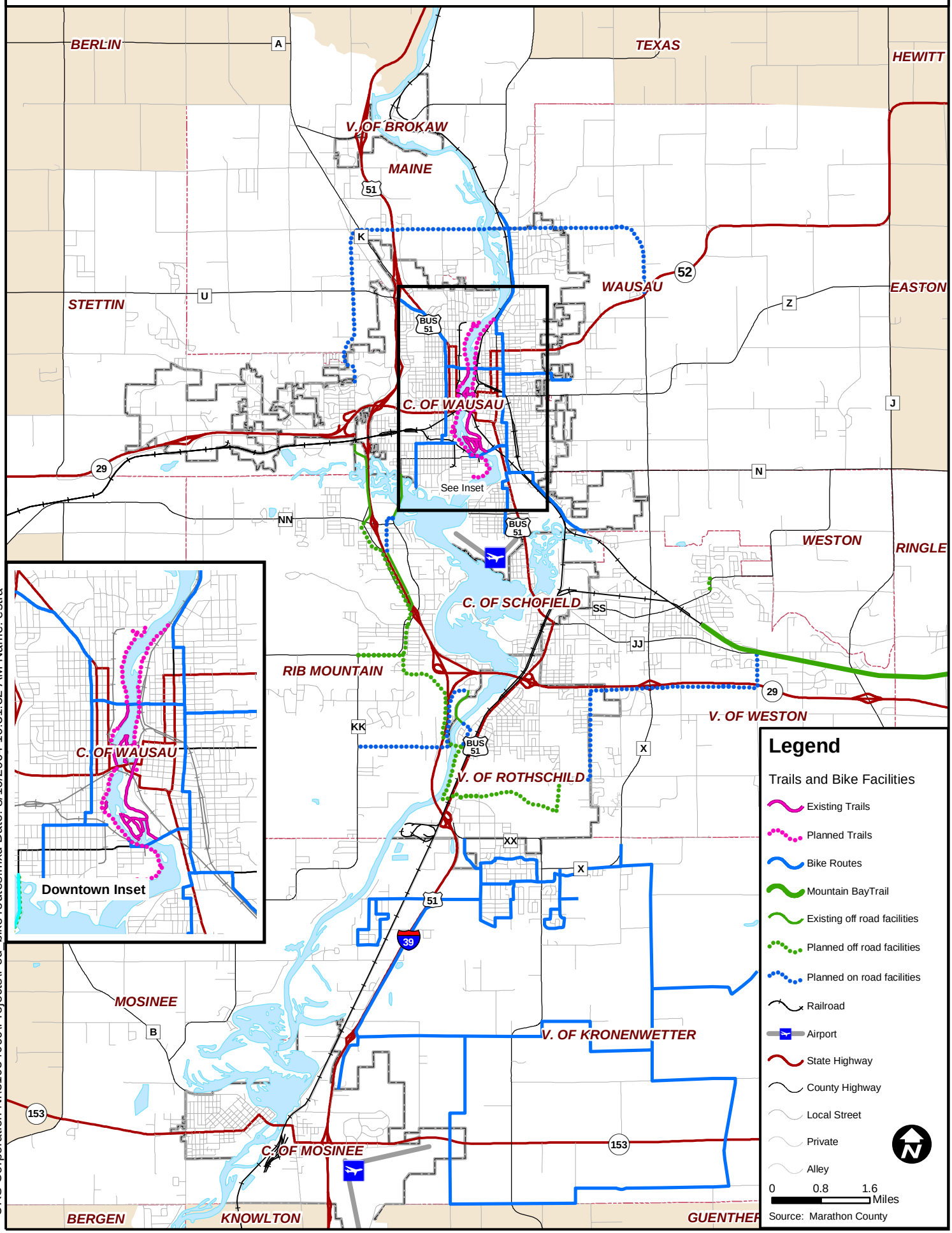

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Table 4-29: Crashes Involving Bicycles by Location to Nearest Intersection

Municipality	On Street at Closest Crossing Street	Crashes
C-Wausau	1 Ave at Bridge St	4
V-Rothschild	29 at Grand Ave	4
C-Wausau	Grand Ave at Lakeview Dr	4
C-Wausau	Grand Ave at Thomas St	4
C-Wausau	3 St at Bridge St	3
C-Wausau	Bridge St at 3 Ave	3
C-Mosinee	2 St at Main St	2
C-Wausau	Bopf St at 11 Ave	2
C-Wausau	Bridge St at 7 St	2
C-Wausau	Bridge St at 3 St	2
C-Wausau	Bridge St at 1 Ave	2
C-Wausau	Forest St at 6 St	2
C-Wausau	Jefferson St at 4 St	2
C-Wausau	Jefferson St at 5 St	2
C-Mosinee	Main St at 3 St	2
C-Schofield	Radtke St at Grand Ave	2
C-Wausau	River Dr at Thomas St	2
C-Wausau	Ruder St at Grand Ave	2
V-Weston	Schofield Ave at Alderson St	2
C-Wausau	Thomas St at 6 Ave	2
C-Wausau	West St at 17 Ave	2
V-Rothschild	Yawkey Ave at Grand Ave	2
Intersections with 1 Bike Crash		168
Total Crashes Involving Bikes		222

Source: WisDOT Motor Vehicles Traffic Crash Section

Similar to pedestrian crashes, most bicycle related crashes occurred in the afternoon hours. Bicycle crashes were even more concentrated between the hours of 12 PM and 5:00 PM than pedestrian crashes. Saturdays and Sundays had the lowest percentage of crashes involving bicycles between 1994 and 2004, with 11 percent and five percent, respectively. Bicycle involved crashes occurred more consistently on weekdays.

Table 4-29 lists the number of crashes by intersection over a ten year period between 1994 and 2004. Figure 4-23 indicates crash locations involving bicycles throughout the Wausau MPO between 2000 and 2004. Five bicycle-crashes occurred near the intersections of Bridge Street at 1st Avenue and Bridge Street at 3rd Avenue. Seven bicycle crashes occurred along or near N. 6th Street between Forest Street and East Wausau Avenue. Because the amount of bicycle traffic is not known, it is unclear as to whether these areas pose particular hazards to bicyclists or if the amount of bike traffic is higher at these locations making conflicts between bicyclists and vehicles more likely.

Issues and Opportunities

§ There is significant amount of interest among several municipalities in developing multi-use trails through their communities. These communities see the benefit of coordinating their efforts to maximize the benefits of each of their facilities by taking a systematic approach that would interconnect existing facilities with planned facilities, most notably the 83-mile Mountain Bay Trail. The region and all municipalities interested in developing trails would benefit from participating in a comprehensive planning effort for the creation of all bicycle and pedestrian facilities with a focus placed on multi-use trails.

§ While multi-use trails are valuable community assets, they should be considered as more than merely recreational facilities. Trails should also be considered for their potential transportation and utilitarian value. Just as trails should be considered from a system perspective, the bike and pedestrian connections needed to access the trail system need to be considered. These connections may relate to bike-friendly road crossings and on-road connections, such as bike lanes or bike routes with wide outside travel lanes.

§ Bicycle facilities are needed on most non-freeways arterials and heavily traveled collectors within the MPA to accommodate bicycle commuters. Like auto commuters, these roadways provide major transportation connections to bicycle commuters. For example, Bus 51/Grand Avenue provides the key north-south connection through the Wausau MPA that is available to bicycles (i.e. bicycles are prohibited on US 51/STH 29). However, Bus 51/Grand Avenue does not provide adequate bike facilities nor is it considered a bicycle-friendly corridor. Most bicyclists use sidewalks. This corridor or a nearby parallel route is needed to provide bicycle accommodations for this important north-south connection. Other arterials and collectors within the Wausau area lack on-street bicycle accommodations. If space is available, bicycle accommodations should be part of the design when these streets are reconstructed or expanded.

REGIONAL PASSENGER TRANSPORTATION

Air Passenger Service

Two major airports serve the Wausau MPA, the Central Wisconsin Airport (CWA) located in Mosinee and the Wausau Municipal Airport located in Wausau (see Figure 4-29). The CWA offers 24 flights daily on regional connector services that link to flights in Milwaukee, Minneapolis, Detroit and Chicago. The Wausau Municipal Airport provides general aviation services and is large enough to handle corporate jets, charters, and privately owned aircraft.

Central Wisconsin Airport (CWA)

CWA is classified as an Air Carrier/Air Cargo airport, which means it is designed to accommodate virtually all aircraft up to, and in some cases including, wide body jets and large military transports. CWA is one of nine airports in Wisconsin that provide scheduled commercial air passenger service on a year-round basis. The CWA is conveniently accessible to the Wausau metropolitan area via I-39. It also draws customers from the larger Central Wisconsin region, including the Stevens Point and Marshfield areas.

CWA is a joint venture of Marathon and Portage Counties. The airport was constructed during the mid 1960's to provide a regional facility to ensure continued quality air service to North Central Wisconsin. The facility opened for operation in October of 1969. The terminal has been modernized and highway access reconstructed to be more convenient. Since 1982 more than $24,000,000 has been spent to keep the airport ready to serve the needs of the region. In 2004, the east-west runway was completely reconstructed with a 30-year life span.

The airport has two runways that are grooved concrete, precision instrumental landing procedures for both runways for all weather operations, an air traffic control tower and all the other amenities of a modern airport. The east-west runway is 7,645 feet long by 150 feet wide. The north-south runway is 6,500 feet long and 150 feet wide.

CWA is the only airport within Marathon County or neighboring counties that provides scheduled air passenger services. Three airlines: Mesaba/Northwest, United/United Feeder Service and Skyway/Midwest Express provide 24 flights per day with connections through Minneapolis, Chicago, Detroit and Milwaukee. There are also nine air freight and express mail carrier flights daily.

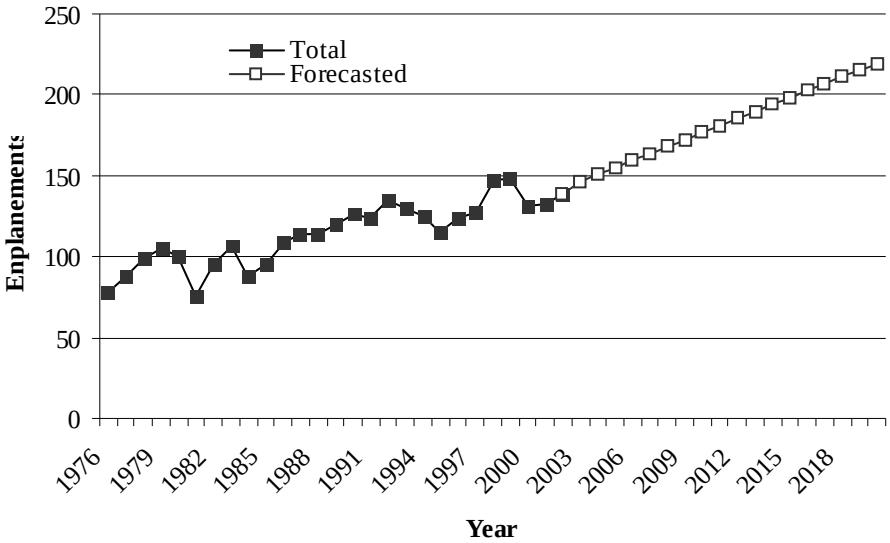
CWA saw about 29,700 aircraft operations in 2004, which was down significantly from 35,000 in 2003 and 38,400 in 2001. While aircraft operations were down, air carrier enplanements were up 8.2 percent between 2003 and 2004. In 2003 and 2004, CWA saw 150,600 and 162,900 total enplanements,

respectively.[4] Of the nine Air Carrier/Air Cargo classified airports in Wisconsin, CWA had the lowest number of reported aircraft operations; however, they reported the fifth highest number of enplanements. Figure 4-28 illustrates the total number of enplanements between 1979 and 2002. Figure 4-28 also indicates enplanement projections to the year 2020. Enplanements are projected to increase two to three percent annually through the year 2020.

March is the peak month for the CWA. Business travelers make up about 60 percent of passengers through the CWA. Recreational traffic is lower than most airports and discretionary travel is primarily outbound.

The biggest issue facing the CWA is the lack of space for terminal and parking area expansions. The locations and orientation of the runways, and their respective safety zone requirements limit expansion opportunities. STH 153 serves as a barrier to the north of the airport. While the airport owns plenty of land, most of the usable space in not adjacent to the existing terminal and supporting facilities. A long-term (i.e. 15 plus years) improvement for the airport may be moving the terminal southwest of the runways.

Figure 4-28: CWA Total and Forecast Enplanements (in 000's)



Source: Central Wisconsin Airport, 2002.

Wausau Municipal Airport

The Wausau Municipal Airport provides general aviation services and is fully equipped to receive large corporate jets, charters, and privately owned aircraft.

[4] *Wisconsin Aviation Activity 2004*, Wisconsin Department of Transportation Bureau of Aeronautics, March 2005.

The Wausau Municipal Airport's two paved runways and instrument approaches make it a viable facility even when weather conditions are marginal. The airports northwest-southeast runway is 4,950 feet long and 100 feet wide and the southwest-northeast is 3,078 feet long and 100 feet wide.

Air charter, flight instruction, aircraft rental, scenic rides, as well as aviation line services such as refueling, transportation, lodging and catering are some of the services available. The airport provides convenient access in and out of the City of Wausau for many area businesses.

The Wausau Municipal Airport is located in the City of Wausau along the southern boundary shared with the City of Schofield. US Business 51/Grand Avenue is the primary access route to the airport. The airport is located along the Wisconsin River and occupies a substantial amount of riverfront property. The airport's location to the river provides for the Wausau Seaplane Base, which adjoins the Wausau Municipal Airport.

Given the limited amount of land in the City of Wausau to accommodate new development, there have been discussions in recent years about whether an airport is the highest and best use of this land. It has been suggested that there may be opportunities to relocate Wausau Municipal Airport activities to CWA or another location. CWA has the capacity to accommodate general aviation services currently using the Wausau Municipal Airport. However, this airport is a viable facility and more convenient than CWA for some users. As such, relocation and reuse of the Wausau Municipal Airport is a contentious issue. Furthermore, Federal and State funds were used to purchase the airport land and provide key upgrades; therefore, if the current use of the land were changed, Federal and State authorities may require that Federal and State dollars be refunded.

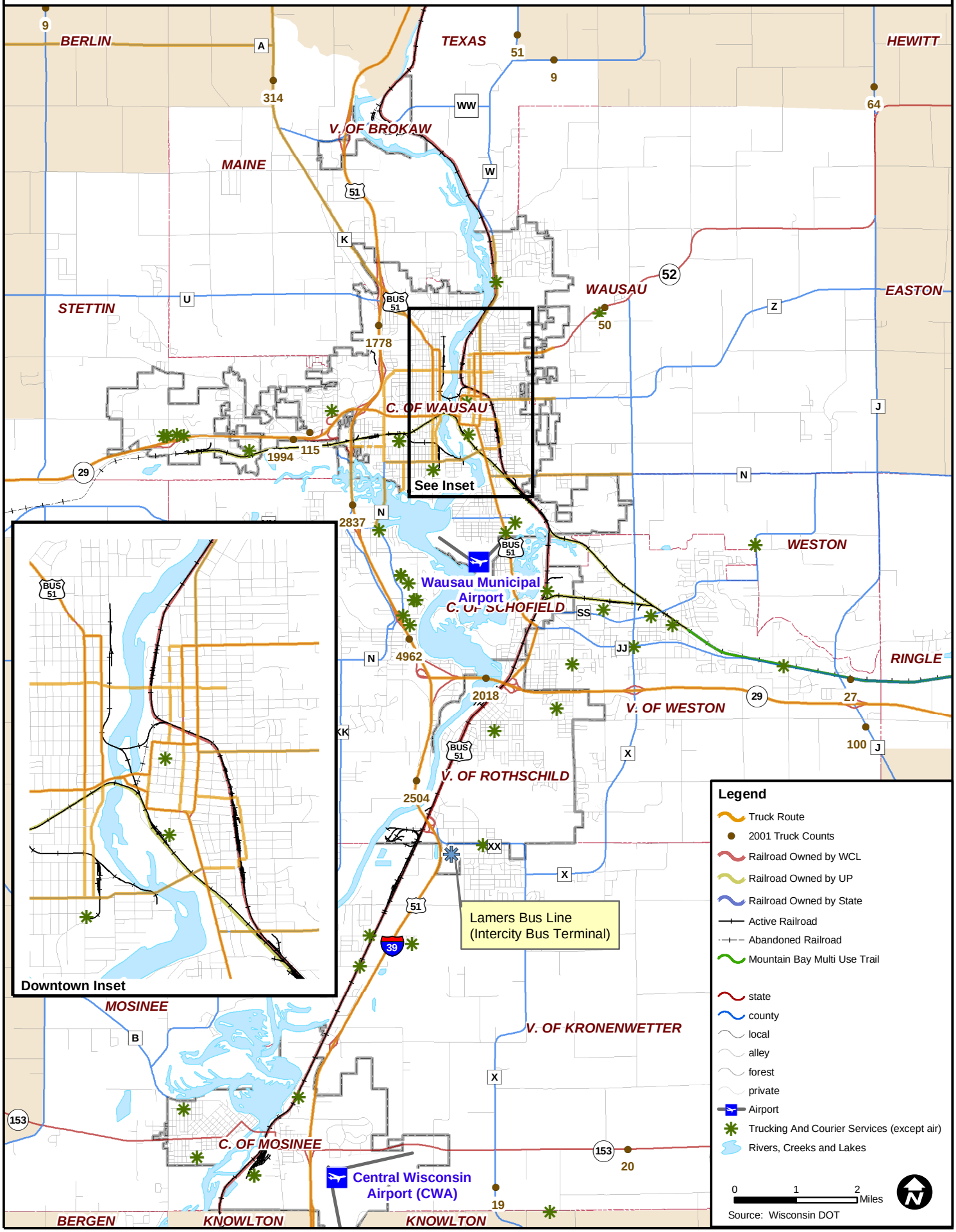
State Aviation Planning

Wisconsin State Airport System Plan 2020 – The *Wisconsin State Airport System Plan 2020*, developed by WisDOT, identifies information related to the State's aviation system. The plan is used by WisDOT's Bureau of Aeronautics to pre-qualify airport improvement projects submitted by airport sponsors for funding consideration.

A Guide for Land Use Planning Around Airports in Wisconsin – WisDOT published *A Guide for Land Use Planning Around Airports in Wisconsin* to assist communities in addressing incompatible land uses being developed near airports without regard to existing or future noise and safety implications associated with airport activities. Incompatible land uses developing near airports have created considerable problems for airports around the country as air traffic and related noise impacts have increased. The WisDOT Guide identifies compatible and incompatible land uses and alternatives for addressing land use and airport planning that prevent potential conflicts in the future.

figure 4-29

Regional Passenger and Freight



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Airport and Land Use - Noise and Safety

Airport issues often relate to noise and safety conflicts with neighboring land uses. However, this does not appear to be a problem for either the Central Wisconsin Airport or the Wausau Municipal Airport.

Safety – The County adopted an airport-zoning ordinance that establishes a three-mile extra-territorial zone around the CWA. The zoning ordinance sets height limitations for structures within the safety zone and provides for the creation of noise and aviation easements.

Noise – The CWA controls all land that falls within the 65 DNL noise thresholds. Noise projections prepared for the1987 Airport Master Plan (the last adopted plan) are no longer valid due to aircraft changes. Today's aircraft use quieter engines (i.e. Stage 3) and the airlines have, for the most part, switched to jet aircraft from propeller planes, which has resulted in fewer flights and quieter flights for neighboring land uses since jets can reach higher altitudes in a shorter distance. There is no indication that the CWA noise levels will exceed acceptable limits in the future.

Inter-City Bus

Regional bus service is limited due to the recent elimination of Greyhound Bus Line service in the Wausau area. Lamers Bus Lines Inc. provides the only regularly scheduled passenger bus service traveling outside the area. They offer one trip per day from Wausau to Milwaukee. The service departs at 8:50 a.m. from Wausau and arrives in Milwaukee at 1:45 p.m. The return trip leaves from Milwaukee at 2:30 p.m. and arrives in Wausau at 7:15 p.m.

The 1996 LRTP summarized some of the key WisDOT's *Translinks21 Intercity Bus System Plan*, which was adopted in 1994. The document discussed a number of issues relating to intercity bus service in Wisconsin. At that time, evidence suggested inter-city bus riders were generally students and low-income people with limited transportation alternatives. In general, inter-city bus service has been in decline over the past 50 years. Ridership has declined and revenues have not kept pace with costs, forcing cutbacks and/or elimination of routes and services. There is no indication of these trends changing.

The Intercity Bus System Plan sought to restore intercity bus services, with emphasis on serving the mobility needs of students, senior citizens, and those without other transportation options. The plan called for demonstration routes between Madison and Wausau, and between Marshfield, Wisconsin Rapids, Stevens Point and Wausau to be implemented between 1997 and 2000. These recommendations were either never implemented or not continued. Phase 2 of the plan, which was to occur between 2000 and 2020, included a contingency fund for two potential abandoned routes between Eau Claire and Wausau, and Wausau

and Green Bay. Given current budget constraints, restoring intercity bus services to Wausau seem unlikely.

Issues and Opportunities

§ Reduced inter-city bus service has limited transportation alternatives in the community. There is a particular concern that low-income people and persons without auto access are impacted by the limited regional passenger bus services.

§ The pickup location for intercity bus service is in the Cedar Creek mall area. Cedar Creek is currently not served by transit. The potential for extending WATS service to Cedar Creek is being considered, which would provide this much needed connection between intra-city and intercity transit services.

§ When the Wausau Transit Center was planned, there was an attempt to integrate intercity bus service within the facility, unfortunately this was unsuccessful. Accessing intercity bus service in the downtown area would provide the best pubic transit access for intercity bus customers.

Rail Passenger Service

Amtrak, the only inter-city rail passenger service in the country, provides Thruway Bus Service to Wausau which technically means that Wausau does have access to Amtrak service. The bus service serves the Milwaukee station and is provided via the Lamers Line. However, the closest Amtrak station is in Portage, WI, 107 miles south of Wausau.

FREIGHT TRANSPORTATION

Major surface transportation facilities with respect to roadways have been described in previous sections covering functional classification, roadway jurisdiction, National Highway System (NHS), roadway geometry and traffic volumes. These transportation facilities serve a vital role in the movement of goods and freight through the Wausau Metropolitan area. Major highway facilities, rail lines and connections, and inter-modal facilities are essential components of freight transportation. These facilities, as related to freight, are described in this section.

Federal Requirements

Throughout the two previous surface transportation reauthorization acts, transportation plans were required to include planning for freight transportation and services. The requirement for freight planning is included both in the US Code (23 USC 134) and the Code of Federal Regulations (23 CFR 450.322). The legislation emphasized that freight planning should not be conducted as an isolated element of the long-range plan, but should be incorporated into the overall planning process.

The passage of the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU) legislation contains many programs aimed at improving global connectivity, freight mobility and economic productivity. Section 5204 (h) Freight Planning and Capacity Building Program includes:

- Initiative to support enhancements to freight planning to better target investment and strengthen decision-making capacity of State and local agencies
- Eligible activities include research, training and education in best practices, peer exchange, data and analysis, agency reorganization, public-private relationship building
- $3.5 million over 4 years (2006-2009)

Section 6001 Transportation Planning for both State and MPOs includes the scope of planning process/factors to consider:

- Economic vitality, especially by enabling global competitiveness, productivity & efficiency
- Increase in mobility for people and freight
- Enhance integration and connectivity of the transportation system for people and freight

The legislation also states that participation by interested parties in the planning process includes freight shippers and providers of freight transportation services

SAFETEA-LU regulations and guidance are not yet available, but are expected in the near future. This plan is prepared under TEA-21 requirements, but will be updated to be SAFETEA-LU compliant at a later date.

Freight Movement

The movement of freight in and out of the Wausau MPA occurs via three modes: rail, truck and air. WisDOT provided a summary file of the inbound and outbound freight movements for 2005 within Marathon County in order to determine potential freight needs within the MPA. The data provided was taken from waybill sampling conducted by The Surface Transportation Board.

This data is a sample of all freight movements throughout the county and values were extrapolated from the samples in order to derive total freight shipments within the County. As such, the tonnage values need to be viewed with some discretion. The more important facts can be drawn about the type of transportation and the general percentages of movement to and from different parts of the country.

Shipping large quantities of low value goods over long distances is most cost-effective by rail, assuming travel time is not a high priority as shipping by rail is slower than other modes. Air freight is often only cost effective for goods that have high-value in relation to their volume or are more time sensitive or both.

Trucks tend to be more cost-effective for shorter distances such as intra-state shipments. Still, many finished goods and perishables are transported cross county. Freight movement via truck is more flexible than rail given the extensive roadway infrastructure and smaller cargos.

Goods shipped to or from outside the state and neighboring states rely more heavily on rail. Bulk commodities are generally shipped by rail.

Table 4-30 illustrates the inbound and outbound freight movement summaries for the County as well as the modal split used for the different types of freight carriers. For Marathon County the inbound shipments by weight from outside Wisconsin have an approximate 80/20 split between rail and truck, respectively. Outbound shipments by weight have roughly a 40/60 split between rail and truck, respectively. Air freight within the County accounts for only a small volume of freight ton shipments for both inbound and outbound freight ton movements.

Internal shipments refer to shipments that originate and terminate within the state of Wisconsin. Inbound-internal shipments terminate within Marathon County while outbound-internal shipments originate within the County. External shipments originate or terminate in a state or country other than Wisconsin.

Internal shipments are fairly dispersed throughout the state with the largest population areas receiving more goods from Marathon County. A larger portion of goods shipped to Marathon County are from rural areas of the State.

Table 4-30: Marathon County Freight Movement Summary (Tons)

Freight Mode	Inbound Internal	Outbound Internal	Internal Total	Inbound External	Outbound External	External Total
Rail	46,803	2,850	49,653	3,051,456	1,021,936	4,073,392
Truck	5,658,979	7,680,705	13,339,684	762,469	1,519,749	2,282,218
Air	0	2	2	167	1,728	1,890
Total Tonnage	5,681,368	7,683,557	13,364,925	3,814,093	2,543,413	6,357,506

Source: WisDOT, STB 2005

External shipments, on the other hand, display definitive patterns. Of the total outbound tonnage, 38 percent is sent to Ohio, Illinois, or Minnesota; 22 percent is shipped to Kansas, Colorado, or Oklahoma; and five percent is shipped to Canada. Overall, 12 percent of the total tonnage is stone, clay, glass or concrete sent to Kansas, Colorado, and Oklahoma.

Of the inbound external freight tonnage, 37 percent comes from Ramsey County, MN. Additionally 28 percent of the inbound external freight comes from Kansas, Colorado, and Oklahoma. Another 12.5 percent of the total external-inbound freight tonnage comes from different regions of Canada

Trucks

Trucks handle almost 90 percent of all freight tonnage shipped within Wisconsin, serving businesses and industries of all sizes and in all parts of the state.

According to WisDOT's *2001 Origin-Destination Survey for the Wausau Area Transportation Study*, heavy trucks accounted for 15 percent of all trips crossing the parameter of the Wausau planning area. US 51, I-39 and STH 29 east and west saw the highest numbers and percentages of heavy truck use. The four stations covering these highways saw similar truck volumes, between 2,800 on STH 29 east of Weston and 3,700 on I-39 south of Mosinee.

Results from the origin-destination survey found that heavy trucks accounted for almost 21 percent of the all traffic at the STH 29 east station. The three other freeway/expressway stations had truck percentages between 16 and 17 percent of the total traffic volume. Several County highways had truck percentages between 10 and 17 percent, although the number of vehicles were relatively low. However, CTH K north of the metro area had the highest number of heavy trucks of the non-freeway/expressway roads with 578, this accounted for eight percent of the approximately 7,300 total vehicle trips recorded.

Truck Routes

The designation of truck routes within municipal areas allows for the community to direct truck traffic to roads that are best suited for this type of use. However, jurisdictions cannot prohibit trucks from publicly funded roadways. There are however some access constraints due to weight-limit restrictions on some County Highways.

The City of Wausau is the only municipality to designate truck routes on local roads within the city. These truck routes are identified within the *1996 Wausau Area Long-Range Transportation Plan* and are illustrated in Figure 4-29. State Highways 51, Business 51, 29, and on CTH K and CTH A are also designated truck routes through the Wausau MPA.

Figure 4-29 identifies the locations of trucking and courier services (excluding air) within the Wausau MPA. Most of these facilities appear to be clustered along or near the major routes of I-39/US 51 and/or STH 29. However, a variety of commercial activities are trip generators for trucking and access to these land use areas and planned land use areas need to be considered with respect to truck movements.

2001 Truck Counts

Figure 4-29 indicates heavy commercial vehicle average annual daily traffic volumes (i.e. truck counts) in 2001. This data differs from the origin-destination survey data described previously in this section. Heavy commercial vehicle counts were conducted at various locations within the Wausau area, not just at the MPA boundary. Only a relatively small number of sites were counted for trucks.

According to this data source, US 51/STH 29 had an average daily truck count of almost 5,000 vehicles per day (vpd). The highest truck volumes were on the freeways system. Excluding freeway counts, the highest truck volume recorded was on CTH K with 314 vpd. Most non-freeway counts were about 100 vpd or less. The limited number truck count sites do not provide enough information to fully understand the truck volumes and movements through the Wausau MPA.

Rail Freight

Rail is an efficient and cost-effective mode for long distant freight shipping, particularly for low value bulk commodities, such as coal and grain. With the advent of multi-modal shipping, containerization of freight, and trailers on train flatcars, railroads have experienced a resurgence since the 1980s. Once relegated to moving primarily bulk commodities, freight railroads are moving more finished goods. A benefit of shifting freight from trucks to rail is that is reduces the amount of truck traffic on the highways creating more room for other vehicle traffic. Less truck traffic also translates into less wear and damage to publicly funded roads.

Rail Facilities and Service

As shown on Figure 4-29, the only active rail line through the Wausau Metropolitan Area runs roughly parallel to the Wisconsin River and I-39/US 51 corridor through Marathon County. The tracks are owned and operated by the Wisconsin Central Limited, which is owned by Canadian National (CN) railroad. This line connects to Mosinee, where there is a rail yard serving the Mosinee Paper Mill. Use of an additional rail spur occurs at the paper mill in Brokaw.

Union Pacific railroad tracks (formerly CNW) parallels STH 29 west of US 51 and serves the Wausau West Industrial Park. Rail spurs currently allow access to rail freight movements for the industrial areas located within the City of Wausau. Union Pacific merged with the Chicago and Northwestern (CNW) Railroad in 1995. Union Pacific tracks also connect to the east into the Village of Weston approximately parallel to County Road JJ. CNW stopped service between Green Bay and Wausau in 1993. Right-of-way for this corridor was used to develop the Mountain-Bay Trail running between the Village of Weston and Green Bay.

An abandoned railroad line is indicated west of the Wausau's western industrial parks, however, it is believed that much of the right-of-way has been sold. Union Pacific does not list Wausau on route maps, which suggests these tracks may not actually be active or they are used by another railroad. There currently is not a continuous active rail line running east and west through the Wausau MPA.

State Rail System Planning

***Wisconsin Rail Issues and Opportunities Report* (2004) –** WisDOT completed a Statewide Railroad Issues and Opportunities report in 2004. The *Wisconsin Rail Issues and Opportunities Report* summarizes critical rail transportation issues, suggests opportunities for public sector involvement, and points out areas where additional research is needed. This report reflects input and guidance from a variety of sources including a State Rail Advisory Committee and a Rail Industry and Shippers' Advisory Group.

The findings from this report serve as a starting point for the rail component of Connections 2030, WisDOT's long-range all-mode transportation plan. The Connections 2030 process will provide a comprehensive multimodal perspective from which rail issues can be evaluated. The information in this report was originally intended for a State Rail Plan 2020. WisDOT decided to incorporate the rail planning efforts into Connections 2030, and release the Issues and Opportunities Report in the interim.

Issues and Opportunities

§ It is anticipated that rail traffic will increase in the Village of Kronenwetter, and in the Village of Rothschild as a result of a new WPS power plant at the site of the existing three power plants.

- The Wisconsin Central Limited mainline provides noise and safety concerns since the line runs directly through several residential neighborhoods in the City of Wausau.
- The Village of Weston is considering a rail drayage site in order to improve rail access for businesses located within the village.
- At-grade intersections with the rail lines provide safety concerns as pedestrians and vehicles cross the rail lines especially along Business 51 in Rothschild and Kronenwetter.
- The Village of Kronenwetter is looking at ways of attracting businesses that could take advantage of railroad service. If they are successful, a series of railroad spurs could develop between the main line and the Wisconsin River.

Air Freight

One point of access currently exists within the MPA for the potential movement of goods via airfreight services. Nine airfreight and express flights occur daily at the Central Wisconsin Airport (CWA). The airport is directly accessible via Interstate 39 and is located directly east of Mosinee. The airport facilities are currently large enough to handle any reasonable increase in airfreight traffic.

CWA enplaned 3.01 million pounds of cargo in 2002 and 3.7 million pounds in 2003, a 22 percent increase.[5] Of the nine Air Carrier/Cargo classified airports in Wisconsin, CWA reported the fourth highest amount of enplaned cargo in 2003. According to the Wisconsin State Airport Plan 2020, CWA is forecasted to maintain aircraft operations of commercial air cargo carriers at 2,080 annually.

Freight in the Future

With the passage of SAFETEA-LU, there will likely be an increased interest in freight movements and planning. The legislation may also provide funding resources to allow communities to better address their freight issues.

The travel demand forecasts discussed in the next chapter indicate truck traffic growing at a greater rate than automobile traffic. Increased truck traffic will mean greater wear and tear on highways and greater congestion impacts. More truck traffic will also require greater attention to truck access to destinations within communities.

[5] *Wisconsin Aviation Activity 2003*, Wisconsin Department of Transportation Bureau of Aeronautics, March 2004.

CONCLUSION

This chapter covered the major components that make up the Wausau MPA's transportation system, including roadways, transit, bicycles, pedestrians, regional passenger systems, and freight. The Chapter provided a summary of travel behaviors on the system in order to better understand how the transportation system is used. The information included hopefully provides a greater understanding of the strengths and weaknesses of the area's transportation system in order to determine how best to achieve the plan's goals and objectives.

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CHAPTER 5 – SAFETY ANALYSIS

INTRODUCTION

The purpose of the safety analysis is to identify crash patterns in order to reduce the number and severity of crashes by adopting suitable mitigation strategies.

A typical intersection will experience less than one crash per million vehicles that enter it. Crashes occur as a result of various factors including the driver, vehicle, roadway, and environment. Data provided by the Wisconsin Department of Transportation (WisDOT) from 1999 to 2004 was used to conduct the Safety Analysis.

The objective of the analysis was to identify roadway segments with safety problems including:

- Segments with higher than average crash rates
- Segments with a higher than average number of fatal and incapacitating crashes
- Segments with a higher than average number of run-off-the-road crashes
- Segments with a higher than average number of intersection related crashes

URS conducted the portion of the safety analysis that focused on data provided for the local road network throughout the MPO beyond the highway network. Accident data from WisDOT was assigned to the nearest intersection to geographically display local roads and intersections that may warrant additional study.

The portion of the safety analysis conducted by TranSmart Technologies focused on crash data available from WisDOT concerning the State Highways within the Wausau MPA. According to WisDOT safety analysis guidelines, TranSmart Technologies analyzed high traffic areas and identified standards to determine areas that provide safety concerns for all types of traffic.

METHODOLOGY

Crash Volumes

Spatial Assignment

The latter portion of the safety analysis for the Wausau MPA was conducted using WisDOT vehicular crash data between 1994 and 2004, Bicycle and Pedestrian crash data between 2002 and 2004, and railroad crossing-related crash data between 2001 and 2005. The crash location data provided information regarding injuries, fatalities, relationship to a specific intersection, and any contributing driving conditions. These crash location datasets were spatially assigned to the nearest roadway intersection in order to display and summarize the information within geographic areas within the MPA from 1999-2004.

In order to more accurately depict accident locations along the local road network, it is suggested that the GPS location of each incident also be included in the statistical data. This value allows for a more detailed analysis to occur during future safety analyses. By identifying the specific location of the accident it will be possible to potentially identify problem segments within the roadway without needing to examine the full details of each crash.

Crash Volumes vs. Crash Rates

Crashes involving automobiles are addressed in two different ways: crash volume and crash rate. The total number of crashes is essential for identifying problem areas; however, this statistic does not draw a distinction between high and low traffic volume roads.

In other words, two intersections having the same number of crashes annually may carry significantly different traffic volumes. The lower volume intersection would indicate a more serious safety concern as there is a greater probability for crashes. Some roadways may have such low traffic volumes, that one or two isolated crashes could result in a calculated crash rate that greatly exaggerates the actual safety problem.

By considering both the volume of crashes and the crash rates, actual safety problems present themselves.

WisDOT Meta-Manager Crash Rates

The Meta-Manager system is used by WisDOT to evaluate threshold information for programming considerations. It provides standard data sets (sheets) containing a “systems-level” analysis of the State Trunk Highway Network including safety, mobility, and pavement improvement analyses. The analysis is provided for segments of approximately one mile in length and is based on data that is updated quarterly by WisDOT. The safety data provides crash data by segment including:

- 5 year average crash rate for 1997-2001 (crashes/100 Million Vehicle Miles Traveled)
- Total number of crashes in each year (1997-2001)
- 5 year average number of crashes per mile
- 5 year average number of severe injury and fatality crashes
- Proportion of various types of crashes of total crashes including run off the road and intersection crashes
- Number of 0.1 mile long "spots" with safety problems

Based on this data, Meta-Manager also provides a set of flags (1 through 10) that indicate whether a segment has crash rates or proportions of particular types of crashes that are above the mean for the segment's State Trunk Highway (STH) Class as shown in the table below. A standard deviation of 1.0 above the mean value is used as the threshold to identify statistical outliers, and significant problem areas, for the safety analysis. Any segments with values at or above the standard deviation threshold are "flagged" for the particular problem.

Table 5-1: Statewide "Mean" Values for Crash Types

Flag Type	**State Trunk Highway Travel Classes (Groups)**									
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**
Crash Rate	*46.00*	*53.00*	*105.59*	*94.36*	*113.08*	*187.45*	*105.58*	*360.68*	*426.64*	*296.95*
Death/Injury (AK)	*0.0642*	*0.1035*	*0.0850*	*0.1081*	*0.1047*	*0.1096*	*0.0266*	*0.0334*	*0.0368*	*0.0360*
Run-off-Road	*0.3388*	*0.2144*	*0.2129*	*0.3375*	*0.4264*	*0.5274*	*0.2998*	*0.0832*	*0.0989*	*0.1062*
Intersection	*0.0795*	*0.3266*	*0.4048*	*0.2802*	*0.1950*	*0.1495*	*0.1283*	*0.6137*	*0.5861*	*0.5370*

Source: WisDOT

1 = Rural and Small Urban Freeways.
2 = Rural and Small Urban Expressways.
3 = Rural STN – ADT greater than 3500.
4 = Rural STN – ADT between 2000 and 3500.
5 = Rural STN – ADT between 750 and 2000.
6 = Rural STN – ADT less than 750.
7 = Large Urban Freeways.
8 = Large Urban Divided Highways and One Way.
9 = Large Urban Undivided Highways.
10 = Small Urban STN.

Using ArcGIS and Meta-Manager data set maps were generated for the flagged STH safety problem segments located within the Wausau MPA. These maps provide information on the locations of safety problems as well as the types of problems. Tables were then developed using the maps and the Meta-Manager data to show the locations where each type of problem was most severe. For each of the tables, data from the corresponding Meta-Manager segment within a location was aggregated to provide a single average rate or proportion for the location. Locations include all connected segments on the same STH that were flagged for a particular problem.

RESULTS

Vehicular-Vehicular and Single Vehicular Crashes

Crash Rates

Vehicular crash rates were examined as a part of this study; however, the rates did not yield any informative results given the low volumes of estimated traffic on local roads. The crash rates within the MPA do not exceed .1% per Million Entering Vehicles (MEV) at any location, meaning that crash rates are actually quite low throughout the MPA when compared to the number of vehicles traveling along that segment of road.

Crash Volumes

Figure 5-1 illustrates the average number of crashes per year at or near intersections throughout the MPA from 1999-2004. The average values do not necessarily correspond to intersection related crashes; however, the data is displayed at the intersections based upon the spatial assignment. The greatest concentration of crashes occurs in the city of Wausau. This higher number of crashes per year corresponds to higher traffic volumes and therefore actually demonstrates a very low level of crashes per MEV. Roadway segments, as assigned to the intersections displayed, that illustrate the highest level of average crashes demonstrate an immediate safety concern.

Table 5-2 provides detailed intersection / non-intersection related crash statistics for those roadway segments within the MPA that exhibited the highest number of crashes from 1999 – 2004. The crash data identified the road that the crash occurred on and the nearest cross street. The street that the crash occurred on is listed first and the nearest cross street is listed second. An intersection may be listed twice; for example, US-51 @ STH 29 indicates crashes on US-51 at or near the cross street STH 29 and STH 29 @ US 51 indicates crashes on STH 29 at or near the cross street US-51. Since not all crashes are intersection-related, these crash locations are listed separately.

Figure 5-2 displays these intersections and the ratio of intersection/non-intersection related crashes. The symbols on this map are proportional to the number accidents occurring at each intersection.

Eight roadway segments within this group can attribute over 70% of their crashes to an intersection related incident. These intersections include: Stewart Avenue at 17th Avenue, Scott Street at 2nd Street, Scott Street at 5th Street, 6th Street at Bridge Street, Bus-51 at CTH-XX, CTH-JJ at Camp Phillips Road, and Grand Avenue at Town Line Road.

figure 5-1

Vehicular Crashes per Year

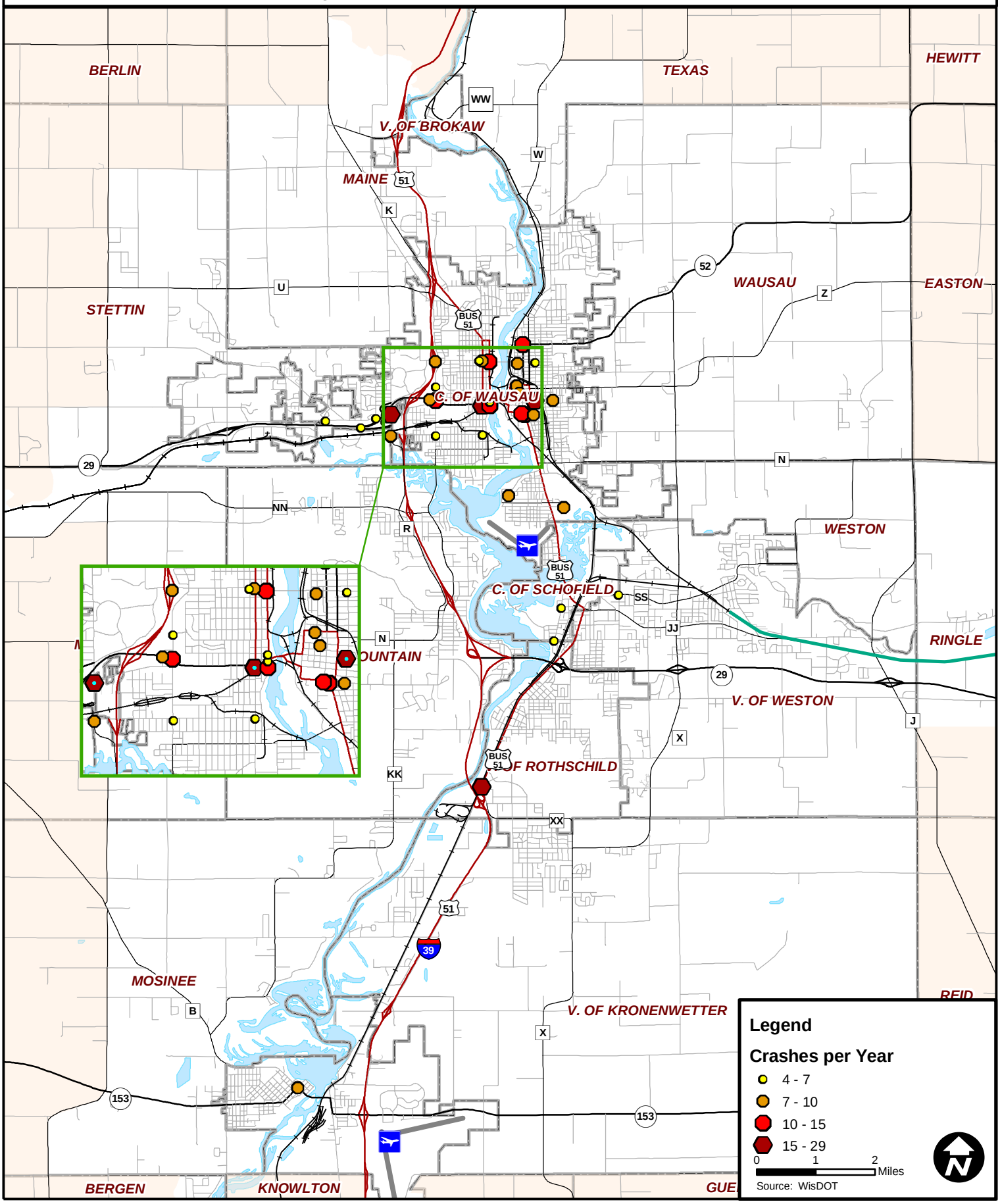

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figure 5-2

Intersection-Related Vehicular Crashes 1999 - 2004

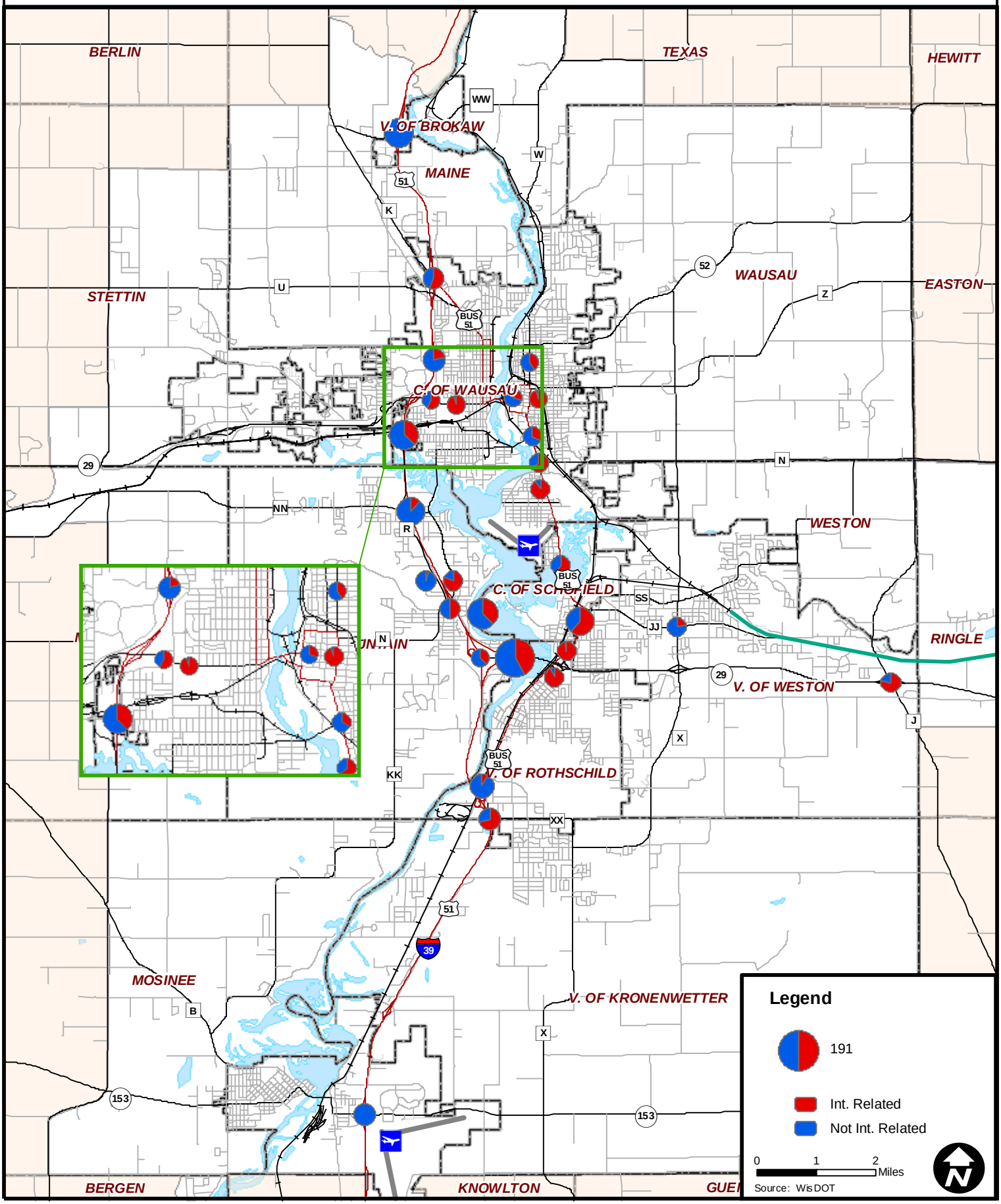

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Table 5-2: Highest Crash Numbers in the MPA, 1999-2004

On-Street at Nearest Cross Street	Crashes	Intersection Related		Non-Intersection Related	
	Total	Count	%	Count	%
STH-29 @ US-51	191	81	42%	110	58%
US-51 @ CTH-N	120	45	38%	75	63%
US-51 @ STH-29	109	41	38%	68	62%
US-51 @ CTH-WW	109	5	5%	104	95%
BUS-51 @ CTH-XX	102	87	85%	15	15%
RIB MOUNTAIN DR @ US-51	101	61	60%	40	40%
US-51 @ SHERMAN ST	100	11	11%	89	89%
RIB MOUNTAIN DR @ MORNING GLORY LN	99	60	61%	39	39%
I-39 @ STH-153	74	6	8%	68	92%
US-51 @ CTH-NN	63	13	21%	50	79%
GRAND AVE @ TOWN LINE RD	59	42	71%	17	29%
I-39 @ US-51	56	0	0%	56	100%
STH-29 @ CTH-J	55	2	4%	53	96%
GRAND AVE @ THOMAS ST	55	28	51%	27	49%
CTH-JJ @ CAMP PHILLIPS RD	52	41	79%	11	21%
6th ST @ BRIDGE ST	51	47	92%	4	8%
STH-29 @ GRAND AVE	45	15	33%	30	67%
GRAND AVE @ STURGEON EDDY RD	45	27	60%	18	40%
STEWART AVE @ 17th AVE	45	44	98%	1	2%
GRAND AVE @ ELLEN ST	44	10	23%	34	77%
US-51 @ BRIDGE ST	43	18	42%	25	58%
SCOTT ST @ 2nd ST	43	41	95%	2	5%
STH-52 @ 18th AVE	41	24	59%	17	41%
GRAND AVE @ RADTKE ST	41	12	29%	29	71%
SCOTT ST @ 5th ST	41	39	95%	2	5%
US-51 @ NEUPERT AVE	40	15	38%	25	63%
STH-29 @ US-51	191	81	42%	110	58%

Source: WisDOT Motor Vehicles Traffic Crash Section

Crashes at Railroad Crossings

Data regarding railway-crossing crashes was summarized from WisDOT crash statistics by railroad crossing and illustrated in Figure 5-3. Again, many of the crashes shown are within the City of Wausau due to the heavy daily traffic volumes. Another concern arises when examining the crash locations within northern Kronenwetter and southern Rothschild. Within less than a mile there have been six crashes involving railway crossings within the last four years. The railway crossing on Morrison Avenue near Business 51 in Rothschild has seen three crashes over that period; the most recorded within the MPA.

Safety concerns arise when examining the railway crossing data provided by WisDOT within the MPA since many of the crossings do not even have pavement markings informing drivers to be wary of oncoming trains. Warning systems such as pavement markings, flashing signals, or automated cross-bucks may help to reduce the number and severity of crashes involving railroad crossings.

figure 5-3

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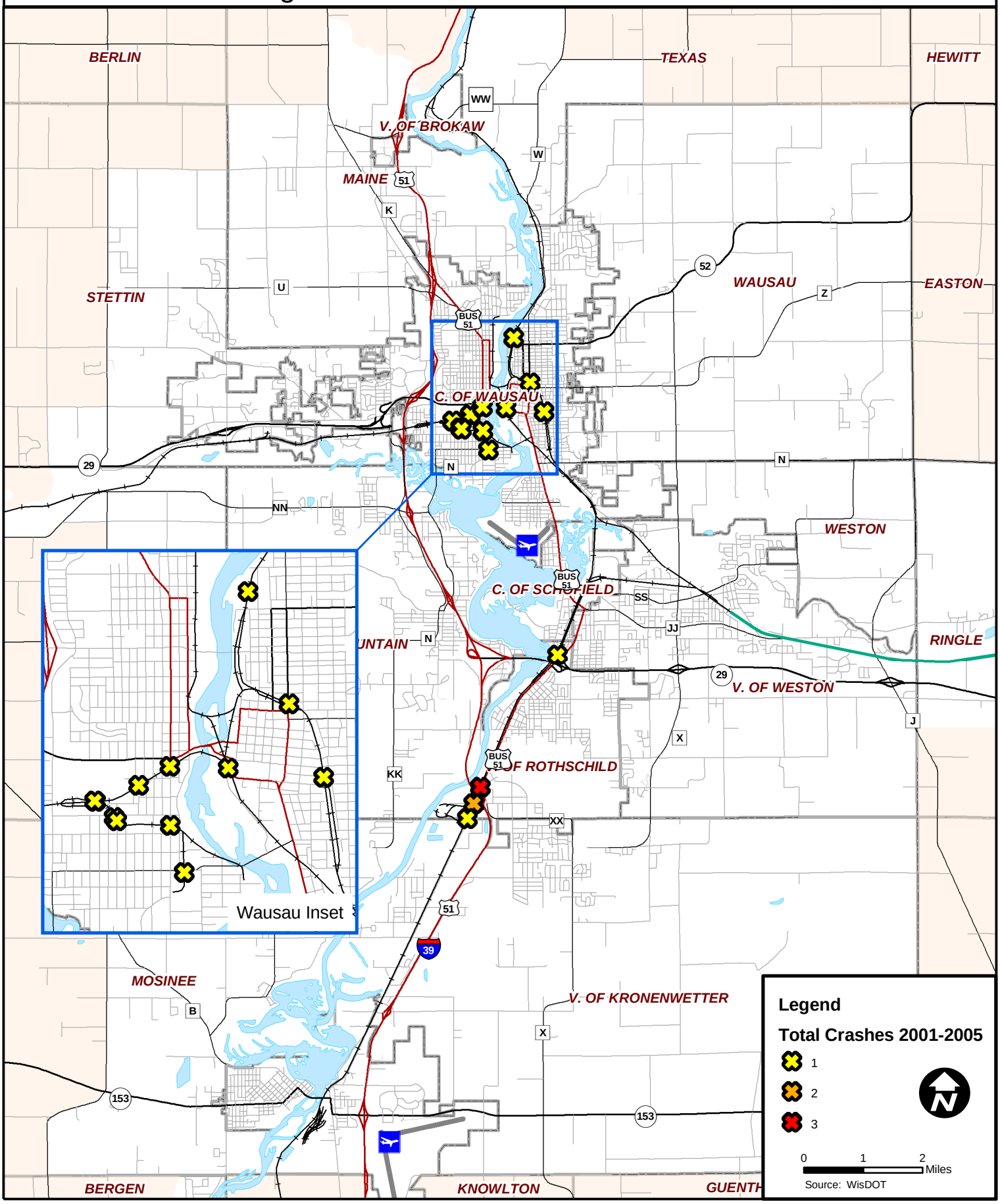
Railroad Crossing Crashes



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Crash Summary

Table 5-3 displays the number of crashes that have occurred by day of week from 1994 to 2004. WisDOT provided the crash data used in this analysis. Figure 5-4 provides a visual representation of the data presented within Table 5-3.

Table 5-3: Crash Summary by Day of Week

		Day of Week													
Year	Total	Mon		Tues		Wed		Thurs		Fri		Sat		Sun	
	Count	Count	%	Count	%	Count	%	Count	%	Count	%	Count	%	Count	%
1994	2923	397	14%	365	12%	420	14%	463	16%	561	19%	384	13%	333	11%
1995	3180	431	14%	435	14%	470	15%	450	14%	643	20%	423	13%	328	10%
1996	3023	481	16%	417	14%	429	14%	454	15%	560	19%	401	13%	281	9%
1997	2581	322	12%	368	14%	404	16%	399	15%	432	17%	365	14%	291	11%
1998	2489	356	14%	384	15%	357	14%	381	15%	410	16%	287	12%	314	13%
1999	2660	349	13%	380	14%	426	16%	407	15%	462	17%	340	13%	296	11%
2000	2755	350	13%	379	14%	429	16%	468	17%	445	16%	359	13%	325	12%
2001	2356	333	14%	319	14%	357	15%	338	14%	361	15%	356	15%	292	12%
2002	2513	367	15%	305	12%	382	15%	366	15%	439	17%	380	15%	274	11%
2003	2483	391	16%	363	15%	375	15%	330	13%	442	18%	362	15%	220	9%
2004	2615	404	15%	336	13%	358	14%	431	16%	510	20%	335	13%	241	9%

Source: WisDOT Motor Vehicles Traffic Crash Section

Figure 5-4: Summary of Crashes by Day of Week

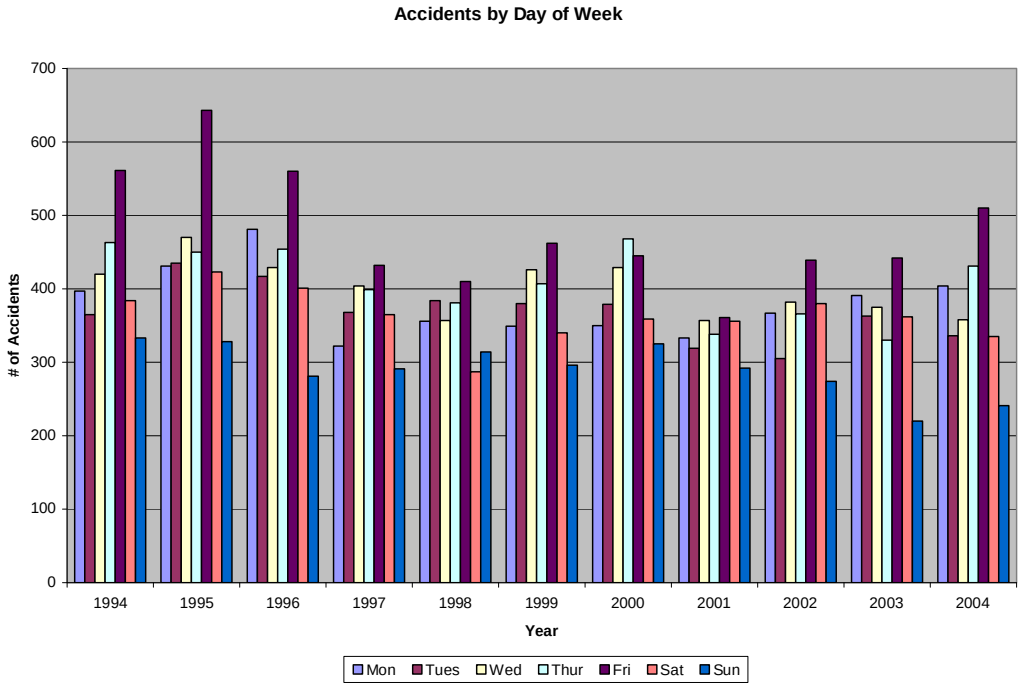
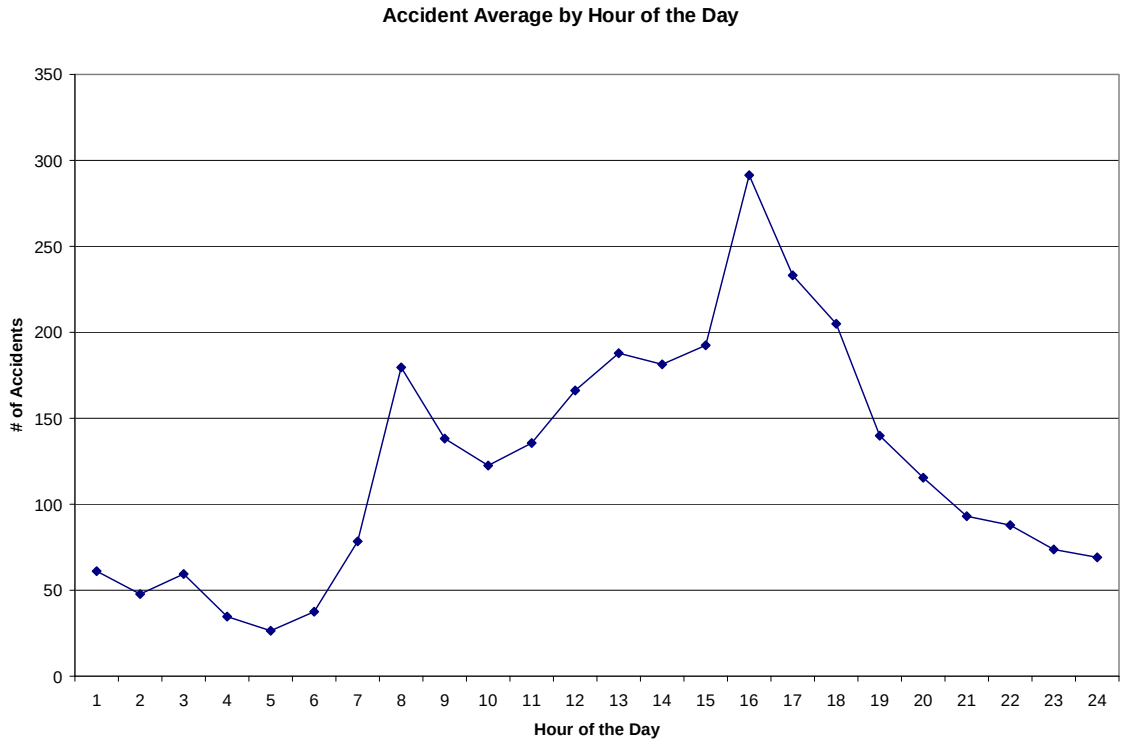


Figure 5-5 displays the average number of crashes that has occurred within the MPA by hour of the day, with the highest portion of crashes occurring during the evening peak hours of 3:00 – 6:00 pm. This information provides insight into the daily patterns of high traffic volumes as well as the safety concerns associated with large volumes of traffic. Presentation of the data occurs as an average given the uniformity of the data from year to year.

Figure 5-5: Crash Average by time of day



Source: WisDOT Motor Vehicles Traffic Crash Section

Table 5-4 provides the final summary information for the remaining considerations when examining patterns within the crash data. Crashes that were determined to be intersection related are assigned this value based upon the WisDOT classification system, most often reported within the accident report filed by the local law enforcement agency. Those incidents that had road conditions that contributed to the crash were also coded as such by the local law enforcement agency.

Table 5-4: Crash Summary

Year	Total	Intersection Related		Non-Intersection Related		Road Condition Related		Single Car Accident		Multi Car Accident		Pedestrian Involved		Bicycle Involved	
		Count	%	Count	%	Count	%	Count	%	Count	%	Count	%	Count	%
1994	2923	1287	44%	1636	56%	1136	39%	863	30%	2060	70%	24	1%	31	1%
1995	3180	1358	43%	1822	57%	1286	40%	980	31%	2200	69%	27	1%	36	1%
1996	3023	1254	41%	1769	59%	1516	50%	974	32%	2049	68%	22	1%	21	1%
1997	2581	1084	42%	1497	58%	1106	43%	889	34%	1692	66%	15	1%	25	1%
1998	2489	1039	42%	1450	58%	857	34%	892	36%	1597	64%	22	1%	23	1%
1999	2660	1194	45%	1466	55%	887	33%	798	30%	1862	70%	17	1%	21	1%
2000	2755	1202	44%	1553	56%	1212	44%	972	35%	1783	65%	26	1%	17	1%
2001	2356	1046	44%	1310	56%	799	34%	832	35%	1524	65%	18	1%	12	1%
2002	2513	1066	42%	1447	58%	871	35%	961	38%	1552	62%	17	1%	16	1%
2003	2483	1103	44%	1380	56%	934	38%	905	36%	1578	64%	15	1%	19	1%
2004	2615	1137	43%	1478	57%	1068	41%	924	35%	1691	65%	13	0%	16	1%

Source: WisDOT Motor Vehicles Traffic Crash Section

WisDOT Meta-Manager Crash Analysis

Table 5-5 and figure 5-6 show the locations of highway segments within the Wausau MPA that have 5-year (1999-2004) average crash rates (crashes/100 million vehicle miles traveled) above the statewide "mean" rate for State Trunk Highways in their travel class. This value was calculated by averaging all of the segment 5-year crash rates for each location.

Figure 5-6 displays these locations for the 15 segments of road with the highest average crash rate along state highways as well as their associated rank. The calculation of each rate was averaged using all of the roadway segments within close proximity. Caution needs to be taken in interpreting these results. It is unclear what the specific safety issues are relating to these road segments. As such, additional analysis is needed to determine what, if any, specific safety problems exist, and what potential changes could be made to improve safety at these locations.

Table 5-5: Locations with High Average Crash Rates

High Crash Rate Ranking	Highway	From	To	Ave Crash Rate
1	Bus-51	Badger Ave	14th Ave	4,666
2	Bus-51	Eagles Nest Blvd	Imperial Ave	3,600
3	Bus-51	Schofield Ave	STH 29	1,487
4	Bus-51	STH 52	CTH N	1,424
5	STH 52	18th Ave	11th Ave	1,406
6	STH 153	Peplin Rd	Mile Rd	1,284
7	STH 52	6th St	5th St	1,261
8	STH 52	Bus-51	10th St	1,116
9	STH 52	8th Ave	Bus-51	1,101
10	Bus-51	Union Ave	STH 52 (W)	1,021
11	Bus-51	Robb St	CTH SS	931
12	Bus-51	Union Ave	STH 52 (E)	925
13	Bus-51	Division St	CTH N	907
14	Bus-51	STH 52	Division St	891
15	STH 153	CWA Dr	East View Dr	858

Source: WisDOT Meta-Manager data information system

figure 5-6

Locations with High Crash Rates

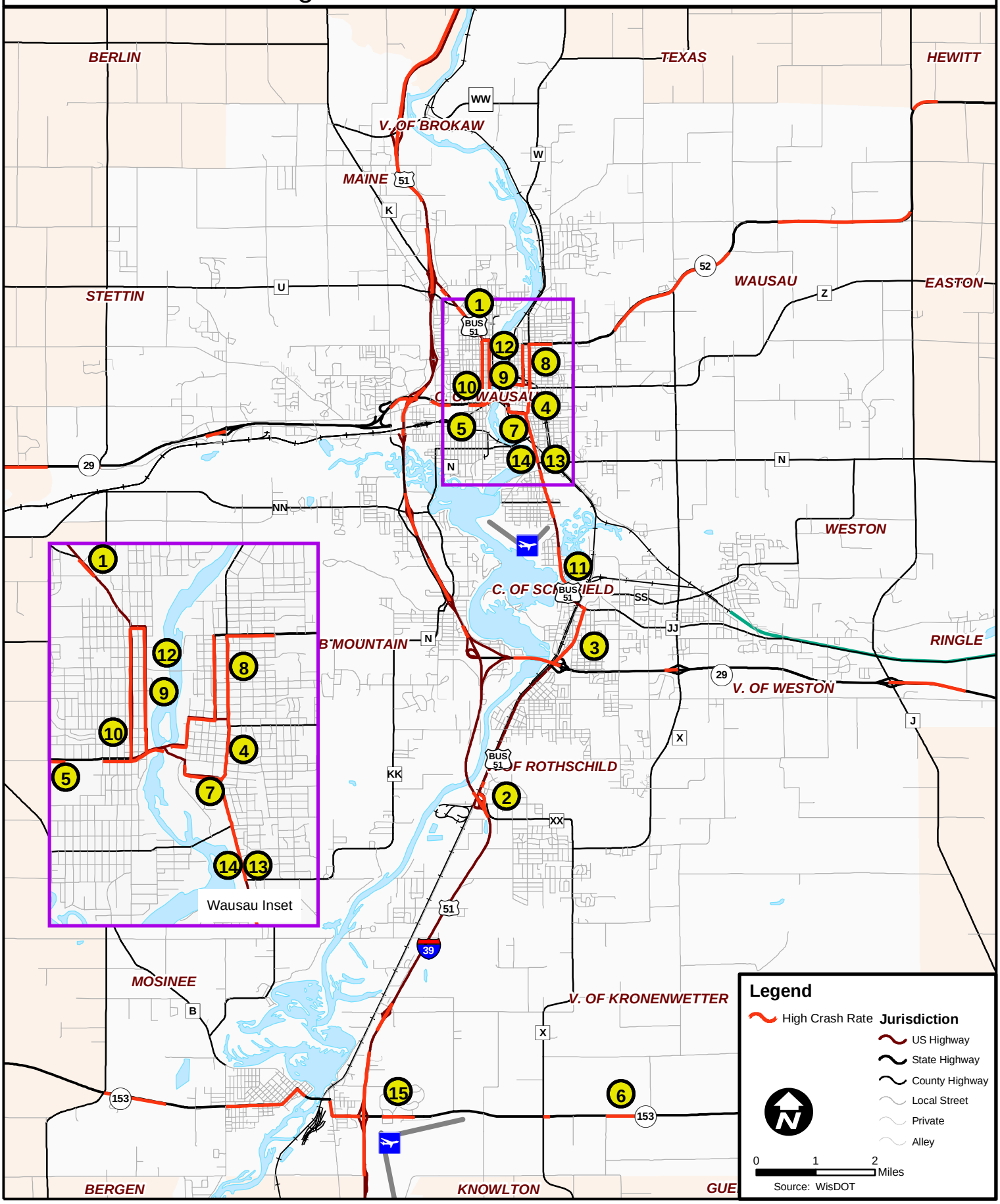


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Table 5-6 and Figure 5-7 display the highway segments that have proportions of "fatal and incapacitating injury" crashes that are above the statewide "mean" values for State Trunk Highways in their travel class.

Table 5-6: Locations with Unusually High Fatal and Severe Injury Crashes

Ranking	Hwy	From	To	Prop. Fatal/Severe Inj.
1	WI-153	County Road O	Sandy Ln	0.333
2	BUS-51	Becker St	Military Rd	0.1538
3	US-51	Cassidy Dr	Merrill Ave	0.1389
4	US-51	WI-29/WI-52	WI-29/WI-52	0.0645
5	US-51	North Mountain Rd	Oriole Ln	0.069

Source: WisDOT Meta-Manager data information system

Table 5-7 and Figure 5-8 display the locations of highway segments that exhibit higher than average proportions of run-off-the-road crashes, defined as a crash where a vehicle leaves the paved surface and shoulder. Higher than average rates are defined for the purposes of this analysis as locations that are above the statewide "mean" values for State Trunk Highways in their travel class.

Table 5-7: Locations with Unusually High Run off the Road Crashes

Rank	Hwy	From	To	ROR Crashes
1	US-51	Bissel St	WI-29	1.00
2	US-51	Fern Ln	Iris Ln	1.00
3	US-51	Kellar Dr	County Rd WW	0.55
4	US-51	County Rd XX	Kowalski Rd	0.45
5	WI-153	Fremont St	Pine St	0.40
6	WI-29	72nd Ave	Roberta Ln	0.29
7	US-51-BUS	WI-29	Military Rd	0.19

Source: WisDOT Meta-Manager data information system

Table 5-8 and Figure 5-9 illustrate the locations of highway segments that have proportions of intersection related crashes that are above the statewide "mean" values for State Trunk Highways in their travel class.

Table 5-8: Locations with Unusually High Intersection Related Crashes

Rank	Hwy	From	To	Prop. Of Int. Crashes
1	US-51-BUS	3rd Ave	1st Ave	0.88
2	US-51-BUS	Badger Ave	14th Ave	0.88
3	WI-52	5th St	1st St	0.81
4	WI-153	West View Dr	East View Dr	0.80
5	WI-52	US-BUS-51	Scott St	0.79
6	US-51-BUS	5th St	Forest St	0.79
7	WI-52	6th St	Bridge St	0.76
8	WI-52	18th Ave	11th Ave	0.73
9	WI-153	4th St	Edison St	0.70
10	US-51-BUS	Bridge St	WI-52	0.70

Source: WisDOT Meta-Manager data information system

figure 5-7

High Fatal and Severe Injury Crash Locations

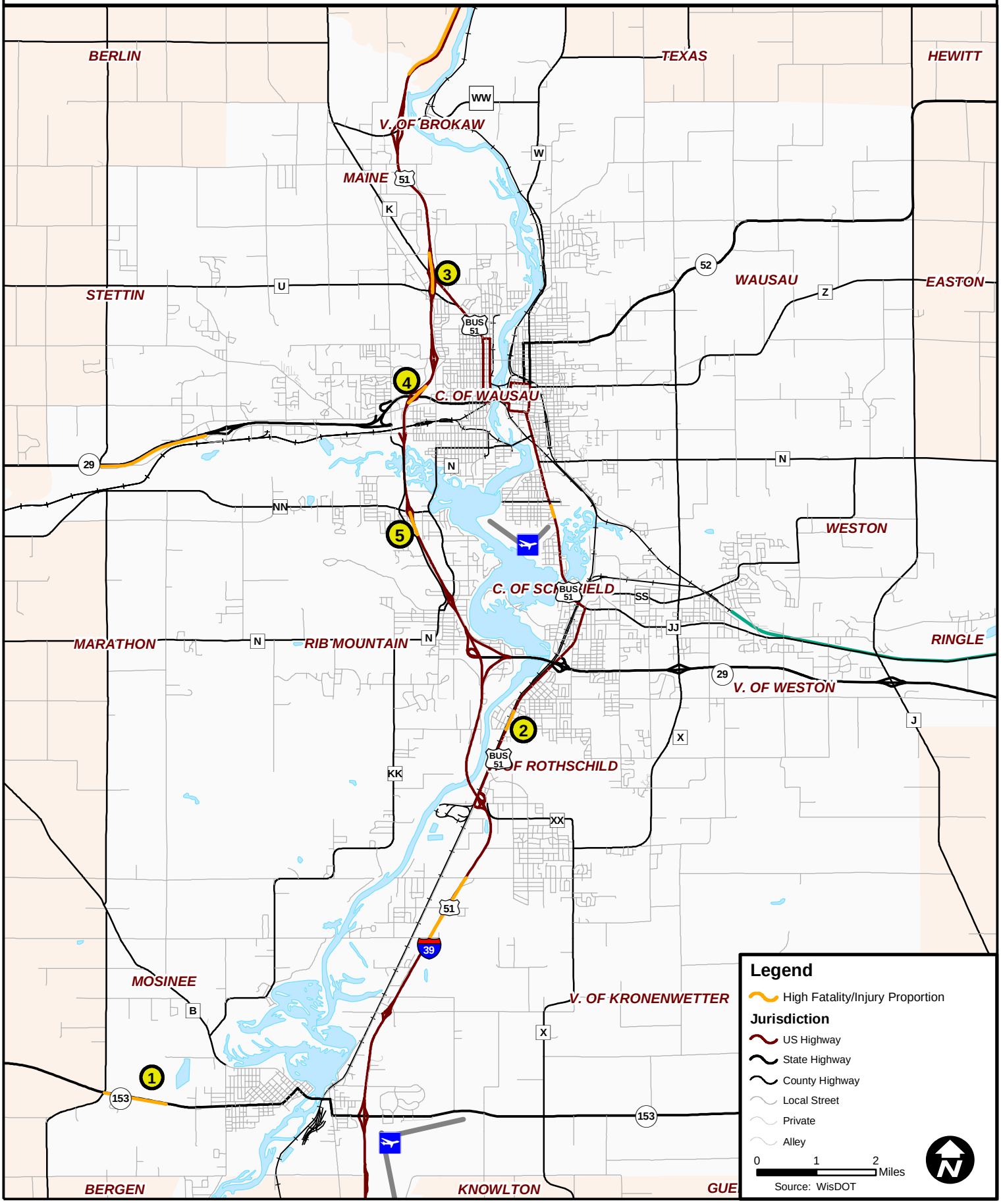

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figure 5-8

High Run-off the Road Crashes Locations

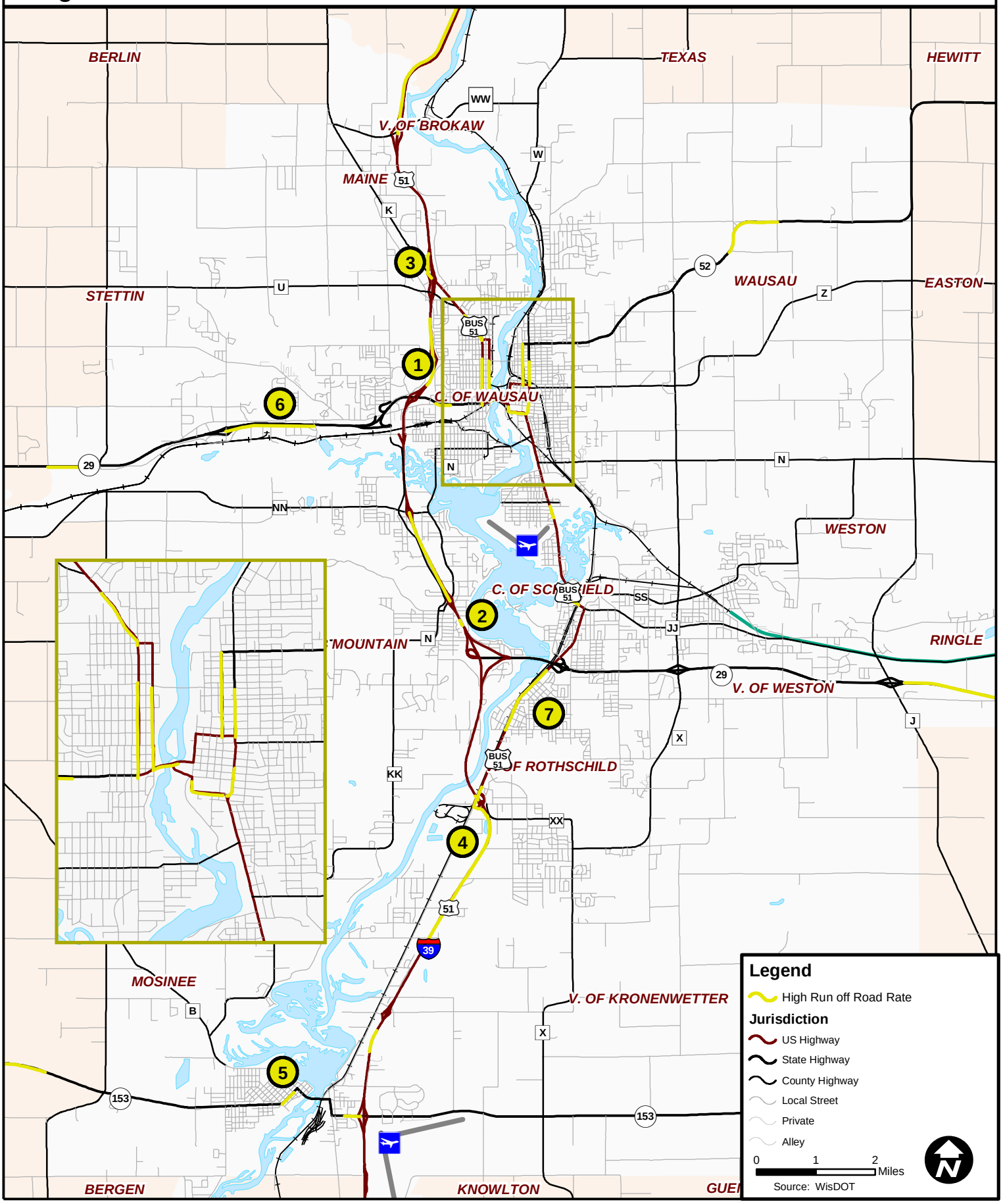

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figure 5-9

URS

High Intersection-related Crash Locations

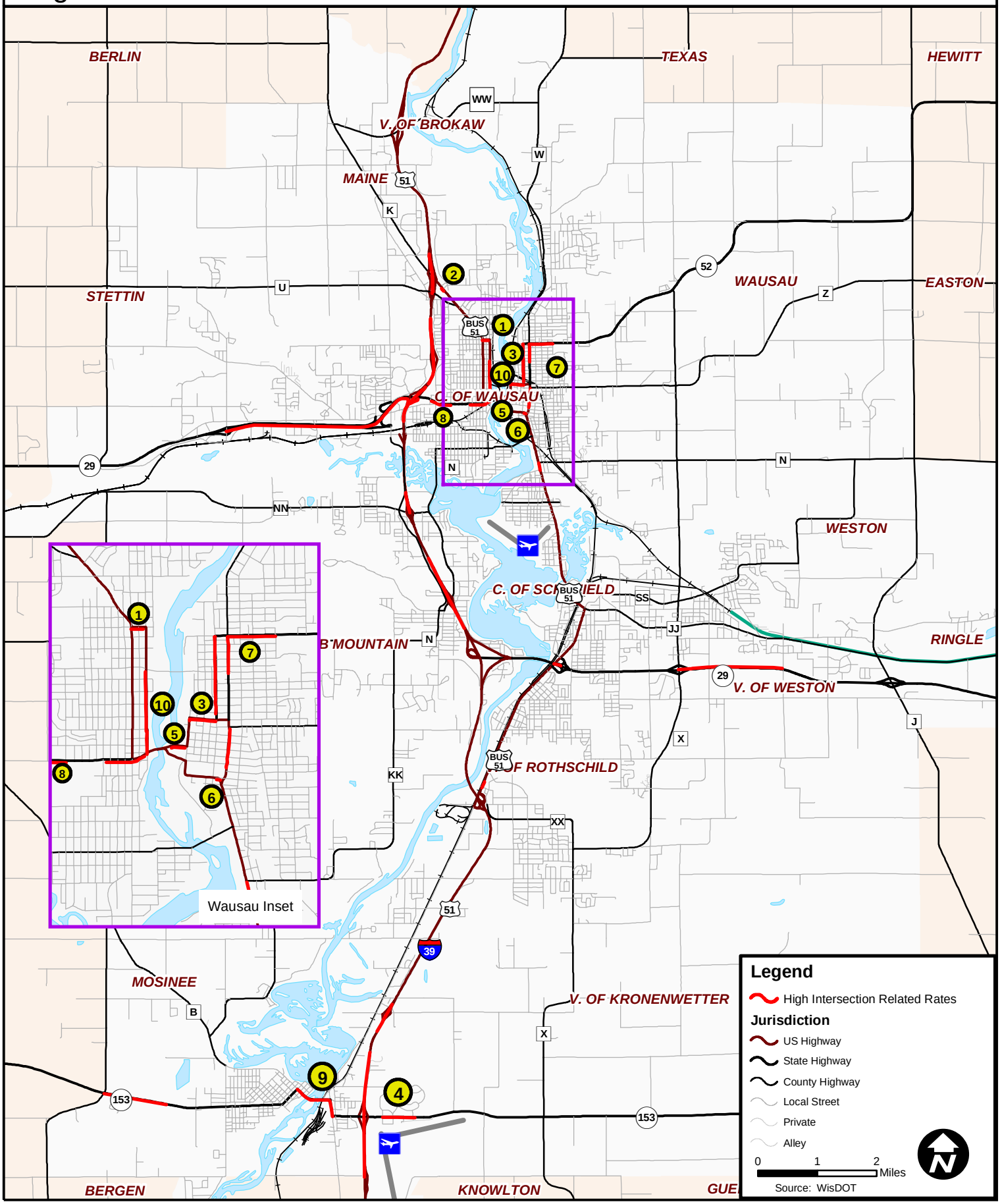

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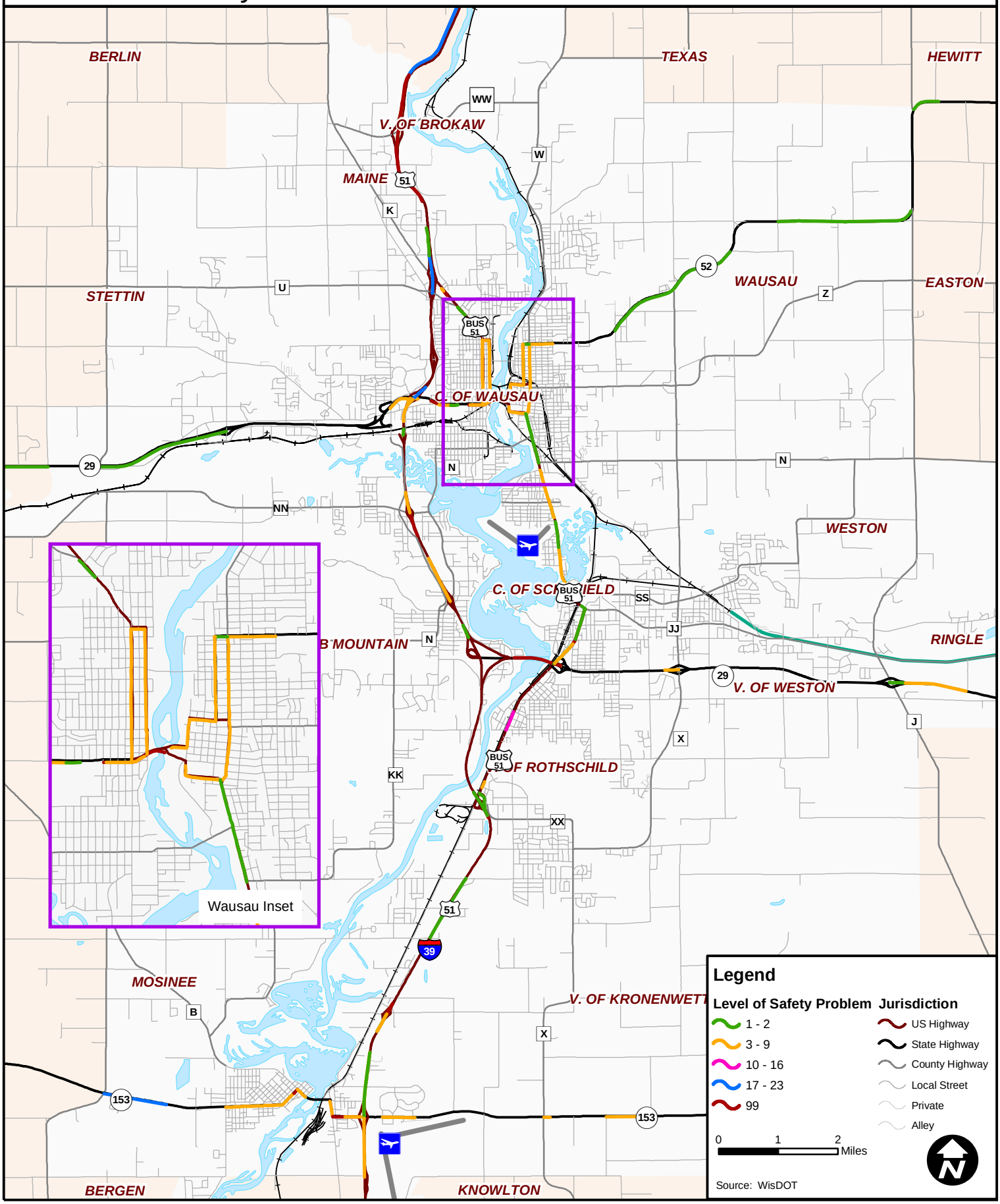
figure 5-10

Level of Safety Problem



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Meta-Manager assigns each segment with a score that indicates the Level of Safety Problem based on the combination of safety problems indicated by the flags and on the number of crash spots in each segment. A higher score indicates a more severe problem. The Level of Safety Problem scores are then grouped into ranges. These groupings indicate the priority for safety improvements for a segment. The groupings are shown in Table 5-9 and Figure 5-10 with the higher numbers indicating a larger safety problem.

Table 5-9: Level of Safety Problem

1-2	Problems are either driver related or only a few spots are identified
3-9	Segment wide crash problem
10-16	Segment wide severe injury/fatality problem and intersection or run off the road problem
17-23	Serious Safety Problems (Highest Level of Problems)
99	Either segment wide crash rate or fatality/severe injury problem may be identified based on engineering judgment

Source: WisDOT Meta-Manager data information system

Highway segments with Level of Safety Problems rated 17-23 include STH 153 from County Highway O to one mile east of O, US-51 near the northern interchange with STH 29, US-51 from CTH U to Cassidy Drive, and US-51 north of Brokaw. Highway segments with Level of Safety Problems rated 10-16 include BUS-51 from Military Road to Becker Street. However, further analysis is needed to determine what, if any, specific safety problems exist, and what potential changes could be made to improve safety at these locations.

AREAS WARRANTING FURTHER STUDY

Roadway segments that appear on several of the tables within this chapter include areas of BUS-51, STH-52, US-51, Bridge Street, Forest Street, 1st Avenue, 1st Street, CTH XX, CTH JJ, Grand Avenue, and STH-153. These locations should be considered for future safety analysis to determine the contributing factors to the crashes that have occurred along these road segments. The information concerning traffic movements and other contributing factors was not readily available for this analysis; however, the information is available through the Department of Motor Vehicles' Crash Summary Database and should be utilized for intersection specific studies. This information for each crash can be found using the "MCFLNMBR".

The following list provides some countermeasures for addressing some of the potential trends that may appear in the course of a more detailed crash analysis. This information is not all inclusive; however, it does provide several options depending upon the trends that may exist within the crash data.

Major Cause, Possible Countermeasures

Ran traffic signal

- Remove signal sight obstructions
- Post "Signal Ahead" warning signs
- Install/replace signal visors and back plates
- Add signal back plates
- Install advance flasher signs
- Install (additional) 12-inch signal lenses
- Upgrade signalization
- Review warrants/consider removing signal
- Synchronize adjacent signals
- Increased enforcement

Ran stop sign

- Remove sign sight obstructions
- Install larger signs
- Install "Stop"/"Yield Ahead" signs
- Construct rumble strips in pavement
- Review warrants/consider removing sign
- Replace "Stop" with "Yield" sign, if feasible
- Place flashing beacons overhead or on "Stop" sign
- Place red flags on "Stop" sign
- Place "Stop" signs on both sides of road
- Increased enforcement

Failed to yield right-of-way to pedestrian

- Add stop bars/crosswalks
- Post “Ped Xing”/“Advance Xing” signs
- Place advance pavement messages
- Add/improve lighting
- Post “School Xing”/“Advance Xing” signs
- Use crossing guards near schools
- Reroute pedestrians to safer crossing
- Signalize pedestrian crossing
- Install barrier curbing
- Add pedestrian refuge islands
- Post “No Right Turn on Red” sign, if at intersection
- Increased enforcement

Exceeded speed limit

- Post/reduce speed limit
- Increase traffic/speed enforcement
- Install traffic-calming measures: refer to www.ite.org
- Install larger signs
- Install flashing beacons on signs
- Increased enforcement

Turned improperly

- Prohibit turns
- Signalize intersection
- Reduce speed limit
- Install raised median
- Install left turn bays
- Widen approaches to handle turn lanes
- Improve signing and pavement markings
- Increased enforcement

Vision was obscured

- Eliminate parking
- Remove obstructions from sight triangles
- Close/relocate driveways near intersections
- Signalize intersection
- Install intersection warning signs

EMERGENCY SERVICES MANAGEMENT

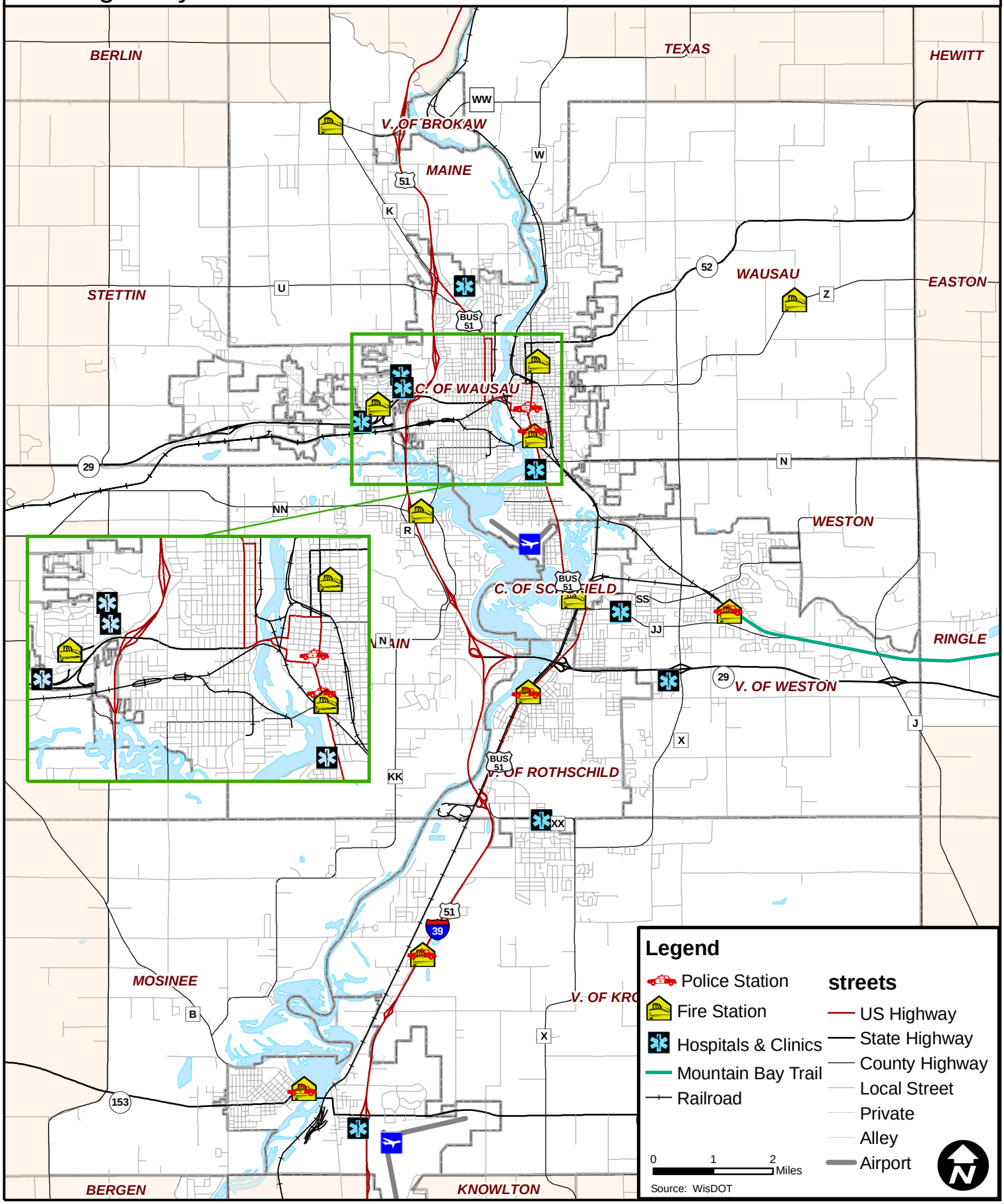
The need for emergency vehicles to access all parts of the city is essential. This need increases dramatically during times of responding to an incident, disaster situations, or any other form of emergency. Figure 5-11 on the following page displays the locations of several types of emergency services within the MPA.

Overall the MPA has good emergency service coverage; however, the river crossings create a potential problem for emergency vehicle access during a response situation. If an accident were to occur on one of the river crossings, the ability for emergency vehicles to utilize that bridge will not exist until the incident has been cleared. This means that any emergency vehicles responding to another incident would have to find a different way to cross the river to access some areas of the MPA. While alternative routing is a practice that is used in Wisconsin, it is imperative that all emergency responders are aware of the multiplicity of routes that may be used to get to a specific location.

A well-designed system of emergency response routes can ensure that the fastest route is used at all times to access any emergency response incident areas. This coordination between response groups will allow emergency responders from all of the municipalities in the MPA to access the most direct available routes when necessary.

figure 5-11

Emergency and Medical Services



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CONCLUSION

A typical intersection within the Wausau MPA experiences less than one crash per million vehicles that enter. This statistic helps to demonstrate that the overall level of safety within the MPA for all modes of transportation is relatively high.

This chapter focused on the number and rate of crashes involving automobiles throughout the MPA. Crash rates are overall fairly low in the area; however, several intersection and roadway segment stand out in several different aspects of this analysis. The identified intersections/segments are not the only places that crashes involving motor vehicles occurred within the analysis period, however the higher number and rate of specific types of crashes raises transportation safety concerns.

The safety of every transportation mode is important to ensuring that residents of the MPA feel that they have multiple transportation options. Areas of concern for crashed involving automobiles do not affect only the people who drive a car as their primary transportation mode. A further analysis of the accident patterns surrounding the intersections and roadway segments listed within this chapter can help to provide a transportation environment that is safer for all modes of travel.

CHAPTER 6 – 2035 CONDITIONS FORECAST

INTRODUCTION

The purpose of this chapter is to review future conditions in the Wausau Metropolitan Planning Area (MPA) primarily as they relate to the demand for transportation. Growth in population and employment are two of the driving forces impacting the transportation demand. It is these two factors that serve as inputs to travel demand model for forecasting future transportation demand. A third input factor is land use, or where different types of households and employment are located. This chapter will address these growth factors and the corresponding forecasted travel demand calculated from the area's travel demand model.

Based on socioeconomic and land use data, the Travel Demand Model calculates the number of vehicle trips, where these trips are coming from and going to, and then chooses the routes these vehicle trips would take on the model's roadway network. The model is created for a base year and compared with actual traffic counts to determine if the model reasonably replicates existing traffic conditions for that year. 2001 is the base year used for developing the Wausau model. Once the model can reasonably reproduce 2001 traffic counts, the model can be used to forecast future traffic conditions for the planned horizon year.

Federal requirements mandate that the Long Range Transportation Plan (LRTP) consider at least a 20 year planning horizon. The year 2035 was determined as the planning horizon year for the Wausau LRTP. Therefore, socioeconomic data for that year is needed to develop the corresponding traffic forecasts. This data includes population, housing units, retail sector employment, service sector employment, and other employment.

This chapter summarizes the development and allocation of 2035 population, households, and employment projections within the MPA. Initially, the 2035 forecasts were based on the Wisconsin Department of Administration's (WI DOA) 2025 population and household forecasts and the North Central Wisconsin Regional Planning Commission's (NCWRPC) 2030 employment forecasts for each municipality within the Wausau MPA. However, a closer review of these figures by the Technical Advisory Committee (TAC) and MPO staff raised concerns regarding the reasonableness of these projections. As a result, the consultant worked through a process of revising these projections with the TAC for communities where recent growth (since 2000) has been significantly different from the original DOA and NCWRPC projections.

2035 SOCIOECONOMIC DATA FORECAST METHODOLOGY

The 2035 population and household projections were initially extrapolated from the 2000 to 2025 WI DOA forecasts. The 2035 employment projections were based on 2030 employment forecasts prepared by NCWRPC. The 2035 projections assumed a linear growth pattern from the WI DOA and NCWRPC forecasts. A few municipalities are not forecast to see significant increases in population. However, all municipalities are forecast to show some increase in housing units, due to a continuing trend of declining persons per household. The persons per household values were also extrapolated from the forecast data presented within the WI DOA report.

Employment projections came from the NCWRPC 2000 – 2030 Employment Projection Report. These values were proportionately allocated to the three industry classifications used in the model based on existing industry proportions within the MPA.

The TAC raised several concerns upon review of the WI DOA population and household forecasts and the NCWRPC employment forecasts. TAC members felt that several Minor Civil Division (MCD) projections seemed inconsistent with recent trends.

Population and Household Forecast Adjustments

The WI DOA forecasts were generated at the MCD level and based, in part, on past population growth with the 2000 Census serving as the last data point. However, the growth of individual MCDs making up a larger metropolitan area are tied less to the historic growth of the municipality than to the growth of the metropolitan area as a whole. From an economic perspective, the most critical variable relating to population growth, the metropolitan area acts as a single community. The next factor to come into play is the location of available land for development.

In metropolitan areas, new development generally occurs on the urban fringe. The urban fringe moves farther from the urban core as development occurs, and areas which may have once been rural communities may experience significant growth. As a result, once the community is built out they may see very little new growth, which may now be occurring on the new urban fringe in another municipality. This new urban fringe community may have previously experienced very little growth when there was plenty of developable land closer to the urban core.

As a result, the WI DOA projections appear to be over projecting municipalities that are close to being built out or recently reached full development and under projecting growth in municipalities that are currently on the urban fringe and ripe for significant development growth. Several MPO TAC members suggested that recent building trends indicate that the DOA forecast are too low for several

urban fringe communities, such as the Village of Weston and the Village of Kronnenwetter.

Historical trends are a reasonable and fairly accurate means of predicting future growth for metropolitan areas. However, looking at historical trends to forecast individual municipalities that makeup a single metropolitan area may be less reliable.

In developing an Area Sewer Service Plan, the consultant Becher-Hoppe and Associates updated 2025 population forecasts based on more recent building permit data for several municipalities. Working through the TAC, a review and discussion of the MCD population and household forecasts took place in which there was a consensus that the forecasts for Weston, Rothschild, and Kronenwetter, were too low, and the Town of Rib Mountain, was likely too high. It was suggested that for these communities, the Becher-Hoppe population forecasts were more realistic. For the remaining communities, the MPO committee's felt that WI DOA population forecasts were reasonable.

The adjusted household forecasts indicate a metro area growth increase of 39 percent in contrast to the 26 percent growth increase of the WI DOA projections. The TAC determined that this growth increase was reasonable given recent trends. These increases in population and households are also more consistent with employment growth trends.

Employment Forecast Adjustments

Similar to the population projections, the TAC expressed concern that the employment projections developed by the NCWRPC did not represent current conditions and trends for several communities. The NCWRPC forecast Wausau metropolitan area employment to increase by 48 percent between 2000 and 2035. The TAC consensus was that while this forecast seemed somewhat high, it was not unreasonable.

However, employment growth for the villages of Weston, Rothschild and Kronenwetter, and for the Town of Rib Mountain appeared low given recent development and planned growth. The TAC provided input for revising the employment forecasts for these communities. It was agreed that the City of Wausau's employment forecast would remain unchanged from the NCWRPC forecasts. However, the remaining municipalities were adjusted to maintain the employment forecast total for the metropolitan area.

The TAC and MPO Planning Commission subsequently adopted the adjusted 2035 population and employment forecasts for use in the travel demand model 2035 traffic forecasts.

2035 POPULATION AND HOUSEHOLDS

Each municipality within the MPA is forecast to grow in employment and housing over the next 30 years; however, in some communities the total population is forecast to remain constant given smaller household sizes (i.e. persons per household).

The household and population projections by municipality within the Wausau MPO are indicated below. Table 6-1 indicates the WI DOA household projections by municipality. Table 6-2 lists the adjusted household projections by municipality recommended by the TAC and adopted by the MPO. Table 6-3 indicates the WI DOA population projections by municipality, which is followed by Table 6-4 and the adjusted population projections adopted by the MPO.

The projections indicate over 13,000 additional households within the MPA over the next 30 years. This household increase equates to approximately 24,400 additional people living within the Wausau MPA. This calculates to a population of about 110,000 in 2035 compared to 2000's population of 85,755.

Table 6-1: WI DOA Projected Households by MCD

	Census	Forecasts						
	2000	**2005**	**2010**	**2015**	**2020**	**2025**	**2030**	**2035**
C of Mosinee	1,635	1,713	1,804	1,892	1,976	2,052	2,108	2,163
C of Schofield	965	992	1,026	1,056	1,085	1,109	1,121	1,134
C of Wausau	15,678	16,224	16,842	17,429	17,984	18,439	18,906	19,372
T of Maine	842	866	911	952	992	1,028	1,053	1,079
T of Mosinee	760	847	941	1,035	1,128	1,217	1,294	1,372
T of Rib Mountain	2,697	2,920	3,168	3,411	3,651	3,878	4,067	4,256
T of Stettin	805	808	825	838	849	858	858	858
T of Texas	608	634	664	693	721	745	762	779
T of Wausau	796	823	874	924	971	1,015	1,049	1,083
T of Weston	179	204	224	244	263	263	260	257
V of Kronenwetter	1,884	2,038	2,210	2,379	2,545	2,702	2,832	2,963
V of Rothschild	1,922	1,952	1,995	2,032	2,063	2,085	2,085	2,085
V of Weston	4,572	5,004	5,478	5,950	6,420	6,642	6,800	6,957
Total	**33,343**	**35,025**	**36,962**	**38,835**	**40,648**	**42,033**	**42,033**	**42,033**

Source: Wisconsin Department of Administration and URS Corp.

Table 6-2: MPO Projected Households by MCD

	Census	Forecasts						
	2000	**2005**	**2010**	**2015**	**2020**	**2025**	**2030**	**2035**
C of Mosinee	1,635	1,713	1,804	1,892	1,976	2,052	2,108	2,163
C of Schofield	965	992	1,026	1,056	1,085	1,109	1,121	1,134
C of Wausau	15,678	16,224	16,842	17,429	17,984	18,439	18,906	19,372
T of Maine	842	866	911	952	992	1,028	1,053	1,079
T of Mosinee	760	847	941	1,035	1,128	1,217	1,294	1,372
T of Rib Mountain	2,697	2,803	2,908	3,013	3,118	3,223	3,327	3,431
T of Stettin	805	808	825	838	849	858	858	858
T of Texas	608	634	664	693	721	745	762	779
T of Wausau	796	823	874	924	971	1,015	1,049	1,083
T of Weston	179	204	224	244	263	263	260	257
V of Kronenwetter	1,884	2,133	2,382	2,632	2,881	3,131	3,380	3,631
V of Rothschild	1,922	2,055	2,191	2,327	2,462	2,598	2,734	2,873
V of Weston	4,572	5,130	5,681	6,232	6,783	7,334	7,885	8,429
Total	**33,343**	**35,231**	**37,273**	**39,266**	**41,214**	**43,012**	**44,739**	**46,461**

Source: Wisconsin Department of Administration and URS Corp.

Table 6-3: WI DOA Projected Population by MCD

	Census	Forecasts						
	2000	**2005**	**2010**	**2015**	**2020**	**2025**	**2030**	**2035**
C of Mosinee	4,063	4,189	4,312	4,437	4,566	4,693	4,820	4,947
C of Schofield	2,117	2,140	2,162	2,185	2,210	2,235	2,260	2,285
C of Wausau	38,426	39,191	39,813	40,461	41,154	41,831	42,508	43,185
T of Maine	2,407	2,435	2,500	2,566	2,635	2,702	2,769	2,836
T of Mosinee	2,146	2,351	2,553	2,754	2,958	3,159	3,360	3,561
T of Rib Mountain	7,556	8,051	8,535	9,022	9,515	10,003	10,491	10,979
T of Stettin	2,191	2,162	2,155	2,150	2,147	2,144	2,141	2,138
T of Texas	1,703	1,746	1,787	1,830	1,874	1,918	1,962	2,006
T of Wausau	2,214	2,252	2,337	2,423	2,512	2,599	2,686	2,773
T of Weston	514	578	619	660	702	694	686	678
V of Kronenwetter	5,369	5,716	6,056	6,397	6,743	7,085	7,427	7,769
V of Rothschild	4,970	4,967	4,960	4,958	4,962	4,964	4,966	4,968
V of Weston	12,079	13,015	13,926	14,847	15,786	16,170	16,554	16,938
Total	**85,755**	**88,793**	**91,715**	**94,690**	**97,764**	**100,197**	**102,630**	**105,063**

Source: Wisconsin Department of Administration and URS Corp.

Table 6-4: MPO Projected Population by MCD

	Census	Forecasts						
	2000	**2005**	**2010**	**2015**	**2020**	**2025**	**2030**	**2035**
C of Mosinee	4,063	4,189	4,312	4,437	4,566	4,693	4,820	4,947
C of Schofield	2,117	2,140	2,162	2,185	2,210	2,235	2,260	2,285
C of Wausau	38,426	39,191	39,813	40,461	41,154	41,831	42,508	43,185
T of Maine	2,407	2,435	2,500	2,566	2,635	2,702	2,769	2,836
T of Mosinee	2,146	2,351	2,553	2,754	2,958	3,159	3,360	3,561
T of Rib Mountain	7,556	7,728	7,834	7,969	8,125	8,312	8,583	8,851
T of Stettin	2,191	2,162	2,155	2,150	2,147	2,144	2,141	2,138
T of Texas	1,703	1,746	1,787	1,830	1,874	1,918	1,962	2,006
T of Wausau	2,214	2,252	2,337	2,423	2,512	2,599	2,686	2,773
T of Weston	514	578	619	660	702	694	686	678
V of Kronenwetter	5,369	5,981	6,528	7,077	7,634	8,210	8,864	9,521
V of Rothschild	4,970	5,229	5,447	5,677	5,923	6,186	6,512	6,846
V of Weston	12,079	13,343	14,442	15,551	16,679	17,855	19,197	20,521
Total	**85,755**	**89,325**	**92,489**	**95,739**	**99,119**	**102,538**	**106,348**	**110,148**

Source: Wisconsin Department of Administration and URS Corp.

2035 EMPLOYMENT

Table 6-5 indicates the 2035 adjusted employment projections for each of the municipalities within the Wausau MPA in five year increments. As noted previously, total employment of the combined municipalities indicate a 48 percent increase over 2000 employment. Several communities' employment forecasts were adjusted upward and others adjusted downward in order to maintain a reasonable metro area total employment forecast. All of the communities are forecast to grow in employment over the 30-year horizon.

Employment sector forecasts are needed for the travel demand model. Different employment types are correlated with different trip rates. For example, a retail job corresponds to a significantly greater number of trips than a manufacturing job. Total employment forecasts were assigned proportionately by employment sector based on existing employment types and planned land uses provided by the municipalities.

Table 6-5: 2035 Employment Projections by MCD

	Census				Forecasts			
MCD	**2000**	**2005**	**2010**	**2015**	**2020**	**2025**	**2030**	**2035**
C of Mosinee	3,374	3,700	4,026	4,352	4,679	5,005	5,331	5,657
C of Schofield	4,950	5,021	5,093	5,164	5,235	5,306	5,378	5,449
C of Wausau	27,342	28,838	30,335	31,831	33,328	34,825	36,321	37,818
T of Maine	943	989	1,036	1,082	1,129	1,175	1,222	1,268
T of Mosinee	243	278	313	348	384	419	454	489
T of Rib Mountain	2,638	2,955	3,272	3,589	3,906	4,223	4,540	4,857
T of Stettin	1,721	1,739	1,758	1,776	1,794	1,812	1,831	1,849
T of Texas	184	189	193	198	203	208	212	217
T of Wausau	316	323	330	337	343	350	357	364
T of Weston	107	111	115	119	124	128	132	136
V of Kronenwetter	1,598	1,992	2,385	2,779	3,173	3,567	3,960	4,354
V of Rothschild	2,543	2,900	3,257	3,614	3,972	4,329	4,686	5,043
V of Weston	4,740	5,169	5,597	6,026	6,454	6,883	7,311	7,740
Total	50,699	54,205	57,711	61,217	64,723	68,228	71,734	75,240

Source: North Central Wisconsin Regional Planning Commission (NCWRPC), 2000 Census Transportation Planning Package (CTPP) and URS Corp.

2035 PLANNED LAND USE

Planned land use documents were examined for each of the municipalities within the MPA to discern the type and location of future development. Land use is a local responsibility with each municipality maintaining their own respective land use plan.

Figure 6-1 shows a composite of all the municipalities planned land uses. The land use categories varied in number and description for some municipalities. Planned land use maps include areas that have been previously developed as well as areas for planned development. The local road network included in the map provided an indication which areas are currently developed.

The land use plan map generally calls for increased residential development close to the urban core. Regions of the MPA farther from development pressures are expected to maintain their agricultural or forest use with sparse development occurring over the next 30 years. Commercial and industrial uses are dominated in areas adjacent to major corridors within the MPA.

Table 6-6 lists the acreage of all planned land uses for each municipality in the MPA. The values presented include the entire municipality and not just the area within the MPA.

The large amounts of areas are planned for commercial used in the City of Wausau, and the towns of Maine and Weston. The town of Stettin plans for over 1,000 acres of commercial and industrial uses. Single-family residential land uses are planned for much of the urban area. Many of the already developing areas are planning for further residential growth including redevelopment or quarry reclamation projects that will greatly increase the land area devoted to single-family residences. These planned land use acreages were used to allocate development and growth areas in the MPA over the next 30 years.

Transportation demand and travel patterns will change in accordance with development patterns. The density and intensity of land uses will affect not only the amount of travel in the future but also the future viability of alternative transportation modes.

figure 6-1

Wausau MPA Planned Land Uses

URS

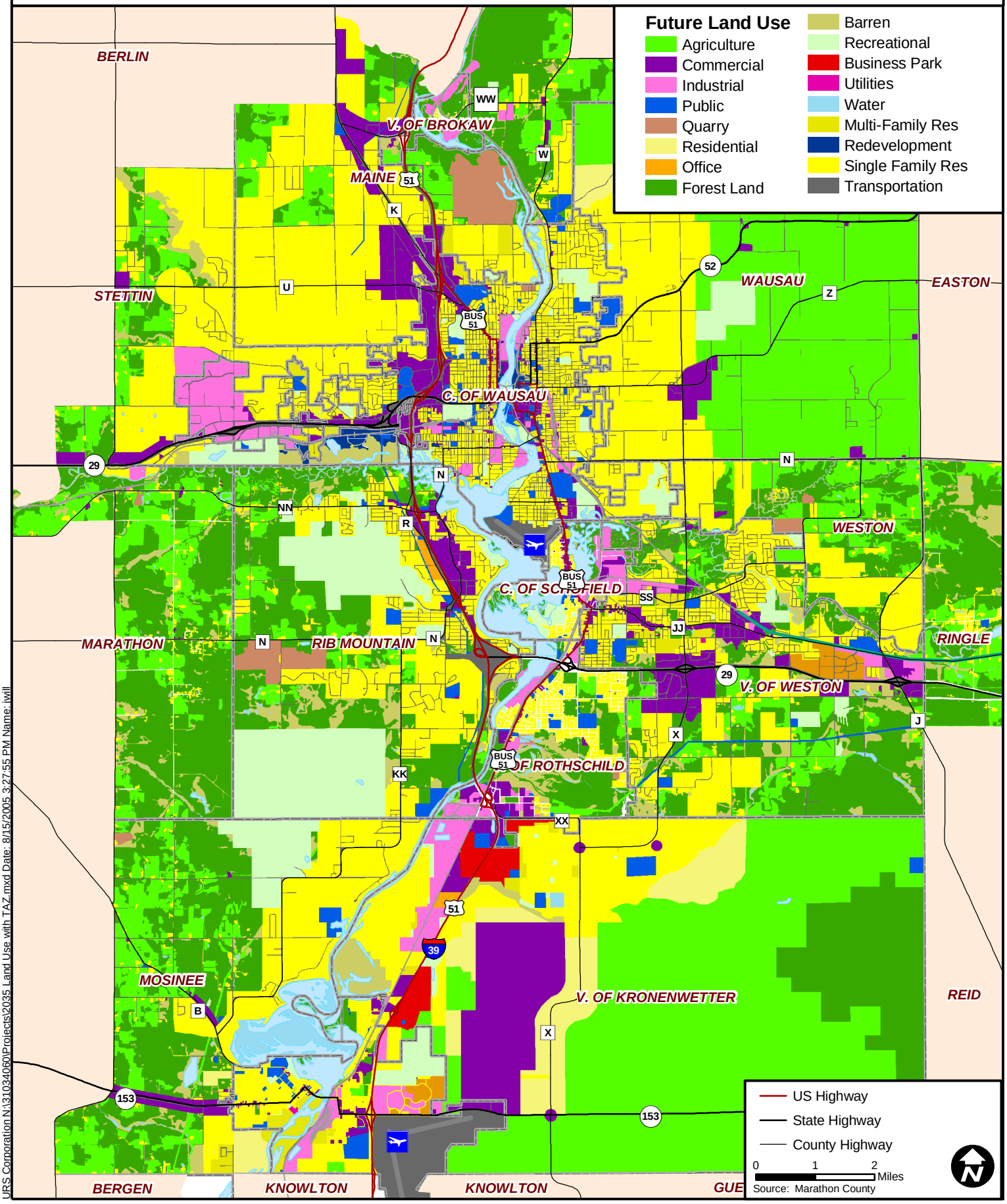

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Table 6-6: Future Land Use Acres

	Ag.	Ag. Rural	No Dev	Off/Bus Park	Com	Com / Indus	Indus	Forest
C Mosinee	88	319	0	169	319	0	401	111
C Wausau	0	0	0	0	2,007	0	1,371	0
C Schofield	0	0	43	0	140	0	247	199
V Brokaw	0	37	1,528	0	40	454	122	140
V Kronenwetter	0	0	0	0	0	0	0	0
V Rothschild	231	0	486	0	250	0	442	1,398
V Weston	5,420	0	0	281	1,398	0	262	0
T Maine	6,867	0	450	0	1,457	0	106	6,664
T Marathon	9,948	0	667	0	18	0	21	8,092
T Mosinee	5,143	4,074	306	0	260	0	1,075	5,519
T Rib Mountain	974	0	687	69	386	0	1	3,667
T Ringle	6,240	0	1,532	0	376	0	324	12,943
T Stettin	10,059	0	1,858	0	104	1,240	257	4,376
T Texas	9,992	0	865	0	29	0	60	14,504
T Wausau	17,786	0	0	0	577	0	0	0
T Weston	1,326	0	114	0	0	0	35	1,707

	Public Recreat	Quarry	Multi-Family	Single Family	Resid	Re-develop	Trans / Util	Water
C Mosinee	646	0	366	1,752	0	0	1,502	192
C Wausau	1,838	17	514	15,617	0	295	3,208	1,039
C Schofield	149	0	18	245	0	0	245	4
V Brokaw	625	0	65	142	1,303	0	593	0
V Kronenwetter	0	0	0	0	0	0	0	0
V Rothschild	166	32	10	844	0	0	21	256
V Weston	730	0	0	0	4,926	0	1,245	148
T Maine	143	792	257	8,579	0	0	1,219	503
T Marathon	691	101	0	823	0	0	554	86
T Mosinee	2,808	30	1	3,438	0	0	626	1,383
T Rib Mountain	4,454	422	43	3,819	0	0	1,101	901
T Ringle	2,185	0	4	2,257	0	0	863	254
T Stettin	527	3	3	4,354	0	0	851	48
T Texas	467	117	1	1,579	0	0	707	375
T Wausau	787	0	0	0	978	0	700	0
T Weston	2	98	0	2,114	0	0	183	96

*Note: Includes area not with in the MPA.

2035 SOCIOECONOMIC DATA ALLOCATION TO TRANSPORTATION ANALYSIS ZONES

Transportation Analysis Zones (TAZs) are sub areas of the region that are used to geographically summarize land use, demographical, and travel data. TAZs are developed based on Census blocks and block groups as defined by the US Census Bureau. TAZs should be compact areas with relatively homogenous land uses. As part of the Wasuau Area travel demand model update, the TAZ was reviewed and updated to encompass smaller areas in order to provide more detail and increase model accuracy.

Working with MPO and WisDOT staff, 2035 household and employment projections for each municipality was assigned to TAZs based on land use plans and TAC input. The number of new housing units (i.e. households) was assigned to TAZs according to planned residential areas and the corresponding number of housing units the area could accommodate based on estimated housing densities. In some cases, the municipality provided actual development plans with the corresponding number of housing units.

Figure 6-2 indicates the number total housing units by 2035 for TAZs where new housing is planned. The map also lists the number of housing units in these TAZs 2000. The map illustrates new housing units per acre in order to highlight new housing concentrations. No significant razing of existing housing units is planned or expected. TAZs that are not anticipated to see significant increases in new housing units are not shown.

Figure 6-3 illustrates the TAZ allocation of projected employment increases for the metropolitan area over the next 30 years. The map indicates the number of existing employees and 2035 projected employees for each TAZ. The map also shows the density of new employment to highlight concentrations of new jobs within the metropolitan area. TAZs that are not anticipated to see significant increases in employment are not shown.

The household data and employment data provide the needed input to the travel demand model for forecasting 2035 travel demand, which is discussed later in this chapter.

2035 TRAVEL DEMAND MODEL

Travel demand models are used to forecast future traffic volumes and congestion. Most travel demand models use a four-step process, which includes: trip generation, trip distribution, mode choice, and traffic assignment. Trip generation is a process of calculating the number of trips by trip type based on the number of households and amount of employment. Trip distribution assigns those trips between origins and destinations. Mode choice determines how many person trips are using vehicles and, in some models, how many are using transit. The final step, trip assignment, determines the routes those trips take on the roadway system.

One of the advantages to using the four-step travel demand model is that trips are assigned to the road network based on optimum travel times. Through an iterative process, travel times are recalculated and trips reassigned when the model volumes begin to exceed capacity.

Once the model can reasonably recreate existing traffic conditions, it is considered "validated." It is assumed that if the model can recreate existing conditions, it will be a reliable tool to determine future traffic conditions, based on future population, employment, and land use.

Existing + Committed Transportation Improvements

The second major component in forecasting future traffic volumes and capacity deficiencies is updating the travel demand model's roadway network to include all major transportation improvements. These improvements should include projects completed since the base year (i.e. 2001). Other improvements that should be included are those that are scheduled to be completed with "committed" funding in place (e.g. approved TIP projects). These transportation improvements are referred to as "committed projects."

Committed projects in the model generally include all major capacity expansion projects in the Transportation Improvement Program (TIP) and/or the State's Six Year Highway Improvement Program. Major capacity expansion projects include widening a road from two to four lanes or building new functionally classified roads. Capacity expansion projects that would not be considered major projects would be adding turn lanes, installing traffic signals, or building local roads within a housing subdivision. The US 51/STH 29 Corridor Project is included as a committed project as funding has been identified and secured for the completion of that project by 2011.

figure 6-2

2035 Forecast Housing Units by TAZ

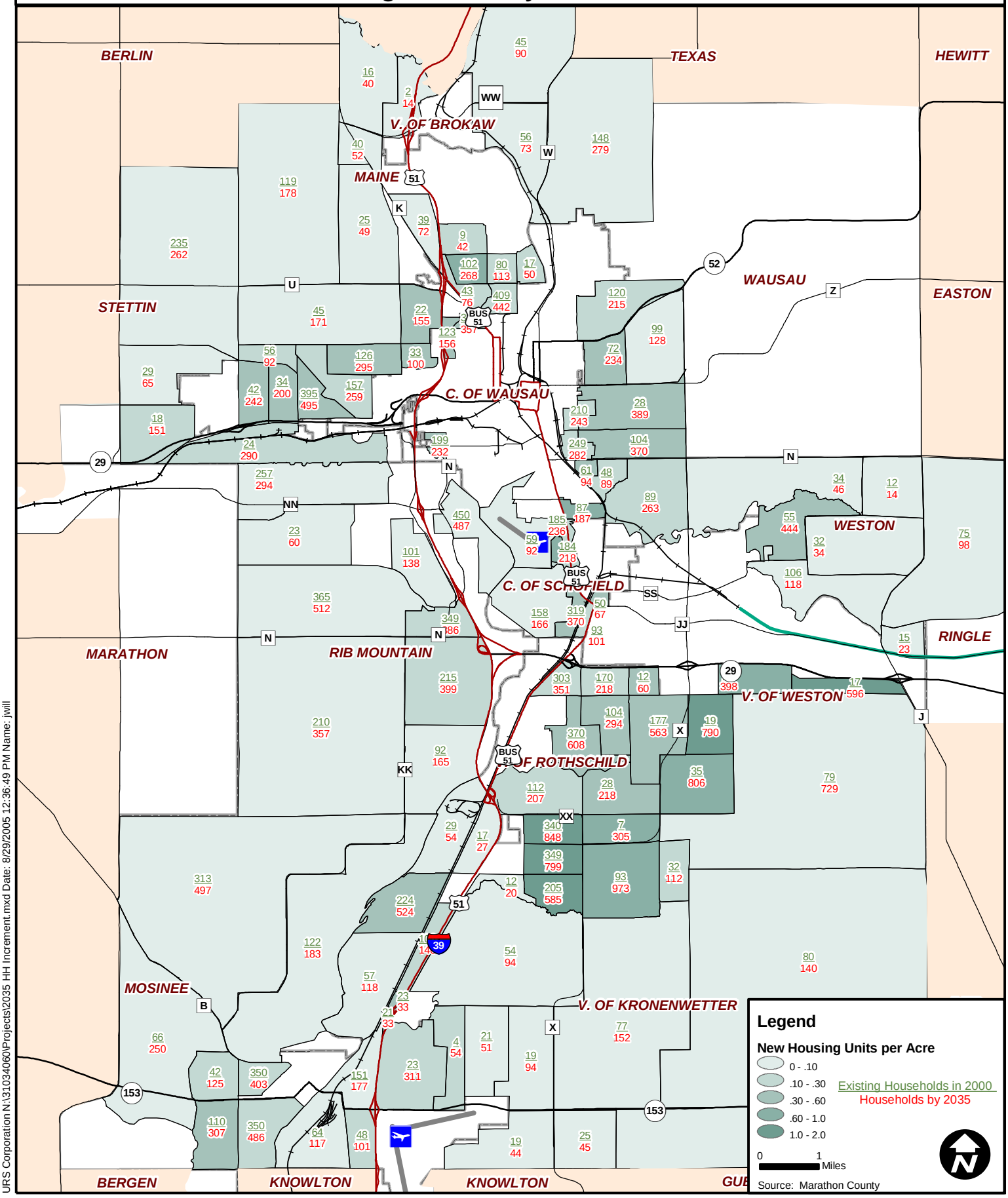

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figure 6-3

2035 Forecast Employment Increase by TAZ

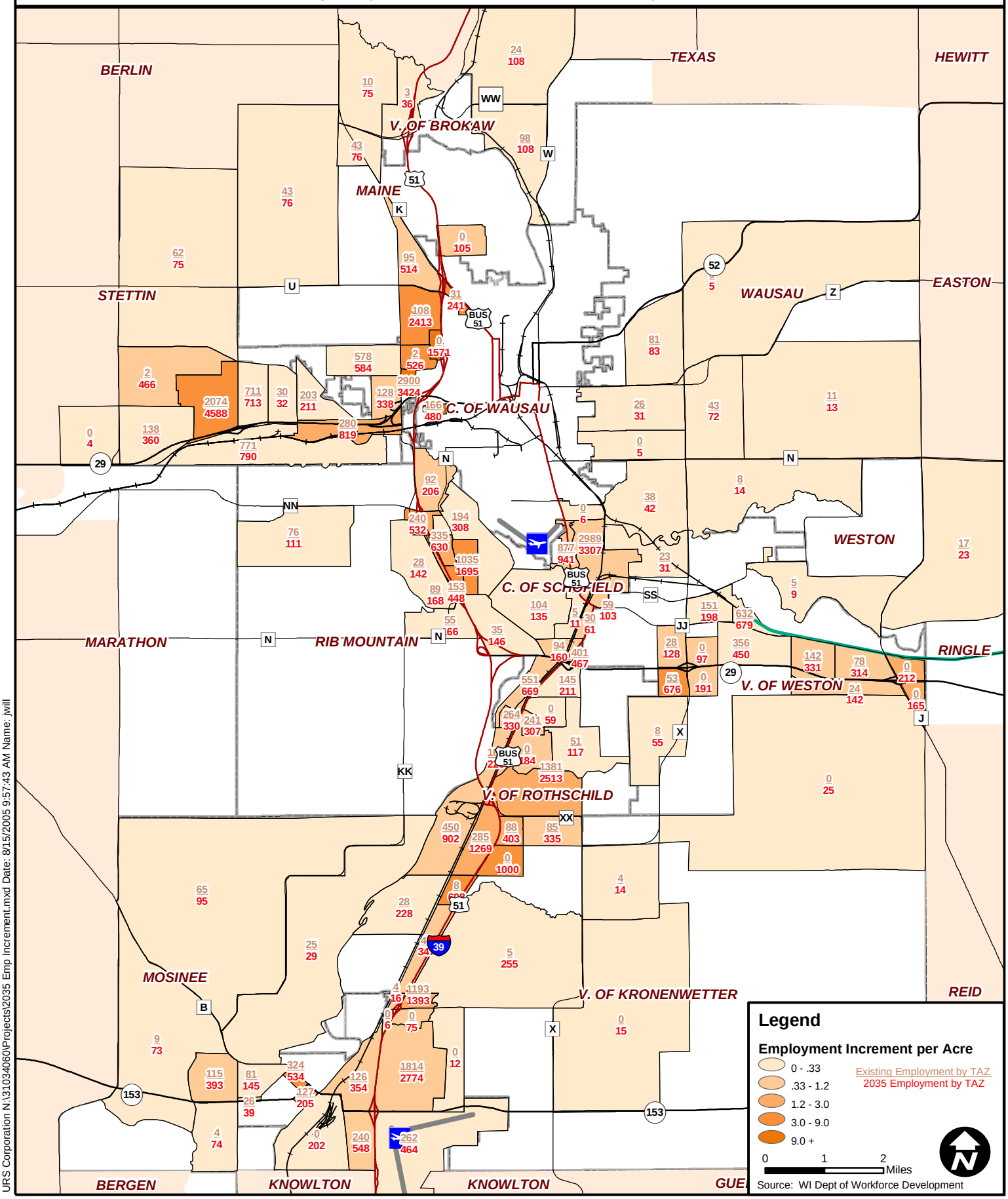

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Table 6-7 lists all the major capacity expansion included in the Existing plus Committed (E+C) model network.

Table 6-7: 2000-2035 Committed Major Capacity Expansion Transportation Improvement Projects

Roadway	Construction Year(s)	From	To	Project Description
I-39/USH 51	2004-2012	Fox Glove Rd.	Bridge St.	Reconstruction to six lanes
CTH R	2004-2005	Sherman St.	CTH NN	Construction of new two lane road and bridge
CTH R	2004-2005	CTH NN	Oriole Ln.	Construction of new four lane road
CTH R	2004	Oriole Ln.	North of CTH N	Reconstruction to four lanes
CTH R	2004	North of CTH N	Park Rd./CTH N	Construction of new four lane road
CTH N	2004	Park Rd./CTH R	Existing CTH N	Construction of new four lane road
CTH N	2004	New CTH N	CTH KK	Reconstruction to four lanes
CTH N	2004	Robin Ln.	New bridge	Reconstruction to four lanes
New McCleary Bridge	2003-2004	CTH N	17th Ave.	New four lane bridge and alignment
17th Ave.	2003-2004	New McCleary Bridge	Sherman St.	Reconstruction to four lanes
Westwood Dr.	2004-2005	W. Wausau Ave.	CTH U	Construction of new four lane road
Weston Ave.	2004	Camp Phillips Rd.	Birch St.	Reconstruction to four lanes
Weston Ave.	2004-2006	Birch St.	Alderson St.	Reconstruction to four lanes
Camp Phillips Rd.	2004-2005	Transport Way	Shorey Ave.	Reconstruction to four lanes
Sherman St.	2007	17th Ave.	22nd Ave.	Reconstruction to four lanes
Stewart Ave.	2007	32nd Ave.	48th Ave.	Reconstruction to four lanes
CTH X	2007	Ross Ave.	Lahr Ave.	Reconstruction to four lanes
CTH X	2006	Shorey Ave.	Howland Ave.	Reconstruction to four lanes
Bus. 51 (Merrill Ave.)	2005	CTH U	Union Ave.	Reconstruction to four lanes

Source: Wisconsin Department of Transportation and Marathon County

2035 TRAFFIC FORECASTS AND CAPACITY DEFICIENCIES

The Wausau Area travel demand model was run with the 2035 forecasted socioeconomic data and with the future (E+C) roadway network to generate 2035 traffic forecasts.

2035 Traffic Forecasts

The travel demand model provides several useful statistics for understanding traffic growth within the Wausau Area. Table 6-8 indicates the change in Vehicle Miles of Travel (VMT) between the base year and the forecast year. The model indicates a 48 percent increase in VMT. Trucks show a significant increase in VMT over the 35 year period with a 76 percent growth rate. This growth is likely due to higher through-truck trips and external to internal truck trips forecast to occur.

The 46 percent increase in auto VMT is consistent with household forecasts, which are projected to increase by 39 percent. Because many of the planned new housing areas are farther from the urban core, it is reasonable to assume that those households will likely be traveling more miles on average than households living closer to the urban core.

Table 6-8: 2001-2035 Modeled Vehicle Miles Traveled

	2001	2035	Difference	Percent
Autos	4,072,221	5,933,693	1,861,472	46%
Trucks	397,837	698,707	300,870	76%
Total	4,470,058	6,632,400	2,162,342	48%

Source: Wisconsin Department of Transportation

Table 6-9 indicates the modeled increases in Vehicle Hours Traveled (VHT) between 2001 and 2035. While vehicles hours traveled are projected to increase, the rate of growth is slightly lower than the VMT.

Table 6-9: 2001-2035 Modeled Vehicle Hours Traveled

	2001	2035	Difference	Percent
Autos	170,994	242,601	71,606	42%
Trucks	18,208	29,744	11,535	63%
Total	189,203	272,344	83,142	44%

Source: Wisconsin Department of Transportation

Table 6-10 shows the percent growth in Annual Average Daily Traffic (AADT) forecast between 2001 and 2035 by range of traffic volumes carried on the corresponding roadways. Traffic overall shows an increase of almost 50%. Roads carrying 10,000 vehicles per day (vpd) to 20,000 vpd are forecast to see traffic increases of 55 percent, and roads carrying 20,000 to 30,000 are projected to carry 57 percent more traffic in 2035 than in 2001. Roads carrying traffic in the

ranges between 1,000 and 10,000 vpd indicate traffic growing at a slower rate than the system as a whole. The lowest volume roads show a 60 percent increase in traffic by 2035.

Table 6-10: 2001-2035 Modeled Traffic Growth

AADT range*			2001 AADT	Forecast 2035 AADT	Percent Growth
0	-	1,000	1,831,313	2,924,397	60
1,001	-	2,500	231,924	290,716	25
2,501	-	5,000	474,043	608,874	28
5,001	-	10,000	1,056,406	1,429,388	35
10,001	-	20,000	2,355,491	3,649,352	55
20,001	-	30,000	1,239,604	1,942,294	57
30,001	-	100,000	13,123,861	17,967,901	37
0	-	100,000	5,986,526	8,895,579	49

Source: Wisconsin Department of Transportation

2035 Traffic Capacity Deficiencies

Traffic increases become a problem when the traffic volumes surpass the roadway capacity, which results in delays due to congestion.

Deficiency Analysis Methodology

The WisDOT travel demand model includes a deficiency analysis using a two-tiered approach.

Primary Deficiency Analysis
The primary analysis utilizes a numeric Level of Service (LOS) value and LOS threshold as described in the Facilities Development Manual (FDM) Procedure 11-6-3 to determine roadway deficiency. This more complex method incorporates an adjusted traffic forecast value, an operationally sensitive roadway capacity and a sliding deficiency determination based on the importance of the roadway within the overall transportation system.

Secondary Deficiency Analysis
The secondary approach is a less complex method that uses the raw model assignment and the operational capacity on a link by link basis to determine the relative deficiency based on the importance of the roadway within the overall transportation system. The secondary approach is intended as a supplement to the primary approach and should only be used at locations where a primary deficiency is not available.

The difference between the two approaches is that the primary deficiency requires a current traffic count to adjust the model forecast volume. All model road segments, referred to as “links,” cannot replicate every traffic count in the travel demand model network perfectly. There is almost always a certain amount of error for each link, which can be calculated based on an existing traffic count. To correct for this error, a correction factor is applied to the forecast model

volume. If there is not an actual traffic count to determine the amount of error on link, the forecast volume cannot be adjusted. These links are included in the deficiency analysis as secondary links.

2035 Deficiency Analysis

System Deficiencies

Tables 6-11 and 6-12 list the number of lane-miles identified by level of service from the travel demand model. Table 6-13 indicates the differences between 2001 and 2035. These tables are based on secondary approach and are included here to illustrate the relative change between the base year and forecast year.

The capacity deficiency data listed in these tables are broken out by roadway functional class. The model suggests an overall increase in congestion between 2001 and 2035 with a net increase of 17 lane-miles rated as deficient or severely deficient. The model also indicates a net decrease of about 140 lane-miles of roadways rated as sufficient, even with the approximately 85 lane miles added to the E+C network.

Despite the increases in lane-miles rated as deficient and severely deficient from 15 to 32 lane-miles, the overall increase in capacity deficiencies are relatively minor given the forecasted increase in overall traffic and vehicle miles traveled. In general, this suggests that the roadway network in place has enough current capacity to accommodate much of the growth anticipated over the next 30 years.

Corridor Deficiencies

Figure 6-4 illustrates both the primary and secondary deficiency approaches in order to provide a more comprehensive illustration of system deficiencies. The focus of concern should be on the primary deficiencies, which are shown as a thicker line than the secondary deficiencies.

Figure 6-4 provides a geographic reference for the listed deficiencies in Tables 6-11 and 6-12. Table 6-12 corresponds with the capacity deficiency location numbers in Figure 6-4. Only roads that were identified as being deficient or severely deficient by 2035 are included in the tables and this analysis. While several roads indicate approaching or potential capacity deficiency, addressing the worse capacity deficiencies are the priority.

While roadways that are approaching capacity or are potentially subject to becoming deficient should be monitored, heavily used arterials should be seen as efficient use of transportation funding, in contrast to an unused arterial, which indicates wasted resources.

A significant number of freeway ramps were forecast to become deficient by 2035. Because of the unique capacity characteristics of freeway ramps, these deficiencies are listed separately from other roadway deficiencies in Table 6-11. Both tables list the roadway deficiencies in the order by the year they were estimated to reach deficiency status.

Table 6-11: 2001 Roadway Capacity Deficiencies by Functional Classification lane-miles

Functional Class	Severe	Deficient	Potential	Approaching	Sufficient	Total
Interstate	1.7	8.7	5.2	6.7	66.4	88.6
Freeway	-	0.9	-	1.4	269.9	272.2
Ramps	-	0.6	0.3	1.2	20.8	22.8
Urban Principal Arterial	0.2	1.5	1.9	12.6	98.0	114.2
Urban Minor Arterial	0.9	0.8	0.7	2.4	124.8	129.4
Urban Collector	-	-	2.7	1.6	182.9	187.2
Urban Local	-	-	-	-	1,205.5	1,205.5
Rural Principal Arterial	-	-	-	7.4	118.0	125.4
Rural Minor Arterial	-	-	-	-	139.9	139.9
Rural Major Collector	-	-	-	4.5	935.3	939.8
Rural Minor Collector	-	-	-	-	368.1	368.1
Total	**2.7**	**12.5**	**10.7**	**37.6**	**3,529.6**	**3,593.1**

Source: Wisconsin Department of Transportation

Table 6-12: 2035 Roadway Capacity Deficiencies by Functional Classification lane-miles

Functional Class	Severe	Deficient	Potential	Approaching	Sufficient	Total
Interstate	-	10.5	35.4	53.6	40.6	140.0
Freeway	-	1.9	4.5	8.3	259.9	274.6
Ramps	-	2.4	1.1	0.7	19.4	23.6
Urban Principal Arterial	-	4.9	2.3	9.2	99.8	116.3
Urban Minor Arterial	1.3	0.5	4.1	6.3	126.1	138.3
Urban Collector	3.2	5.1	1.4	2.0	191.2	202.9
Urban Local	-	-	-	-	1,207.4	1,207.4
Rural Principal Arterial	-	2.3	22.9	89.3	17.0	131.3
Rural Minor Arterial	-	-	-	-	139.9	139.9
Rural Major Collector	-	-	1.1	13.6	921.6	936.3
Rural Minor Collector	-	-	-	0.1	368.1	368.1
Total	**4.4**	**27.6**	**72.8**	**183.0**	**3,391.0**	**3,678.8**

Source: Wisconsin Department of Transportation

Table 6-13: 2001 to 2035 Change in Roadway Capacity Deficiencies by Functional Class lane-miles

Functional Class	Severe	Deficient	Potential	Approaching	Sufficient	Total
Interstate	(1.7)	1.8	30.2	46.9	(25.8)	51.4
Freeway	-	1.0	4.5	7.0	(10.0)	2.5
Ramps	-	1.8	0.8	(0.5)	(1.4)	0.8
Urban Principal Arterial	(0.2)	3.4	0.4	(3.4)	1.9	2.1
Urban Minor Arterial	0.4	(0.3)	3.5	4.0	1.3	8.8
Urban Collector	3.2	5.1	(1.3)	0.4	8.4	15.8
Urban Local	-	-	-	-	2.0	2.0
Rural Principal Arterial	-	2.3	22.9	81.8	(101.0)	5.9
Rural Minor Arterial	-	-	-	-	-	-
Rural Major Collector	-	-	1.1	9.2	(13.7)	(3.5)
Rural Minor Collector	-	-	-	0.1	(0.1)	-
Total	**1.7**	**15.0**	**62.1**	**145.4**	**(138.5)**	**85.7**

Source: Wisconsin Department of Transportation

figure 6-4

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2035 Forecasted Capacity Deficiencies

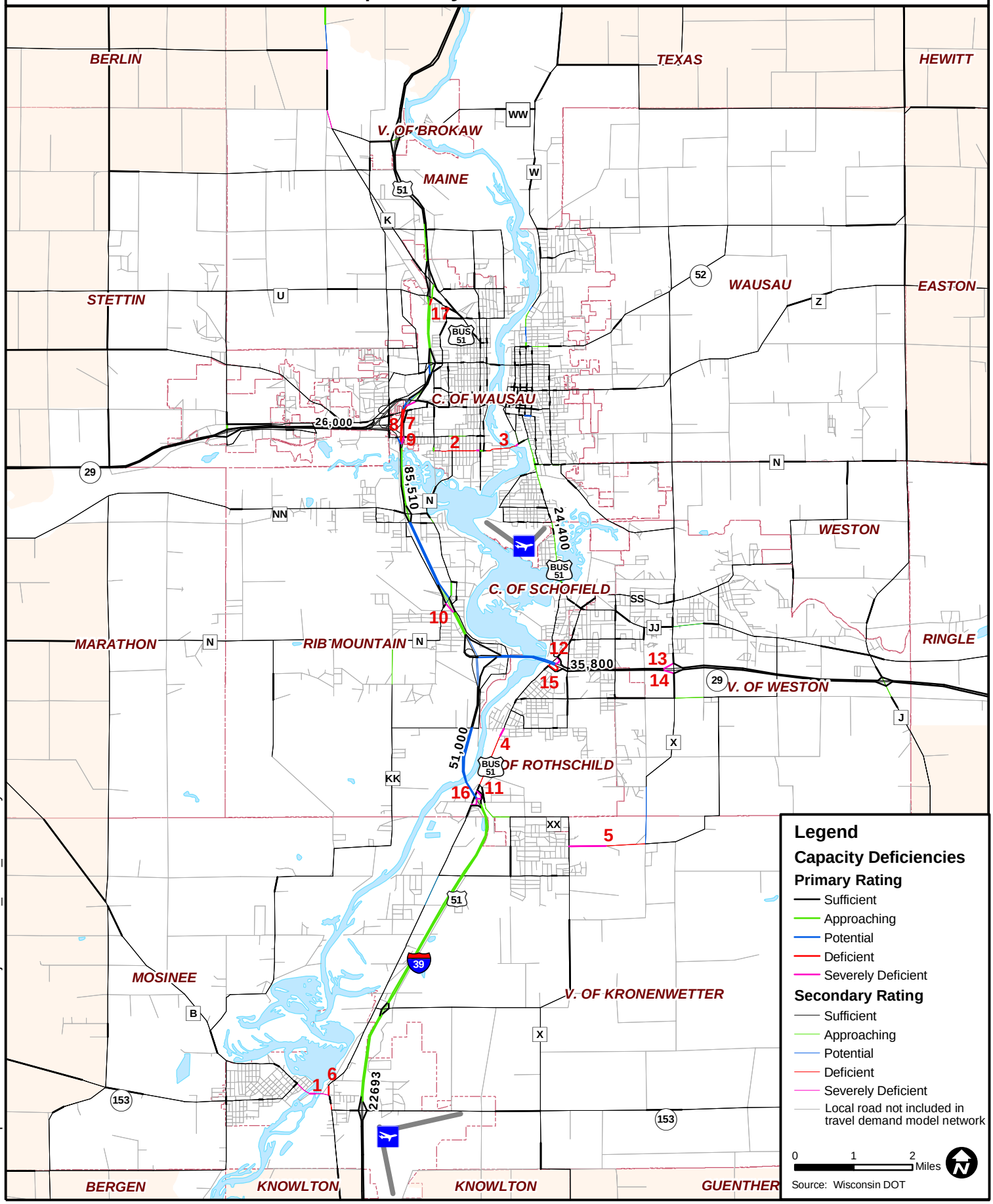

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Table 6-14: Forecast Highway/Roadway Capacity Deficiencies

#	Roadway	Location Description	2001 AADT	2018	2035	Deficiency Rating	Rating Year
1	STH 153	Wisconsin River Bridge - 4th St to Old Hwy 51	14,900	17,694	20,792	Severely Deficient	Now
2	Thomas St	17th Av to 3rd Av	15,100	15,435	15,769	Severely Deficient	Now
3	Thomas St	River Dr to 3rd Av	17,400	20,057	22,714	Severely Deficient	Now
4	Bus. 51	Military Rd to Eagles Nest Rd	13,800	17,351	20,901	Deficient/Severely Deficient	Now/2013
5	CTH X	CTH XX to Pleasant Dr	5,200	11,639	18,078	Deficient/Severely Deficient	2024/2029
6	Old Hwy 51	North of STH 153	5,500	10,277	15,053	Deficient/Severely Deficient	2030/2034
7	I-39	STH 52 to Sherman St - Northbound	19,700	24,783	29,866	Deficient	2028
8	I-39	Sherman St to STH 52 - Southbound	19,200	23,873	28,545	Deficient	2032

Source: Wisconsin Department of Transportation

Table 6-15: Forecast Freeway Ramp Capacity Deficiencies

#	Roadway	Location Description	2001 AADT	2018	2035	Deficiency Rating	Rating Year
9	I-39/STH 29	Sherman St Northbound Off-ramp	10,100	10,608	11,115	Deficient/Severely Deficient	Now/2028
10	I-39/STH 29	CTH N Southbound On-ramp	8,000	10,569	13,138	Deficient/Severely Deficient	2014/2023
11	I-39	Bus 51 Southbound Off-ramp	5,400	8,985	12,570	Deficient/Severely Deficient	2019/2025
12	STH 29	Bus 51 Westbound On-ramp	8,000	9,567	11,134	Deficient/Severely Deficient	2022/2035
13	STH 29	CTH X (Camp Phillips Rd) Westbound On-ramp	5,900	8,948	11,995	Deficient/Severely Deficient	2021/2028
14	STH 29	CTH X (Camp Phillips Rd) Eastbound Off-ramp	5,000	7,852	10,703	Deficient/Severely Deficient	2028/2035
15	STH 29	Bus 51 Eastbound Off-ramp	8,200	9,193	10,185	Deficient	2030
16	I-39	Bus 51 Northbound On-ramp	5,000	8,062	11,123	Deficient	2032
17	I-39	CTH U Northbound Off-ramp	6,700	8,529	10,358	Deficient	2032

Source: Wisconsin Department of Transportation

Thomas Street between 17th Avenue and River Drive, and STH 153 between 4th Street and Old Highway 51 were two of three corridors identified as deficient in 2001 capacity deficiency analysis. Not surprisingly, these two corridors remain at the top of the list for forecast capacity deficiencies, the third corridor identified in the 2001 capacity deficiencies are addressed in the 2035 forecasts as a result of the US 51/STH 29 expansions project.

Table 6-14 lists the 2001 AADT volume and the 2018 and 2035 traffic forecasts. The table also lists the deficiency rating, and the year the deficiency rating is estimated to be reached. In the case of Thomas Street and STH 153, both corridors rated as severely deficient now. Bus 51 between Military Road and Eagles Nest Road in Rothschild is forecast to be deficient now and reach severely deficient in 2013.

The 2035 traffic forecasts assume no additional roadway improvements other than those projects with committed funding included in the TIP and/or the State's Six Year Highway Improvement Program, including the US 51/STH 29 majors projects.

One of the benefits of using travel demand models is that they recalculate travel times based on congested speeds and reassign trips using alternatives routes through and iterative process that optimizes travel times. The benefit of this is that, similar to human behavior, trips will reroute to alternative routes to save time instead of waiting in congestion. However, it's important to remember that once the capacity constraint is removed, trips that had rerouted in the original forecasts will shift routes. As a result, the traffic forecasts do not necessarily represent the actual demand for an uncongested route.

In the case of the Thomas Street corridor, several other routes provide options to the congested Thomas Street. STH 153, in contrast, does not have good alternative routes and therefore, trips are not likely to be rerouted and the forecast traffic is likely closer to the actual demand of the uncongested corridor.

STH 153, Thomas Street, and Bus 51 are currently identified by the model as severely deficient or deficient. CTH X, Old Highway 51, and I-39, do not reach a deficiency rating until 2020s and 30s, which suggests that these corridors should continue to be monitored, but are not among the area's highest priorities, at this time.

Ramp Deficiencies

The ramp deficiencies listed in Table 6-15 include 10 ramps that are forecast to become deficient over the next 30 years. The I-39 northbound off-ramp at Sherman Street currently meets the deficiency rating, although is not forecast to reach the severely deficient rating until 2033.

Because the model uses generalized capacity data for different facility types, it does not address design or travel characteristics unique to individual corridors. The I-39 interchange at Bus 51 is a good case in point. The model indicates that the southbound off-ramp and the northbound on-ramp will reach deficiency in 2019 and 2030, respectively. However, empirical evidence suggests this

interchange currently experiences operational problems involving significant delays and backups. These problems may be due to the tight ramp turning radii or peak travel patterns or a combination of both. The travel demand model is not designed to perform operational analyses of roadway conditions, nor identify operational problems. These important issues should be addressed using the tools and analyses designed for those purposes.

CONCLUSION

The output of the travel demand model is only as good as the inputs. Painstaking effort has been made to create a travel demand model that produces reasonable traffic forecasts that promote confidence among decision-makers and the public. There is no such thing as a perfect travel demand model, even if the inputs are perfectly accurate. Human behavior is subject to a wide variety of variables, many of which are impossible to predict. While the opportunities to find fault with travel demand models are endless, the fact remains that these models are currently the most practical tools available and produce results as good as can be expected given the wealth of unknowns the future holds.

The biggest factor affecting the model's ability to produce relatively accurate traffic forecasts is whether the communities that make up the metropolitan area monitor their growth and follow their land use plans.

The 2035 capacity deficiency analysis highlights several important findings:

- Traffic will increase at a slightly greater rate than household and population growth.
- The overall system is forecast to see increases in capacity deficiencies; however, these problems are limited to a few corridors, Including:
  - Thomas Street Corridor and Bridge in Wausau between 17th Avenue and River Drive.
  - STH 153 Corridor Wisconsin River Bridge between 4th Street in Mosinee and Old Highway 51.
  - Bus 51 Corridor in Rothschild between Military Rd and Eagles Nest Road.
- The model produced relatively few surprises with the highest priorities corridors being know problems that are forecast to continue to deteriorate.

Much attention and resources have been given to the gathering the data needed, developing the process and parameters, and analyzing the results of the Travel Demand Model. Despite these efforts, the model is still just one tool in the planner's toolbox, meant to answer some of the questions asked of decision makers, and not to make decisions. There are a host of issues that the model does not address, which should be address as part of the decision making process.

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CHAPTER 7 – TRANSPORTATION IMPROVEMENT ALTERNATIVES ANALYSIS

This chapter discusses the alternatives that were considered and analyzed as potential recommendations in the Transportation Plan. These alternatives were evaluated on how best they would:

- Achieve the stated Goals and Objectives identified in Chapter 2,
- Address issues and opportunities identified in Chapters 3 and Chapter 4, and
- Reduce the forecasted capacity deficiencies identified in Chapter 6.

PURPOSE/INTRODUCTION

It is not feasible to analyze every potential solution for every problem. This chapter describes the process for evaluating alternatives and determining which projects, strategies and actions should move forward toward implementation. A set of criteria was developed to identify measures of effectiveness for evaluating those alternatives deemed most likely to address transportation deficiencies. The Chapter is divided into the following sections:

- Purpose/Introduction
- Needs Summary
- Defining Alternatives
- Evaluation Methodology and Criteria
- Analysis of Alternatives

NEEDS SUMMARY

Capacity Deficiencies

The 2001 capacity deficiency analysis indicated USH 51/STH 29 between STH 29 west interchange and east interchange as the most significant existing capacity problem. As shown in Figure 6-4, these deficiencies are addressed with the USH 51/STH 29 expansion project currently in progress and scheduled for completion in 2009.

Two of the three major 2001 capacity deficiencies highlighted in Figure 4-14 are also identified as forecasted capacity deficiencies illustrated in Figure 6-4. Thomas Street between 17th Avenue and River Drive in Wausau and STH 153

between 4th Street and Old Highway 51 in Mosinee are identified as deficient or severely deficient in the 2035 travel demand model forecasts. These corridor deficiencies are not addressed by any projects included in the current Transportation Improvement Program (TIP).

The third major forecasted capacity deficiency is Bus USH 51 between Military Road and Eagles Nest Road in Rothschild. The 2001 capacity analysis indicated this corridor as potentially deficient. The 2035 forecast capacity analysis indicates this corridor as currently deficient, reaching severely deficient in 2013. A complete list of forecasted capacity deficiencies are provided in Tables 6-14 and 6-15 on page 6-22 and located on a map in Figure 6-4 on page 6-21.

ALTERNATIVE ANALYSIS EVALUATION METHOD AND CRITERIA

For projects to proceed toward implementation and construction, they are required to be in both the LRTP and the TIP. Ideally, projects should be identified as a need early in the LRTP planning process. LRTP recommended projects should proceed toward implementation through a prioritization process. Prioritized projects at the top of the list should advance toward implementation with the appropriate level of additional planning and preliminary engineering toward adoption into the TIP with dedicated funding in place. Once included in the TIP, the project moves toward final engineering and construction.

The planning process continuum (LRTP, TIP, Construction) dictates that the criteria used in evaluating both LRTP and TIP projects should be the same or similar. It would be inconsistent to judge or rank LRTP projects by a different set of criteria than TIP projects.

The LRTP and TIP project evaluation criteria should be consistent with one another. To this end, the TIP project selection process, at least until the next LRTP update, should use the LRTP project criteria described below. The current TIP project selection process and criteria are described in the Appendix D.

A review of the current TIP found that while the current process provides an objective and quantifiable evaluation process, it does not address all or even most of the MPO's adopted goals and objectives.

Many of the MPO's adopted goals and objectives are difficult to quantify. However, merely because a stated objective may require a subjective judgment does not render it necessarily less important than an easily quantifiable objective. The LRTP and TIP project evaluation and selection process should include criteria that address the highest priority goals and objectives.

Evaluation Criteria

The criteria used for evaluating improvement projects should relate to the values of the MPO and its constituents. These values are represented as the MPO's

LRTP goals and objectives, which served as a starting point for establishing evaluation criteria. The goals and objectives were developed based on input from the Public, the Technical Advisory Committee, and the Planning Commission. The LRTP goals and objectives were finalized and adopted by the Planning Commission for inclusion in this plan.

The Transportation System-related Goals and Objectives are listed below. This category of goals and objectives can be tied directly to potential roadway improvements.

Transportation System

Safety – Provide for a safe transportation system.

- Minimize the number and severity of vehicular crashes with particular emphasis on reducing vehicle-bicycle and vehicle-pedestrian conflicts and crashes.
- Design safe facilities that promote appropriate travel speeds, enhance predictability, and provide a safe and comfortable environment for all transportation system users including non-motorized users.

Mobility – Maintain and improve the quality of travel on the transportation network.

- Reduce travel delays and minimize congestion on roads.
- Reduce traffic demand on congested roads.
- Address multi-modal regional mobility issues (e.g. intercity bus, air, highways).

Transportation Performance – The transportation system should provide quality service with reasonable speed, convenience, and safety for all users.

- Provide a roadway system with the capability of achieving appropriate performance levels consistent with community goals.
- Enhance the opportunity for using transportation modes other than the auto for single person-trips, including pedestrian travel, bicycles, and public transportation.
- Promote bicycle and pedestrian travel modes by linking pedestrian and bicycle systems throughout the region.
- Provide transportation service for all modes that is accessible to residential areas and to primary trip attraction areas (e.g., places of employment, shopping, education, public services, and recreation).
- Provide effective linkages to non-local transportation systems (statewide, national) for all modes.
- Promote transportation system and land-use coordination that reduces trip lengths and travel times for all modes of travel.

Freight – Provide for freight modes including trucks, rail, and air transportation.

- Provide safe and convenient freight access via truck, rail, and air transportation systems.

Other goals warranting consideration as they relate to alternative improvements fall under the categories of Land Use and Development and Planning Process, which are listed below. These goals are discussed in their entirety in Chapter 2.

Land Use and Development

- ***Regional Character –*** Maintain the character of the Wausau Metropolitan Area.
- ***Growth and Development –*** Encourage compact and contiguous growth to maximize transportation system efficiencies and minimize costs.
- ***Economic Development –*** The transportation system should support and enhance economic development.
- ***Environmental and Natural Resource Protection –*** Recognize the region's significant natural resources and environmentally sensitive areas and minimize negative encroachments and disruptions on these areas.
- ***Quality of Life –*** Maintain and enhance the quality of life within the Wausau metropolitan area.

Planning Process

- ***Interagency Coordination –*** Foster cooperation and coordination among member municipalities and agencies through the planning process and implementation of the transportation Plan.
- ***Financial Feasibility –*** The transportation plan must be financially feasible.
- ***Commitment to Implementation –*** The transportation plan should be supported by a commitment to implement the recommended improvements according to an identified schedule.
- ***Future Infrastructure Planning –*** Proactively plan for anticipated infrastructure needs of residential and business development.

The goals and objectives served as the basis for the evaluation criteria matrix listed below. However, all goals are not necessarily of equal importance, particularly with respect to determining what transportation improvements should be recommended. In order to determine the amount of importance associated with these criteria, the Technical Advisory Committee was asked to weight each criterion for importance as a percentage relative to all other criteria.

Individual TAC members submitted their weighted criteria percentages, which were averaged to create an importance weighting for each criterion. The weighted criteria is listed in Table 7-1. This exercise provided a means of evaluating potential improvement projects based the importance associated with each criterion so that projects that best accomplish the most important objectives

advance through the decision-making process. For example, Technical Advisory Committee members as a group identified safety as a top priority. As such, projects that provide a significant safety benefit should rate higher than all other projects, all other things being equal.

Table 7-1: Alternatives Evaluation Criteria

Criteria	Weighting	Measures of Effectiveness
Safety	**14%**	Crash Volumes, Crash Rates, STH flags
Mobility	**13%**	Functional Classification, AADT, Forecast AADT, Travel Time Savings
Transportation Performance	**15%**	Level of Service, Congestion Reduction
Financial Feasibility	**11%**	Funding and Costs
Economic Development	**7%**	Subjective: Supports Economic Development
Growth and Development	**6%**	Subjective: Promotes compact and contiguous growth
Future Infrastructure Planning	**6%**	Proactively plan: right-of-way, minimum land required, maximum traffic efficiency (e.g. Access Management), that provides for future mobility and land access.
Freight	**5%**	Truck Counts, Industrial/Commercial Land Use Access
Environmental and Natural Resource Protection	**5%**	Amount or degree of disruptions of sensitive areas or natural resources.
Quality of Life	**5%**	Minimizes residential area impacts (e.g. traffic calming), provides for transit, bike and pedestrians. Streetscapes
Interagency Coordination	**5%**	Subjective: Cooperation and coordination among jurisdictions
Regional Character	**4%**	Subjective: Maintain Community Character
Commitment to Implementation	**4%**	Subjective: Support of jurisdictions
Total	***100%***	

Source: Wausau Technical Advisory Committee and URS Corp.

This set of weighted criteria was approved by the Technical Advisory Committee and provided guidance for analyzing transportation improvement alternatives.

DEFINING ALTERNATIVES

In order to more easily evaluate transportation improvement strategies, alternatives are categorized according to the following system improvements types:

- System Preservation (SP)
- Travel Demand Management (TDM)
- Transportation System Management (TSM)
- Construction/Expansion (CE)

System Preservation (SP)

System Preservation relates to improvements that preserve the existing transportation system from deteriorating and reducing current levels of service. System Preservation improvements include resurfacing and reconstruction of existing facilities.

Preserving the existing system to ensure that current infrastructure and services do not deteriorate system wide should be the first priority. This alternative includes:

- Maintaining existing roadway surfaces and infrastructure (measured by surface pavement ratings, signals, striping, etc.)
- Maintaining existing public transit services (measured by revenue hours, revenue miles, etc.)
- Maintaining existing trails, sidewalks and related pedestrian and bicycle infrastructure (measured by surface conditions, etc.).

State Preservation Projects

The Wisconsin Department of Transportation's North Central Region provided a list of planned State preservation projects for the Wausau MPA. This list of projects is included in Chapter 8, the Financial Plan, in Table 8-12 through Table 8-16, on page 8-22 through 8-24.-The list of projects includes the time period the project is estimated to be needed as well as an estimated cost associated with the preservation activity. These preservation activities include mill and overlay, joint repairs, and bridge redecking projects. The total estimated cost of these State preservation projects total about $55 million over the life of the plan.

Local Preservation Projects

An initial list of roadway preservation projects were generated based on past planning. These projects were reviewed for relevance and projects that have been completed. Table 7-2 lists major preservation projects that have been recommended in past planning efforts, most notably in the 1996 Long Range Transportation Plan (LRTP) and the 2000 Local Arterial Circulation Plan

(LACP). These projects represent recommended projects that have yet to be completed.

Table 7-2: MPO Previously Planned Preservation Roadway Projects

Project	Location: To - From
STH 153/Bridge	Old Hwy 51 to the Wisconsin River Bridge.
North 6th Street/CTH W	Horseshoe Springs Rd to Evergreen Rd.
Weston Avenue	Business USH 51 to CTH J
Maple Ridge interchange	I 39 and Maple Ridge Rd, Kronenwetter
Kronenwetter Drive	Kowalski Rd to Maple Ridge Rd.
Alderson Street	Weston Avenue to Howland Avenue
Military Road	Business USH 51 to Volkman Street
Volkman Street	Business USH 51 to Military Road
Stettin Drive	Stewart Avenue to 72nd Avenue
Northwestern Avenue	Town Line Road to Camp Phillips Road
McIntosh Street	13th Street to 41st Street
Ryan Street/Callon Avenue	Weston Ave to Schofield Ave, Schofield Ave to CTH J
72nd Ave/Stewart Ave intersection	STH 29 and Stewart Ave.
Packer Drive	48th Avenue to 72nd Avenue

Travel Demand Management (TDM)

This category includes strategies designed to reduce the demand for roadway capacity including increasing transit use, increasing pedestrian and bicycle travel, reducing peak hour travel, and encourage shorter and fewer vehicle trips.

Travel demand management (TDM) targets factors that affect how and when individuals choose to travel, such as price, convenience and awareness of alternatives to driving alone. TDM strategies increase the people-moving capacity of the transportation system by:

- Increasing vehicle occupancy (the number of people per car, van or bus).
- Reducing the size of vehicles (substituting bicycle commuting for auto trips).
- Spreading out the demand for travel (shifting travel to off-peak time periods).

There are three key kinds of TDM strategies that can greatly impact the return on investment in transportation infrastructure:

Individual incentives – When commuters understand the full, accurate value and costs of travel options, they may make different choices. Currently, large and growing externalities associated with driving alone such as air pollution and congestion delays imposed on other commuters create a bias toward supply-side congestion management approaches. Similarly, the extent of fixed costs, 86 percent of owning and operating a car and 71 percent of fees paid for building and maintaining roadways limit choices about when and how to travel. Financial incentives, often through collaboration with employers, can also increase commuter choices.

Employer programs – Decisions made by employers (work location, work shifts, etc.) significantly impact the travel behavior of commuters. Employer programs include such things as: regulations that mandate the implementation of a TDM plan, voluntary employer programs, and public-private partnerships, such as transportation management organizations (TMOs) that promote commuting alternatives to driving alone.

Parking policies – The supply and cost of parking is an important variable in the decision to drive or use transit. Transit is a more attractive alternative to driving when drivers have to pay for parking or where the amount of parking is limited. Public policy decisions such as setting minimum parking requirements or subsidizing parking lots or ramps create an incentive to drive. Many communities are considering changes to their parking policies that encourage single occupancy driving.

A TDM-based approach to traffic management means:

§ *Focusing on the work commute (as opposed to all other trips, such as recreation and errands).* Work trips tend to be longer and more congested than other trips and they substantially impact other trip choices. In addition, focusing TDM marketing on the worksite benefits from the collaboration with company-wide human resource managers.

§ *Focusing on land use at suburban trip destinations.* Expanding the market for bus ridership will require making suburban trip destinations more like downtown trip destinations, in which employment density and employer contributions to bus fares make for cost-effective bus service.

§ *Filling vehicles, and/or using smaller vehicles.* Filling the empty seats in most cars on the roads and insuring that buses run close to capacity can achieve the same outcome as road expansion. Exchanging car trips for bicycle trips also allows more people to travel in a corridor.

§ *Spreading out the demand for travel.* Economists recommend using prices that vary according to the level of demand to balance supply and demand over time. The success of this approach is confirmed by the widespread use of variable prices for phone service, air travel, electricity, entertainment

venues, etc. In the absence of political support for congestion pricing, flexible work hours can shift some travel to less-congested periods and telecommuting can shift trips from roadways to cyber-ways.

§ *Changing the experience of an individual's time spent commuting*. Generally, we prefer not to waste time stuck in traffic. Our perceived cost of congestion is reduced (or eliminated) when we can read, relax or exercise as we bus, carpool or vanpool, or bike to work.

TDM Alternatives

The following are several TDM Strategies that could be considered for implementation within the Wausau Area.

Public Education and Promotion – One of the major barriers to alternative mode usage is a lack of knowledge of available options. Providing people with information, such as transit schedules, bike maps, and ride share programs, helps to overcome this barrier. Other efforts, like bike to work week, can help foster a community of participants. Public education compliments every other TDM strategy by creating a climate of public acceptance and awareness of alternative transportation modes.

Ride-Matching Service – Most carpooling and vanpooling arrangement take place through informal arrangements between family, friends, or co-workers. Ridesharing services are often run by transit/rideshare agencies, which maintain large databases of interested commuters in order to coordinate potential ridersharers. Ridesharing can occur in any urban or suburban area. However, employers not served well by fixed route transit can benefit the most as this may be the best public transit option available. Developing a critical mass of participants is necessary to identify successful matches. If combined with financial incentives, ridesharing can be effective, or where carpooling has some other benefit like access to a High Occupancy Vehicle lane to avoid congestion or preferential parking spaces. However, without incentives, those who already have access to a vehicle have little reason to participate.

Transit Services – To reduce single occupancy vehicles (SOV), it is essential to have viable and attractive transportation alternatives. The provision of good transit service is essential to the success of almost any TDM strategy. Transit service can be improved by making it faster and more reliable, adding new routes, adding express routes, extending operating hours and decreasing headways (i.e. wait times). All of these actions will increase transit's competitiveness with SOVs. Improving comfort and convenience improvements can also make a difference, such as fast/automatic payment methods and real time information technologies.

The closer transit can come to matching the flexibility, speed, convenience, and marginal cost per trip (to the user) of the private auto, the more effective it will be. However, the cost and effectiveness of providing increased transit services vary greatly and expected costs and expected results need to be weighed carefully.

Transit agencies continue to look to custom transit services to serve transit markets where traditional fixed route transit is not feasible or cost effective. In order to better serve low density areas, non-work and recreational trips, distant employment centers, smaller scale and more flexible transit services are needed. Custom transit strategies include:

Shuttle, Circulators, Feeder Buses – Typically smaller vehicles with more flexible schedules than that of regular buses, shuttles and circulators can provide services around and within neighborhoods, activity centers, or in a corridor as well as provide a greater reach to express bus service.

Dial-a-Ride (paratransit) Services – WATS+ (WATS Plus) is a dial-a-ride type of service providing door-to-door (or curb-to curb) transit service to elderly or disabled populations. WATS+ fulfills WATS' ADA requirements serving a ¾ mile area from fixed route services. However, a dial-a-ride type service could be expanded to serve the general population in low density areas not served with regular route transit service.

Subscription Bus Service – Customized bus services are frequently provided for special events or by employers whose worksites are not conveniently served by regular transit. Such services are designed around a fairly large group that needs to make a single, usually rather long, trip.

Worker/Driver Bus Service – This service operates like a custom bus route, except the driver works full time at the destination of the route, where the bus stays during the shift. The driver is also employed part time by the transit agency and takes the bus home or to a nearby parking facility at night.

Customized transit services are designed to provide service to low-density suburban areas or smaller population centers, which are difficult to serve with traditional services. Custom services can also work in urbanized areas for special events, or where a large employer is located too far from a central transit hub. While custom services may be less expensive than regular fixed route service, the attractiveness to potential riders needs to be weighed carefully with the cost of the services.

Vanpooling – Vanpools are groups of commuters, usually seven to 15 commuting together in a van, which may be privately owned by an individual or employer or publicly owned by a transit agency, operating as a public transit service. Where vans are part of a public transit service, riders typically pay a fare which covers a substantial share of the cost of purchasing and operating the van. The driver is a fellow commuter who, as compensation for driving, pays no fare and may be allowed a set amount of personal use of the van for non-commuting purposes. Employers may subsidize vanpool fares for their employees.

Staff is generally needed to maintain vanpool programs. The benefits to participants need to exceed the costs of the fares, which should ideally cover the cost of purchasing and operating the van.

Guaranteed Ride Home Program – Guaranteed Ride Home Programs are a companion strategy to carpool, vanpool, and transit services, which allows employees to take a free taxi home in emergencies. This strategy attempts to remove one of the barriers to using these transportation modes.

Non-Motorized Mode Support – The census reported in 2000, that 2.3 percent of Wausau area commuters walked to work and 0.3 percent biked to work. Nationally, about seven percent of all trips in the US are made by non-motorized modes. Most strategies to encourage non-motorized travel – provision of paths, bike lanes – are the responsibility of the public sector, which will either have to provide facilities directly or encourage/require developers to provide them. Some strategies, such as the provision of bicycle racks, lockers, or changing/shower facilities, can be implemented by the public sector, employers, or developers.

Efforts to encourage bicycle and pedestrian use are most successful where the distance between home and work/shopping/etc. is short, about three miles. Topography, climate, and safety have also have a large influence on the number of people who will consider these modes.

Marketing and education may increase the use of non-motorized modes. Good maps of trails and bike routes are essential, particularly maps that show the best routes for different levels of skill and fitness. One study found that increasing the walk mode share by one percent reduces commute trips by 0.5 percent and increasing the bike mode share by one percent would reduce commute trips by 0.9 percent.

TDM Assessment

Increase Transit Use – With job growth in the suburbs generally outpacing that of downtown, the need to provide suburb-to-suburb transit options has increased in importance. A recently adopted plan to provide service in the Village of Weston and the new hospital is a step toward enhancing suburban service.

However, providing bus service to suburban worksites is challenging given the relatively low density of employment. WATS is better able to provide cost-effective bus service to downtown Wausau, where employment density is higher than that of suburban settings.

Existing transit services within the Wausau MPA are limited in both geographic coverage and hours of service. However, WATS does offer the shortest headways during commute times and trips originating within Wausau and destined for downtown are served well. However, only about 17 percent of Wausau's 32,000 workers are employed in Downtown Wausau and of those 32,000 workers, only 40 percent also live in Wausau. About 10 percent of all Wausau MPA jobs are in Downtown Wausau.

Employment density is a key component for providing effective bus service. Employment density tends to be much higher than residential density, since an average individual's workspace takes up much less land than an average dwelling lot. It is unrealistic to expect bus riders to either walk long distances or to transfer

to infrequent buses or shuttles to get to a worksite located in a low-density suburban setting. New Downtown Wausau development means more jobs concentrated in a pedestrian-friendly environment, which should translate into more transit use. However, free/inexpensive parking provides an incentive to drive.

Current land use plans for Wausau MPA do not indicate significant changes in residential development that would create an environment more conducive to transit use. Household growth is forecast to occur primarily on the periphery and at densities that are difficult to serve effectively with regular fixed transit.

There are some noteworthy opportunities for increasing transit service to areas currently not being served by transit. However, these services will likely benefit those will limited transportation options and not attract riders out of their cars.

Reduce Single Occupancy Driving – There are few incentives for individuals not to drive alone to work. Car ownership among commuters is practically ubiquitous. Automobile costs are mostly fixed costs; that is, costs that do not vary with use (e.g. financing, insurance, depreciation). Variable costs, such as gas and maintenance, tend to account for a relatively small percentage of total car costs. Even with the high gas prices experienced in the autumn of 2005, fuel costs make up a small fraction of total car ownership costs.

Similarly, road and street infrastructure costs is mostly paid as fixed costs through vehicle registration fees, property taxes, and State general funds. While gas tax is a variable cost tied to use, nationally, it represents about 30% of road and street infrastructure funding.

Increase Car and Van-pooling – Car- and van-pooling offer the most viable alternative to driving alone and strategies that promote car and van pooling may be effective. However, such strategies work best at the employer level, where there are large concentrations of potential car-poolers, working similar hours at the same destination. Large employers provide the best opportunity for implementing car and van pool. Wausau does have several large employers, who may be willing implement TDM strategies, which could be relatively successful.

Encourage Bicycling and Walking – In northern climates, weather limits promotion of year round bicycling and walking as transportation projects. Currently, the bicycle network does not provide a comprehensive system. However, the continuation of trail development with particular emphasis on creating connections to existing trails and paths will make biking a more viable transportation mode. Yet, in most cases off-street bicycle facilities are very limited in getting people to and from points throughout an area. In terms of transportation, these facilities are more suited for supplementing on-street bicycle facilities.

On street bicycle facilities, particularly if provided along arterials and major collectors, are a very important component to a bicycle transportation network. The only roadways in the Wausau area that on-street bicycle accommodations should not be considered are I 39, USH 51, and STH 29 which are freeway

facilities. Because extensive street networks usually already exist in most communities, on-street bicycle facilities are much more suitable for transportation purposes than off-street bicycle pathways.

Generally, commuters will choose alternatives to driving alone when it is beneficial to do so. Most people will choose the available transportation option that provides the greatest benefits with the lowest costs. Under current conditions, for a great majority of people, this means driving alone.

Transportation System Management (TSM)

TSM is the process of modifying or optimizing the existing transportation system through low cost means in order to increase system efficiency. These strategies consist of lower cost actions that increase the carrying capacity of existing facilities. This category includes resurfacing, spot intersection improvements, signal/intersection traffic modifications, pavement re-striping to change intersection or road segment lane assignments, and the use of Intelligent Transportation Systems (ITS) Technologies. Potential TSM strategies include the following:

Traffic Signal Synchronization – The process of coordinating a group of signals to provide efficient vehicle progression along a corridor.

Intersection Improvements – Strategies that include changes in traffic control, signal phasing, pedestrian crossings, safety improvements, and flatwork that adds left and right turn lanes and other traffic treatments.

Roundabouts – An intersection improvement which is gaining popularity throughout the United States is adding roundabout at intersections. These designs have been shown to reduce delay, improve safety and generally cost about the same or less than adding traffic signals.

Modern roundabouts are the newest form of intersection in the U.S. Several are in operation in Wisconsin. Several others are in the planning stages around the state.

Roundabouts provide safe and efficient traffic flow and make use of extensive safety and traffic research conducted over the past 25 years in other countries. Roundabouts move traffic safely through an intersection because of:

- Slower speeds
- Fewer conflict points
- Easier decision-making

Geometric Improvements – Spot roadway and lane improvements that target specific bottlenecks along a corridor.

Peak Period Parking Restrictions – Locations along high volume corridors where parking is restricted during peak hours and in the peak travel direction in order to create additional travel lanes.

Access Management – Programs that manage a proliferation of poorly located and closely spaced driveways, intersections, and traffic signals, which can severely impact a highway's ability to move traffic and provide convenient access. Access levels are defined based on the function of the road. Access management will protect safety, capacity, and traffic flow on the transportation network while providing access to adjacent property as appropriate and necessary.

Access management strategies should be considered as part of minor and principal arterial reconstruction projects. By combining and controlling access points, constructing raised medians and channeling left turns to controlled intersection can enhance traffic flow, increase functional capacity, and improve safety, without adding additional traffic lanes or requiring substantial increases in right of way.

The MPO should work with WisDOT, the County and municipalities to continue efforts to implement access management plans for principal and minor arterial streets. Another alternative is for the County and municipalities to adopt access management ordnances to ensure a comprehensive approach to access management.

Limitations on driveway access and crossroad spacing have already been established along many arterials in the area. Center and/or left turn lanes have also been constructed along some of the area's arterials.. However, as traffic volumes continue to increase, there may be greater need to separate directional traffic with medians and constructing dedicated left-turn bays.

Access management is the control and regulation of the spacing and design of driveways, medians, median openings and traffic signals. These strategies can increase capacity, improve traffic flow, and improve safety while maintaining appropriate speeds compatible with adjacent land uses. When combined with a streetscape plan, they can help create an attractive multi-modal environment.

The following strategies should be considered along congested corridors and as part of an overall access management plan:

§ Controlled left turns
§ Raised medians
§ Combined driveways
§ Driveways located away from intersections
§ Driveway accesses from cross streets where possible

Sufficient traffic flow through the MPA via principal and minor arterials does not have to be at odds with creating livable and safe neighborhood streets. The following benefits can be realized when a streetscape program with a pedestrian-friendly design is combined with access management strategies.

§ Traffic flow and speeds are more consistent
§ Driving environment is more predictable

- Increased capacity and safety due to removing left turning vehicles from through-lane
- Improved safety due to right turning vehicles consolidated to fewer driveways
- Traffic calming effect of street trees in median and between road and sidewalks
- Improved safety by pedestrians having to cross fewer driveways
- Raised medians providing a pedestrian refuge at street crossings
- More comfortable pedestrian environment with street trees providing a buffer between the drive lane and sidewalk and slower travel speeds

Combine Streetscape Enhancements with Access Management Strategies

Additional information on access management and examples of access management ordinances can be found in the *Access Management Handbook* published by Center for Transportation Research and Education (CTRE) at Iowa State University, which can be found at: http://www.ctre.iastate.edu/Research/access/amhandbook/index.htm.

An example of access management ordinance thresholds is indicated below.

Minimum Driveway Spacing

Street Classifications	*Minimum Adjacent Spacing (feet) Minimum*	*Opposite Right Spacing (feet),*
Local street	*150*	*125*
Collector	*185*	*175*
Minor arterial	*230*	*225*
Major arterial	*275*	*300*

Corner clearances must meet the minimum spacing standards for the roadway. When spacing standards cannot be met, additional standards are proposed.

Three-lane Roadway Configurations – The MPO should evaluate the use and appropriateness of three-lane road configurations for urban streets currently designed as four-lane undivided roadways and for two-lane urban arterial streets carrying between 10,000 to 15,000 vpd. The DeKalb County Greenways and Trails Plan recommended three-lane roads to allow space for bike lanes.

Example of a three-lane configuration with one lane in each direction, dedicated left turn lanes and planted medians.

A three-lane configuration consists of one through lane in each direction and a center two-way left-turn-lane (TWLTL) or dedicated left turn lanes. Converting four-lane undivided roadways to three-lane configurations have been shown to improve traffic flow, reduce speeding, decrease speed variability, increase safety, and provide a safer and more comfortable environment for pedestrians and bicyclists than four-lane undivided roadways with a minimal decrease in capacity.[1]

Simply re-striping drive lanes can accomplish the task of converting an existing four-lane undivided roadway to a three-lane configuration. However, if the three-lane concept proves to be desirable in the long-term, streetscape improvements such as planted medians, street trees, and pedestrian crossing treatments at intersections should be considered to improve safety and appearance.

Three-lane Feasibility –Converting a four-lane undivided roadway to a three-lane roadway is appropriate in areas with frequent left turning movements and/or

1 *Guidelines for the Conversion of Urban Four-Lane Undivided Roadways to Three-Lane Two-Way Left Turn Lane Facilities*; Center for Transportation Research and Education (CTRE) Iowa State University; April 2001.

where speeding and safety concerns are problems. The feasibility of replacing an urban four-lane undivided road with a three-lane configuration should be considered on a case-by-case basis. Characteristics and sample evaluative questions are provided under each or the following factors:

- Roadway function and environment
- Overall traffic volume and level of service
- Turn volumes and patterns
- Frequent-stop and/or slow-moving vehicles
- Weaving, speed and queues
- Crash type and patterns
- Pedestrian and bike activity
- Right-of-way availability, cost and acquisition impacts
- General characteristics:
  - Parallel roadways
  - Offset minor street intersections
  - Parallel parking
  - Corner radii
  - At-grade rail crossings

The feasibility of converting a four-lane undivided to a three-lane configuration from an operational point of view (with respect to volume only) is based on the following bi-directional peak-hour traffic:

- < or = 1,500 vehicles per hour (vph): .....feasibility probable
- 1,500 to 1,750 vph: .....exercise caution
- > or = 1,750 vph: .....feasibility less likely

These volumes are general guidelines. Three-lane conversions have been used on roads with traffic volumes up to 24,000 vpd. Further study is required for any corridor being considered for a three-lane conversation

The following two corridors have been specifically identified as needing access management controls:

- *Grand Avenue* – There is a need to undertake traffic management improvements along Grand Avenue from Forest Street to Lake View Drive. This heavily traveled corridor will continue to be a critical arterial in the metropolitan street system.

  The existing right-of-way is too narrow for the cross section needed. With the current development pattern (and corresponding access needs) and the number of intersecting city arterial and collector streets, the corridor could greatly benefit from separate left-turn lanes with adequate storage length.

  A combination of measures are needed including: signal timing adjustments; driveway modifications (consolidation, relocation, and prohibition); and turn-lanes additions. Some of these could be accomplished on an opportunity basis

as redevelopment occurs. A more detailed analysis is needed to develop a master operations plan with specific measures and access policies.

§ *Thomas Street* – Similar to Grand Avenue, Thomas Street from Grand Avenue west to 17th Avenue has a narrow right-of-way relative to the arterial function it needs to serve. It is a key connecting route in the system and is currently considered capacity deficient and is forecast to be severely deficient. Commercial development exists on some of the block frontages, although commercial uses generate relatively low traffic volumes. Industrial uses in the corridor, however, generate large volumes of traffic, including truck traffic.

The intersection approaches at Grand Avenue, 1st Avenue, and 3rd Avenue are the locations where congestion occurs, and will only increase with forecasted traffic increases. The short spacing between the north-south streets creates problems for left-turn storage.

Traffic management strategies that may improve traffic flow include signal timing and access management. On-going monitoring should occur at the same time as a more comprehensive solution is pursued. Consideration should be given to reducing local street intersections or limiting some intersections to right-turns only. Traffic management coordination is needed with major industries, neighborhood groups, and schools in the area.

Intelligent Transportation System – ITS represents the latest advances in information technology and electronics as applied to transportation systems. ITS uses advanced computing, information systems, and communications technology and applies them to the control and management of traffic and infrastructure to achieve (1) a safer transportation system, (2) better informed travelers, (3) improved traffic control systems, and (4) increased efficiency of transit systems and traffic infrastructure. The benefits of ITS include reduced congestion, fewer transportation-related deaths and injuries, and reduced energy consumption and pollution.

Potential ITS strategies include the following:

§ *Transit Management:* hardware and software that collects ridership data and real-time travel information to identify current operations from which to program changes in routes and stops.

§ *Incident Management:* hardware and software that alleviates the impacts of incidents (traffic accidents) on travel using quick detection and response techniques so that the vehicles involved can be moved from the street or intersection.

§ *Electronic Toll Collection:* technologies that minimize or alleviate the time for a vehicle to pass a toll collector.

§ *Emergency Response:* systems using global positioning system (GPS) information that allows accidents and incidents to be located and facilitated quickly to minimize travel delay.

- *Regional Multimodal Traveler Information:* direct communication that is provided to travelers over the Internet, at kiosks, on message signs, or via radio and television.
- *Citywide Fiber Optics Network:* a network of fiber optics that connects signals, hardware, changeable message signs, and other devices to a computerized system to increase real-time information exchange and updates to signal timing patterns.
- *Changeable Message Signs:* a system of interconnected signs that can be updated as information is received in real time to inform drivers of congestion trouble spots in the system.

TSM Assessment

TSM strategies should be considered prior to major construction expansion projects. TSM strategies may offer much more cost-effective solutions for minimizing traffic congestion and delays. The delays experienced by the public are often times intersection issues that can be improved by relatively simple fixes including signal phase and timing modifications or adding turning lanes.

This being a regional plan it is out of the scope of this project to attempt to identify all locations where TSM strategies should be considered. However, Chapter 5 Safety Analysis identified high crash volumes by intersection. Intersections with high intersection-related crashes suggest that some TSM strategies in general may be beneficial, roundabouts in particular may be appropriate.

Construction/Expansion (CE)

This category of improvement includes the construction of new corridors, the addition of through-traffic lanes to existing facilities, and the addition of new interchanges. Of the improvement categories described thus far, only construction and expansion improvements are appropriate for travel demand forecasting model analysis.

An initial list of roadway improvement alternatives were generated based on past planning efforts. These projects were reviewed for relevance and projects that had either been completed or resolved in some manner were removed from the list. These projects were primarily recommendations from the 1996 Long Range Transportation Plan (LRTP) and the 2000 Local Arterial Circulation Plan (LACP). A preliminary list of projects identified as warranting further analysis was developed by the Technical Advisory Committee, MPO staff and WisDOT staff.

Capacity Deficiency Needs

It is important to note that the travel demand model is not a traffic operations model. The model is designed to estimate future traffic levels on main line roads and highways. It does not address intersection-related capacity problems and has

limited application for evaluating ramp capacities. The modeled capacity deficiencies should not be taken at face value, but should be reviewed with respect to individual roadway geometric and operational characteristics that would impact capacity.

If the travel demand model indicates a road segment as capacity deficient and additional evidence supports these findings, the roadway should be studied from an operational/traffic engineering perspective, utilizing small area traffic level of service analyses and/or traffic simulation software.

The results of the 2035 travel demand model traffic forecasts indicated several capacity deficiency problem areas. The corridors identified as being deficient or severely deficient were discussed in detail in Chapter 6. Several freeway ramps show deficiencies developing by 2035. These ramps include:

Roadway	Ramp Location
§ USH 51/STH 29	Sherman St Northbound Off-ramp
§ USH 51/STH 29	CTH N Southbound On-ramp
§ I 39	Bus USH 51 Southbound Off-ramp
§ STH 29	Bus USH 51 Westbound On-ramp
§ STH 29	CTH X (Camp Phillips Rd) Westbound On-ramp
§ STH 29	CTH X (Camp Phillips Rd) Eastbound Off-ramp
§ STH 29	Bus USH 51 Eastbound Off-ramp
§ I 39	Bus USH 51 Northbound On-ramp
§ USH 51	CTH U Northbound Off-ramp

Roadway deficiencies identified in the model include:

Roadway	Location Description
§ STH 153	Wisconsin River Bridge - 4th St to Old Hwy 51
§ Thomas St	17th Av to 3rd Av
§ Thomas St	River Dr to 3rd Av
§ Bus USH 51	Military Rd to Eagles Nest Rd
§ CTH X	CTH XX to Pleasant Dr
§ Old Hwy 51	North of STH 153
§ USH 51	STH 52 to Sherman St - Northbound
§ USH 51	Sherman St to STH 52 - Southbound

FHWA has indicated that identified capacity deficiencies on the National Highway System (NHS) need to be addressed in this plan. NHS routes include all freeways within the MPA as well as parts of Bus USH 51/Grand Avenue and STH 52/Stewart Avenue (see Figure 4-7).

Providing for existing or future travel demand is a compelling rationale for increasing road capacity by building additional travel lanes or new roadways. However, there may be other compelling reasons for expanding capacity other than for mitigating congestion problems, such as improving connectivity to reduce travel times or improving capacity to improve safety.

Roadway Improvement Alternatives

TAC members identified a list of transportation improvement alternatives that they wanted tested in the travel demand model. Several of the alternatives focused on providing alternative routes and connections in order to attract traffic away from the congested corridors. These alternatives are located on the map in Figure 7-1 and described below. Where feasible, alternatives were grouped into model "runs" to minimize the total number of runs required.

A. Northeast Arterial Loop and North River Crossing

A northern Wisconsin River crossing with connecting arterials north of the Bridge Street Bridge was included in the 2000 Local Arterial Plan. Part of the rational for this crossing was to create an alternative arterial route on the east side of the metro area and connect to the USH 51 north of the City of Wausau providing an eastern bypass. In part, the goal was to siphon off some of the freeway traffic.

This alternative was tested in the model using the following assumptions.

- Widen CTH X/Camp Philips Road between Northwestern Avenue and STH 52 to four-lanes.
- Construct a new 4-lane road from STH 52 to Evergreen Road. Continue 4-lane roadway along Evergreen Road to new Wisconsin River Bridge and then along Decator Drive to intersection with USH 51.
- Construct new interchange at Decator Drive and USH 51 with CTH K connecting to the west.
- Remove existing interchange at CTH K and USH 51 leaving only the CTH U and USH 51 interchange remaining.

Findings:

Reduction in capacity deficiency: None

- Amount of traffic in vehicles per day (vpd) shifted from competing routes:
  - Bridge Street Bridge = -3,100 vpd or -12%
  - CTH WW Bridge = -2,000 vpd or -28%
- North Crossing = +5,900 vpd
- Impact on other routes: Insignificant impact on USH 51, STH 29, and CTH X

B. South River Crossing and Southeast Arterial Loop.

The idea behind the south Wisconsin River Crossing and the Southeast arterial loop is to eliminate the need for local traffic in the rapidly growing Villages of Kronenwetter and Rothschild from having to use STH 29 to access the Town of Rib Mountain and the commercial corridor along Rib Mountain Drive.

This alternative was tested in the model using the following assumptions.

B.1. Bus USH 51 Expansion

- Widen Bus USH 51 to four lanes between Military Road and Eagles Nest Boulevard.

Findings:

Reduction in capacity deficiency: One mile segment of Bus USH 51 reduced from severely deficient to sufficient.

- 2035 forecasted traffic shifted from competing routes:
  - USH 51 = -4,000 vpd or -8%
  - Bus USH 51 = +3,000 vpd or +17%
- Impact on other routes: Significant impact on USH 51

B.2. South River Crossing

- Widen Clover Road between CTH N and Trillium Lane to four-lanes and Trillium Lane to a four-lane arterial. Construct a four-lane arterial between Trillium Lane and Military Road with a new Wisconsin River Bridge. Widen Military Road to four-lanes to Bus USH 51.

Findings:

Reduction in capacity deficiency: Capacity deficiency on I 39 northbound on-ramp at Bus USH 51 improves.

- 2035 forecasted traffic shifted from competing routes:
  - STH 29 River Crossing = -500 vpd or -1%
  - Bus USH 51 = +3,000 vpd or +17%
  - I 39 River Crossing = -3,900 or -8%
  - I 39 northbound on-ramp at Bus USH 51 = -3,000 of -28%
  - I 39 southbound off-ramp at Bus USH 51 = -1,600 of -16%

B.3. Southeast Arterial Loop.

- Widen CTH X/Camp Philips Road between Weston Avenue and Howland Avenue to four-lanes.
- Construct new four-lane CTH L Extension between Camp Philips Road and Bus USH 51.

Findings:

Reduction in capacity deficiency: Reduces Pine Road from severely deficient to approaching deficient.

- 2035 forecasted traffic shifted from competing routes:
  - STH 29 River Crossing = -500 vpd or -1%

- Pine Road = -6,700 vpd or -31%

§ Impact on other routes: Significant reduction on Pine Road

C. Thomas Street Expansion

Expanding Thomas Street is a project that would directly address the capacity deficiencies identified under the existing and forecast conditions. This alternative was tested in the model using the following assumptions.

§ Widen Thomas Street between 17th Avenue and 3rd Avenue to four lanes.

§ Widen Thomas Street and (Stevens) Bridge between 3rd Avenue and River Drive to four-lanes.

Findings:

Reduction in capacity deficiency of four-lane expansion alternative: Reduces Thomas Street from severely deficient to approaching deficient west of 3rd Avenue and potential east of 3rd Avenue.

§ 2035 forecasted traffic shifts:

- Thomas Street

Thomas Street	2035	2035 Build	Difference	% Change
West of 3rd Ave	15,800	23,600	7,800	49%
East of 3rd Ave	21,600	32,900	11,300	52%
West of River Drive	22,700	39,000	16,300	72%
East of River Drive	31,100	23,600	7,800	17%

- Stewart Avenue = -12,300 vpd or -47%

§ Impact on other routes: Significant reduction on STH 52/Stewart Avenue Bridge.

D. STH 153 Bridge Expansion

Expanding the STH 153 Highway and Bridge would add additional capacity to address the identified deficiencies under the existing and forecast conditions. This alternative was tested in the model using the following assumptions.

§ Widen STH 153 road and bridges between 4th Street and Old Highway 51 (south) and STH 153/Old Highway 51 between Main Street and STH 153 East in Mosinee.

Findings:

Reduction in capacity deficiency: Reduces STH 153 from severely deficient to sufficient.

§ 2035 forecasted traffic shifts:

- STH 153 = +2,150 vpd or +12%
- CTH B = +85 vpd or +1%

- Impact on other routes: Higher volumes on connecting routes Main Street and 4th Street.

E. Kowalski Road Interchange and Southeast Arterial Loop

The scenario combines two alternatives both addressing somewhat separate issues. The Kowalski Road Interchange attempts to address capacity deficiencies associated with the I 39 Interchange at Bus USH 51 (Exit #185) and the southeast arterial loop is a variation on the Alternative B.3., which follows a more southerly route, connecting to I 39 via Kowalski Road. This alternative was tested in the model using the following assumptions.

E.1. Kowalski Road Interchange

- *Alternative E.1.a* – Construct new I 39 interchange as Kowalski Road and eliminate existing I 39/Bus USH 51 interchange.
- *Alternative E.1.b.* – This alternative included the existing I 39 interchange at Bus USH 51.

E.2. Kowalski Road Southeast Arterial Loop

- Widen Kowalski Road to four-lanes and extend to Pleasant Drive.
- Widen CTH X/Camp Philips Road to four-lanes between Kowalski Road Extension and Howland Avenue via Pleasant Drive.
- Widen Bus USH 51 to four-lanes between Kowalski Road and Existing I 39/Bus USH 51 interchange.
- Widen Tower Road between Kowalski Road and CTH XX to four-lanes.

Findings:

Reduction in capacity deficiency: Reduces I 39 Interchange at Bus USH 51 northbound on-ramp from severely deficient to sufficient and southbound off-ramp from severely deficient to potentially deficient.

- 2035 forecasted traffic shifts:
  - Kowalski Road west of CTH X = +16,400 vpd or +216%
  - Tower Road north of Kowalski Road = -820 vpd or -14%
  - Old Highway 51 South of I 39 interchange at Bus USH 51 = -1,250 vpd or -12%-
  - I 39 North of Kowalski Road = -740 vpd or -2%
  - I 39/Bus USH 51 southbound off-ramp = -3,300 vpd or -26%
  - I 39/Bus USH 51 northbound on-ramp = -3,800 vpd or -34%
- Impact on other routes: Shifting the southeast arterial to Kowalski does route significant amounts of traffic to this corridor. Other impacts seem minimal.

Other notable alternatives included variations on the aforementioned concepts, including:

F. Pine Road Interchange Southeast Arterial Loop

This alternative was tested in the model using the following assumptions.

- Construct new I 39 interchange at Pine Road and eliminate existing I 39/Bus USH 51 interchange.
- Widen Pine Road to four-lanes between Bus USH 51 and CTH X.
- Widen CTH X to four-lanes between Howland Avenue and CTH XX.
- Widen Bus USH 51 to four-lanes between Pine Road and Existing I 39/Bus USH 51 interchange.
- Widen Tower Road to four-lanes between Pine Road and CTH XX.

Findings:

Reduction in capacity deficiency: Eliminates severely deficient I 39 Interchange at Bus USH 51. Locating an interchange at Pine Road is forecast to attract less traffic then the Bus USH 51 interchange.

- 2035 forecasted traffic shifts:
  - 11,000 vpd removed from I 39 northbound on-ramp at Bus USH 51.
  - 12,600 vpd removed from I 39 southbound off-ramp at Bus USH 51.
  - I 39 northbound on-ramp at Pine Road is forecast to attract 8,400 vpd.
  - I 39 southbound off-ramp at Pine Road is forecast to attract 8,800 vpd.
  - Tower Road north of Kowalski Road = +770 vpd or +13%
  - Old Highway 51 South of I 39 interchange at Bus USH 51 = +2,100 vpd or +25%

G. I 39/Bus USH 51 Interchange Capacity Improvements

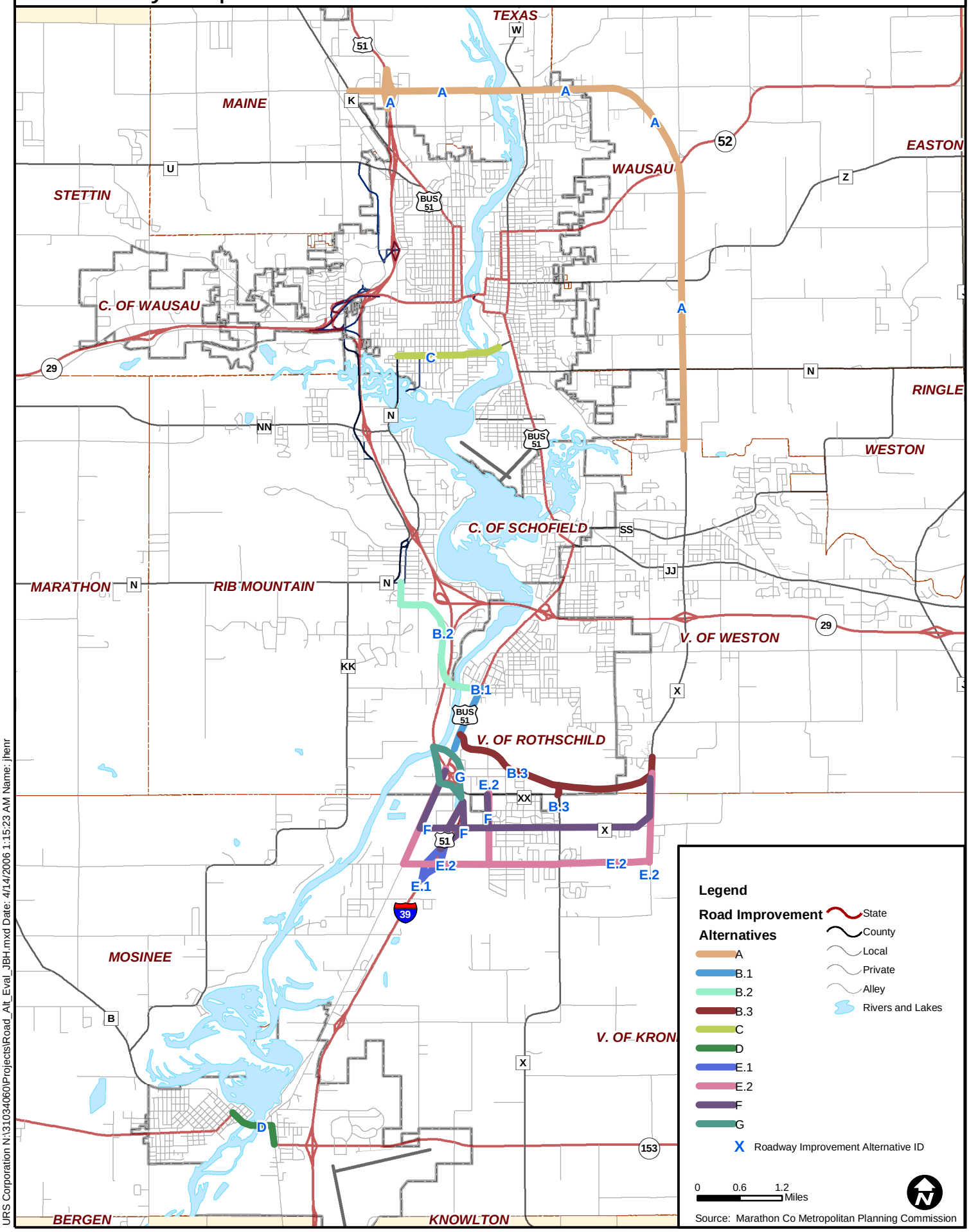
- Expanded Ramp capacity at I 39/Bus USH 51 Interchange.

Findings:

Reduction in capacity deficiency: Would reduce ramp from severely deficient to sufficient.

figure 7-1

Roadway Improvement Alternatives



URS Corporation N:\31034060\Projects\Road_Alt_Eval_JBH.mxd Date: 4/14/2006 1:15:23 AM Name: jhenr

CONCLUSION

Based on the alternatives analysis conducted thus far, the three potential projects that best address capacity deficiencies described in Chapter 6 include:

- Thomas Street Expansion,
- STH 153 Bridge and corridor expansion, and
- Business 51 expansion.

Table 7-3 below is a matrix for evaluating these project based on the criteria developed and described previously in this chapter. The matrix has been completed where quantifiable data was available.

Table 7-3: Alternatives Evaluation Matrix

Project ID	**C**	**D**	**B.1**
Criteria	**Thomas St (17th Av-Grand Av)**	**STH 153 Bridge (4th St - Old 51)**	**Bus USH 51**
Safety			
1999-2004 Crashes:	89	32	3
Mobility			
Functional Classification:	Principal Arterial	Principal Arterial	Principal Arterial
1998 AADT(s):	15,000 22,500 19,000 20,600	15,200	13,600
2001 AADT(s):	15,100 16,900 17,400 16,200	13,000	13,800
2004 AADT(s):	NC NC 15,500 14,800	15,600	12,700
Forecast 2035 AADT(s):	15,800 21,600 22,700 31,100	20,800	20,900
Travel Time Savings:			
Transportation Performance			
Year Deficient:	2002	2001	2005
Year Severely Deficient:	2002/2003	2002	2018

Project ID	C	D	B.1
Criteria	Thomas St (17th Av-Grand Av)	STH 153 Bridge (4th St - Old 51)	Bus USH 51
Freight			
2001 Estimated Model Truck Vol:	1,107	1,239	1,406
2002 Estimated Model Truck%:	8%	8%	11%
	1,320		
	9%		
	1,090		
	9%		
	1,111		
	9%		
2035 Forecasted Truck Vol:	1,514	2,183	2,481
2035 Forecasted Truck %:	10%	10%	12%
	2,220		
	10%		
	2,261		
	10%		
	2,989		
	10%		
Environmental and Natural Resource Protection	River Crossing	River Crossing	
Quality of Life	Residential Area		

CHAPTER 8 – FINANCIAL PLAN

This chapter summarizes the financial analysis of potential transportation investments. Estimated revenue from existing and proposed funding sources is compared with estimated project costs of constructing, maintaining, and operating the total (existing and planned) transportation system to the year 2035.

INTRODUCTION

Prior to ISTEA and TEA-21, LRTPs often contained "wish lists" of projects that had very little chance of being constructed. The planning regulations of ISTEA and TEA-21 brought about a change that required MPOs to consider the financial implications of their planning efforts. To this end, the federal planning regulations put in place the requirement for financial constraint of these documents. This plan is designed to comply with TEA-21 requirements, which addresses the issue of financial plans in 23 CFR 322(b)(11) which states that transportation plans shall:

> Include a financial plan that demonstrates the consistence of proposed transportation investments with already available and projected sources of revenue. The financial plan shall compare the estimated revenue from existing and proposed funding sources that can reasonably be expected to be available for transportation uses, and the estimated costs of constructing, maintaining and operating the total (existing plus planned) transportation system over the period of the plan. The estimated revenue by existing revenue source (local, State, Federal, or private) available for transportation projects shall be determined and any shortfalls identified. Proposed new revenues and/or revenue sources to cover shortfalls shall be identified, including strategies for ensuring their availability for proposed investments. Existing and proposed revenues shall cover all forecasted capital, operating, and maintenance costs. All cost and revenue projections shall be based on the data reflecting the existing situation and historical trends.

In August 2005, President George W. Bush signed the “Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU). SAFETEA-LU succeeds TEA-21 and authorizes the federal surface transportation programs for highways, transit, bicycle and pedestrian

transportation through 2009. SAFETEA-LU retains the requirement for a fiscally constrained long-range transportation plan and the metropolitan transportation improvement program (TIP).

Funding for Wausau MPA transportation maintenance and improvement projects comes from a variety of Federal, State, local and private sources. The Federal government is the primary source of funding for transportation systems in the United States. These funds come from federally assessed user fees, fuel taxes, and landing fees and are apportioned back to the states on a formula basis.

The primary source of revenue at the State level includes motor fuel taxes and vehicle registration fees. The gas tax makes up 64 percent of state transportation revenue and 36 percent of all transportation funds in Wisconsin – the largest single source. Finances at the county and municipal levels are primarily based on property taxes, sales taxes, and special assessments. The private sector, such as developers and business associations, often supports transportation projects through impact fees, right-of-way donations, and cost sharing.

Federal, State, local agencies and private developers have invested hundreds of millions of dollars in the Wausau transportation system over the past decades. In the 1990's, programs such as ISTEA and TEA-21 significantly increased Federal funding authorizations above previous levels. State increases in transportation revenues were more modest with two increases in vehicle registration fees and a 1997 gas tax increase. However, the cost of maintaining the existing transportation infrastructure is continually increasing as facilities age. The challenge that Wausau faces in the future is to balance the preservation of the existing transportation infrastructure while at the same time identifying adequate funding for the construction of new transportation facilities.

TRANSPORTATION IMPROVEMENT FUNDING SOURCES

Funding for transportation improvements come from a variety of sources. All levels of government play a role in financing transportation system maintenance and improvements. Under the Federal, State and local governmental jurisdictions, there are a variety of different funding programs, some of which target particular aspects of the transportation system or are derived from specific revenue streams (e.g. fuel taxes, vehicle registrations, general fund). In addition to paying taxes to governments, the private sector also may play a more direct role in funding transportation improvements such as through Tax Increment Financing (TIF) districts, development regulations or impact fees.

Federal Funding Sources

SAFETEA-LU – Passage of SAFETEA-LU guarantees funding totaling $244.1 billion for highways, highway safety, and public transportation. SAFETEA-LU represents the largest surface transportation investment in the nation's history. SAFETEA-LU follows two previous landmark transportation bills: The

Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA) and the Transportation Equity Act for the 21st Century (TEA-21). SAFETEA-LU builds on this foundation, supplying the funds and refining the programmatic framework for investments needed to maintain and grow vital transportation infrastructure.

The Surface Transportation Program under SAFETEA-LU provides flexible funding that may be used by States and localities for projects on any Federal-aid highway, including the National Highway System (NHS), bridge projects on any public road, transit capital projects, and public bus terminals and facilities.

SAFETEA-LU expands the Surface Transportation Program (STP) eligibility to include advanced truck stop electrification systems, high accident/high congestion intersections, and environmental restoration and pollution abatement, control of noxious weeds and aquatic noxious weeds, and establishment of native species. A total of $32.5 billion in STP funds nationally is authorized through 2009. Funds will continue to be distributed among the States based on lane-miles of Federal-aid highways, total vehicle-miles traveled on those Federal-aid highways, and estimated contributions to the Highway Account of the Highway Trust Fund.

At the time of this publication it was unclear as to how federal funding programs might change under SAFETEA-LU. The programs described below are based on SAFETEA-LU's predecessor TEA-21. TEA-21 defined 34 funding categories, including 18 main categories and 16 subcategories.

Some of the funding categories are funded either solely by the Federal government or solely by WisDOT, but most funding categories are funded by both agencies. While the percent of federal funding for a project varies by category, the Federal government typically provides 80 percent of the funding, with 20 percent of the funding matched by the State or local jurisdiction.

The MPO has direct input into certain Federal funding categories. Funding for all other categories is determined by the State, the Federal government, or is not applicable to the Wausau MPO. The categories that the MPO has direct input and/or selection responsibility include the following:

- Surface Transportation Program-Urban
- STP Transportation Enhancements

Federal funding sources are summarized under the headings; Roadway and Bridges, Bikes and Pedestrians, and Public Transit.

Roadways and Bridges

In general, Title I of TEA-21, Surface Transportation, defines two broad highway systems and three funding programs. These funding sources include the Surface Transportation Program, the National Highway System, the Interstate System, the Congestion Mitigation/Air Quality Program, the Bridge Replacement and Rehabilitation Program, and the Minimum Guarantee Programs. The following programs and systems are provided by Title I of TEA-21:

1. ***The Surface Transportation Program (STP) –*** Eligible items for STP funding include: safety, enhancements, roadway and transit improvements. STP funds may be used on any road functionally classified as an urban or rural arterial, urban collector, or rural major collector and are collectively referred to as "federal-aid roadways." Other than safety and bridge projects, local roads and rural minor collectors are not eligible for STP funding. Based on the flexibility mechanisms built into TEA-21, transit capital projects are also eligible for STP funding.
2. ***The National Highway System (NHS)*** – The final NHS consists of approximately 157,500 miles of major roads in the United States. The NHS includes Interstate routes, the defense strategic highway network, strategic highway connectors, and a majority of urban and rural principal arterials. Wisconsin's portion of the proposed NHS, consisting of approximately 4,200 highway miles, was developed by WisDOT in cooperation with the MPOs. Based on the flexibility within TEA 21, states can shift NHS funds to non-NHS highway and transit projects in NHS corridors upon cost-effective findings.
3. ***Interstate System –*** The Interstate System is a component of the NHS but retains its separate identity and funding. The Interstate System now includes only the Interstate Maintenance program (IM). I 39 in the Wausau MPA is eligible for Interstate funds
4. ***Congestion Mitigation/Air Quality Program (CMAQ) –*** The CM distributes monies to ozone and carbon monoxide air quality non-attainment areas. The CMAQ funds are distributed based on each State's share of the population of air quality non-attainment areas weighted by the severity of air pollution. In Wisconsin, the non-attainment area includes the counties of Milwaukee, Racine, Kenosha, Waukesha, Washington, Ozaukee, Walworth, Sheboygan, Manitowoc, Kewaunee, and Door. In non-attainment areas, projects which contribute to meeting the attainment of national ambient air quality standards will be eligible for CMAQ funding. The Wausau Metropolitan Area, an air quality attainment area, is not eligible for CMAQ funding.
5. ***Highway Bridge Replacement and Rehabilitation Program (HBRRP) –*** The HBRRP provides funds to assist the States in their programs to replace or rehabilitate deficient highway bridges and to seismic retrofit bridges located on any public road.

Bicycles and Pedestrians

Surface Transportation Program Transportation Enhancements – SAFETEA-LU continues a minimum ten percent STP funding set aside for transportation enhancements. Enhancements include bike and pedestrian facilities, preservation of historic site, scenic beautification and other transportation related projects. The MPO must submit a letter stating their support of the project, identifying funding, and attesting that the project is consistent with long range transportation plans.

As part of the SAFETEA-LU legislation, each State must set aside a portion of their STP funds (10 percent or the amount set aside in 2005, whichever is greater) for transportation enhancements activities.

Public Transit: Title III - The Federal Transit Act Amendments of 1991

TEA 21 generally retained the existing funding mechanisms for transit set in Title III of ISTEA. TEA 21 provides transit and highway funding the flexibility and identical matching shares. The following are funding mechanisms provided by Title III of TEA 21:

1. ***Section 5309: Discretionary Transit Capital Program –*** The Section 5309 capital program allocations include 40 percent for new rail transit systems, 40 percent for modernizing existing rail systems, and 20 percent for bus systems. Locally, the Wausau Area Transit System applies for Section 5309 funds.
2. ***Section 5307: Formula Transit Capital and Operating Program*** – The Section 5307 program continues support for transit systems in areas over 50,000 in population. Program funds can be used for capital and operating purposes, though the program is generally used only for operating assistance. The current cap on the amount used for operating expenses is continued but adjusted for inflation. Locally, the Wausau Area Transit System (WATS) obtains Section 5307 operating funds.
3. ***Section 5310:Transit Service for Elderly and Disabled Individuals –*** The Section 5310 program develops grants to non-profit agencies for the purchase of buses and vans. The program also provides grants to obtain services on a contract basis. Transit services funded under Section 5310 are for the elderly and disabled. Locally, agencies such as Opportunity, Inc. (formerly known as United Cerebral Palsy of North Central Wisconsin), North Central Health Care, and the Marathon County Aging & Disabilities Resource Center are eligible for Section 5310 funding.

State Funding Sources

WisDOT administers a variety of State programs to complete projects to enhance the transportation network. The following programs assist local governments with needed improvements to highways and bridges.[1]

Roadways and Bridges

Existing Majors Enumerated for Construction (MAJ) – Major Project is a state designation that can use federal or state funding for implementation. Major Projects must meet a specific definition and follow a specific process for approval. The Transportation Project Commission and the Legislature must enumerate these projects. Projects designated as a Major Project do not need a

[1] Wisconsin Department of Transportation website, Programs for Local Government, http://www.dot.wisconsin.gov/localgov/index.htm

local match. The Majors Highway Development Program is for expansion projects greater than 5 miles, or new state highway segments greater than 2 ½ miles.

State Trunk Highway Preservation (STH) – State and federally funded program administered by the State, with a variable local match. The majority of projects require no local match. However, some activities may require a local match resulting in a funding split that is project specific. STH funds include "Backbone" and "Non Backbone 3R" funds. Backbone funds can be used on the backbone routes identified in the 2020 plan. Non-Backbone 3R (3R) funds can be used on the rest of the state highway system. Backbone and 3R funds can be used for preservation, reconstruction, resurfacing, reconditioning and smaller expansion projects. In the LRTP, STH funds cover projects that had a funding source of NHS, IM, STP-SAFE, or FLEX in the TIP. STH funds can be used for reconstruction, resurfacing, reconditioning and smaller expansion projects along State Trunk Highways, including bridge projects.

State Trunk Highway Operations and Maintenance (STH O & M) –State program funds can be used for operations and maintenance activities associated with State Trunk Highways, including bridge projects.

Local Bridge Improvement Assistance – State and federally funded program administered by the state with an 80 percent federal /state share and 20 percent local match. Counties, cities, villages, and towns are eligible for rehabilitation funding on bridges with sufficiency ratings less than 80, and replacement funding on bridges with sufficiency ratings less than 50. Local jurisdictions submit information to WisDOT, to calculate the sufficiency rating of the bridges. Bridges are rated based on a federally bridge rating methodology, which is designed to measure the relative adequacy of a bridge in terms of structural and safety aspects, serviceability and functional obsolescence, and suitability for public use.

The majority of bridge work recommended in the MPO, is classified as preservation, the bridges will be rehabbed as needed using bridge funds. Should a bridge need major rehabilitation, or replacement, the appropriate steps will be taken to provide for this. The work done during an unforeseen bridge replacement will fall under the category of preservation maintenance, unless the capacity of the structure is significantly increased, which will classify it as an expansion project.

Local Road Improvement Program (LRIP) – State program with a 50 percent local match. The program assists local governments with improvements on seriously deteriorating county highways, town roads, city, and village streets. LRIP money can be split between multiple projects, however only 50 percent of each project's total cost will be funded by LRIP, assuming that their combined federal portions do not exceed the federal allocation. One project substitution is allowed per allocation cycle. From the time the LRIP money is awarded a municipality has six years to complete the project and seek reimbursement.

In most cases, the jurisdictions within the MPO use LRIP money for preservation projects. As need warrants, and local funds become available, LRIP money will be used to meet the preservation needs of the MPO.

Connecting Highway Aids (CHA) – State program with no local match. The CHA program is designed to assist municipalities with the costs associated with the increased traffic and maintenance of roads that connect segments of the State Trunk Highway System. The funds are given as yearly, lump allocations. A map of the Wausau MPA Connecting Highways is provided in Chapter 4.

Rural Surface Transportation Program (STP-R) – Federally funded program administered by the State that receives 80 percent federal share and requires a 20 percent local match. Funds can be used to complete a variety of improvements to rural highways (primarily used on county highways). The objective of the STP-R is to improve federal aid eligible highways outside of urban areas. Projects must meet federal and state requirements. Communities are eligible for funding on roads classified higher than rural minor collectors. WisDOT did not provide future projections for STP-Rural funds because there is no way of knowing where the planning boundary will be in 30-years, so it is difficult to determine if a project currently identified as being eligible for STP rural funds will still be outside of the planning area in the future.

Federal Safety Programs (SAF) – Federal programs that require a local match. The match varies by the specific SAF program, in general they have an 80 percent federal share and a 20 percent local match. Funds are for hazard elimination projects, such as railroad crossing improvements along State Highways.

General Transportation Aids (GTA) – GTA is the second largest program in WisDOT's budget and returns to local governments a portion of all state-collected transportation revenues (fuel taxes and vehicle registration fees), which helps offset the cost of county and municipal road construction, maintenance, traffic, police costs and other transportation-related costs.

The GTA funds are distributed to all Wisconsin counties, cities, villages, and towns. Payments are divided among all local governments based on either a percentage of eligible highway-related expenditures or a per-mile payment, whichever results in a higher payment. It covers a portion of the cost of such things as constructing roads, filling potholes, plowing snow, grading shoulders, marking pavement, and repairing curbs and gutters.

- Within a given annual funding level, the major determinants of the amount of aid a local government will receive are the road mileage under its jurisdiction (used to calculate rate-per-mile payments) and the amount of its own resources it has spent on that mileage over an average of six years (used in determining "share of costs" payments).
- The rate-per-mile is statutorily specified and is $1,862 in CY 2006.

- The "share of costs" percentage floats from year to year based on the costs reported and whatever funding remains in the appropriation after rate-per-mile entitlements are subtracted.
- There are two appropriations, one for counties and one for municipalities.
- Municipalities are limited to receiving state aid equivalent to no more than 85 percent of their three-year average aidable costs under either the rate-per-mile or "share of costs" formulas.
- The “cushions” in the formula ensure:
    1. Local governments can receive increases from their previous year's payments up to 15 percent;
    2. For counties payment reductions are limited to two percent of the previous year’s payment;
    3. For municipalities payment reductions are limited to five percent of the previous year’s payment.

Each spring, local governments file revenue and expenditure reports with the Department of Revenue. WisDOT uses the highway-related portions of that data to determine a local government's aidable spending. Since the reports are based on calendar-year data, there is a lag in its affect on transportation aid payments, e.g. costs incurred during 2004 were submitted in 2005 and first used in the calculation of 2006 aid amounts.

County Forest Road Aid – County Forest Road Aid funds help defray county costs for the improvement and maintenance of public roads within county forests. To qualify, roads must meet minimum design standards of a 16-foot surface width and a 20-foot roadway width, be located within county forests, must be open and used for travel, and cannot be town roads or county or State Trunk Highways. Marathon County is one of 24 counties receiving County Forest Road Aid funds.

Flood Damage Aids (FDA) – FDA funds assist local governments with improving or replacing roads and roadway structures that have sustained major damage from flooding. The program provides and helps defray costs of repairing major flood damage to any public highway, street, alley or bridge not located on the STH System.

Traffic Signing and Marking Enhancement Grants Program (TSMEGP) – The TSMEGP was included in legislation Governor Doyle signed into law in July 2003 that lowered Wisconsin’s prohibited blood alcohol concentration level for operating a vehicle while intoxicated to 0.08. This program provides funds to local units of government for the installation of traffic signing and roadway marking enhancements, with the goal of improving visibility to assist elderly drivers and pedestrians. The program distributed approximately $2.2 million in state funding in 2004 and developed a list of contingency projects for future consideration should additional funding become available.

All Wisconsin counties, cities, villages, and towns are eligible to be project sponsors. The program can pay up to 75 percent of total eligible project costs, with the local government contributing matching funds equal to at least 25 percent of the total eligible costs to the limit of the award.

Public Transit

State Urban Mass Transit Operating Assistance Program (s.85.20) – This program assists transit systems with operating costs. Eligible applicants include municipalities with populations greater than 2,500 including counties, municipalities and towns, along with transit or transportation commissions or authorities. The State funded program is administered by WisDOT and appropriations are set biennially. Eligible public transportation service includes bus, shared-ride taxicab, rail or other conveyance either publicly or privately owned.

Transit systems in the state are divided into four tiers, each with a separate appropriation:

- ***Tier A1***: Milwaukee County Transit System
- ***Tier A2***: Madison Metro Transit System
- ***Tier B***: Systems in urbanized areas with populations between 50,000 and 200,000, plus Waukesha City, County systems and the City of Monona. Wausau Area Transit System is a Tier B system.
- ***Tier C***: All systems in urban areas with populations between 2,500 and 50,000.

County Elderly and Disabled Transportation Assistance program (s.85.21) – This State funded program provides counties with financial assistance to provide transportation services to elderly persons and persons with disabilities.

Elderly and Disabled Transportation Capital Assistance program (s.85.22) – This program combines federal (section 5310) funds with State funds to provide capital funding for specialized transit vehicles used to serve the elderly and persons with disabilities. Eligible applicants include private, non-profit organizations and local public bodies. Grants cover 80 percent of capital costs and require a 20 percent match.

Transportation Employment and Mobility program (TEAM) – TEAM provides State grants that serve to reduce single-occupant driving and also connect workers with jobs, reduce traffic congestion, improve air quality and encourage use of public transit. Candidate projects are evaluated on a number of factors including the degree of innovation, cooperation with employers, the ratio of project benefits versus costs, and the likelihood that the project will continue following the grant period. Eligible applicants include local governments and public and private organizations.

Wisconsin Employment Transportation Assistance Program (WETAP) – WETAP represents an effort to connect low-income workers with jobs through

enhanced local transportation services. WETAP integrates local, state and federal funding into a single program and award process administered jointly by WisDOT and the state Department of Workforce Development.

Eligible applicants include local units of government, public transit agencies, tribal organizations, non-profit agencies and metropolitan planning organizations. However, applications require the development of regional job access plans, which should identify the need for transportation services and illustrate the alternatives proposed for the program. Plans should be developed through a collaborative process between public transit providers, local units of government, transportation planners, human service agencies, low- income individuals and other interested parties.

Bicycles and Pedestrians

Transportation Enhancement Program (part of the Statewide Multi-modal Improvement Program (SMIP)) –The transportation enhancements program provides for the implementation of a variety of non-traditional projects, with examples ranging from the restoration of historic transportation facilities, to bike and pedestrian facilities, to landscaping and scenic beautification, and to the mitigation of water pollution from highway runoff. Most of the requests and projects awarded in Wisconsin have been for bicycle facilities. Examples of bicycle projects include multi-use trails (in greenways, former rail trails, etc.), paved shoulders, bike lanes, bicycle route signage, bicycle parking, overpasses/underpasses/bridges, and sidewalks. This program is tied to the authorization of SAFETEA-LU and Federal transportation appropriations.

Rail and Air

Freight Rail Infrastructure Improvement Program (FRIIP) – FRIIP provides a loan program that enables the State to encourage a broad array of improvements to the rail system, particularly on privately owned lines. It also provides funding for other rail related projects such as loading and trans-loading facilities. FRIIP provides up to 100 percent loans for rail projects that: connect an industry to the national railroad system; make improvements to enhance transportation efficiency, safety, and intermodal freight movement; accomplish line rehabilitation; and develop the economy.

Freight Rail Preservation Program (FRPP) – FRPP provides grants up to 80 percent of the cost: to purchase abandoned rail lines in an effort to continue freight service, or for the preservation of the opportunity for future rail service; and to rehabilitate facilities, such as tracks or bridges, on publicly-owned rail lines.

Railroad Crossing Improvements – WisDOT works with freight and passenger railroads and other businesses on initiatives that preserve rail service, improve the efficiency of rail operations, and enhance economic development.

A separate state agency, the Office of the Commissioner of Railroads (OCR), enforces regulations related to railway safety and investigates the safety of

highway/rail crossings. In partnership with private rail firms, local governments and citizens, OCR oversees a variety of highway/rail crossing issues including:

- Replacement or enhancement of passive and active warning devices at highway/rail crossings;
- Repair of rough highway/rail crossing surfaces;
- Installation of highway/rail crossings at new locations;
- Alteration of existing highway/rail crossings; and
- Closing or consolidating existing highway/rail crossings.

Airport Improvement Program – The Airport Improvement Program combines federal, state and local resources to help fund improvements to over 100 public-use airports throughout the state primarily owned by counties, cities, towns and villages. Improvements may include runway construction and reconstruction, land acquisition, navigational aids and lighting.

Other Transportation Programs

Transportation Economic Assistance (TEA) – The TEA program provides 50 percent state grants to governing bodies, private businesses, and consortiums for road, rail, harbor and airport projects that help attract employers to Wisconsin, or encourage business and industry to remain and expand in the state. The goal of the TEA program is to attract and retain business firms in Wisconsin and thus create or retain jobs.

The businesses cannot be speculative and local communities must assure that the number of jobs anticipated from the proposed project will materialize within three years from the date of the project agreement and remain after another four years. Grants of up to $1 million are available for transportation improvements that are essential for an economic development project. It must begin within three years, have the local government's endorsement, and benefit the public. The program is designed to implement an improvement more quickly than normal state programming processes allow. The 50 percent local match can come from any combination of local, federal, or private funds or in-kind services.

Local Funding Sources

The basis of local funding of transportation projects in the local municipalities and Marathon County is primarily through Federal and State allocations. Additional revenues come from property taxes, sales taxes, special assessments, and special tax districts.

General Fund – Local funds for street construction and maintenance are obtained primarily through the general property tax levy.

General Obligation Bonds – These funds are issued on a per project basis and are supported through the general tax levy.

Special Assessments – Special assessments are charged to property owners for sidewalk installation and street improvements when residential and commercial

lands develop. Property owners may also pay a share of the cost for traffic signal or street improvements on streets adjoining their properties.

Tax Increment Financing (TIF) Districts – The ability to create a TIF district allows cities, villages and in some cases towns to retain property taxes on development to pay for land acquisition, transportation, and utility expense within that district. The community diverts increased revenues from rising property values to pay for the improvements that helped to increase the properties value. The community retains the incremental increase in tax revenues from the district, until all the infrastructure cost are paid, at which time the tax revenues from the district may be collect by all applicable taxing jurisdictions.

Community Development Block Grant (CDBG) – The Community Development Block Grant (CDBG) program is federally funded through the United States Department of Housing and Urban Development (HUD). The program awards grants in order to carry out a wide range of community development activities directed toward revitalizing neighborhoods, economic development, and providing improved community facilities and services.

CDBG funds are to be used for activities that benefit low- and moderate-income persons, carry out activities which aid in the prevention or elimination of slums and blight, or address existing conditions that pose a serious and immediate threat to the welfare of the community where other financial resources are not available to meet these needs. CDBG funds may be used for activities that include, but are not limited to:

- Acquisition of Real Property
- Relocation and Demolition
- Rehabilitation of Residential and Non-Residential Structures
- Construction of Public Facilities and Improvements, such as Water and Sewer Facilities, Streets, Neighborhood Centers, and the Conversion of Schools for Eligible Purposes
- Public Services (within certain limits)

Private Sector Funding Sources

As a community grows, vacant land or farmland is often converted to urban uses. As part of that growth, land developers may pay the cost of infrastructure development including streets. Particularly as it relates to commercial development and industrial development, developers may pay a share of arterial and collector street widening, enhancement, or rehabilitation. The continued enforcement and management of growth through subdivision code administration minimizes the cost to the community.

When developing major roadways, units of local government may negotiate with private interests to share in the development costs of arterial or collector streets that provide direct benefit to private interests. The amount of money available

using this technique is limited only by the degree of commitment from the private sector and the willingness of the private sector to share in those costs.

Impact fees are costs assigned to new development for the maintenance of existing facilities. Developers pay these fees with costs generally passed on to the eventual owners of the property.

TRANSPORTATION IMPROVEMENT PROGRAM (TIP) FUNDING

A review of Transportation Improvement Program (TIP) funding from the year 2000 through 2008 indicates transportation funding levels of recently completed or scheduled to be completed transportation projects.

Table 8-1 lists Federal, State, and local funding that have been allocated for transportation projects included in the 2000 to 2006 Transportation Improvement Programs. Between 2000 and 2008, about $317 million of federal funding has been spent or is committed to area roadway projects, most of which has gone to the US 51/STH 29 Corridor Project. Federal funding has accounted for over 75 percent of all allocated funding during this eight year time period.

The State has spent or has allocated a total of about $25 million towards area roadway improvement projects during this time period.

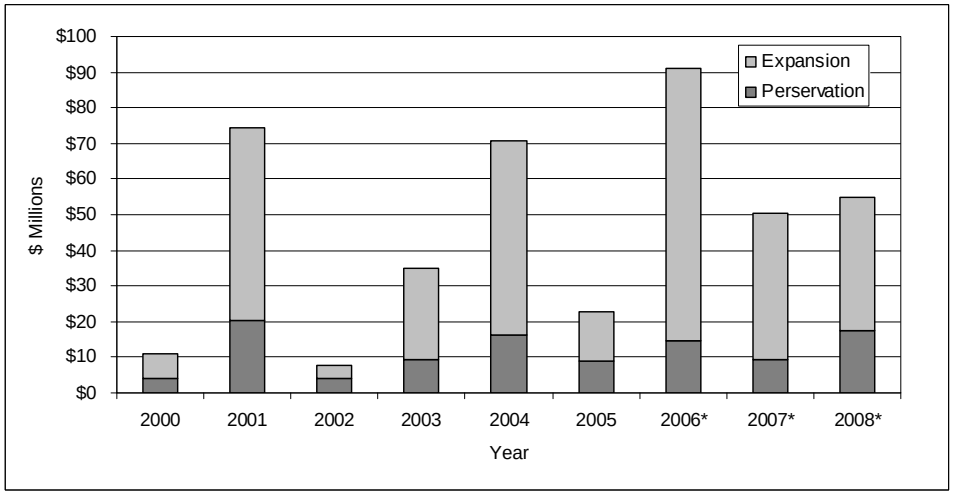
Table 8-1: 2000-2008 Federal, State and Local Funds Committed to Area Roadway Projects

	Federal	State	Local	Total
2000	$2,679,847	$3,246,800	$5,155,353	$11,082,000
2001	$41,934,046	$14,606,137	$17,761,817	$74,302,000
2002	$4,702,000	$906,500	$2,257,500	$7,866,000
2003	$28,047,666	$403,010	$6,434,700	$34,885,376
2004	$55,305,894	$4,128,349	$11,679,519	$71,113,762
2005	$13,927,769	$0	$8,674,937	$22,602,706
2006	$79,930,137	$229,224	$10,788,667	$90,948,028
2007	$40,557,697	$1,351,434	$8,324,080	$50,233,211
2008	$49,954,616	$290,560	$4,671,416	$54,916,592
Total	$317,039,672	$25,162,014	$75,747,989	$417,949,675

Source: Wausau Metropolitan Planning Organization Transportation Improvement Program; 2000, 2001, 2002, 2003, 2004, 2005.

Figure 8-1 illustrates the funding that has been committed to system expansion and system preservation projects within TIPs between 2000 and 2008. About 75 percent of dollars allocated over this period have or will go toward system expansion projects. However, the US 51/STH 29 Corridor project accounts for most of the revenues categorized as system expansion dollars, which tend to be federal dollars.

Figure 8-1: Revenues Allocated Toward System Preservation and Expansion



Source: Wausau Metropolitan Planning Organization Transportation Improvement Program; 2000, 2001, 2002, 2003, 2004, 2005.
* TIP forecasted revenues.

Federal revenues still accounted for about $52.6 million (50%) of the $105 million allocated for preservation projects between 2000 and 2008. State dollars included in the 2000 to 2006 TIPs accounted for $11.6 million (11%) of preservation dollars.

Revenues dedicated to system preservation between 2000 and 2008 average to about $11.6 million annually. The amount of transportation investment at the level experienced with the US 51/STH 29 Corridor project is not anticipated nor expected over the next 30 years.

2006-2008 Transportation Improvement Program Funding

Programmed expenditures and estimated available funding for the current TIP period is listed in Table 8-2.

Table 8-2: 2006 – 2008 Transportation Improvement Program Project Funding and Sources

Funding Source		Programmed Expenditures			Estimated Available Funding		
Agency	Program	2006	2007	2008	2006	2007	2008
FHWA[1]	Bridge Program	$3,967,467	$7,010,824	$6,625,812	$3,967,467	$7,010,824	$6,625,812
	Surface Transportation Program Wausau Urbanized Area	$460,900	$2,238,528	$717,443	$460,900	$2,238,528	$717,443
	Surface Transportation Program Flexible	$73,517,747	$30,841,661	$42,835,065	$73,517,747	$30,841,661	$42,835,065
	Surface Transportation Program Enhancement/Discretionary	$1,040,300	$0	$0	$1,040,300	$0	$0
	Surface Transportation Program Safety	$1,443,723	$466,684	$436,684	$1,443,723	$466,684	$436,684
	Surface Transportation Program Rural	$0	$0	$0	$0	$0	$0
FTA[2]	Section 5307 -- Wausau Urbanized Area	$1,120,688	$1,122,524	$3,620,759	$1,120,688	$1,122,524	$3,620,759
	Section 5309	*	*	*	*	*	*
	Section 5310	$334,400	$299,200	$516,200	$334,400	$299,200	$516,200

* Division between Section 5309 and Section 5307 unknown at this time.
[1] Federal Highway Administration (FHWA)
[2] Federal Transit Administration (FTA)
Note: The Wausau MPO received $844,382 in STP-Urban funds for its 2007-2009 entitlement. The funds will be used for 2008 and 2009 construction protects

TRANSPORTATION REVENUE FORECASTS

Estimating future revenues for transportation improvements is necessary to create a fiscally constrained plan. WisDOT provided forecasts for Federal and State revenues. Local revenue forecasts were generated from past local revenues allocated to transportation. Revenues forecasts for roadways, bridges, and transportation enhancements are addressed.

Roads and Bridges

State and Federal Revenue Forecasts

Future Transportation Revenue Forecasts were provided by WisDOT Central office staff in cooperation with Federal Highway Administration (FHWA) staff. The figures do no reflect potential funding increases or program changes contained in SAFETEA-LU, as its actual impact on Wisconsin and its communities is still being determined.

Some additional funding sources may be available for projects in the MPO planning areas include funds from the County Highway Improvement Program (CHIP) and the Town Road Improvement Program (TRIP). However, these funds were not included in the estimates as there was not a reliable way to estimate these funds.

Table 8-3 indicates committed revenues identified for construction projects within the MPO. For the Wausau area, approximately $184 million is estimated to go toward the completion of the I-39/US 51 improvement project currently underway.

Table 8-3: State and Federal Transportation Project Committed Revenues

STH Expansion	Project Committed Revenues
Existing Majors Enumerated for Construction	$183,900,000*
Existing Majors Enumerated for Study	$0

* Based on I-39/US 51 "cost to complete" from August 2005 report to Transportation Projects Commission.

Table 8-4 lists the regular allocation of State and Federal transportation revenues anticipated for the Wausau MPA. The figures are in 2005 dollars. The forecasts do not include the years currently programmed in the TIP, which were discussed in the previous section and listed in Table 8-3.

Revenues allocated for State roadways and bridges are estimated to average about $7.2 million annually for a total $193.7 million over the life of the plan. State and Federal revenues allocated to the local jurisdictions are estimated to average about $6.4 million annually for a total of about $171.7 million. Total State and Federal dollars are estimated to average about $13.5 million annually and total almost $365.4 million over the life of the plan.

The figure of particular interest to the MPO is the STP-Urban funds, which the MPO has direct impact on how these revenues are allocated. These federal dollars are estimated to provide about $500,000 annually for transportation improvement projects, which totals to about $13.6 million over the life of the plan.

Table 8-4: State and Federal Transportation Revenue Projections (2005 dollars)

STH Preservation, Maintenance and Operations	Annual Revenues	2009-2035
Combined Backbone and non-Backbone[3]	$4,630,545	$125,024,715
STH "Low Cost" Bridges[3]	$150,000	$4,050,000
"High Cost" Bridges[3]		
STH Maintenance and Operations[1]	$2,394,000	$64,638,000
Subtotal	**$7,174,545**	**$193,712,715**
Local Road Expansion and Preservation		
STP-Urban[2]	$502,064	$13,555,728
General Transportation Aids[1]	$4,578,351	$123,615,477
Connecting Highway Aids[1]	$221,247	$5,973,669
Municipal Streets Portion of LRIP[1]	$100,000	$1,350,000
Federal Safety Programs[2]	$432,421	$11,675,367
Local Bridges[3]	$575,000	$15,525,000
Subtotal	**$6,409,083**	**$171,695,241**
Total	**$13,533,628**	**$365,407,956**

[1]State of Wisconsin Revenues;
[2]Federal Revenues
[3]Combination State and Federal Revenues

Local Revenue Forecasts

A critical element of securing federal transportation funding is being able to provide the local match requirements. TEA-21 required that local jurisdictions, at a minimum, must provide for 20 percent of project costs to receive federal funds, which can cover as much as 80 percent of project costs.

The ability of local jurisdictions to secure these matching dollars has been problematic for some communities. However, it is essential for securing STP-Urban program allocations. It is important for communities to show that they have the resources to provide matching funds for construction projects after accounting for needed regular operations and maintenance costs.

WisDOT allocates GTA as a proportion to the community's local transportation expenditures (approximately one dollar for every four local dollars spent on transportation[2]). WisDOT projected that the entire Wausau MPA would receive approximately $4.6 million annually in GTA (see Table 8-4). This projection is based on current GTA allocations, which are based on current local transportation expenditures. MPA communities have to spend about $18.3 million annually on their transportation system to qualify for an annual $4.6 million in State GTA funds.

Wausau area municipal transportation expenditures data was provided by the Wisconsin Department of Revenue (see Table 8-5). The average funding for the years provided are consistent with GTA revenue forecasts.

[2] WisDOT

Table 8-5: Municipal Transportation Funding

	1989	1994	1999	2004	Average
Operations & Maintenance	$6,441,000	$9,267,000	$5,342,000	$9,855,000	$7,726,000
Construction	$4,037,000	$7,239,000	$2,899,000	$22,032,000	$9,052,000
Total	$10,478,000	$16,507,000	$8,241,000	$31,887,000	**$16,778,000**

Source: Wisconsin Departments of Revenue and Transportation
Note: Figures not adjusted for inflation.

Based on the municipal transportation funding information provided by the Wisconsin Department of Revenue, on average, municipalities spent 46 percent of transportation revenues on operations and maintenance and 54 percent on construction projects. Assuming this ratio remains constant, about $9.9 million would be available annually for construction projects, which translates to a total of $267 million between 2009 and 2035.

The Wausau MPO is anticipated to qualify for about $500,000[3] in STP-Urban funds annually. The minimum local match required for these funds is 20%, which translates to about $125,000 annually. To meet the minimum local match requirement for STP-Urban funds, local communities would need to dedicate 1.3 percent of these construction revenues. If local communities were to match federal funding dollar for dollar (i.e. 50% match), which has been the norm in recent years, they would need to allocate 5.1 percent of construction revenues.

If past experience is a reasonable indication of what can be expected in the future, then by looking at local matches contributed for past projects should suggest future local match capabilities.

Even though Transportation Improvement Programs (TIP) are subject to change, particularly for out years, they should provide a reasonable assessment of what was spent in the TIP's most current year. A review of the 2000, 2001, 2002, 2003, 2004, and 2005 TIPs, indicated that about $52 million in local funding was allocated to providing the local match between 2000 and 2005; this figure averages to about $8.7 million annually (see Table 8-6). An additional $28 million of local funding is identified for projects committed in the 2006-2008 TIP (see Tables 8-7).

The MPO's ability to identify and allocate local resources to match federal dollars during this time period suggests a capacity to meet local match funding obligations of the STP-Urban fund program.

[3] 2005 Dollars

Table 8-6: 2000-2005 TIP Funding

	Federal		State		Local		Total	
	Pres	Exp	Pres	Exp	Pres	Exp	Pres	Exp
2000	$100,000	$2,579,847	$1,002,000	$2,244,800	$3,058,000	$2,097,353	$4,160,000	$6,922,000
2001	$7,956,046	$33,978,000	$4,706,137	$9,900,000	$7,541,067	$10,220,750	$20,203,250	$54,098,750
2002	$1,202,000	$3,500,000	$906,500	$0	$1,962,500	$295,000	$4,071,000	$3,795,000
2003	$2,981,878	$25,065,788	$403,010	$0	$6,139,700	$295,000	$9,524,588	$25,360,788
2004	$6,217,790	$49,088,104	$4,061,502	$66,847	$6,078,651	$5,600,868	$16,357,943	$54,755,819
2005	$5,757,057	$8,170,712	$0	$0	$3,273,901	$5,401,036	$9,030,958	$13,571,748
Average	$4,035,795	$20,397,075	$1,846,525	$2,035,275	$4,675,637	$3,985,001	$10,557,957	$26,417,351

Source: Marathon County
Preservation project (Pres) Expansion project (Exp)

Table 8-7: 2006-2008 Funding

	Federal		State		Local		Total	
	Pres	Exp	Pres	Exp	Pres	Exp	Pres	Exp
2006	$10,847,329	$69,082,808	$76,200	$153,024	$3,687,926	$7,100,741	$14,611,455	$76,336,573
2007	$3,324,698	$37,232,999	$433,419	$918,015	$5,484,100	$2,839,980	$9,242,217	$40,990,994
2008	$14,259,418	$35,695,198	$40,560	$250,000	$3,111,028	$1,560,388	$17,411,006	$37,505,586
Average	$9,477,148	$47,337,002	$183,393	$440,346	$4,094,351	$3,833,703	$13,754,893	$47,337

Source: Marathon County
Preservation project (Pres) Expansion project (Exp)

Transit

State and Federal Revenue Forecasts

Future Transportation Revenue Forecasts for transit were provided by WisDOT Central office. These figures do no reflect potential funding increases or program changes contained in SAFETEA-LU, as its actual impact on Wisconsin and its communities is still being determined. Transit funding for 2006 to 2008 are listed in Table 8-8 as part of the 2006-2008 TIP.

Transit revenue estimates suggest that transit can expect to receive approximately $2.4 million (2005 dollars) annually from Federal and State sources. Federal programs would account for approximately $1.4 million. Federal operating funds (section 5307) would provide $970,000 of operating funds for transit, while the State is estimated to provide about $1 million in operating. In 2005, Federal (Section 5307) and State operating funds covered about 60 percent of total operating costs.

Federal capital assistance (section 5309) is estimated to provide, on average, about $470,000 annually or about $12.7 million between 2009 and 2035. The 2004-2009 Five-Year Capital Plan included in the Wausau Area Transit System Transit Development Plan (WATS TDP) listed about $5.9 million of Federal dollars being spent on capital improvements between 2004 and 2009. In the past, the Section 5309 program has been a discretionary funding pool and has not been a guaranteed revenue source.

Table 8-8: State and Federal Public Transit Revenue Projections (2005 dollars)

Transit	Annual Revenues	2009-2035
FTA 5307 Program[2]	$969,720	$26,182,440
FTA 5309 Program (Capital) [2]	$469,274	$12,670,398
State Operating Assistance[1]	$1,010,301	$27,278,127
Total	**$2,449,295**	**$66,130,965**

[1]State of Wisconsin Revenues
[2]Federal Revenues
Source: Wisconsin Department of Transportation

Local Revenue Forecasts

The WisDOT forecasts assumed a constant level of State and Federal program transit funding. Assuming that local revenues and fare-box revenues also remain constant, local revenues for transit would total about $26 million over the life of the plan, as indicated in Table 8-10.

WisDOT did provide revenue data for WATS from 1980 to 2005. This information was adjusted for inflation to 2005 dollars and projected out to 2035. Local transit revenue projections, based on historic revenue increases, indicate a total of $48.5 million over the life of the plan, or about $1.7 million annually (see Table 8-9).

Fare-box revenues, after adjusting for inflation, decreased slightly between 1980 and 2005. When using the historic data to project to 2035, total fare-box revenues calculate to about $8.9 million through 2035 or about $334,000 annually.

In order to be consistent with WisDOT's projection methodology, local revenue projections were developed based on current local revenue allocations (i.e. local revenues and fare-box revenues were assumed to remain at their current levels). These projections are shown in Table 8-10 and were used to calculate discrepancies between future revenue and future expenses.

Table 8-9: Local Transit Revenue Projections Based on Historic Increases*

Transit	Annual Revenues	2009-2035
Local Revenue	$1,411,228	$39,544,747
Fare-box Revenue	$334,393	$8,869,323
Total	**$1,745,621**	**$48,414,069**

* 2005 dollars
Source: WisDOT and URS Corp.

Table 8-10: Local Transit Revenue Projections based on Current Revenues*

Local Transit Revenues	Annual Revenues	2009-2035
Local Revenue	$960,346	$25,929,342
Fare-box Revenue	$424,167	$11,452,509
Total	**$1,384,513**	**$37,381,851**

* 2005 dollars
Source: WisDOT and URS Corp.

Transportation Enhancements

Federal STP Enhancement programs will continue under SAFETEA-LU. While federal transportation enhancement funds are not limited to bicycle and pedestrian facilities, they have been a major funding source for bike and pedestrian trails.

Federal and State Revenue Forecasts

The competitive Local Transportation Enhancements grant application process occurs every two years. Between 1993 and 2004, communities in the Wausau MPA received, on average, about $320,000 annually. The State projected about $600,000 in STP-Enhancement funds being available for state and local enhancement projects for a total of $16.3 million from 2009-2035 (see Table 8-11). All MPOs in Wisconsin are required to submit a list of priority projects to WisDOT during the application process.

Table 8-11: Transportation Enhancement Revenue Projections (2005 dollars)

Transportation Enhancement Revenues	Annual Revenues	2009-2035
In-street accommodations	*	
STP-Enhancements[1]	$603,721	$16,300,467
Local matching funds	$150,930	$4,075,117
Total	**$754,651**	**$20,375,584**

[1]Federal Revenues
* included as basic component of street project cost and funding
Source: WisDOT

Local Revenue Forecasts

Local revenues for transportation enhancements are included as part of the local operations and construction transportation revenues described under the Roads and Bridges section.

TRANSPORTATION COST ESTIMATES

The operating and maintenance costs for the entire MPA road system is projected for the period the planning period (2008-2035). This cost has to be added to the implementation costs to assess the financial feasibility of the alternatives.

Roads and Bridges

State Expenditure on State Facilities

State preservation expenditures were projected by WisDOT on a project by project basis and are listed in Table 8-12 through 8-16.

Table 8-12: WisDOT Wausau MPA Planned Preservation Projects and Projected Costs 2008-2015

Short-term (2008-2015)

Highway	Highway segment	Time Period		Type of next Improvement	Cost to Improve
STH 29[B]	Abbotsford to Wausau	2008		Corridor preservation Study	$1,351,000
Bus 51	STH 29 to Drott	2008		Mill, rubilize, & overlay	$1,640,000
Bus 51	STH 29 to Drott	2008		mill and overlay	$1,271,000
US-51/STH 29[B]	Sherman St: 24th Ave to 28th Ave	2008	2009	Reconstruction, RR Xing	$2,838,000
US-51	Bridge St. to Decator	2011		Real Estate, Pav Replac	$10,933,000
US-51	CTH U/K Interchange	2011		Reconstruction	$1,743,000
I39/US 51[B]	Maple Ridge Rd. to Bus 51	2011		Resurfacce	$1,291,000
I39/US 51[B]	Foxglove Rd to Bus 51	2012		Resurf, Bridge Rehab/Replac	$9,531,760
STH 29[B]	Overhead Dr to Bus 51	2013		Pavement Replacement	$1,683,000
STH 29[B]	WI River and Bus 51 Structures	2013		Bridge Redecks	$4,785,000
Subtotal					**$37,066,760**
Other Preservation & Operation Projects *					$3,736,793
Subtotal for Period					**$40,803,553**

[B] Backbone Route

* Other Preservation & Operation projects will be programmed on State Highways based upon pavement conditions, traffic needs, and other documented deficiencies on the system.

Source: Wisconsin DOT 2006-2011 Six-Year Highway Improvement Program and Wisconsin Department of Transportation North Central Region.

Table 8-13: WisDOT Wausau MPA Planned Preservation Projects and Projected Costs 2015-2020

Short to mid-term (2015-2020)

Highway	Highway segment	Time Period		Type of next Improvement	Cost to Improve
I-39	Maple Ridge Rd. Interchange	2015	2020	Reconstruction	$4,808,000
Bus 51	I-39 to Yawkey Ave.	2015	2020	Mill, rubilize, & overlay	$4,320,000
Bus 51	Kent St. to Forest	2015	2020	Rubilize and overlay	$1,620,000
STH 153	CTH X to Forest Road	2015	2020	Mill and overlay	$2,265,600
STH 29[B]	Marathon City to Wausau	2015	2020	Freeway Conversion	$4,750,000
STH 29[B]	72nd - 39th ave	2015	2020	Mill, rubilize, & overlay	$1,180,000
STH 29[B]	Wis River EB Bridge	2015	2020	Redeck	$1,750,000
STH 29[B]	Wis River WB Bridge	2015	2020	Redeck	$1,750,000
Subtotal					**$22,443,600**
Other Preservation & Operation Projects *					$5,191,318
Subtotal for Period					**$27,634,918**

[B] Backbone Route

* Other Preservation & Operation projects will be programmed on State Highways based upon pavement conditions, traffic needs, and other documented deficiencies on the system.

Source: Wisconsin Department of Transportation North Central Region.

Table 8-14: WisDOT Wausau MPA Planned Preservation Projects and Projected Costs 2020-2025

Mid-term (2020-2025)

Highway	Highway segment	Time Period		Type of next Improvement	Cost to Improve
STH 29 [B]	Marathon City to Wausau	2020	2025	Freeway Conversion	$4,104,663
STH 52	16th/17th Ave to Wisconsin River	2020	2025	Joint repair/overlay	$1,009,663
STH 153	CTH O to Rangeline Road	2020	2025	Mill and overlay	$2,323,200
Other Bridges	Scott St Bridge, WB STH 52	2020	2025	Redeck	$1,275,000
Subtotal					**$8,712,526**
Other Preservation & Operation Projects *					$4,518,219
Subtotal for Period					**$13,230,745**

[B] Backbone Route

* Other Preservation & Operation projects will be programmed on State Highways based upon pavement conditions, traffic needs, and other documented deficiencies on the system.

Source: Wisconsin Department of Transportation North Central Region.

Table 8-15: WisDOT Wausau MPA Planned Preservation Projects and Projected Costs 2025-2030

Mid to Long-term (2025-2030)

Highway	Highway Segment	Time Period		Type of next Improvement	Cost to Improve
I39/US 51[B]	STH 34 - STH 153 NB & SB	2025	2030	Mill and overlay	$1,833,600
I39/US 51[B]	Maple Ridge Rd - Bus 51 NB	2025	2030	Mill, rubilize, & overlay	$1,218,350
STH 29[B]	120th -72nd	2025	2030	Mill, rubilize, & overlay	$1,829,000
Subtotal					**$4,880,950**
Other Preservation & Operation Projects *					$4,087,100
Subtotal for Period					**$8,968,050**

[B] Backbone Route

* Other Preservation & Operation projects will be programmed on State Highways based upon pavement conditions, traffic needs, and other documented deficiencies on the system.

Source: Wisconsin Department of Transportation North Central Region.

Table 8-16: WisDOT Wausau MPA Planned Preservation Projects and Projected Costs 2030-2035

Long-term (2030-2035)

Highway	Highway segment	Time Period		Type of next improvement	cost to improve
STH 52	E. Wausau 6th St. to 18th St.	2030	2035	Joint repair/overlay	$1,599,895
Bus 51	Kent St. to Forest	2030	2035	Mill and overlay	$1,255,500
I39/US 51[B]	Maple Ridge Rd - Bus 51 SB	2030	2035	Mill, rubilize, & overlay	$1,218,350
STH 29[B]	Bus 51 off ramp - 2miles east CTH J	2030	2035	Mill, rubilize, & overlay	$4,484,000
Other Bridges	Grand Ave. Bridge over RR	2030	2035	Redeck	$1,500,000
Subtotal					**$10,057,745**
Other Preservation & Operation Projects *					$2,796,937
Subtotal for Period					**$12,854,682**
GRAND TOTAL					**$103,491,948**

[B] Backbone Route

* Other Preservation & Operation projects will be programmed on State Highways based upon pavement conditions, traffic needs, and other documented deficiencies on the system.

Source: Wisconsin Department of Transportation North Central Region.

Local Roadway Preservation Costs

Local expenditures for roadway preservation were projected based on the following assumptions.

- Pavement preservation of functionally classed roads would follow the sequence:
  - Year 10: seal.

- Year 15: seal.
- Year 20: resurface.
- Year 25: seal.
- Year 30: seal.
- Year 35: reconstruct.

§ Pavement preservation for local residential streets would follow the road preservation sequence:

- Year 10: seal.
- Year 20: resurface.
- Year 30: seal.
- Year 40: resurface.

The pavement preservation sequence identified above was applied to the functionally classed and local roadways over a 50 year period. The WISLR Surface pavement rating data was used to determine the miles of roadway by urban and rural functionally classified and local streets. This data is listed in Table 8-17. The mileage data served as the starting point from which to apply the roadway preservation sequence. In other words, roads rated as very good and excellent did not require any maintenance for 10 years. Whereas roadway miles rated as poor were identified for resurfacing or reconstruction. The sequence was applied in five year increments (see Table 8-18 and Table 8-19). The year labeled indicates year one of the five year period.

Tables 8-17: Roadway mileage by Pavement Surface Rating

	Functionally Classified			Local		
Surface Rating	Rural	Urban	Total	Rural	Urban	Total
Failed	0.0	0.6	0.6	0.1	5.3	5.4
Very Poor	0.0	1.2	1.2	7.4	12.6	20.0
Poor	2.7	1.6	4.3	9.3	11.7	21.0
Fair	22.0	11.8	33.8	28.3	31.3	59.7
Fair	24.2	25.8	50.1	26.1	54.1	80.2
Good	21.4	16.4	37.8	66.4	90.4	156.7
Good	41.3	23.5	64.8	28.9	76.4	105.3
Very Good	20.2	32.3	52.5	116.0	98.4	214.4
Excellent	21.2	10.9	32.1	20.6	43.6	64.2
Excellent	5.1	14.8	19.9	49.6	30.5	80.1
Total	161.3	140.3	301.7	399.1	472.6	871.7

Source: WISLR 2004

Tables 8-18: Functionally Classified Road Preservation Sequence by Surface Rating

Surface Rating	2005	2010	2015	2020	2025	2030	2035	2040	2045	2050
Failed	RC		S	S	RS	S	S	RC		S
Very Poor	RC		S	S	RS	S	S	RC		S
Poor	RC		S	S	RS	S	S	RC		S
Fair	RS	S	S	RC		S	S	RS	S	S
Fair	S	RS	S	S	RC		S	S	RS	S
Good	S	S	RS	S	S	RC		S	S	RS
Good		S	S	RS	S	S	RC		S	S
Very Good			S	S	RS	S	S	RC		S
Excellent			S	S	RS	S	S	RC		S
Excellent			S	S	RS	S	S	RC		S

Note: Reconstruction (RC), Resurfacing (RS), Seal (S).
Source: URS Corp.

Tables 8-19: Local Road Preservation Sequence by Surface Rating

Surface Rating	2005	2010	2015	2020	2025	2030	2035	2040	2045	2050
Failed	RS		S		RS		S		RS	
Very Poor	RS		S		RS		S		RS	
Poor	RS		S		RS		S		RS	
Fair	S		RS		S		RS		S	
Fair	S		RS		S		RS		S	
Good	S		RS		S		RS		S	
Good			S		RS		S		RS	
Very Good			S		RS		S		RS	
Excellent			S		RS		S		RS	
Excellent			S		RS		S		RS	

Note: Reconstruction (RC), Resurfacing (RS), Seal (S).
Source: URS Corp.

The cost assumptions used were derived from WisDOT per unit road construction cost estimates, which are identified in Table 8-20. These costs were applied to the miles of local road miles by surface type based on the preservation sequences identified above. Road preservation cost estimates for each of the five year increments for a 50 year period were summed and divided by 50 to provide annual road preservation cost estimate. The cost projections are in 2005 dollars which correspond with revenue projections.

Table 8-20: Local Road Preservation per Mile Cost Estimates

Functionally Classified Roads	Urban	Rural
Seal	$25,000	$15,000
Resurface	$595,200	$266,600
Reconstruction	$2,604,000	$1,494,200

Local Roads	Urban	Rural
Seal	$25,000	$15,000
Resurface	$297,600	$134,000
Reconstruction	$1,302,000	$747,100

Note: Includes 20% estimated design engineering cost; typically 15% to 20% of construction costs and State design review costs typically 20% of design engineering cost.

Based on the aforementioned assumptions, the following annual road preservation cost estimates were developed:

Total Local System Preservation Costs

- Functionally Classified Roads: $16,378,9815
- Local Roads: $6,985,038
- Total Annual Preservation Costs:..... $23,634,019
- **Total Costs 2009-2035 ..... $630,828,524**

Transit

Historic transit operating expenses were used to estimate future operating costs. Data was available from 1980 to 2005. Given the time range involved, the data was adjusted for inflation to 2005 dollars. The transit operating cost projections indicate a 34 percent shortfall over the planning period (see Table 8-21). The table also indicates the increases in revenues by source needed to cover the deficit based on proportional increases.

Figure 8-2 illustrates projected transit revenues and operating expenses based on the historic data. The projected deficits would increase gradually over time.

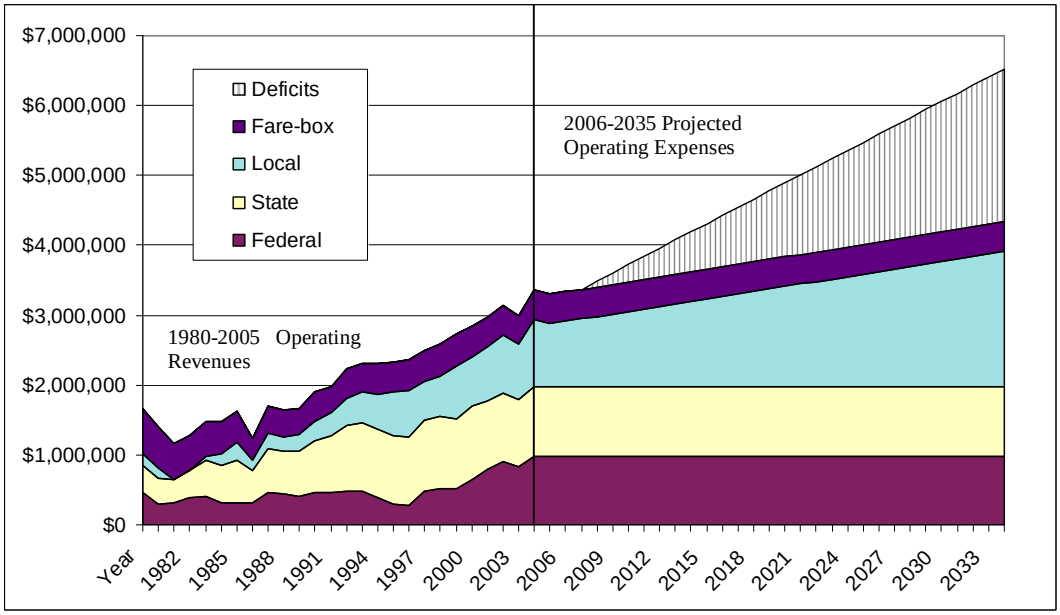
Table 8-21: Projected Transit Operations Costs

Revenue Source	Annual Average	2009-2035	Annual Average needed[1]	2009-2035
Federal (5307)	$969,720	$26,182,440	$1,298,071	$35,047,909
State (85.20)	$1,010,301	$27,278,127	$1,352,393	$36,514,599
Local	$960,346	$25,929,342	$1,285,523	$34,709,111
Fare-box	$424,167	$11,452,509	$567,791	$15,330,370
Total	$3,364,534	$90,842,418	$4,503,777	$121,601,989
Operating Expenses	$4,503,777	$121,601,989	$4,503,777	$121,601,989
Shortfall	($1,139,243)	($30,759,571)	$0	$0

Source: Wisconsin Department of Transportation

[1] Proportional revenue increases needed to cover projected operating expenses.

Figure 8-2: Transit operating expense projections by projected revenue source (2005 dollars)



Source: Wisconsin Department of Transportation
Note: Figures have been adjusted for inflation

Transportation Enhancements

Cost estimated associated with Transportation enhancement projects, which often include bicycle and pedestrian-related improvements, are identified in Table 8-22. These costs are based on the short-term transportation enhancement projects that have been identified through the transportation enhancement grant process as projects. Transportation enhancement project costs based on potential long-range projects will need to be developed as part of subsequent planning efforts.

Table 8-22: Short-term Transportation Enhancement Cost Estimates (2005 dollars)

Transportation Enhancement Cost Estimates	Costs Estimates
Beautification of Rib Mountain Drive	$320,000
Decorative Street Lighting in Downtown Wausau	$252,000
USH 51 Corridor Pedestrian Facilities	$180,000
Decorative Street Lighting along Sturgeon Eddy Road	$492,265
Camp Phillips Road (CTH X) Multi-use Trail	$283,045
Jefferson Street Pedestrian Mall	$270,000
Total	**$1,797,310**

Source: MPO Technical Advisory Committee

CONCLUSIONS

Table 8-23 lists all projected revenues and costs calculated. Given the projection assumptions roadway preservation projects at the local level could surpass the projected revenues available. State preservation projects, in contrast, indicate a projected surplus of revenues available. This projected surplus could be misleading, however as this plan has identified a number of studies of corridors, interchanges, and bridges that could result in the need to program several high cost highway capacity projects. This plan has identified very few intersection improvement projects. This is due to the nature of the traffic data provided by a demand model. Intersection improvement projects are often needed as the result of peaking characteristics of local traffic due to the specific land uses in the corridor. When the DOT scopes projects for the last two years of the next six year program it is likely that some intersection improvements will be identified, these projects will be documented either in amendments to this plan or in future plan updates. These projects along with the potential capacity upgrade projects on studied interchanges, bridges, and corridors will likely create a very tight budget for state preservation projects during the planning period.

Based on the transit revenue projections, transit operation costs are projected to exceed available revenues. Local revenues for transit would have to increase significantly to cover the difference. This could be through increased local government contributions or through increased fare prices.

Table 8-23: Local, State and Federal Transportation Revenue Projections (2005 dollars)

STH Preservation, Maintenance and Operations	Annual Revenues	2009-2035 Revenues	2009-2035 Costs
Combined Backbone and non-Backbone[3]	$4,630,545	$125,024,715	**$103,491,948**
STH "Low Cost" Bridges[3]	$150,000	$4,050,000	
"High Cost" Bridges[3]			
STH Maintenance and Operations[1]	$2,394,000	$64,638,000	$64,638,000
Subtotal	**$7,174,545**	**$193,712,715**	**$168,129,948**
State and Federal Revenues for Expansion and Preservation to Local Roads			
STP-Urban[2]	$502,064	$13,555,728	
General Transportation Aids[1]	$4,578,351	$123,615,477	
Connecting Highway Aids[1]	$221,247	$5,973,669	
Municipal Streets Portion of LRIP[1]	$100,000	$1,350,000	
Federal Safety Programs[2]	$432,421	$11,675,367	
Local Bridges[3]	$575,000	$15,525,000	
Subtotal	**$6,409,083**	**$171,695,241**	
Local Transportation Revenues			
Operations & Maintenance	$7,726,000	$208,602,000	
Construction	$9,052,000	$244,404,000	
Subtotal	**$16,778,000**	**$453,006,000**	
Total Federal, State, and Local Roadway and Bridge	**$23,187,083**	**$624,701,241**	**$630,828,524**
State and Federal Transit Revenues			
FTA 5307 Program[2]	$969,720	$26,182,440	
FTA 5309 Program (Capital)[2]	$469,274	$12,670,398	
State Operating Assistance[1]	$1,010,301	$27,278,127	
Total	**$2,449,295**	**$66,130,965**	
Local Transit			
Local Revenue	$960,346	$25,929,342	
Fare-box Revenue	$424,167	$11,452,509	
Total	**$1,384,513**	**$37,381,851**	
Total Federal, State, and Local Transit	**$3,833,808**	**$103,512,816**	**$121,601,989**
Transportation Enhancement Revenues			
In-street accommodations[1]	*		
STP-Enhancements[2]	$603,721	$16,300,467	$1,437,848
Local Match		$359,462	$359,462
Total	**$603,721**	**$16,300,467**	**$1,797,310**
Grand Total		**$938,586,701**	**$922,357,771**

[1]State of Wisconsin Revenues
[2]Federal Revenues
[3]Combination State and Federal Revenues
* included as basic component of street project cost and funding
Source: Wisconsin Department of Transportation.

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CHAPTER 9 – RECOMMENDATIONS

This chapter describes the 2035 LRTP recommended transportation improvements and policies. These recommendations are based on the information that has been gathered, analyzed, and discussed in previous chapters. The chapter addresses policy recommendations and project specific recommendations, derived from the alternatives analysis described in Chapter 7.

It is important to remember that the Long Range Transportation Plan provides a regional multi-modal perspective looking out 20-30 years into the future. This broad and long-term scope limits the amount of detail and attention given to any one transportation mode, corridor, problem or potential solution. Priorities will evolve and change over the next 30 years, which could result in the addition, deletion, or modification of recommendations and proposed transportation projects. The LRTP recommendations, particularly specific projects, are not "set in stone." The LRTP serves as a working or living document that can be updated to reflect the changing needs and priorities of the MPO. Updates are currently required every five years.

The transportation improvements recommended below should move on to the next level of planning and engineering, where specific issues can be addressed at the level of detail commensurate to the size, scope and cost of the recommendation.

INTRODUCTION

The following recommendations were developed through a process involving: a review of public comment, technical committee discussions, past planning studies, staff review of the existing transportation system, and staff analyses of forecasted transportation system demand and deficiencies. These recommendations are designed to achieve or move toward achieving the goals and objectives developed and adopted by the Wausau MPO, which are described in Chapter 2.

The recommendations are categorized between policies and projects. Policy recommendations focus on specific policies, strategies and/or actions that are recommended for achieving the stated goals and objectives of the plan. Project recommendations address MPO goals and objectives through the allocation of funding resources available to the MPO (STP-Urban Program funds). These recommendations involve specific improvement projects which have been shown to address specific transportation deficiencies described in Chapter 6 – 2035 Conditions.

TRANSPORTATION SYSTEM POLICY RECOMMENDATIONS

The Marathon County Metropolitan Planning Commission recommends the following policies, strategies, and actions which are designed to move toward reaching the stated goals and objectives detailed in Chapter 2.

Land-Use & Development

Land use and development decisions are a municipal responsibility. The MPO does not have authority over land use and development decisions. However, the connection between transportation and land use is clear. Land use decisions impact the demand for transportation and likewise, transportation decisions can impact land use decisions. As such, it is important that the MPO work with municipalities and state agencies to promote an understanding of this relationship and encourage land use and development decisions that reduce the demand and need for costly transportation infrastructure.

Policies:

1) **Regional Character –** The MPO will maintain the character of the Wausau Metropolitan Area by
   a) Creating a transportation system that enhances existing activity centers.
   b) Encouraging land uses and housing opportunities consistent with the area character that minimizes travel demand and increases transportation efficiencies
   c) Promoting the area's continued economic, cultural and recreational development.
2) **Land use, Growth and Development -** The MPO will work with municipalities to promote land use and development policies that minimize transportation demand and maximize the efficient use of existing transportation facilities. These policies may include -
   a) Encouraging continued development in and near existing activity centers.
   b) Encourage compact and contiguous growth and discourage urban sprawl and leapfrog development while striving to enhance economic conditions.
3) **Economic Development -** The MPO will work with municipalities, and County, State and Federal agencies to support transportation system improvements that enhance the local economy and support compatible transportation systems with land use development plans in the region.
4) **Environment and Natural Resources -** The MPO will strive to protect natural resources and mitigate negative impacts to the natural environment due to transportation system decisions whenever possible.

5) **Quality of Life Impacts -** The MPO will work with municipalities, Marathon County and the Wisconsin Department of Transportation to:

   a) Minimize negative transportation impacts to residential areas and address issues such as cut through traffic, excessive vehicle speeds, safety concerns, and noise and air pollution.

   b) Design roads to be compatible with surrounding areas and support pedestrian, bicycle and transit uses.

   c) Promote projects that minimize negative transportation impacts.

Transportation System

The MPO has both an indirect and direct impact on many decisions relating to the transportation system. The transportation system goals and objectives discussed in Chapter 2 highlight transportation system related issues the MPO should direct resources and energy toward.

6) **Safety -** The MPO will work with municipalities, Marathon County and the Wisconsin Department of Transportation to minimize the number and severity of vehicular crashes with particular emphasis on reducing vehicle-bicycle and vehicle-pedestrian conflicts and crashes. To work toward this goal the MPO will take the following actions.

   a) ***Comprehensive Crash Analysis –*** Conduct a comprehensive crash analysis of the regional roadway system. This study would require working with the State to clean and map existing data as well as work toward more standardized procedures for obtaining and mapping future crash data. There is a wealth of existing crash data available. However, its benefits cannot be fully utilized given a lack of data record consistency that is not spatially referenced to a Geographic Information System (GIS). The study will look at identifying trends in crash locations, crash types, and crash severity.

   b) ***Evaluate Safety Benefits –*** Evaluate projects based, in part, on safety benefits. Once a uniform crash GIS database is available, reviewing safety problems for potential transportation improvements will be more feasible. In addition to crash data reviews, project designs should consider safety issues for all users of the facilities, with particular regard for pedestrians, bicycles and transit facilities. Safe facility designs should promote appropriate travel speeds, enhance predictability, and provide a safe and comfortable environment for all transportation system users including non-motorized users.

7) **Mobility –** The MPO will work to maintain and improve the quality of travel on the transportation network.

   a) ***Evaluate Travel Delays and Congestion Mitigation –*** The MPO will evaluate projects based, in part, on congestion mitigation and reducing travel delays. The travel demand model provides the initial tool for

measuring congestion travel time delays. However, where congestion delays are identified, either by the model or from empirical evidence, additional operational analyses need to be conducted.

b) ***Address regional multi-modal mobility issues*** **–** The MPO will promote a regional multi-modal perspective to transportation decisions and will work to integrate all major modes of transportation into the decision-making process (e.g. intercity bus, air, highways).

c) ***Americans with Disabilities Act (ADA)*** **–** Provide a transportation system with facilities that are accessible to all people, complying in the process with applicable provisions of the Americans with Disabilities Act (ADA).

d) ***Transportation disadvantaged*** **–** Encourage and support transportation services that meet the needs of the transportation disadvantaged, including children, elderly and low-income residents.

8) Transportation Performance – The MPO will work toward developing a transportation system that provides quality service at reasonable speeds, convenience, and safety for all users. As such, the MPO will:

a) Encourage a roadway system with the capability of achieving appropriate performance levels consistent with community goals.

b) Enhance the opportunity for using transportation modes other than the auto for single person-trips, including pedestrian and bicycle travel, and public transportation.

c) Promote bicycle and pedestrian travel by linking pedestrian and bicycle systems throughout the region.

d) Provide transportation service for all modes that is accessible to residential areas and to primary trip attraction areas (e.g., places of employment, shopping, education, public services, and recreation).

e) Provide effective linkages to non-local transportation systems (statewide, national) for all modes.

9) Freight – The MPO will promote the accommodation of freight modes including trucks, rail, and air transportation and encourage the safe and convenient flow of freight entering, exiting, or passing through the Wausau Metropolitan Planning Area (MPA). To the end, the MPO will review freight generators, existing and forecast truck volumes, and rail movements, and the effectiveness of the truck route network, rail system, and airport facilities.

a) This plan found that the number and location of truck volume counts are limited. The travel demand model does provide model truck volumes for the base year and forecast truck volumes. However, without actual truck counts, it is impossible to validate the model's truck volumes. From the data that was available, we were able to determine that truck traffic movements are concentrating on the freeways and arterials. Truck traffic

is also forecast to increase at a greater rate than automobile traffic. The employment data shows that most trucking firms are located in areas with close or convenient access to the freeway.

Planning Process

The following policies relate to the planning and decision-making process. The MPO is a unique entity that brings together a wide range of personalities and interests. Both the Planning Commission and Technical Advisory Committee represent different constituencies and municipalities that together make up the Wausau MPA. It is the common goal of improving the metropolitan area that makes the MPO an agent for positive change in the community. The following policy recommendations are designed to enhance the MPO's ability to make those positive changes.

10) **Interagency Coordination –** The MPO will continue to foster cooperation and coordination among member municipalities and agencies through the planning process and implementation of the transportation plan that will:

    a) Provide transportation services that achieve benefit and cost equity among member communities.

    b) Ensure that social justice is considered in the planning and financing of MPO transportation project improvements.

    c) Promote functional hierarchy with appropriate jurisdictional responsibility (statewide, regional, and sub regional services) so that transportation system elements are balanced with level of responsibility. For example, the county should be responsible for elements having countywide or sub regional impacts or benefits and municipalities for elements having local community impacts.

    d) Enhance intergovernmental coordination and cooperation for improving multimodal transportation.

11) **Financial Feasibility –** The MPO will prepare a transportation plan that is financially feasible by:

    a) Preparing a fiscally constrained financing strategy.

    b) Leveraging the use of non-local resources to increase the amount and/or effectiveness of federal and state resources available to the region.

    c) Promoting equitable balance of financial support from local communities.

    d) Increasing the use of private sector financial resources for transportation improvements.

12) **Commitment to Implementation –** The MPO is committed to implementing the recommended improvements according to an identified schedule outlined in this plan and will:

    a) Provide a management system for the transportation plan.

b) Define specific milestones for implementation.

13) Future Infrastructure Planning – The MPO will proactively plan for anticipated infrastructure needs of residential and business development.

a) Acquire and preserve right-of-way prior to development to minimize disruptions to existing and future homeowners and businesses.

b) Minimize the amount of land needed for improvements.

c) Maximize traffic flow efficiency within future development areas by planning for road systems within these areas that provide adequate travel mobility, along with land access.

Actions:

§ The MPO should work with local municipalities to encourage the adoption of municipal policies requiring the construction of sidewalks and pedestrian facilities as part of the development review process.

§ The MPO should work with municipalities for developing a metro area bike and pedestrian facilities inventory in order to identify and prioritize system improvements with emphasis on connecting gaps in the system.

§ The MPO should work with local municipalities to develop local road management programs to improve local roadway preservation strategies.

§ The MPO should adopt the Evaluation Criteria identified in Chapter 7 Alternatives Analysis for scoring TIP Projects.

ROADWAYS

Roadway improvement recommendations have been evaluated using the Wausau Area Travel Demand Model to determine their impact on addressing existing and forecast capacity deficiencies. The evaluation is described in Chapter 6 of this document. Based on the regional planning level evaluation and analysis of alternative roadway improvements, several projects were identified as having the greatest benefit to the regional transportation system.

1. ***System Preservation (SP)*** **–** Preserving and maintaining existing transportation investments is of the highest priority. The MPO will work to ensure that resources are available to preserve and maintain existing infrastructure prior to expending resources on expansion projects for the foreseeable future.

   The following large roadway preservation/maintenance projects have been identified through 2035. Other preservation projects may be identified based on roadway condition and specific state or local needs.

Road Preservation Improvements

Several priority roadway improvements have committed funding and are included in the most recent 2006-2008 Transportation Improvement Program (TIP). Preservation projects that are planned in the near future (i.e. 2006-2008) are identified in the TIP and are listed in Table 9-4. Figure 9-1 illustrates TIP project locations.

Short-term State System Preservation Projects (2008-2015)

Table 9-1 below lists the short-term State preservation projects planned between 2008 and 2015.

Table 9-1: Short-term WisDOT Planned Preservation Projects for the Wausau MPA

Highway	Highway segment	Time Period		Type of next Improvement	Cost to Improve
STH 29[B]	Abbotsford to Wausau	2008		Corridor preservation study	$1,351,000
Bus USH 51	STH 29 to Drott	2008		Mill, rubbilize, & overlay	$1,640,000
Bus USH 51	STH 29 to Drott	2008		mill and overlay	$1,271,000
USH 51/STH 29[B]	Sherman St: 24th Ave to 28th Ave	2008	2009	Reconstruction, RR Xing	$2,838,000
USH 51	Bridge St. to Decator	2011		Real Estate, Pav Replace	$10,933,000
USH 51	CTH U/K Interchange	2011		Reconstruction	$1,743,000
I 39/USH 51[B]	Maple Ridge Rd. to Bus USH 51	2011		Resurface	$1,291,000
I 39/USH 51[B]	Foxglove Rd to Bus USH 51	2012		Resurf, Bridge Rehab/Replace	$9,531,760
STH 29[B]	Overhead Dr to Bus USH 51	2013		Pavement Replacement	$1,683,000
STH 29[B]	WI River and Bus USH 51 Structures	2013		Bridge Redecks	$4,785,000
Subtotal					**$37,066,760**
Other Preservation & Operation Projects *					$3,736,793
Subtotal for Period					**$40,803,553**

[B] Backbone Route

* Other Preservation & Operation projects will be programmed on State Highways based upon pavement conditions, traffic needs, and other documented deficiencies on the system.

Source: Wisconsin DOT 2006-2011 Six-Year Highway Improvement Program and Wisconsin Department of Transportation North Central Region.

Mid-term State System Preservation Projects

Table 9-2 below lists the mid-term State preservation projects planned between 2015 and 2025.

Table 9-2: Mid-term WisDOT Planned Preservation Projects for the Wausau MPA

Highway	Highway segment	Time Period		Type of next Improvement	Cost to Improve
I-39	Maple Ridge Rd. Interchange	2015	2020	Reconstruction	$4,808,000
Bus 51	I-39 to Yawkey Ave.	2015	2020	Mill, rubilize, & overlay	$4,320,000
Bus 51	Kent St. to Forest	2015	2020	Rubilize and overlay	$1,620,000
STH 153	CTH X to Forest Road	2015	2020	Mill and overlay	$2,265,600
STH 29[B]	Marathon City to Wausau	2015	2020	Freeway Conversion	$4,750,000
STH 29[B]	72nd - 39th ave	2015	2020	Mill, rubilize, & overlay	$1,180,000
STH 29[B]	Wis River EB Bridge	2015	2020	Redeck	$1,750,000
STH 29[B]	Wis River WB Bridge	2015	2020	Redeck	$1,750,000
STH 29 [B]	Marathon City to Wausau	2020	2025	Freeway conversion	$4,104,663
STH 52	16th/17th Ave to Wisconsin River	2020	2025	Joint repair/overlay	$1,009,663
STH 153	CTH O to Rangeline Road	2020	2025	Mill and overlay	$2,323,200
Other Bridges	Scott St Bridge, WB STH 52	2020	2025	Redeck	$1,275,000
Subtotal					**$31,156,126**
Other Preservation & Operation Projects *					$9,709,537
Subtotal for Period					**$40,865,663**

[B] Backbone Route

* Other Preservation & Operation projects will be programmed on State Highways based upon pavement conditions, traffic needs, and other documented deficiencies on the system.

Source: Wisconsin Department of Transportation North Central Region.

Long-term State System Preservation Projects

Table 9-3 below lists the long-term State preservation projects planned between 2025 and 2035.

Table 9-3: Long-term WisDOT Planned Preservation Projects for the Wausau MPA

Highway	Highway Segment	Time Period		Type of next Improvement	Cost to Improve
I39/US 51[B]	STH 34 - STH 153 NB & SB	2025	2030	Mill and overlay	$1,833,600
I39/US 51[B]	Maple Ridge Rd - Bus 51 NB	2025	2030	Mill, rubilize, & overlay	$1,218,350
STH 29[B]	120th -72nd	2025	2030	Mill, rubilize, & overlay	$1,829,000
STH 52	E. Wausau 6th St. to 18th St.	2030	2035	Joint repair/overlay	$1,599,895
Bus 51	Kent St. to Forest	2030	2035	Mill and overlay	$1,255,500
I39/US 51[B]	Maple Ridge Rd - Bus 51 SB	2030	2035	Mill, rubilize, & overlay	$1,218,350
STH 29[B]	Bus 51 off ramp - 2miles east CTH J	2030	2035	Mill, rubilize, & overlay	$4,484,000
Other Bridges	Grand Ave. Bridge over RR	2030	2035	Redeck	$1,500,000
Subtotal					**$14,938,695**
Other Preservation & Operation Projects *					$6,884,037
Subtotal for Period					**$21,822,732**

[B] Backbone Route

* Other Preservation & Operation projects will be programmed on State Highways based upon pavement conditions, traffic needs, and other documented deficiencies on the system.

Source: Wisconsin Department of Transportation North Central Region.

Mid to Long-term Local System Preservation Projects (2015-2035)

The MPO should work with local jurisdictions toward developing or improving local road management programs that would help communities plan for local road maintenance and preservation projects.

A road management program (RMP) will help municipalities develop its road budget and use dollars wisely because its priorities and needs are clearly defined. Through roadway management, municipalities can determine the most cost-effective, long-term treatments for their roads, control their road maintenance costs, and spend tax dollars more wisely. A RMP can result in roads that are easier and less costly to maintain on a yearly basis. Pertinent information about all roads would be readily available for years to come instead of scattered among files or tucked away in an employee's head.

The steps in developing such a program include the following. Steps 1 and 2 below are essentially completed through the WISLR/PASER program.

1. *Inventory the roads.* The amount of time available and the miles of road in a community will determine how much detail should be included.
2. *Assess the condition of the roads*. Develop simple and easy techniques to use each year. Maintain a continuing record of the assessed condition of each road so that changes in condition can be noted easily and quickly.
3. *Select a road management plan.* Select the most appropriate treatment to repair each road, bridge, or problem area.

RMP project evaluations should be based on comparisons of key measures of effectiveness for road segments such as those described in the roadway system evaluation and indicated below:

- Pavement Condition
- Bridge and Structure Condition
- Traffic/Use
- Operating Levels of Service
- Crash Analysis

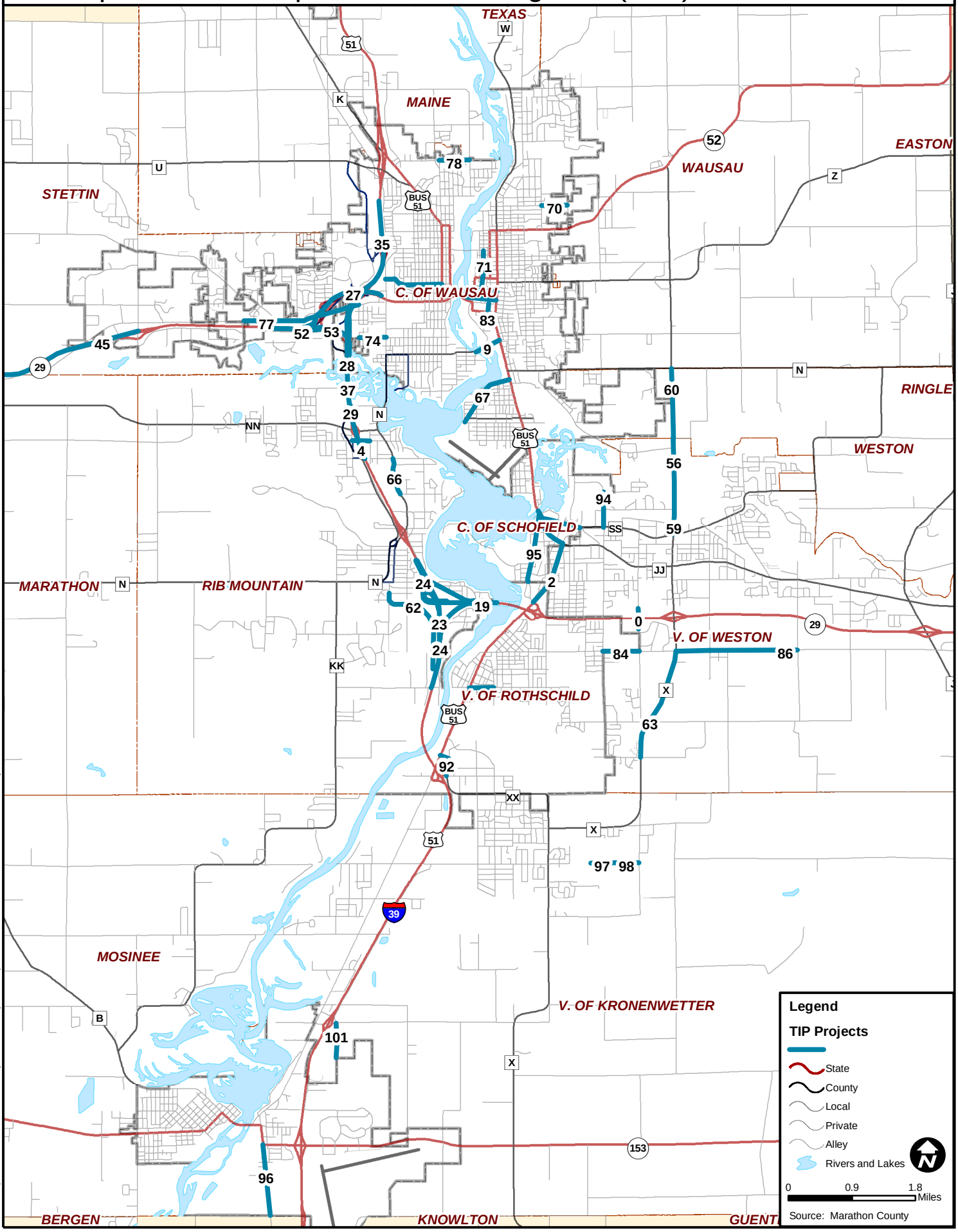
The RMP will be one source of information in the prioritization, scheduling and phasing of candidate projects. Other factors to consider include design standards and community input. The results of RMP evaluations will be used to assist in identifying roadway candidates for potential local, State and Federal funding.

Local RMPs would also provide a better indication of future road preservation costs so communities can anticipate future revenue needs.

Projects 2006-2008
Transportation Improvement Program (TIP)

figure 9-1

URS



URS Corporation N:\31034060\Projects\TIP Projects Map.mxd Date: 4/14/2006 1:15:23 AM Name: jhenr

Figure 9-4: 2006-2008 Transportation Improvement Program - Highway Projects

TIP PROJECT LISTING ($)

	PRIMARY JURISDICTION/ PROJECT LOCATION	PROJECT DESCRIPTION	TYPE OF COST	2006 FED	2006 STATE	2006 LOCAL	2006 TOTAL	2007 FED	2007 STATE	2007 LOCAL	2007 TOTAL	2008 FED	2008 STATE	2008 LOCAL	2008 TOTAL	COMMENTS FOS# & Let Date P=preservation E=expansion
	HIGHWAY															
1	State of Wisconsin V. of Rothschild	Reconstruction Bus. U.S. Hwy 51 & CTH XX intersection 373-02-055	PE ROW CONST TOTAL	450,000 450,000 (FLX)	76,824 76,824	498,885 498,885	1,025,709 1,025,709									Let: #6999-10-01,71,77 Expansion
2	State of Wisconsin C. of Schofield	Bus. U.S. Hwy 51 - STH 29 to Eau Claire River 373-03-005	PE ROW CONST TOTAL									916,113 916,113 (FLX)			916,113 916,113	Let: 11-3-07 #6999-08-70 preservation
3	State of Wisconsin	Interstate 39 Traffic Mitigation 373-03-010	PE ROW CONST TOTAL	124,800 124,800 (SAF)	31,200 31,200		156,000 156,000	162,240 162,240 (SAF)	40,560 40,560		202,800 202,800	162,240 162,240 (SAF)	40,560 40,560		202,800 202,800	Let: 7-25-05 #1166-02-91,92,93 preservation
4	State of Wisconsin	USH 51/STH 29 Corridor Northbound Oriole Ln. to Mallard Ln. 373-06-072	PE ROW CONST TOTAL	1,909,675 1,909,675 (FLX)			1,909,675 1,909,675									Let: 2-14-06 #1166-07-00, 74 Expansion
5	State of Wisconsin	USH 51/STH 29 Corridor Southbound Utilities 373-06-012	PE ROW CONST TOTAL	1,098,880 1,098,880 (FLX)			1,098,880 1,098,880									Let: 1-25-06 Expansion #1166-11-44,45,46, 47,48
6	State of Wisconsin V. of Rothschild	Reconstruction Bus. U.S. Hwy 51 & Imperial Ave. Intersec. 373-03-047	PE ROW CONST TOTAL	646,780 646,780 (FLX)			646,780 646,780									Let: 12-25-05 preservation #6999-10-02, 22, 42, 43,44,52,72
7	State of Wisconsin C. of Wausau	Reconstruction STH 52 & 18th Street Intersection 373-03-049	PE ROW CONST TOTAL	232,708 232,708 (FLX)		233,587 233,587	466,295 466,295									# 6999-03-07 Expansion
8	State of Wisconsin MPO area	WisDOT Rail -Highway Crossing Safety Level of Effort Projects 373-06-014	PE ROW CONST TOTAL	90,000 90,000 (SAF)	10,000 10,000 *	10,000 10,000 *	100,000 100,000									preservation
9	State of Wisconsin C. of Wausau	Reconstruction Thomas Street RR Viaduct & WI River Bridge 373-02-058	PE ROW CONST TOTAL	3,051,853 3,051,853 (BR)		645,438 645,438	3,697,291 3,697,291									Let: 7-12-05 #9943-04-73 & 72 preservation
10	State of Wisconsin	General Guide Sign Replacement 373-04-018	PE ROW CONST TOTAL	482,237 482,237 (FLX)			482,237 482,237									preservation Let: 6-13-06 #1009-40-52
11	State of Wisconsin	Mosinee-Wausau Kowalski Road Overpass R/W B-37-0098 373-06-015	PE ROW CONST TOTAL					52,016 52,016 (BR)			52,016 52,016	1,876,800 1,876,800 (BR)			1,876,800 1,876,800	Let: 9-25-06 preservation #1166-01-20,70
12	State of Wisconsin	Reconstruction STH 29 & Bus USH 51 North Interchange 373-04-027	PE ROW CONST TOTAL									1,055,700 1,055,700 (FLX)			1,055,700 1,055,700	preservation #6999-09-82
13	State of Wisconsin	Statewide Utilities Level of Effort 373-06-016	PE ROW CONST TOTAL									267,909 267,909 (FLX)			267,909 267,909	Let: 7-25-07 preservation #0690-24-51

Figure 9-4: 2006-2008 Transportation Improvement Program - Highway Projects

TIP PROJECT LISTING ($)

	PRIMARY JURISDICTION/ PROJECT LOCATION	PROJECT DESCRIPTION	TYPE OF COST	2006 FED	2006 STATE	2006 LOCAL	2006 TOTAL	2007 FED	2007 STATE	2007 LOCAL	2007 TOTAL	2008 FED	2008 STATE	2008 LOCAL	2008 TOTAL	COMMENTS FOS# & Let Date P=preservation E=expansion
14	State of Wisconsin	Statewide Bridge Replacement Level of Effort 373-06-017	PE													
			ROW													
			CONST	578,333			578,333	410,000			410,000					preservation
			TOTAL	578,333			578,333	410,000			410,000					#0690-24-54 & 55
				(BR)				(BR)								
15	State of Wisconsin	Statewide Bridge Shrm Rehab. Level of Effort 373-06-018	PE													
			ROW													
			CONST	337,281			337,281	1,240,350			1,240,350					preservation
			TOTAL	337,281			337,281	1,240,350			1,240,350					#0690-24-56,57,69,
				(BR)				(BR)								
16	State of Wisconsin	District Wide Epoxy Pavement Markings 373-06-019	PE													
			ROW													
			CONST						392,859		392,859					preservation
			TOTAL						392,859		392,859					#1000-64-04 & 06
									(FLX)							
17	State of Wisconsin	District Wide Concrete Pavement Repair 373-06-020	PE													
			ROW													
			CONST	300,000			300,000	300,000			300,000					preservation
			TOTAL	300,000			300,000	300,000			300,000					#1009-40-70
				(FLX)				(FLX)								
18	State of Wisconsin	St. Point to Lincoln Co. line General Guide Sign Replacement 373-06-021	PE													
			ROW													
			CONST	616,192			616,192									preservation
			TOTAL	616,192			616,192									#1009-40-48
				(SAF)												Let: 7-12-05
19	State of Wisconsin	Pavement Replacement STH 29 East Interchange Overhead Dr. - WI River 373-04-027	PE													
			ROW													
			CONST	374,884			374,884									preservation
			TOTAL	374,884			374,884									#1053-06-76
				(FLX)												Let: 7-12-05
20	State of Wisconsin C. of Wausau	Upgrade stop & street name signs on selected Arterials 373-06-022	PE													
			ROW													
			CONST	13,500		4,500	18,000									#
			TOTAL	13,500		4,500	18,000									preservation
				(SAF)												
21	State of Wisconsin T. of Rib Mountain	USH 51/STH 29 Corridor Robin Lane Overpass Martin Ln. to Eagle Ave. 373-05-002	PE													
			ROW													Let: 5-10-05
			CONST	2,556,764		175,000	2,731,764									preservation
			TOTAL	2,556,764		175,000	2,731,764									#1166-08-70
				(FLX)												
22	State of Wisconsin C. of Wausau	USH 51/STH 29 Corridor Level of Effort Utility 373-06-023	PE													
			ROW													Let: 6-25-06
			CONST	875,474			875,474									preservation
			TOTAL	875,474			875,474									#1166-02-44,45
				(FLX)												
23	State of Wisconsin T. of Rib Mountain	USH 51/STH 29 Corridor Mainline Foxglove Rd. to Lily Ln. 373-06-002	PE													
			ROW													Let: 7-12-05
			CONST	6,105,821			6,105,821									Expansion
			TOTAL	6,105,821			6,105,821									#1166-05-71
				(FLX)												
24	State of Wisconsin T. of Rib Mountain	USH 51/STH 29 Corridor STH 29 East System Ramps Foxglove Rd. to Lily Ln. 373-06-003	PE													
			ROW													Let: 12-25-04
			CONST	13,545,097			13,545,097									Expansion
			TOTAL	13,545,097			13,545,097									#1166-05-70
				(FLX)												
25	State of Wisconsin T. of Rib Mountain	USH 51/STH 29 Corridor CTH NN Interchange Oriole Ln. to Mallard Ln. 373-06-004	PE													
			ROW													Let: 9-13-05
			CONST	5,757,900			5,757,900									Expansion
			TOTAL	5,757,900			5,757,900									#1166-07-40,41,
				(FLX)												71,73,75
26	State of Wisconsin C. of Wausau	USH 51/STH 29 Corridor STH 52 Extension 39th Ave. to Seymour St. 373-06-005	PE													
			ROW													Let: 2-14-06
			CONST	7,652,835		324,277	7,977,112									Expansion
			TOTAL	7,652,835		324,277	7,977,112									#1166-10-71
				(FLX)												

Figure 9-4: 2006-2008 Transportation Improvement Program - Highway Projects

TIP PROJECT LISTING ($)

	PRIMARY JURISDICTION/ PROJECT LOCATION	PROJECT DESCRIPTION	TYPE OF COST	2006 FED	2006 STATE	2006 LOCAL	2006 TOTAL	2007 FED	2007 STATE	2007 LOCAL	2007 TOTAL	2008 FED	2008 STATE	2008 LOCAL	2008 TOTAL	COMMENTS FOS# & Let Date P=preservation E=expansion
		USH 51/STH 29 Corridor	PE													
	State of	STH 52 Extension	ROW													Let: 2-14-06
27	Wisconsin	Seymour St. to 18th Ave.	CONST	7,515,386			7,515,386									Expansion
			TOTAL	7,785,386			8,109,662									#1166-09-72,73
	C. of Wausau	373-06-006		(FLX)												
		USH 51/STH 29 Corridor	PE													
	State of	Mainline Southbound	ROW													Let: 2-14-06
28	Wisconsin	Mallard Ave. to	CONST	5,359,387			5,359,387									Expansion
		Sherman St.	TOTAL	5,359,387			5,359,387									#1166-09-75
	C. of Wausau	373-06-007		(FLX)												
		USH 51/STH 29 Corridor	PE													
	State of	Mainline Southbound	ROW													Let: 2-14-06
29	Wisconsin	Oriole Ln. to Mallard Ln.	CONST	2,050,469			2,050,469									Expansion
			TOTAL	2,050,469			2,050,469									# 1166-07-72
	T. of Rib Mountain	373-06-008		(FLX)												
		USH 51/STH 29 Corridor	PE													
	State of	Mainline Northbound	ROW													Let: 12-25-05
30	Wisconsin	Mallard Ave. to	CONST	13,526,475			13,526,475	1,731,389			1,731,389					Expansion
		Bissel St.	TOTAL	13,526,475			13,526,475	1,731,389			1,731,389					#1166-02-21
	C. of Wausau	373-06-009		(FLX)				(FLX)								
		USH 51/STH 29 Corridor	PE													
	State of	STH 52 Extension	ROW													Let: 3-25-06
31	Wisconsin	39th Ave. to 28th Ave.	CONST	650,760			650,760									Expansion
			TOTAL	650,760			650,760									# 1166-02-22
	C. of Wausau	373-06-010		(FLX)												
		USH 51/STH 29 Corridor	PE													
	State of	Mainline Southbound	ROW													Let: 6-25-06
32	Wisconsin	Sherman St. to STH 52	CONST	1,118,091			1,118,091	4,633,544			4,633,544					Expansion
			TOTAL	1,118,091			1,118,091	4,633,544			4,633,544					# 1166-11-44,45,46,
	C. of Wausau	373-06-033		(FLX)				(FLX)								47,48,54,74
		USH 51/STH 29 Corridor	PE													
	State of	Pavement Markings	ROW													Let: 3-14-06
33	Wisconsin	Traffic Construction	CONST	338,124			338,124									Expansion
			TOTAL	338,124			338,124									# 1009-40-75
		373-06-011		(FLX)												
		USH 51/STH 29 Corridor	PE													
	State of	STH 52 Ramp	ROW													Let: 7-11-06
34	Wisconsin	From USH 51 NB	CONST					2,410,411			2,410,411					Expansion
			TOTAL					2,410,411			2,410,411					# 1166-11-79
	C. of Wausau	373-06-035						(FLX)								
		USH 51/STH 29 Corridor	PE													
	State of	Bridge St. Interchange	ROW													Let: 1-9-07
35	Wisconsin	STH 52 to Bissel St.	CONST					10,526,092			10,526,092					Expansion
			TOTAL					10,526,092			10,526,092					# 1166-11-80
	C. of Wausau	373-06-036						(FLX)								
		USH 51/STH 29 Corridor	PE													
	State of	STH 29	ROW													Let: 5-8-07
36	Wisconsin	STH 52 to USH 51	CONST					4,557,439			4,557,439					Expansion
			TOTAL					4,557,439			4,557,439					# 1166-10-72
	C. of Wausau	373-06-037						(FLX)								
		USH 51/STH 29 Corridor	PE													
	State of	Mainline Northbound	ROW													Let: 5-13-08
37	Wisconsin	Mallard Ave. to	CONST									7,055,193			7,055,193	Expansion
		Sherman St.	TOTAL									7,055,193			7,055,193	#1166-09-76
	C. of Wausau	373-06-038										(FLX)				
		USH 51/STH 29 Corridor	PE													
	State of	Utility Adjustments	ROW													Let: 7-25-06
38	Wisconsin		CONST					180,970			180,970					preservation
			TOTAL					180,970			180,970					# 1166-02-42
		373-06-039						(FLX)								
		Reconstruction	PE													
	State of	Bus USH 51 Bridge &	ROW													Let: 5-9-06
39	Wisconsin	Approach at I39	CONST					550,800			550,800					Expansion
			TOTAL					550,800			550,800					# 1166-01-63
	V. of Rothschild	373-06-040						(BR)								

Figure 9-4: 2006-2008 Transportation Improvement Program - Highway Projects

TIP PROJECT LISTING ($)

	PRIMARY JURISDICTION/ PROJECT LOCATION	PROJECT DESCRIPTION	TYPE OF COST	2006 FED	2006 STATE	2006 LOCAL	2006 TOTAL	2007 FED	2007 STATE	2007 LOCAL	2007 TOTAL	2008 FED	2008 STATE	2008 LOCAL	2008 TOTAL	COMMENTS FOS# & Let Date P=preservation E=expansion
40	State of Wisconsin V. of Rothschild	Construction WI River Bridge & Approach at I39 373-06-041	PE ROW CONST TOTAL					4,574,700 4,574,700 (BR)			4,574,700 4,574,700					Let: 8-8-06 Expansion # 1166-01-72
41	State of Wisconsin	USH 51/STH 29 Corridor Construction Service Patrols 373-06-042	PE ROW CONST TOTAL	274,444 274,444 (SAF)			274,444 274,444	274,444 274,444 (SAF)			274,444 274,444	274,444 274,444 (SAF)			274,444 274,444	Let: 11-25-07 preservation # 1166-03-73,74,75
42	State of Wisconsin	District Wide Maintanence Level of Effort 373-06-043	PE ROW CONST TOTAL					316,520 316,520 (FLX)			316,520 316,520					Let: 7-25-06 preservation # 0690-24-85
43	State of Wisconsin C. of Wausau	USH 51/STH 29 Corridor STH 29 Westbound Sherman St., Flyover Bridge 373-06-044	PE ROW CONST TOTAL									9,956,726 9,956,726 (FLX)			9,956,726 9,956,726	Let: 5-13-08 Expansion #1166-09-74
44	State of Wisconsin C. of Wausau	USH 51/STH 29 Corridor Northbound Sherman St. to STH 52 373-06-045	PE ROW CONST TOTAL									4,385,108 4,385,108 (FLX)			4,385,108 4,385,108	Let: 5-13-08 Expansion #1166-11-76
45	State of Wisconsin T. of Stettin	Resurface STH 29 Marathon City - Wausau STH 107- 72nd Ave. 373-06-046	PE ROW CONST TOTAL									4,957,200 4,957,200 (FLX)			4,957,200 4,957,200	Let: 1-08-08 preservation #1053-04-72
46	State of Wisconsin	OCR Rail-Highway Crossing Safety Level of Effort Projects 373-06-047	PE ROW CONST TOTAL	65,000 65,000 (SAF)	35,000 35,000		100,000 100,000									preservation #
47	State of Wisconsin C. of Mosinee	Reconstruct STH 153 Mosinee High Bridge & Approaches - HCB 373-05-007	PE ROW CONST TOTAL					9,879 9,879 (BR)			9,879 9,879	3,263,592 3,263,592 (BR)		53,452 53,452	3,317,044 3,317,044	preservation # 6600-01- 01,21, 41, 71
48	State of Wisconsin C. of Mosinee	Reconstruct STH 153 Mosinee Low Bridge & Approaches 373-05-008	PE ROW CONST TOTAL					9,879 9,879 (BR)			9,879 9,879	1,485,420 1,485,420 (BR)		2,576 2,576	1,487,996 1,487,996	preservation # 6600-01-02, 22, 42, & 72
49	State of Wisconsin T. of Maine	Bridge Reconstruction Coutny Highway U West of 60th Avenue 373-05-009	PE ROW CONST TOTAL					163,200 163,200 (BR)		40,800 40,800	204,000 204,000					preservation # 9481-00-03, 41, 71
50	State of Wisconsin	LED Retrofit, Wausau Traffic signalized Intersections LFA 373-05-013	PE ROW CONST TOTAL	99,900 99,900 (SAF)		13,320 13,320	113,220 113,220									preservation # 6999-10-78 date: 12-25-05
51	State of Wisconsin V. of Rothschild	Reconstruction Morrison Ave. 373-06-048	PE ROW CONST TOTAL	6,300 2,295 128,792 137,387 (SAF)		700 255 213 1,168	7,000 2,550 129,005 138,555									Let: 8-25-05 preservation # 6999-04-11,21,41, 51,81

Figure 9-4: 2006-2008 Transportation Improvement Program - Highway Projects

TIP PROJECT LISTING ($)

	PRIMARY JURISDICTION/ PROJECT LOCATION	PROJECT DESCRIPTION	TYPE OF COST	2006 FED	2006 STATE	2006 LOCAL	2006 TOTAL	2007 FED	2007 STATE	2007 LOCAL	2007 TOTAL	2008 FED	2008 STATE	2008 LOCAL	2008 TOTAL	COMMENTS FOS# & Let Date P=preservation E=expansion
52	State of Wisconsin	USH 51/STH 29 Corridor STH 29 WEST SYSTEM RAMP WA 373-06-050	PE													Let: 2-14-06
			ROW													
			CONST									11,850,350			11,850,350	
			TOTAL									11,850,350			11,850,350	1166-11-75
												(FLX)				Expansion
53	State of Wisconsin	USH 51/STH 29 Corridor STH 29 WEST SYSTEM RAMP WB 373-06-051	PE													Let: 2-14-06
			ROW													
			CONST					5,173,096			5,173,096					
			TOTAL					5,173,096			5,173,096					1166-11-73
								(FLX)								Expansion
54	State of Wisconsin	USH 51/STH 29 Corridor STH 52 to Bissel (Loc Utl) 373-06-052	PE													Let: 2-14-06
			ROW													
			CONST						406,180	45,508	451,688					
			TOTAL						406,180	45,508	451,688					1166-11-82
									(FLX)							Expansion
55	State of Wisconsin C. of Wausau	USH 51/STH 29 Corridor STEWART AVE., 32ND AVENUE - 26TH AVE 373-06-053	PE													Let: 2-14-06
			ROW													
			CONST							5,000	5,000	660,388		660,388	1,320,776	6999-09-03 & 73
			TOTAL							5,000	5,000	660,388		660,388	1,320,776	Expansion
												(FLX)				
56	State of Wisconsin	USH 51/STH 29 Corridor Camp Phillips Road Ross Ave - Northwestern Ave 373-06-054	PE													Let: 2-14-06
			ROW													
			CONST					32,000		8,000	40,000					
			TOTAL					32,000		8,000	40,000					6676-03-03
								(FLX)								Expansion
57	State of Wisconsin	USH 51/STH 29 Corridor Stewart Ave., 26th Ave to 24th Ave. 373-06-055	PE													Let: 2-14-06
			ROW													
			CONST						511,835		511,835					
			TOTAL						511,835		511,835					1166-09-77
									(FLX)							Expansion
58	State of Wisconsin	USH 51/STH 29 Corridor Preliminary Eng Level of Effo 373-06-056	PE													Let: 2-14-06
			ROW													
			CONST	500,000			500,000	500,000			500,000	500,000			500,000	
			TOTAL	500,000			500,000	500,000			500,000	500,000			500,000	
				(FLX)				(FLX)				(FLX)				Expansion
59	Marathon County V. of Weston	Reconstruction CTH X Ross Avenue - Lahr Avenue	PE													
			ROW													
			CONST							1,200,000	1,200,000					Expansion
			TOTAL							1,200,000	1,200,000					
60	Marathon County V. of Weston	Reconstruction CTH X Lahr Avenue - CTH N	PE							110,000	110,000					
			ROW													
			CONST													Expansion
			TOTAL							110,000	110,000					
61	Marathon County V. of Weston	Intersection Reconstruction CTH X (Camp Phillips) and Northweestern Ave. 373-06-057	PE													
			ROW													preservation
			CONST	200,000		300,000	500,000									#
			TOTAL	200,000		300,000	500,000									
				(FLX)												
62	Marathon County T. of Rib Mountain	Construction at Trillium Lane Clover Rd. to Fox Glove 373-06-058	PE													
			ROW			200,000	200,000									Expansion
			CONST										250,000	500,000	750,000	#
			TOTAL			200,000	200,000						250,000	500,000	750,000	
63	Marathon County V. of Weston	Reconstruction CTH X Howland Avenue to Weston Avenue 373-04-016	PE													
			ROW													Expansion
			CONST			1,800,000	1,800,000									#
			TOTAL			1,800,000	1,800,000									
64	Marathon County T. of Wausau	Right-of-Way Purchase CTH X CTH N to STH 52	PE													
			ROW			300,000	300,000			300,000	300,000					preservation
			CONST													
			TOTAL			300,000	300,000			300,000	300,000					
65	Marathon County C. of Wausau	Right-of-Way Purchase 28th Ave Project	PE													
			ROW			200,000	200,000			200,000	200,000			200,000	200,000	Expansion
			CONST													
			TOTAL			200,000	200,000			200,000	200,000			200,000	200,000	

Figure 9-4: 2006-2008 Transportation Improvement Program - Highway Projects

TIP PROJECT LISTING ($)

	PRIMARY JURISDICTION/ PROJECT LOCATION	PROJECT DESCRIPTION	TYPE OF COST	2006 FED	2006 STATE	2006 LOCAL	2006 TOTAL	2007 FED	2007 STATE	2007 LOCAL	2007 TOTAL	2008 FED	2008 STATE	2008 LOCAL	2008 TOTAL	COMMENTS FOS# & Let Date P=preservation E=expansion
66	Town of Rib Mountain	Reconstruction Rib Mountain Dr. (CTH N) Cloverland to Oriole Ln. 373-06-059	PE ROW CONST TOTAL					183,994 183,994 (URB)		316,006 316,006	500,000 500,000					2005 STpreservation-Urban Allocation Let: 2-14-06 # 6999-09-04 Expansion
67	City of Wausau	Reconstruction Sturgeon Eddy Rd. Grand Ave. to Kent St.	PE ROW CONST TOTAL											800,000 800,000	800,000 800,000	preservation
68	City of Wausau	Reconstruction Washington Street Pedestrian Mall	PE ROW CONST TOTAL							500,000 500,000	500,000 500,000					preservation
69	City of Wausau	Reconstruction McClellan St. - 1st St. to 6th St.	PE ROW CONST TOTAL											275,000 275,000	275,000 275,000	preservation
70	City of Wausau	Reconstruction Brown St. 13th St. to 18th St.	PE ROW CONST TOTAL											100,000 100,000	100,000 100,000	preservation
71	City of Wausau	Reconstruction 3rd Street Grant St. to Bridge St.	PE ROW CONST TOTAL			910,000 910,000	910,000 910,000									preservation
72	City of Wausau	Reconstruction Jefferson St. - 5th St. to 6th St.	PE ROW CONST TOTAL			470,000 470,000	470,000 470,000									preservation
73	City of Wausau	Reconstruction Grant St. 1st St. to 3rd St.	PE ROW CONST TOTAL											250,000 250,000	250,000 250,000	preservation
74	City of Wausau	Reconstruction Sherman Street 17th Ave. - 22nd Ave 373-03-035	PE ROW CONST TOTAL					165,000 165,000 (FLX)			165,000 165,000	1,230,378 1,230,378 (FLX)		50,000 50,000	1,280,378 1,280,378	Let: 7-25-07 Expansion #6999-08-20
75	City of Wausau	Intersection Improvement 72nd Ave. and Stewart Ave. 373-06-060	PE ROW CONST TOTAL							200,000 200,000	200,000 200,000					preservation
76	City of Wausau	Reconstruction Stewart Ave. 26th Ave - 30th Ave 373-06-061	PE ROW CONST TOTAL									660,388 660,388 (URB)			660,388 660,388	2005 STP-Urban Allocation Expansion
77	City of Wausau	Reconstruction Stewart Ave. 32nd Ave - 48th Ave 373-03-038	PE ROW CONST TOTAL	160,000 160,000 (URB)		7,280 7,280	167,280 167,280	2,054,534 2,054,534 (URB)		348,466 348,466	2,403,000 2,403,000					Let: 3-13-07 Expansion #6999-08-21,81,86
78	City of Wausau	Reconstruction Campus Drive 4th Ave to Burek Ave	PE ROW CONST TOTAL											290,000 290,000	290,000 290,000	preservation

Figure 9-4: 2006-2008 Transportation Improvement Program - Highway Projects

TIP PROJECT LISTING ($)

	PRIMARY JURISDICTION/ PROJECT LOCATION	PROJECT DESCRIPTION	TYPE OF COST	2006 FED	2006 STATE	2006 LOCAL	2006 TOTAL	2007 FED	2007 STATE	2007 LOCAL	2007 TOTAL	2008 FED	2008 STATE	2008 LOCAL	2008 TOTAL	COMMENTS FOS# & Let Date P=preservation E=expansion
79	City of Wausau	Traffic Signal Study Bridge St. - ITS Grant 373-04-033	PE					30,000		30,000	60,000					preservation #
			ROW													
			CONST													
			TOTAL					30,000 (SAF)		30,000	60,000					
80	City of Wausau	Reconstruction STH 52 and CTH W Intersection	PE													preservation #
			ROW													
			CONST							800,000	800,000					
			TOTAL							800,000	800,000					
81	City of Wausau	Overhead Sign 5th Street North of Washington St. 373-06-062	PE													P 6999-05-71
			ROW													
			CONST	22,500		2,500	25,000									
			TOTAL	22,500 (SAF)		2,500	25,000									
82	City of Wausau	Reconstruction Elm Street 3rd Ave to 17th Ave	PE													preservation
			ROW													
			CONST							600,000	600,000					
			TOTAL							600,000	600,000					
83	City of Wausau	Reconstruction 5th Street Washington to Forest St.	PE													preservation
			ROW													
			CONST											200,000	200,000	
			TOTAL											200,000	200,000	
84	Village of Weston	Reconstruction Weston Ave. Birch St. to Alderson St. 373-04-015	PE	450,000			450,000									STP-Urban Allocation Expansion #6999-10-13,23,83
			ROW	300,000			300,000									
			CONST				0					57,055		2,932,945	2,990,000	
			TOTAL	300,900 (URB)			300,900					57,055 (URB)		2,932,945	2,990,000	
85	Village of Weston	Reconstruction Weston Ave. Camp Phillips Rd. to Von Kanel	PE													preservation
			ROW													
			CONST							1,159,000	1,159,000					
			TOTAL							1,159,000	1,159,000					
86	Village of Weston	Reconstruction Weston Ave. Von Kanel to Ryan Rd.	PE													preservation
			ROW													
			CONST							264,000	264,000					
			TOTAL							264,000	264,000					
87	Village of Weston	Bus. U.S. Hwy 51 Street Beautification 373-05-003	PE							60,500						preservation #
			ROW							100,000						
			CONST					175,200		118,800	294,000					
			TOTAL					175,200 (FLX)		279,300	454,500					
88	Village of Weston	Construction of Ross Avenue Bridge Pedestrian Walkway 373-05-004	PE													Expansion #
			ROW													
			CONST					140,000		140,000	280,000					
			TOTAL					140,000 (FLX)		140,000	280,000					
89	Village of Weston	Construction of Ross Avenue and Sandy Lane Roundabout Intersection	PE													Expansion #
			ROW													
			CONST			450,000	450,000									
			TOTAL			450,000	450,000									
90	Village of Rothschild	Construction Military Rd. - Bus 51 - Pflieger St.	PE			42,000	42,000			17,000	17,000					Expansion
			ROW			300,000	300,000									
			CONST							190,000	190,000					
			TOTAL			342,000	342,000			207,000	207,000					
91	Village of Rothschild	Construction at CTH XX and Imperial Dr.	PE							12,000	12,000					preservation #
			ROW							20,000	20,000					
			CONST							150,000	150,000					
			TOTAL							182,000	182,000					
92	Village of Rothschild	Pavement Replacement CTH XX Bus USH 51 to Industrial Park Ave	PE											20,000	20,000	preservation #
			ROW													
			CONST											120,000	120,000	
			TOTAL											140,000	140,000	

Figure 9-4: 2006-2008 Transportation Improvement Program - Highway Projects

TIP PROJECT LISTING ($)

	PRIMARY JURISDICTION/ PROJECT LOCATION	PROJECT DESCRIPTION	TYPE OF COST	2006 FED	2006 STATE	2006 LOCAL	2006 TOTAL	2007 FED	2007 STATE	2007 LOCAL	2007 TOTAL	2008 FED	2008 STATE	2008 LOCAL	2008 TOTAL	COMMENTS FOS# & Let Date P=preservation E=expansion
		Reconstruction	PE							2,000	2,000					
	City of	Ross Avenue -	ROW													
93	Schofield	Bus. U.S. Hwy 51 to	CONST							224,000	224,000					preservation
		Metro Drive	TOTAL							226,000	226,000					
		Reconstruction	PE							20,000	20,000					
	City of	Alderson St.	ROW													
94	Schofield	Ross Avenue to	CONST							208,000	208,000					preservation
		Mallard	TOTAL							228,000	228,000					
		Reconstruction	PE							40,000	40,000					
	City of	Grand Ave.	ROW													
95	Schofield	Bus. U.S. Hwy 51 to	CONST							440,000	440,000					preservation
		Kort St.	TOTAL							480,000	480,000					
			PE			71,000	71,000									
	City of	Reconstruction	ROW													
96	Mosinee	Old Highway 51	CONST			585,000	585,000									preservation
		E. Hwy 153 to Commercial S	TOTAL			656,000	656,000									
			PE			55,000	55,000									
	Village of	Construction of	ROW													
97	Kronenwetter	Kowalski Rd.	CONST			250,000	250,000									Expansion
		East Termini to Section Line	TOTAL			305,000	305,000									
			PE							100,000	100,000					
	Village of	Construction of	ROW							60,000	60,000					
98	Kronenwetter	Kowalski Rd.	CONST											600,000	600,000	Expansion
		Section Line to Pleasant Rd.	TOTAL							160,000	160,000			600,000	600,000	
			PE							90,000	90,000					
	Village of	Reconstruction of	ROW							30,000	30,000					
99	Kronenwetter	Terrebonnee Rd & CTH XX	CONST											200,000	200,000	preservation
		Intersection	TOTAL							120,000	120,000			200,000	200,000	
			PE			200,000	200,000			75,000	75,000					
	Village of	Reconstruction of	ROW													
100	Kronenwetter	Kowalski Rd. & Old Hwy 51	CONST											800,000	800,000	preservation
		Intersection	TOTAL			200,000	200,000			75,000	75,000			800,000	800,000	
			PE			437,500	437,500									
	Village of	Consruction of	ROW			60,000	60,000									
101	Kronenwetter	Kronenwetter Dr.	CONST			1,750,000	1,750,000									Expansion
		Maple Ridge to Village Line	TOTAL			2,247,500	2,247,500									
		Highway Totals		$ 78,889,837	$ 153,024	$ 10,096,455	$ 89,453,592	$ 34,852,601	$ 773,419	$ 7,765,572	$ 43,251,592	$ 36,943,878	$ 290,560	$ 7,193,973	$ 44,428,411	

***Travel Demand Management (TDM)* –** TDM strategies seek to reduce the demand for roadway capacity by increasing transit use, increasing pedestrian and bicycle travel, reducing peak hour travel, and encourage shorter and fewer vehicle trips. TDM target the factors that affect how and when individuals choose to travel, such as price, convenience and awareness of alternatives to driving alone.

The following TDM strategies are recommended.

Employer programs – Decisions made by employers (work location, work shifts, etc.) significantly impact the travel behavior of commuters.

The MPO should promote voluntary employer programs that encourage the development and implementation of TDM plans, which identify strategies and policies that encourage alternatives to drive alone commuting.

Parking policies – Parking policies and decisions regarding parking supply and pricing have a substantial impact on travel behavior and mode choice in a particular location. Free or subsidized parking is a significant cost saving for those who drive. However, the cost of providing parking facilities, particularly parking ramps, is quite expensive. When these costs are not paid by users, they are paid by consumers through higher priced products and services, or in the case of public parking facilities, through higher taxes. Because subsidized parking reduces the cost to drivers, there is less incentive to walk, bike or use transit.

The MPO should conduct a review of area parking policies, emphasizing how current policies and pricing are impacting travel choices and behaviors.

Public Education and Promotion – One of the major barriers to alternative mode usage is a lack of knowledge of available options. Providing people with information, such as transit schedules, bike maps, and ride share programs, helps to overcome this barrier. Other efforts, like bike to work week, can help foster a community of participants. Public education compliments every other TDM strategy by creating a climate of public acceptance and awareness of alternative transportation modes.

The MPO should develop educational and promotional materials that provide valuable information on transportation alternatives to driving alone. These materials (e.g. brochures, maps, websites) may include bike route and bike facilities maps, transit maps and schedules, car and van-pooling options, etc. Such materials should be targeted to those most able to take advantage of transportation alternatives (e.g. downtown workers, children and young adults, seniors, etc.)

One of the best ways to encourage alternatives to driving is to have the systems and facilities in place. Transit, bicycle and pedestrian recommendations are identified in their own sections in this Chapter.

2. ***Transportation System Management (TSM)*** **–** TSM is the process of modifying or optimizing the existing transportation system through strategies that increase the carrying capacity of existing facilities.

   The MPO should consider TSM strategies to address capacity deficiencies, safety issues and traffic flow problems, prior to pursuing costly construction/expansion projects. Examples of TSM strategies that should be considered prior to roadway expansion include:

   Traffic Signal Synchronization **–** This process involves coordinating a group of signals to provide efficient vehicle progression along a corridor.

   Intersection Improvements **–** Strategies that include changes in traffic control, signal phasing, pedestrian crossings, safety improvements, and flatwork that adds left and right turn lanes and other traffic treatments.

   Geometric Improvements **–** These spot roadway and lane improvements target specific bottlenecks along a corridor.

   Access Management **–** Programs that manage a proliferation of poorly located and closely spaced driveways, intersections, and traffic signals, which can severely impact a highway's ability to move traffic and provide convenient access. Access levels are defined based on the function of the road. Access management will protect safety, capacity, and traffic flow on the transportation network while providing access to adjacent property as appropriate and necessary.

   Access management strategies should be considered as part of minor and principal arterial reconstruction projects. By combining and controlling access points, constructing raised medians and channeling left turns to controlled intersection can enhance traffic flow, increase functional capacity, and improve safety, without adding additional traffic lanes or requiring substantial increases in right of way. Access management strategies are discussed in greater detail in Chapter 7.

   Communities within the MPA should consider adopting access management ordinances. Additional information on access management and examples of access management ordinances can be found in the *Access Management Handbook* published by Center for Transportation Research and Education (CTRE) at Iowa State University, which can be found at: http://www.ctre.iastate.edu/Research/access/amhandbook/index.htm.

   Intelligent Transportation System **–** ITS represents a range of strategies using the latest advances in information technology and electronics as applied to transportation systems. ITS uses advanced computing, information systems, and communications technology and applies them to the control and management of traffic and infrastructure. The benefits of ITS include reduced congestion, fewer transportation-related deaths and injuries, and reduced energy consumption and pollution.

Roadway ITS strategies to consider include:

- *Incident Management:* hardware and software that alleviates the impacts of incidents (traffic accidents) on travel using quick detection and response techniques so that the vehicles involved can be moved from the street or intersection.
- *Emergency Response:* systems using global positioning system (GPS) information that allows accidents and incidents to be located and facilitated quickly to minimize travel delay.
- *Regional Multimodal Traveler Information:* direct communication that is provided to travelers over the Internet, at kiosks, on message signs, or via radio and television.
- *Changeable Message Signs:* a system of interconnected signs that can be updated as information is received in real time to inform drivers of congestion trouble spots in the system.

3. ***Construction/Expansion (CE) –*** Providing more capacity supply by building additional traffic lanes and/or new roads or freeway interchanges is a direct and effective way to address capacity deficiencies. Constructing new facilities is also quite costly, particularly when land purchases are necessary to attain the necessary right-of-way. The following issues should be considered as part of any major construction/expansion project decision-making process.

- Determine if the capacity deficiency can be addressed or improved by implementing TDM and/or TSM strategies.
- Determine if the project benefits will outweigh the costs. It may be determined that the cost of a project may not be worth the benefits. Costs can be financial costs or social costs. The travel time savings or improved safety benefits of a project may not surpass the cost of building the facility. Or, the community or neighborhood may feel that the benefits of reducing delays or congestion may not be worth the negative impacts of more and faster moving traffic.

Recommended Construction/Expansion projects:

Short-term recommended construction/expansion projects:

Short-term projects are defined as projects expected to be completed within the next five years. These projects include those construction/expansion projects that are identified in the 2006-2008 TIP and are listed in Table 9-4. The following short-term project will continue beyond 2008, but will be completed by 2012.

1. **I 39/USH 51/STH 29 Corridor Majors Project:** USH 51 is the primary north-south corridor serving interstate travel through central Wisconsin. A portion of USH 51 also carries intrastate traffic for STH 29 and serves as a local commuter route for the Wausau metropolitan area. The combination of

interstate, intrastate and local traffic on this roadway creates heavy congestion that is expected to increase in the future.

WisDOT is reconstructing seven miles of USH 51/STH 29, between Foxglove Road and Bridge Street in Marathon County. The freeway will be expanded from the current four-lane divided highway to a six-lane divided highway between the STH 29 east and STH 29 west interchanges. Auxiliary lanes will also be added between STH 29 east and Marathon County N.

The project represents an estimated $249 million investment in central Wisconsin's transportation system. USH 51 and STH 29 are on the National Highway System and are key routes in Wisconsin's Corridors 2020 program.

The USH 51/STH 29 Majors project currently being constructed is not scheduled for completion until 2011. Completion of this project should be the top priority of the MPO.

The 2035 travel demand forecasts indicated that the section of USH 51 between the Sherman St interchange and STH 52 interchange as being deficient in 2035. The existing plus committed network modeled had the capacity of this section freeway not changing from the existing configuration, whereas the link north of the STH 52 interchange and the link south of the Sherman street interchange increased.

Mid to long-term Recommended Construction/Expansion projects:

The preliminary alternatives analysis discussed in Chapter 7 indicated the following expansion projects should move forward in the project development process.

2. **Thomas St. Corridor & Bridge (River Drive to 17th Ave.):** The Thomas Street Corridor between 17th Avenue and River Drive has been identified with existing and future capacity deficiencies. Upon completion of the USH 51/STH 29 Corridor Project, Thomas Street looks like the next highest priority, in terms of capacity deficiency. This corridor was also identified as having the highest number of accidents of the capacity deficient corridors evaluated. Issues that will need to be addressed include:

   - A study looking at current traffic flows, turning movements, access issues, and traffic controls has been conducted. A traffic simulation model was developed to help determine operational improvements to improve existing conditions as well as determine what improvements are necessary to accommodate forecasted traffic volumes. Three design alternatives are being considered.

   - The issue of cost may be an important factor in the viability of the Thomas Street project. Rough cost estimates developed as part of the alternatives analysis did not consider the cost associated with the acquisition Right-of-way. In addition, the Thomas Street Bridge is currently being redecked. It may not make sense to make another major reinvestment to the bridge

until the bridge reaches the end of its lifespan. An alternative may be to complete the road improvements and not expand the bridge until later.

Because WisDOT has maintenance and operating responsibility for the Thomas Street Bridge, the funding for a future bridge replacement is somewhat complicated. WisDOT policy is that its maintenance responsibility permits only payment for replacement in kind for these bridges. This means on current alignment, with current number of lanes, with present design standards. After replacement, the jurisdiction and responsibility of the new bridge is transferred to the local community. This plan envisions the need to replace the Thomas Street Bridge in approximately 20-25 years. At that time, WisDOT and the City of Wausau will have to agree on the costs of the replacement project, number of lanes on the replacement bridge, and future ownership of the bridge. Since two lane bridges can carry more traffic than two lane city streets (due to the absence of side pressure) it would make sense for the City to determine the time and design of a capacity expanded facility on Thomas Street between 17th Ave and the Wisconsin River as a first step in addressing this capacity need. After making those decisions, the City and WisDOT will need to address the bridge issue.

3. **Bus USH 51 (Military Road to Eagles Nest Boulevard):** Expansion of Bus USH 51/Grand Avenue between Military Road and Eagles Nest Boulevard would address a capacity deficiency forecast along this road segment. This would extend the road's current four-lane section to Cedar Creek Mall area. Cedar Creek will likely grow as a commercial and retail center attracting additional traffic. Not only would widening this section of Bus USH 51 address a capacity problem, it may attract some trips off of the freeway and competing corridors. There were only three crashes reported along this corridor between 1999 and 2004. The project is relatively inexpensive given it would not require bridge construction and any right-of-way acquisition appears minimal. The area adjacent to the corridor does not indicate any future development according to the land use plan.

4. **STH 153 Corridor & Bridges (4th Street to STH 153 East):** The STH 153 Corridor and Wisconsin River Low and High Bridges are identified as having an existing and forecast capacity deficiency. Unlike Thomas Street, if this project were constructed it would not attract additional traffic from competing routes. Thirty-two vehicle crashes were reported between 1999 and 2004. There does not appear to be any significant right-of-way issues or anticipated changes in land use along the corridor. Issues that will need to be addressed include:

   - The low and high bridges are scheduled for redecking with no capacity expansion in 2008. The redecked bridge will have a life of 20-25 years. Prior to a decision on capacity expansion on the two bridges, the City of Mosinee will need to work with WisDOT to decide on a capacity expansion option between 4th Street and the low bridge. The two lane

bridges will be able to carry far more traffic than the two lanes through the downtown area of Mosinee (due to the absence of any side pressure on the bridges).

- A four-lane STH 153 expansion would end at 4th Street in Mosinee where it would connect to a two-lane CTH B/Main Street and two-lane STH 153/4th Street. The traffic flow and operations issues at this intersection may need to be addressed.
- The first step for this project is for the City of Mosinee, with technical assistance from WisDOT, to conduct a feasibility study for the STH 153 corridor in the downtown area to look at different alternatives (four-lanes, one-way pairs, etc.) and potential constraints for resolving the future capacity problems.

5. **South Metro Freeway Access and Arterial Study:** The traffic forecasts generated from the Travel Demand Model identified the I 39 ramps at Bus USH 51 as deficient. Empirical evidence suggests that this interchange is already a problem, in large part due to the tight turning radii of the ramps, which cause traffic to slow down and create congestion and safety concerns on to the freeway lanes. The Travel Demand Model is not a traffic operations model that can replicate, or simulate specific design characteristics affecting traffic operations. It can forecast the amount of travel demand the interchange is likely to receive and provide a very general estimate of the roadway's capacity to handle that amount of traffic.

   The travel demand model project that the SB I 39 off-ramp to Bus USH 51 will become deficient around the year 2030 and the NB I 39 on ramp from Bus USH 51 will become deficient around the year 2019 and severely deficient around 2025. However, this evaluation is based on daily capacity assumptions of a typical interchange ramp. A more detailed analysis of this interchange's design and function is necessary to fully understand how the interchange design and use impact its function.

   In addition to this particular intersection, a range of questions have arisen regarding access to I 39 in Rothschild and Kronenwetter and the connecting arterials. Unfortunately, the capacity deficiencies indicated from the travel demand model are less straight forward than in the previously identified projects.

   The question that this study is recommended to answer is how best to address identified congestion and safety issues and forecasted capacity deficiencies on the I 39 northbound Bus USH 51 on-ramp and the southbound Bus USH 51 off-ramp.

   Several alternatives were considered that are discussed in greater detail in Chapter 7. These alternatives included:

   - Improve capacity at existing I 39/Bus USH 51interchange.

- Construct new I 39 interchange at Kowalski Road with existing I 39/Bus USH 51 interchange.
- Construct new I 39 interchange at Kowalski Road and eliminate existing I 39/Bus USH 51 interchange.
- Construct a new Pine Road Interchange and eliminate existing I 39/Bus USH 51 interchange.

In addition to the I 39 interchange location issues, there were several alternatives considered for connecting arterial improvements:

- The original southeast arterial outlined in the 2000 Local Arterial Plan that called for widening CTH X/Camp Philips Road between Weston Avenue and Howland Avenue to four-lanes and constructing a new four-lane CTH XX Extension between Camp Philips Road and Bus USH 51.
- Widen Kowalski Road to four-lanes from Old Hwy 51 to CTH X and widen Tower Road to four-lanes from Kowalski Road to CTH XX and widen Old Hwy 51/Bus USH 51 to four-lanes from Kowalski Road to existing interchange.
- Widen and extend Pine Road to four-lanes between Old Hwy 51 and CTH X, widen CTH X and CTH XX to four-lanes between Howland Avenue and CTH XX, and widen Bus USH 51 to four-lanes between Pine Road and Existing I 39/Bus USH 51 interchange.
- Widen Clover Road between CTH N and Trillium Lane to four-lanes and Trillium Lane to a four-lane arterial. Construct a four-lane arterial between Trillium Lane and Military Road with a new overpass of I 39 and Wisconsin River bridge. Widen Military Road to four-lanes to Bus USH 51.

The South Metro Freeway Access and Arterial Study should address the following issues:

- Verify and document all work done by WisDOT in their plans to address traffic concerns in the Interchange 185 Area. (30% Completion Plans).
- Obtain detailed traffic data on the road network both local and State/Federal, as well as, a detailed land use inventory with future land use assumptions to 2035.
- Use the traffic forecast model to identify deficient areas and potential areas of congestion relief.
- Identify and analyze any and all options utilizing the local road network to address the areas traffic concerns that will not impact the existing Interstate system. This should include the Southern Loop concept and CTH X and XX connections to the east.

- Analyze the creation of a new interchange at I 39 and Kowalski Road (and associated local road connections) without any improvements at the 185 Interchange.
- Analyze the creation of a new interchange at I 39 and Pine Road (and associated local road connections) removing the access ramps at the 185 Interchange.
- Analyze the creation of a new interchange at I 39 and Kowalski Road (and associated local road connections) removing the access ramps at the 185 Interchange.
- Each of the analyses will need to address the rights-of-way implications with costs, environmental impacts, land use impacts, Maple Ridge Interchange impacts, local road network impacts and other facility impacts.
- An Interstate Access Justification Report will need to be produced if the information gathered warrants it. The Federal Highway Administration has established the following policy and criteria for adding additional access to the interstate system[1].

  Policy: It is in the national interest to maintain the Interstate System to provide the highest level of service in terms of safety and mobility. Adequate control of access is critical to providing such service. Therefore, new or revised access points to the existing Interstate System should meet the following requirements:

  (1) The existing interchanges and/or local roads and streets in the corridor can neither provide the necessary access nor be improved to satisfactorily accommodate the design-year traffic demands while at the same time providing the access intended by the proposal.

  (2) All reasonable alternatives for design options, location and transportation system management type improvements (such as ramp metering, mass transit, and HOV facilities) have been assessed and provided for if currently justified, or provisions are included for accommodating such facilities if a future need is identified.

  (3) The proposed access point does not have a significant adverse impact on the safety and operation of the Interstate facility based on an analysis of current and future traffic. The operational analysis for existing conditions shall, particularly in

[1] Federal Highway Administration; July 17, 1998; http://www.fhwa.dot.gov/legsregs/directives/fapg/access.htm

urbanized areas, include an analysis of sections of Interstate to and including at least the first adjacent existing or proposed interchange on either side. Crossroads and other roads and streets shall be included in the analysis to the extent necessary to assure their ability to collect and distribute traffic to and from the interchange with new or revised access points.

(4) The proposed access connects to a public road only and will provide for all traffic movements. Less than "full interchanges" for special purpose access for transit vehicles, for HOV's, or into park and ride lots may be considered on a case-by- case basis. The proposed access will be designed to meet or exceed current standards for Federal- aid projects on the Interstate System.

(5) The proposal considers and is consistent with local and regional land use and transportation plans. Prior to final approval, all requests for new or revised access must be consistent with the metropolitan and/or statewide transportation plan, as appropriate, the applicable provisions of 23 CFR part 450 and the transportation conformity requirements of 40 CFR parts 51 and 93.

(6) In areas where the potential exists for future multiple interchange additions, all requests for new or revised access are supported by a comprehensive Interstate network study with recommendations that address all proposed and desired access within the context of a long-term plan.

(7) The request for a new or revised access generated by new or expanded development demonstrates appropriate coordination between the development and related or otherwise required transportation system improvements.

(8) The request for new or revised access contains information relative to the planning requirements and the status of the environmental processing of the proposal.

6. **Northern River Crossing Study:** The Northern River Crossing was called for in the 2000 Local Arterial Plan and 1996 LRTP. The rationale for an additional bridge was to maintain reasonable traffic conditions on existing bridges. Three potential locations have been identified: Evergreen Road, Randolph Street, and Wausau Avenue. However, the farther away the bridge is from the central Wausau area, the fewer trips it would divert from the existing bridges.

   The travel demand model did not forecast capacity deficiencies for either the Bridge Street Bridge or the STH 52/Scott Street Bridge. The model also did

not show that a northern crossing located along the Evergreen Road / Decator Road alignment would resolve the identified regional capacity deficiencies. However, as noted earlier, there are other compelling reasons to build additional system capacity that may not be directly related to an existing or forecast deficiency.

The proposed study would further evaluate the need for an additional river crossing in the northern metro area. The study would look at existing and future traffic levels at and near Wisconsin River bridges in the City of Wausau and address whether these bridges can adequately handle future traffic levels or whether an additional bridge is warranted.

Rough cost estimates have been calculated to provide an indication of the amount of resources that may be required to implement these recommended road expansion projects (see Table 9-5). The I 39/USH 51/STH 29 corridor project has committed funding available to complete this project. The remaining projects do not have committed funding and will require additional planning and engineering analyses to determine final design and more complete cost estimates.

Table 9-5: Recommended Road Expansion Projects

Recommended Road Expansion Projects	Period	Cost Estimate
I 39/USH 51/STH 29 Corridor Majors Project	Short-term	183,900,000*
Thomas St. Corridor & Bridge (River Drive to 17th Ave.)	Mid to long-term	$11,800,000
Bus USH 51 (Military Road to Eagles Nest Boulevard)	Mid to long-term	$12,000,000
STH 153 Corridor & Bridges (4th Street to STH 153 East)	Mid to long-term	$5,000,000
South Metro Freeway Access and Arterial Study	Short-term	TBD
Northern River Crossing Study	Short-term	TBD
Total		$212,700,000

* Committed funding based on "cost to complete" from August 2005 report to Transportation. Projects Commission.
Source: WisDOT and URS Corp.

figure 9-2

Roadway Construction Expansion Improvements

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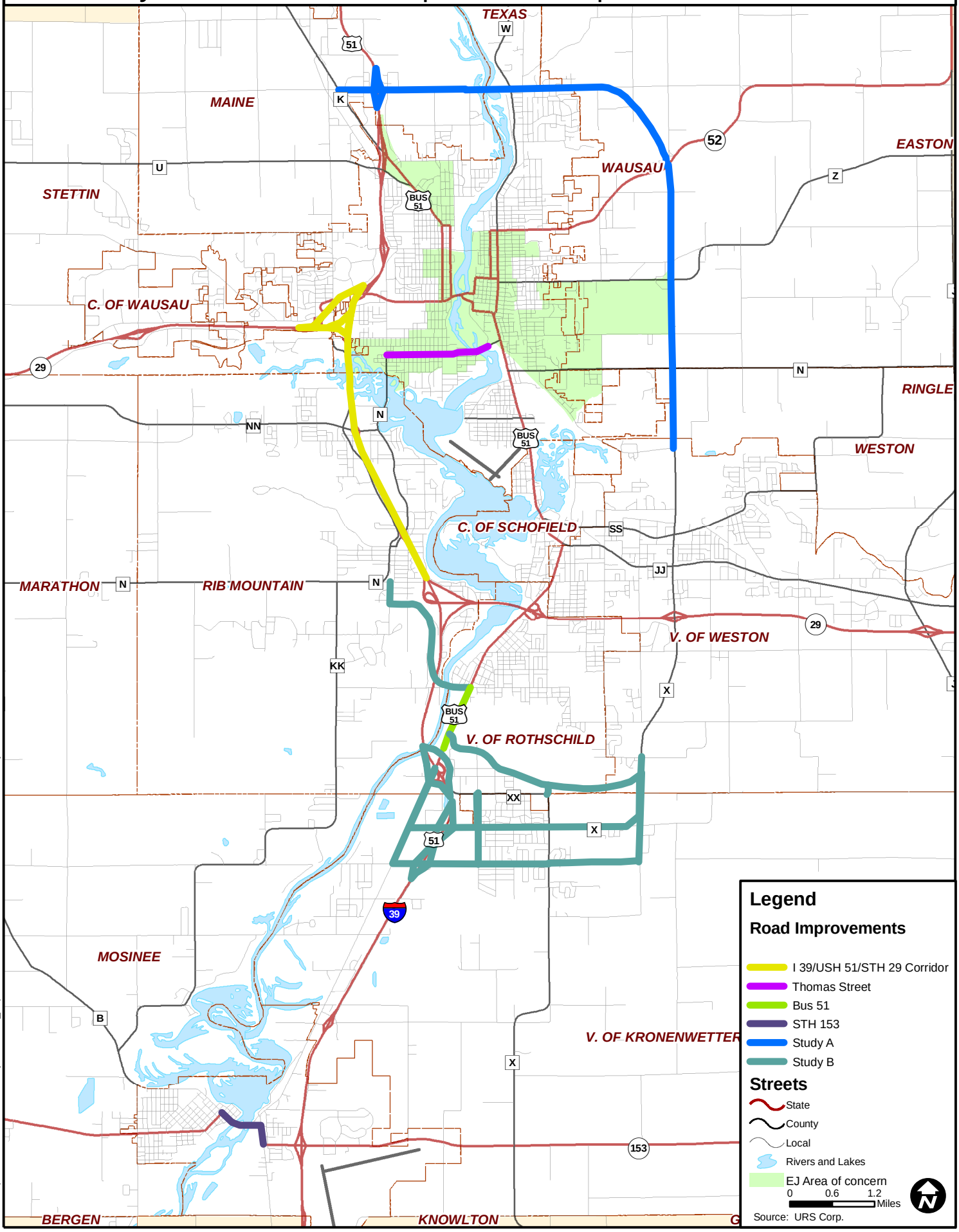

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TRANSIT

Public Transit is vitally important component to the Wausau MPA's transportation system. WATS provides a valuable, cost-effective and convenient service to its customers. However, WATS is currently a service of the City of Wausau and does not fully serve the metropolitan areas. While this is changing with the addition of service to Weston, there are still several key destinations and residential areas of the MPA without access to transit.

Short-term Transit Improvements:

Short-term transit improvements that have received committed funding through the TIP process are listed in Table 9-5.

The following recommendations have been put forward through the five year Transit Development Plan (TDP) recently completed and adopted:

1. Provide service to Cedar Creek and Rib Mountain, in addition to services already provided in Wausau, Rothschild, Schofield, and Weston.
2. Provide 30 minute weekday daytime headways
3. Offer year-round Saturday service with 45 minute Saturday headways
4. Provide 45 minute evening headways six days a week
5. Create a U-Pass program
6. Develop a new system identity program

The plan put forth in the TDP is ambitious; particularly given the financial constraints WATS operate under.

Long-term Transit Improvements:

As part of the travel demand forecasting process, population and employment forecasts prepared to determine future demand for transportation. Future housing and employment locations were allocated based on current land use plans.

1. ***Housing Growth –*** A review of these growth assumptions reveals that most new growth is expected to occur on the urban fringe in the southeast areas of Rothschild and Kronenwetter, and both the west and east side of Wausau. Figure 9-3 highlights these growth areas, which may warrant future transit access as development occurs. As previously discussed, densities and development design will be important factors determining if these areas can effectively be served by transit. The areas are shown in Figure 9-3.
2. ***Employment and Retail Growth –*** Concentrated growth in employment and retail activities should be accessible by transit. The 2005 TDP recommended transit service to the Rib Mountain Drive commercial corridor and the Cedar

Creek Mall area (see Figure 9-3). Transit service to these areas, not only increases transit's customer base, it also provides better service to existing riders, many of whom are transit dependent. These two key employment areas also tend to employ lower wage workers. Providing transit to these areas would also open up the labor market to more low income people who may not have access to cars.

New and growing commercial areas need to consider transit access as part of the development process. Transit is often an afterthought in the development process resulting in commercial and retail areas that are difficult to serve with transit, further discouraging its use.

3. ***Increase Service hours and days –*** Increasing transit service hours and days as well as trip frequency is desirable for users of the system. Increased service would increase convenience and likely attract additional ridership. However, the ridership increases would have to be significant enough to generate enough revenue to cover the additional costs associated with service increases. Prior to increasing service hours, an evaluation of the amount of additional riders needed to cover the cost of additional service should be determined and the likelihood of reaching this ridership level evaluated.

Table 9-6: 2006-2008 Transportation Improvement Program - Transit Projects

TIP PROJECT LISTING ($)

	PRIMARY JURISDICTION/ PROJECT SPONSOR	PROJECT DESCRIPTION	TYPE OF COST	2006 FED	2006 STATE	2006 LOCAL	2006 TOTAL	2007 FED	2007 STATE	2007 LOCAL	2007 TOTAL	2008 FED	2008 STATE	2008 LOCAL	2008 TOTAL	Federal and State Funding Program Number
	TRANSIT															
A	City of Wausau/ Wausau Area Transit System	Operating Assistance 373-06-001	PE													5307
			ROW													85.20
			CONST													
			TOTAL	1,049,735	1,042,102	1,038,044	3,129,881	1,091,724	1,082,540	1,084,505	3,258,769	1,135,393	1,124,569	1,132,961	3,392,923	85.21
B	City of Wausau/ Wausau Area Transit System	Capital Maintenance - Wheelchair Lifts 373-06-063	PE													5309
			ROW													&
			CONST													
			TOTAL	28,800		7,200	36,000									5307
C	City of Wausau/ Wausau Area Transit System	Non - Revenue Vehicles - Service Truck 373-06-064	PE													5309
			ROW													&
			CONST													
			TOTAL	28,000		7,000	35,000									5307
D	City of Wausau/ Wausau Area Transit System	Office Furniture 373-06-065	PE													5309
			ROW													&
			CONST													
			TOTAL	14,153		3,538	17,691									5307
E	City of Wausau/ Wausau Area Transit System	Operations Equipment - Radio System 373-06-066	PE													5309
			ROW													&
			CONST													
			TOTAL					30,800		7,700	38,500					5307
F	City of Wausau/ Wausau Area Transit System	Maintenance Buildings & Grounds - Asphalt Paving 373-06-067	PE													5309
			ROW													&
			CONST													
			TOTAL									72,000		18,000	90,000	5307
G	City of Wausau/ Wausau Area Transit System	Revenue Vehicles - Busses 373-06-068	PE													5309
			ROW													&
			CONST													
			TOTAL									2,413,366		603,341	3,016,707	5307
H	Opportunity, Inc.	Specialized Transportation 373-06-069	PE													5310
			ROW													
			CONST													
			TOTAL	208,000		52,000	260,000	149,600		37,400	187,000	273,000		69,000	342,000	
I	North Central Health Care	Specialized Transportation - 373-06-070	PE													5310
			ROW													
			CONST													
			TOTAL	126,400		31,600	158,000	149,600		37,400	187,000	243,200		60,800	304,000	
J	North Central Health Care	Specialized Transportation - 373-06-071	PE													85.21
			ROW													
			CONST													
			TOTAL		185,565	37,113	222,678		185,565	37,113	222,678		185,565	37,113	222,678	
		Transit Totals		$ 1,455,088	$ 1,227,667	$ 1,176,495	$ 3,859,250	$ 1,421,724	$ 1,268,105	$ 1,204,118	$ 3,893,947	$ 4,136,959	$ 1,310,134	$ 1,921,215	$ 7,368,308	

figure 9-3

Transit Improvements

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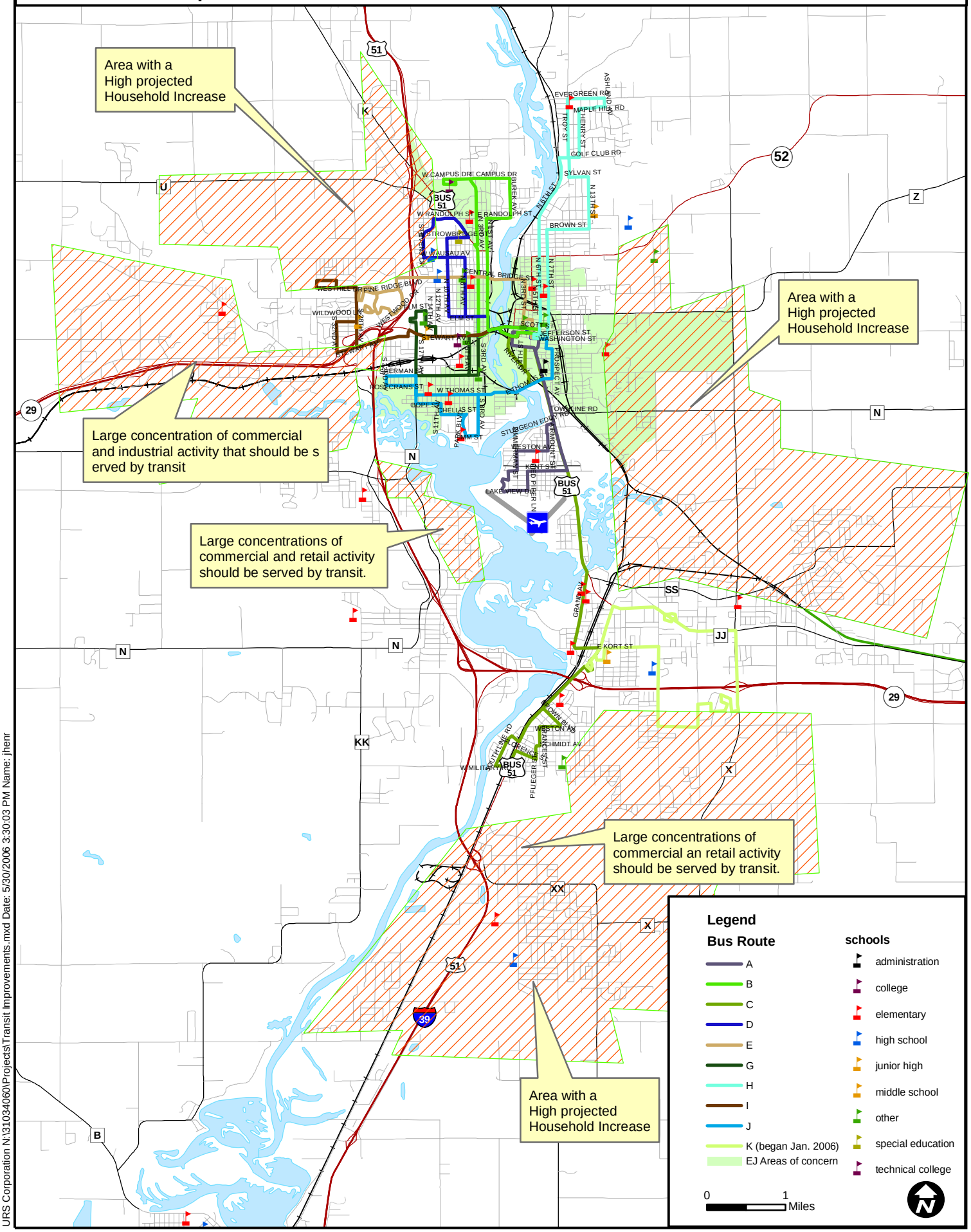

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TRANSPORTATION ENHANCEMENTS (INCLUDES BIKE AND PEDESTRIANS)

Transportation enhancement funding provides an opportunity to improve the transportation system beyond simply building roads or buying buses. These programs provide resources to communities to improve bicycle and pedestrian facilities and improve the environment.

Short-term Transportation Enhancement Improvements:

Table 9-6 lists the transportation enhancement projects that have funding committed through the TIP process. These projects include:

- A new Bike and Pedestrian Bridge across the Wisconsin River in Rothschild.
- Enhancement improvements as part of the reconstruction of Jefferson Street between River Edge Parkway and 5th Street in Downtown Wausau.
- Pedestrian facilities along Bus USH 51 between Volkman Street and Schofield Avenue in Weston.
- STH 29 pedestrian bridge in either the Village of Weston or Rothschild between Alderson Street and CTH X.

The MPO recently went through a transportation enhancement project prioritization process. These projects are identified in Figure 9-3. The project that ranked highest was the Rib Mountain Drive beautification project described below:

1. ***Beautification of Rib Mountain Drive –*** The project includes additional turning lanes, sidewalks, signals and the installation of a raised median from Cloverland Lane to Oriole Lane. The landscaping in the raised median will replace the area formerly occupied by the current mountable median and will incorporate seeding, perennial plants, trees, shrubs and an irrigation system. The project would cost $320,000.
   - The project will include the installation of stamped concrete sidewalks to clearly delineate pedestrian crossing areas. Signage will be added to warn drivers of the upcoming pedestrian crossings.
   - This project would occur in conjunction with the planned reconstruction of Rib Mountain Drive and will improve the aesthetic appearance of the corridor.
   - This project is in compliance with the recently adopted Rib Mountain Comprehensive Plan.

Other short-term transportation enhancement projects that are being pursued within the Wausau MPA include:

2. ***Decorative Street Lighting in Downtown Wausau –*** Eight different downtown street segments covering a total of 14 blocks will be upgraded under this project. The streets include Washington, Forest, Fifth, Fourth, Jefferson, McClellan, Grant and McIndoe Streets. This project would include the installation of 84 decorative lamps. The project would cost $252,000.

   - The project promotes and encourages pedestrian, bicycle and transit travel and increases the aesthetic appeal of travel routes for residents and visitors.
   - The decorative Street Lighting proposal conforms with the *Wausau Central Business District Master Plan*, the Wausau Historic Landmarks Commission *Historic Preservation Plan*, and the recently adopted *City of Wausau Comprehensive Plan.*
   - All of the streets listed for improvement function as either arterials or collectors and serve multiple modes of travel. All of the streets have sidewalks on both sides and all but one serve as transit routes.

3. ***USH 51 Corridor Pedestrian Facilities –*** The multi-use path will run between Morning Glory Lane and Eagle Avenue. This trail will connect to an existing path along CTH R passing under USH 51/STH-29. This multi-use trail will provide a safe alternative of transportation for those wishing to access the commercial district located near Rib Mountain Drive. The project would cost $180,000.

   - The northern end of this multi-use trail will terminate in a designated bike route that will lead to McCleary Bridge and the City of Wausau.
   - This project coincides with the goals set forth in the Five Year Park Plan which was adopted by Rib Mountain in 2003.

4. ***Decorative Street Lighting –*** This project runs along Sturgeon Eddy Road from Grand Avenue southwest to Kent Street, approximately one (1) mile. The underground conduit and pull boxes necessary for the lights will be installed as a portion of the reconstruction of Sturgeon Eddy Road. During local information meetings concerning the Sturgeon Eddy Road reconstruction, there was strong public support for the installation of decorative lighting to enhance the aesthetic appeal of this route. The project would cost $492,265.

   - The project calls for 119 low-level decorative lights through the one mile section of Sturgeon Eddy Road.
   - This street acts as a minor arterial and area residents feel that increasing the light levels and aesthetic appeal would lend itself towards a more pedestrian and bicycle friendly thoroughfare.

- The majority of the surrounding neighborhoods promote walking as a viable means of transportation with sidewalks along both sides of the street creating an atmosphere that is pedestrian friendly along this section of road will also impact the surrounding area in a positive manner.

5. ***Camp Phillips Road (CTH X) Multi-use Trail –*** The multi-use trail will be along Camp Phillips Road from Ross Avenue to Northwestern Avenue. The trail is planned to accommodate bicycles, pedestrians, and snowmobiles. The trail would provide a key system link between the Mountain Bay State Trail and the trails that exist in the City of Wausau. The project would cost $283,045.

   - The project is being developed in conjunction with the reconstruction of CTH X which has been modified to accommodate four lanes of traffic and designed as a commercial corridor with limited access.
   - The multi-use trail will provide for safe and convenient travel along the reconstructed corridor by means other than the automobile.
   - This trail provides an essential link between the Mountain-Bay State Trail and the rest of the trail system currently developed within the MPA.

6. ***Jefferson Street Pedestrian Mall –*** The Jefferson Street Pedestrian Mall would extend from the Jefferson Street and 1st Street intersection west approximately 400 feet to the River Edge Parkway. The pedestrian and bicycle project would provide a link between the Jefferson Street pedestrian corridor and the River Edge Parkway, a non-motorized bicycle and pedestrian facility along the banks of the Wisconsin River. The project would cost $270,000.

   - The project would provide wheelchair-accessible pedestrian/bicycle ramp and sidewalk facilities with extensive landscaping, lighting, and retaining walls.
   - The project is part of the City adopted 1995 River Edge Master Plan. Over 1.5 miles of parkway has been completed serving central city neighborhoods and the downtown employment and commercial district.

Long-term Transportation Enhancement Improvements:

Long Term Transportation Enhancement Improvements are identified in Figure 9-4. Most of the planned and proposed facilities address many of the trail connectivity problems that currently exist. The recommended bike and pedestrian improvements shown on the map attempt to address connectivity issues not addressed under that planned and proposed facilities.

Table 9-7: 2006-2008 Transportation Improvement Program - Transportation Enhancement Projects

TIP PROJECT LISTING ($)

	PRIMARY JURISDICTION/ PROJECT SPONSOR	PROJECT DESCRIPTION	TYPE OF COST	2006 FEDERAL	2006 STATE	2006 LOCAL	2006 TOTAL	2007 FEDERAL	2007 STATE	2007 LOCAL	2007 TOTAL	2008 FEDERAL	2008 STATE	2008 LOCAL	2008 TOTAL	COMMENTS FOS# & Let Date P=preservation E=expansion
	MULTI-MODAL															
A	Marathon County V. of Rothschild	Construct WI River Bike/Ped. Bridge - Rothschild 373-03-015	PE													
			ROW													Let: 4-25-03
			CONST	713,500		129,698	843,198									
			TOTAL	713,500		129,698	843,198									#6676-04-01&71
				(EN)												E
B	City of Wausau	Construct WI River Edge Parkway 373-03-052	PE													
			ROW													
			CONST			100,000	100,000			100,000	100,000			100,000	100,000	
			TOTAL			100,000	100,000			100,000	100,000			100,000	100,000	E
C	City of Wausau	Reconstruction Jefferson Street River Edge Parkway to 5th St. 373-03-050	PE													
			ROW													
			CONST	200,000		50,000	250,000									E
			TOTAL	200,000		50,000	250,000									
				(EN)												
D	State of Wisconsin	Bus USH 51 Volkman to Schofield Pedestrian Accommodations 373-03-051	PE													
			ROW													Let:4-11-06
			CONST	126,800		212,514	339,314									E
			TOTAL	126,800		212,514	339,314									# 6999-10-20,
				(EN)												,70
		Multi-Modal Totals		$ 1,040,300	$ -	$ 492,212	$ 1,532,512	$ -	$ -	$ 100,000	$ 100,000	$ -	$ -	$ 100,000	$ 100,000	

figure 9-4

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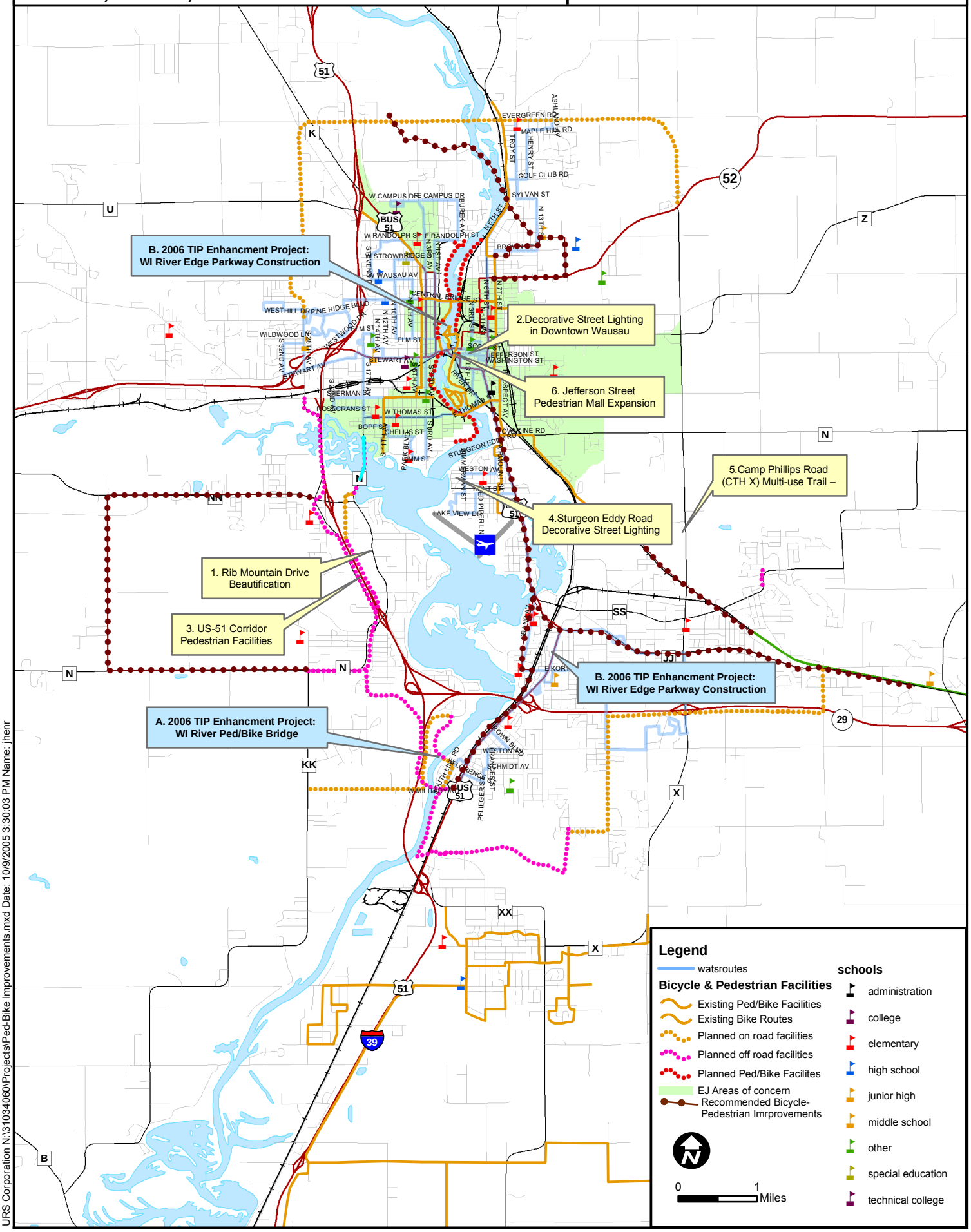
Bike, Ped, and Enhancement Improvements



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PLAN IMPLEMENTATION AND CONCLUSIONS

The Wausau Long Range Transportation Plan provides a multi-modal program for addressing current and anticipated future transportation needs for roadways/highways, transit, and non-motorized facilities within and through the region. Prior to establishing the listing of recommended projects and studies to be included in the 30 year plan, an estimate of the level of funding to reasonably be available in the planning period was prepared. The process followed in developing the financial plan is documented in Chapter 8.

Fiscally Constrained Plan – The annual appropriation of federal STP-Urban transportation funding for the Wausau area is approximately $502,000 in 2005 dollars. The MPO is designated to allocate these funds. Federal guidelines require that the transportation plan be "fiscally constrained." The minimum local match required for these dollars is 20 percent, which is about $125,000 annually to be covered by local funds.

LRTP Adoption – The first step toward plan implementation is the adoption of the plan. The MPO policy board adopted the recommended Long Range Transportation Plan in May, 2006. The implementation of the LRTP is set into motion through a series of Transportation Improvement Programs (TIPs). The TIP lists the actual projects to be implemented and how they will be financed. The projects that are programmed in the TIP are based on the priorities, objectives, and policies identified in the LRTP.

Policy Recommendations – The recommended 2035 Wausau Area Long Range Transportation Plan includes a number of policy directives as well as recommended transportation projects. Effort toward implementing the policy statements indicated on pages 9-2 through 9-6 will need to occur as part of the LRTP Implementation. MPO actions and decisions should reflect the goals and objectives of these policies.

Major Improvement Recommendations – The following major transportation improvement projects are recommended and represent those projects which would require a significant transportation resource investment.

- I 39/USH 51/STH 29 Corridor Majors Project: This freeway expansion project is planned in the short-term and is part of a continuing project with committed funding. WisDOT is reconstructing seven miles of USH 51/STH 29 between Foxglove Road and Bridge Street. The project represents an estimated $249 million investment. WisDOT is the lead agency responsible for this project.
- Thomas St. Corridor & Bridge (River Drive to 17th Ave.): The Thomas Street Corridor between 17th Avenue and River Drive has been identified with existing and future capacity deficiencies. The next step for this project will be to determine the locally preferred alternative (three design alternatives are being considered). Issues that may impact this decision will include: cost and funding of the road sections, cost and funding of the bridge expansion, and

environmental justice impacts. The lead and coordinating agencies involved include: The City of Wausau, WisDOT, and the MPO.

- Bus USH 51 (Military Road to Eagles Nest Boulevard): Expansion of Bus USH 51/Grand Avenue between Military Road and Eagles Nest Boulevard from two-lanes to four-lanes would address a capacity deficiency forecast along this road segment. The lead and coordinating agencies involved include: the Village of Rothschild, WisDOT, and the MPO.
- STH 153 Corridor & Bridges (4th Street to STH 153 East): The STH 153 Corridor and Wisconsin River Low and High Bridges are identified as having an existing and forecast capacity deficiency. The major issue that will need to be addressed will be determining the best and most cost-effective design options. In addition to deciding on the capacity expansion of the two bridges, capacity expansion options between 4th Street and the low bridge will also need to be considered. The lead and coordinating agencies involved include: WisDOT, the City of Mosinee, and the MPO.
- South Metro Freeway Access and Arterial Study: A study is needed to determine how best to address capacity and safety issues at the I 39 interchange at Bus USH 51 and access and connectivity issues within the surrounding area. Several alternatives have been considered. However, the number of solutions and their respective impacts require that a more detailed analysis be conducted. The lead and coordinating agencies involved include: the MPO, WisDOT, the Villages of Rothschild and Kronenwetter, and the Town of Rib Mountain.
- Northern River Crossing Study: A study is recommended to address the need and impact of a Northern River Crossing. Issues that the study should address include: capacity issues, access, trip distribution, land use, and costs. Three potential locations have been identified: Evergreen Road, Randolph Street, and Wausau Avenue. The lead and coordinating agencies involved include: the MPO, the City of Wausau, and WisDOT.

Development of the 2007-2010 Transportation Improvement Program – The Marathon County Metropolitan Planning Commission is responsible for developing the Wausau Area four year TIP by working with local transportation agencies and state transportation officials. Each TIP lists all federal and state aid projects within its boundaries including highway, street, transit, and transportation enhancement programs. The TIP priorities should reflect the recommendations outlined in the LRTP, with the understanding that projects may evolve and change as it moves through the implementation process.

Updating the Long Range Transportation Plan – The Long Range Transportation Plan under SAFETEA-LU is required to be updated every five years. Amendments may be initiated due to changing requirements and needs, the implementation of improvements, and the completion of more specific studies within the Wausau area.

Regulations relating to SAFETEA-LU compliance will require that the Wausau LRTP be updated to be SAFETEA-LU compliant by July 1, 2007. A full update of the LRTP will be required in 2011.

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CHAPTER 10 – ENVIRONMENTAL JUSTICE

INTRODUCTION

In 1994, federal Executive Order 12898 directed every federal agency to make environmental justice part of its mission by identifying and addressing the effects of all programs, policies and activities on "minority populations and low-income populations."

The order reads: "Each federal agency shall make achieving environmental justice part of its mission by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of its programs, policies and activities on minority populations and low-income populations."

The order reinforces Title VI of the Civil Rights Act of 1964, which reads: "No person in the United States shall, on the ground of race, color or national origin be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any programs or activity receiving federal financial assistance." The executive order requires all government agencies receiving federal funds to address discrimination as well as the consequences of all their decisions or actions that might result in disproportionately high and adverse environmental and health impacts on minority and low-income communities.

In 1997, the United States Department of Transportation issued its Order to Address Environmental Justice in Minority Populations and Low-Income Populations (DOT Order). The *DOT Order* addresses the requirements of Executive Order 12898 and sets forth DOT's policy to promote the principles of environmental justice in all programs, policies and activities under its jurisdiction.

Since the *DOT Order* was issued, the Federal Highway Administration (FHWA) and Federal Transit Administration (FTA) have been working with their state and local transportation partners to make sure that the principles of environmental justice are integrated into every aspect of their mission.

The three fundamental environmental justice principles include:

- To avoid, minimize or mitigate disproportionately high and adverse human health and environmental effects, including social and economic effects, on minority and low-income populations.
- To ensure the full and fair participation by all potentially affected communities in the transportation decision-making process.

- To prevent the denial of, reduction of or significant delay in the receipt of benefits by minority and low-income populations.

MPO Role

As the primary forum where State DOTs, transit providers, local agencies, and the public develop metropolitan area transportation plans and programs, MPOs can help local public officials understand how Title VI and environmental justice requirements improve planning and decision-making. To certify compliance with Title VI and address environmental justice, MPOs need to:

- Enhance their analytical capabilities to ensure that the long-range transportation plan and the transportation improvement program (TIP) comply with Title VI.
- Identify residential, employment, and transportation patterns of low-income and minority populations so that their needs can be identified and addressed, and the benefits and burdens of transportation investments can be fairly distributed.
- Evaluate and, where necessary, improve their public involvement processes to eliminate participation barriers and engage minority and low-income populations in transportation decision making.

Definition of Terms

The definitions used within this section were adopted from the Environmental Protection Agency's *Toolkit for Assessing Potential Allegations of Environmental Injustice* and the Council on Environmental Quality's *Environmental Justice Guidance Under the National Environmental Policy Act.*

Affected area or community of concern: The affected area or community of concern is the geographic area of analysis that the proposed project or action will or may have an effect on. In this analysis, the affected areas are those block groups that the project in question abuts.

Adverse effect or impact: Adverse effect or impact is a term used to describe the entire compendium of "significant" (as defined under the National Environmental Policy Act) individual or cumulative human health or environmental effects or impacts which may result from a proposed project or action.

Examples of adverse effects or impacts considered in this plan are:

- Access and mobility
- Economic and social impacts;
- Land use impacts;
- Community and neighborhood impacts; and
- Impacts on natural resources.

Disproportionately high and adverse effects or impacts: Means an adverse effect or impact that: (1) is predominately borne by an environmental justice population, (2) will be suffered by a minority population and/or low-income population and is appreciably more severe or greater in magnitude than the adverse effects or impact than will be suffered by a non-minority population and/or non-low-income population.

Low-Income: Means a person whose median household income is at or below the U.S Department of Health and Human Services poverty guidelines. For the purposes of this analysis 2000 Decennial Census data on poverty level within the MPO area was used.

Minority: Means a person, as defined by the U.S. Bureau of Census, who is a: (1) Black American (a person having origins in any of the black racial groups of Africa); (2) Hispanic person (a person of Mexican, Puerto Rican, Cuban, Central or South American, or Spanish culture or origin, regardless of race); (3) Asian American or Pacific Islander (a person having origins in any of the original peoples of the Far East, Southeast Asia, the Indian subcontinent, or the Pacific Islands); or (4) American Indian or Alaskan Native (a person having origins in any of the original people of North America and maintaining cultural identification through tribal affiliation or community recognition).

Environmental justice communities or target populations: Areas where any readily identifiable group of minority or low-income persons reside at a higher percentage than the state average. An alternate definition is an area where the percentage of the minority population is meaningfully greater than the minority population percentage in the general population or other appropriate unit of geographic analysis.

Methodology

Identifying Environmental Justice Populations

All analysis was done at the block group level, using data from the 2000 Decennial Census, unless otherwise specified. The first step in the analysis looked at the MPO planning area as a whole to evaluate whether the minority and low-income populations were greater than the rest of the state. A minority or low-income population higher than the state would indicate that the MPO planning area has a concentration, which would mean that the target populations in general would carry a greater portion of the recommended projects collective impacts than the rest of the population. In the MPO planning area the minority population makes up 9.2 percent of the population, in Wisconsin 12 percent of the population is minority. The US Census Bureau considers 7.1 percent of the population within the MPO planning area to be below the poverty level, compared to 8.7 percent of Wisconsin's total population. The initial analysis indicates that the MPO does not have a disproportionate number minority or low-income persons.

Realizing that the Wausau Area MPO contains a unique set of communities, local benchmarks were used to analyze the data. The percentage of the population within each census block group identified as low-income or minority was compared to the MPO average, using a normal range of one-standard deviation above and below the average; 68 percent of all measurements fall within one standard deviation of the average. Those block groups with a score greater than one standard deviation above the average have a concentrated minority or low income population.

Figure 10-1 illustrates the locations of the aforementioned areas within the MPA. The map indicates block groups with higher than the MPA average of minority populations and low-income populations. The figure highlights areas with high concentrations of minority or low-income populations as defined by percentages higher than one (1) standard deviation above the average. These block groups were determined to be environmental justice areas of concern for evaluation purposes.

figure 10-1

Environmental Justice Population Concentrations

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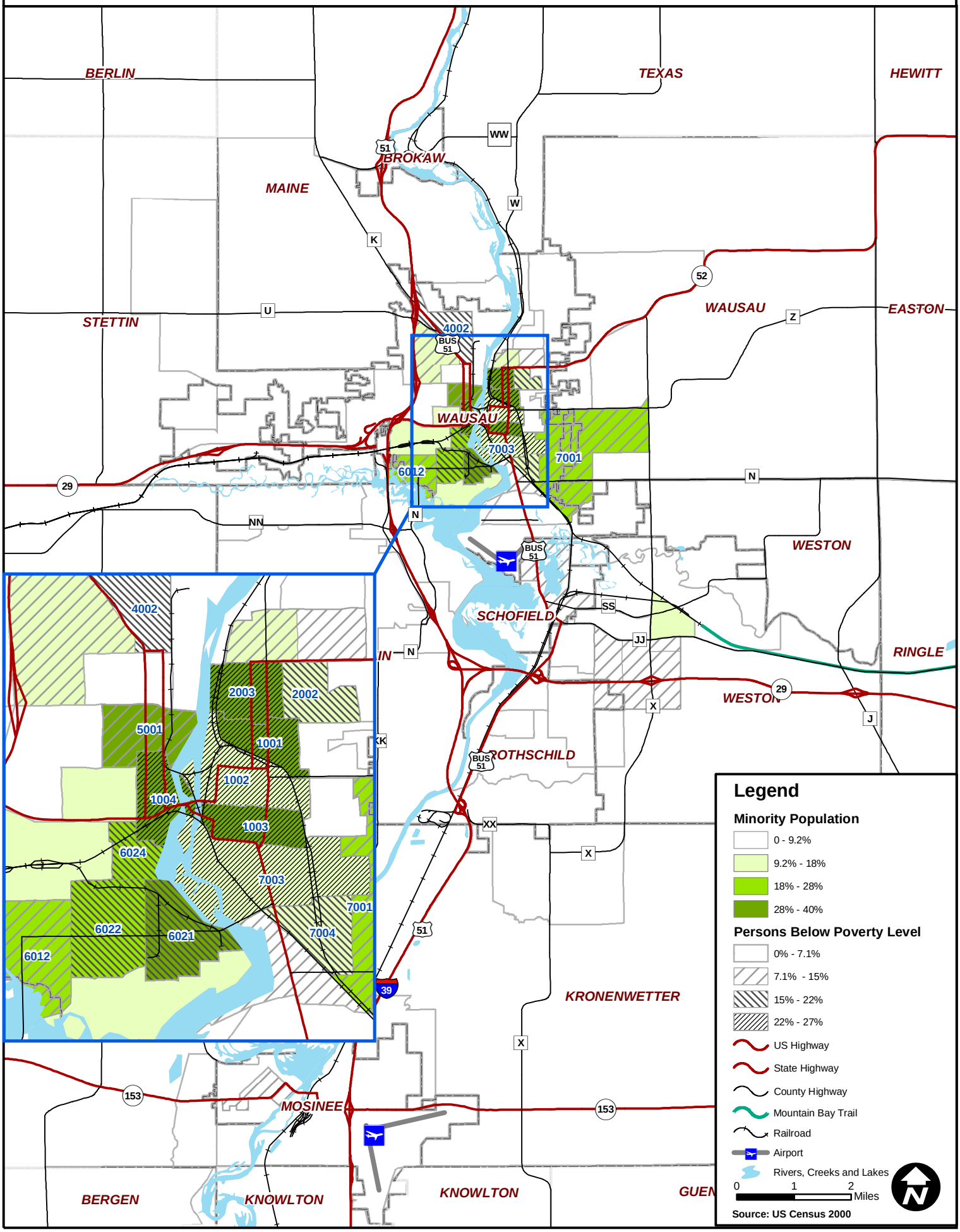

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Factors Evaluated

The location of concentrations of minority and low-income persons were examined in conjunction with the access to transportation and significant community services and the projects recommended within the plan. The community and transportation factors evaluated are as follows:

- Schools;
- Parks;
- Forests;
- Libraries;
- Municipal halls;
- Police stations;
- Fire stations;
- Hospitals and clinics;
- Retail/shopping locations;
- Employment locations;
- Roads,
- Bus routes;
- Multi-use trails; and
- Bike routes.

The analysis compared the Environmental Justice target areas to the planned projects. The planned projects were grouped by mode; roads, transit and bike and pedestrian projects. The target areas were examined in conjunction with each group of planned projects to better show the location of each project, relative to the target areas.

FINDINGS

The analysis showed that 10 block groups had a significant minority population and 12 had a significant low-income population, seven block groups had both a high minority and low-income population. These 15 block groups are considered by the MPO to be focus areas and are listed in Table 10-1 and illustrated in Figure 10-1. The majority of the environmental justice target areas are located within the City of Wausau.

Table 10-1: Block Groups with High Concentrations of Environmental Justice Populations

Block Group	Persons	Minorities	Percent Minority	Low Income Persons	Percent Poverty Level
1001	**1,080**	**430**	**40%**	**262**	**24%**
1002	742	122	16%	199	27%
1003	**965**	**289**	**30%**	**253**	**26%**
1004	**693**	**243**	**35%**	**184**	**27%**
2002	841	116	14%	178	21%
2003	**1,025**	**311**	**30%**	**236**	**23%**
4002	1,453	122	8%	276	19%
5001	1,167	428	37%	98	8%
6012	1,506	307	20%	186	12%
6021	**761**	**217**	**29%**	**152**	**20%**
6022	**2,118**	**515**	**24%**	**404**	**19%**
6024	**834**	**230**	**28%**	**128**	**15%**
7001	955	197	21%	83	9%
7003	1,740	253	15%	429	25%
7004	781	115	15%	166	21%
Subtotal	16,661	3,895	23%	3,234	19%
MPA	84,619	7,805	9%	5,919	7%
+1 SD*			18%		15%

* Percent at one standard deviation above the mean.
Bold indicates block groups meeting both minority and low-income thresholds.

Environmental Justice (EJ) Community Access

According to the 2000 US Census results, 27 percent of Wausau MPA households living below the poverty level did not have an available vehicle. Of minority headed households, 13 percent reported not having an available vehicle. Only seven percent of all households in the Wausau MPA reported not having an available vehicle. For those households without an available vehicle, access to public transit, walking, and biking are exceptionally important for reaching needed destinations. However, the majority (73%) of low-income households and minority households (87%) reported having at least one vehicle available.

Access by Mode

As previously mentioned, 73 percent of low-income households have access to at least one vehicle (28 percent have access to two or more vehicles). The 2000 US Census indicated that of the four percent of workers living below poverty level, 65 percent drove alone to work, 16 percent carpooled, four percent used public transit, and 11 percent walked, biked, motor biked, or used taxis. Of the five percent of area workers who are minorities, 70 percent drove alone to work, 19

percent carpooled, three percent used public transit, and six percent walked, biked, motor biked, or used taxis.

The generally accepted travel times established by national studies identified by FHWA for use in the EJ analysis is the ability to reach the major destination centers within 20 minutes by car and 40 minutes by transit. The US census reported the median travel time for driving alone to work was 15.5 minutes for the Wausau urbanized area in 2000. Commuting by public transit took an average of 31 minutes.

The US census reported that 73 percent of Wausau area work commutes were less than 20 minutes and 93 percent of commute times were less than 40 minutes (see Table 10-2). In comparison, 71 percent of minority worker commute times were less than 20 minutes and 92 percent were less than 40 minutes. The US census does not provide commute times for workers living below the poverty level. However, 76 percent of workers making less than $10,000 annually reported commute times of less than 20 minutes and 91 percent reported commute times less than 40 minutes.

These figures suggest that commute times between EJ populations and the general public is not significantly different. Because work trips, in general, tend to be longer than other trips, it is likely that shopping, entertainment, and other trips have similar or shorter travel times.

Table 10-2: Percent of Workers by Commute Travel Time

	Percent of Workers with Commute times	
Workers	Less than 20-minutes	Less than 40-minutes
Minority workers	71%	92%
Workers making less than $10,000 annually	76%	91%
Wausau Urbanized Area	**73%**	**93%**

Source: US Census Bureau

Transit Access

Of the Wausau area's minority population, over 75 percent live within a ¼ mile of a WATS bus route; 88 percent live within a ¾ mile radius of bus service (see Table 10-3). Seventy-three percent of the MPA's low-income population lives within ¼ mile of a WATS bus route; 85 percent live within ¾ mile of bus service. In comparison, only 49 and 63 percent of the overall MPA population lives within ¼ mile and ¾ mile of transit, respectively. Minority and low-income populations have better access to transit than the general population.

A review of the City of Wausau sidewalks inventory (Figure 4-21) indicates that the identified EJ target areas have a more complete sidewalk system than some of the other areas of the city. These pedestrian systems are particularly important for providing the needed pedestrian connections to transit as well as providing access to other destinations within walking distance.

Within the EJ target areas, there are 93 linear miles of roads, 59 miles of which have at least one side with a sidewalk; in other words, 64 percent of streets in

these areas have sidewalks. In contrast, 48 percent of streets outside of the EJ areas of the City have sidewalks. Fifty-six percent of all City of Wausau streets have sidewalks on at least one side of the street.

Table 10-3: Wausau MPA Population and Households Served by Transit

	1/4 mile of Transit		3/4 mile of Transit		MPA Total	
	Value	Percent	Value	Percent	Value	Percent
Total Population	41,198	49%	52,442	63%	83,594	100%
Minorities* Population	4,737	76%	5,440	88%	6,195	100%
Hispanic Population	402	60%	487	73%	665	100%
Low-income Population	4,335	73%	5,029	85%	5,919	100%

Source: 2000 Census & URS Corp. Figures calculated from census blocks with center within ¼ mile and ¾ mile of WATS regular fixed bus routes (excluding express routes).
* Does not include Hispanics.

Figure 10-2 illustrates the EJ target areas in relation to:

- Schools;
- Parks;
- Forests;
- Roads;
- Bus routes;
- Multi-use trails; and
- Bike routes.

Figure 10-3 illustrates the EJ target areas in relation to:

- Libraries;
- Municipal halls;
- Police stations;
- Fire stations;
- Hospitals and clinics;
- Roads,
- Bus routes;
- Multi-use trails; and
- Bike routes.

Figure 10-4 illustrates the EJ target areas in relation to:

- Employment destinations;
- Retail/shopping destinations;
- Roads;
- Bus routes;
- Multi-use trails; and
- Bike routes.

All of the EJ targeted block groups are within ¾ mile of an elementary school, except for some area in block group 7003, 7004 and 7001. A ¾ mile walk would take about 15 minutes at 3 mph. The two Wausau public middle schools are located farther from the EJ target areas, and in most cases not within walking distance. Likewise, the public high schools are also not within walking distance of most of the EJ target areas. However, WATS' express route system serves Wausau secondary schools providing direct connections to student populations.

The existing and planned River Edge Parkway trail system along the Wisconsin riverfront near Downtown Wausau is centrally located and provides convenient access to many EJ target areas residents. These trails provide both recreational opportunities as well as serve transportation purposes for pedestrians and bicyclists. The designated bike routes also provide north-south connections through the identified EJ communities.

Marathon Park is accessible to the EJ neighborhoods west of the river. Other parks within or near EJ neighborhoods include: 3M Park, Athletic Park, and Stewart Park.

In the Wausau area, 58 percent of the MPA's total employment is within ¼ mile of fixed route transit service with 68 percent within ¾ mile of a fixed route transit service. The percentage of retail employment within ¼ mile and ¾ mile of a transit route is about 70 percent and 75 percent, respectively. About 1,800 retail jobs are located along Rib Mountain Drive in Rib Mountain and within the Cedar Creek retail area in Rothschild; both areas are not accessible by transit. Rib Mountain does not have transit service. WATS started providing Saturday transit service to the Cedar Creek retail area in 2006.

Because WATS is a City of Wausau service, and not a regional service, issues regarding where service is provided and who should pay for the service is an issue for serving areas outside of the City of Wausau boundary. The Village of Weston recently entered into an agreement with WATS to provide service within Weston in which they cover a portion of the cost to provide the service.

In 2004, there were about 2,100 jobs within ¼ mile of the recently implemented Route K in Weston. About 450 of those jobs were in the retail sector. The number of jobs along this route will likely increase substantially with the completion of the new St. Clare's Hospital at STH 29/CTH X Interchange in Weston.

Figure 10-3 illustrates the locations of employers within the Wausau MPA with respect to fixed bus routes. The map indicates different ranges of employees per location. Retail employment locations are indicated separately in order to identify concentrations of retail activity.

Several growing employment and retail areas are not currently served by transit, including:

- Wal-Mart and Rib Mountain Drive retail corridor
- West Wausau Industrial Park
- Cedar Creek retail area (Saturday WATS was introduced in the summer of 2006).

All of the WATS' weekday fixed routes, except for Route C, run every 30 minutes; Route C runs every hour. Timed transfers at the downtown Transit Center means short dwell times. A trip requiring one transfer trip generally should not take longer than hour. A quarter mile walk adds an additional five to ten minutes on each end of the trip. A ¾ mile walk at each end of the trip would add an additional 15 to 20 minutes at each end of the trip. However, trips involving Route C and K are more complicated and time consuming. For example, a trip to Weston's St. Clare's Hospital outside of the Route K and C rider shed, could require up to a 30 minute trip to the downtown Transit Center to transfer to Route C; it would take an additional 20 minutes to get to Shopko where one would make a timed transfer to Route K and require an additional 22 minutes to get to St. Clare's Hospital for a total trip time of one hour and 12 minutes.

While there are certainly destinations within the MPA that would require a significant time investment using the transit system, similar to auto-users, most transit-dependent riders will choose alternative destinations that are more accessible by transit. Within the EJ population areas, there are a variety of grocers, retailers, parks, the library, and other services, within 30 minute transit trip or a ten minute car trip.

As discussed in the Transit section of Chapter 4, residential areas currently without transit service generally do not have housing densities that allow for the provision of cost-effective transit service. Likewise, employment densities are also relatively low outside of the current transit coverage area, with the exception

of the Cedar Creek area and the Rib Mountain Drive commercial corridor. Given limited resources, adding services to new areas need to be weighed against the expense of reducing services elsewhere.

With the EJ targeted block groups being located in the central part of the MPA and the majority of the major destination centers like Health Care facilities, Post Secondary Schools, Recreation areas, and Employment and Retail centers being located on or near the transit system routes, the ability for low income and minority populations to access these centers is no less proportionate than the rest of the population.

The US census reported in 2000 that the medium travel time for driving alone to work was 15.5 minutes for the entire Wausau urban area. Commuting by transit took an average of 31 minutes. With these times being well below the accepted travel times, EJ targeted blocks do not show any disproportionate adverse effects or impacts. Based on the analysis of the entire urban area and the projects being proposed, this LRTP is accommodating the needs of the low income and minority populations within the MPA.

figure 10-2

Environmental Justice Transportation Access-A

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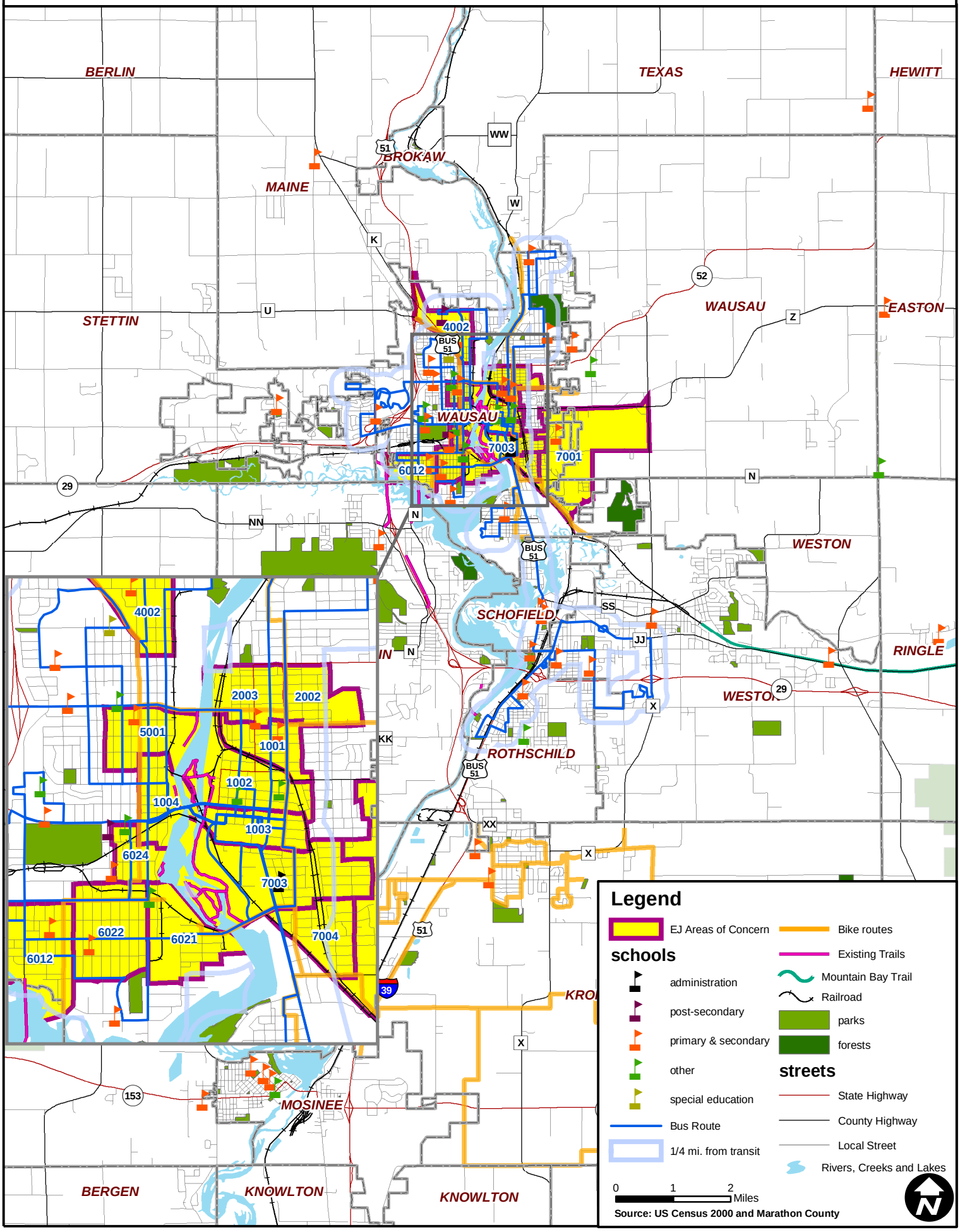

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figure 10-3

Environmental Justice Transportation Access-B

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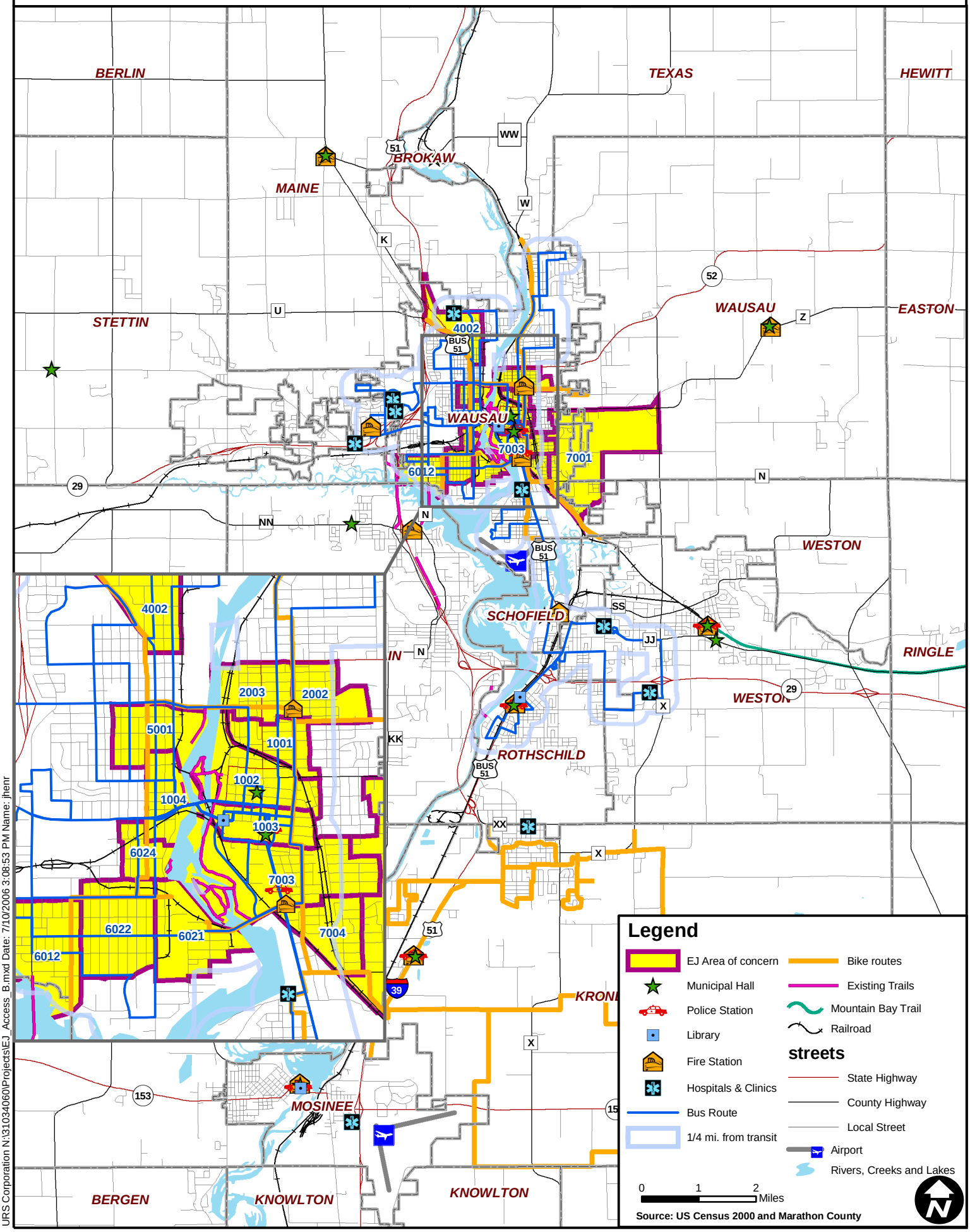

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figure 10-4

Environmental Justice Transportation Access-C

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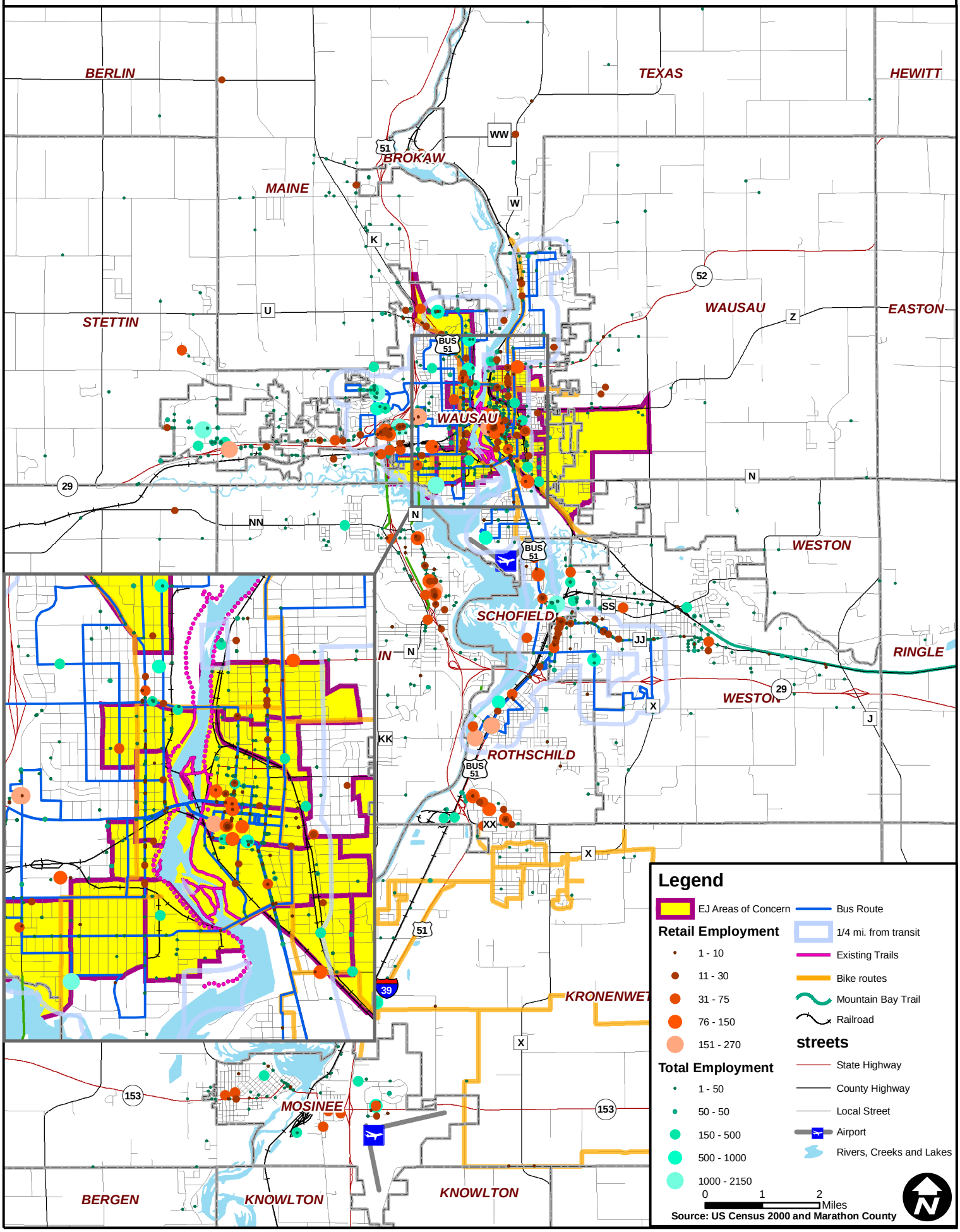

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MAJOR TRANSPORTATION IMPROVEMENTS

The focus of the Federal Environmental Justice requirements (i.e. Executive Order 12898) is to ensure that the impact to minority populations and low-income populations are considered during any planning effort to mitigate undue burdens. Recommended Transportation Improvements Maps are shown in relation to the identified Environmental Justice focus areas in Figures 9-2, 9-3 and 9-4 in Chapter 9.

Transit Improvements

The Wausau Area Transit Development Plan (TDP) recommended extending transit service to Cedar Creek on Saturdays as a demonstration project in year one (2006) of the plan. The TDP proposes adding weekday Cedar Creek service in year three (2008). Transit service to this area is also important for providing a transit connection to inter-city bus service located in the Cedar Creek area.

In 2007, the TDP calls for implementing a Rib Mountain weekday route. The addition of evening service using the Saturday network is recommended in 2008 and Saturday evening service is recommended in 2009. The expansion of transit service to the commercial areas in Rib Mountain and the Cedar Creek area would address the two most prominent transit deficiencies in the area. The proposed Rib Mountain Route, which would run along Thomas Street, would provide especially good access for block groups, 6012, 6021, and 6022.

A key destination not addressed in the TDP recommendations is transit access to the Central Wisconsin Airport in Mosinee. The airport is a major employment area, however, the distance between the airport and the existing transit network is significant and the demand may not justify the expense of providing service so far from the existing system.

Transit resources are limited and the benefits of providing new services in new areas need to be weighed against potential negative impacts of service reductions in other areas or reductions in service frequencies or service times.

Roadway Improvements

It is assumed that preservation projects would not have dramatic impacts on EJ populations as these projects are simply resurfacing or reconstructing existing facilities. However, preservation projects should be examined to ensure that projects are prioritized base on need and not based on the population benefiting from the project.

Transportation System Management (TSM) improvements have the potential to impact EJ populations. For example, adding turn lanes at an intersection may negatively impact pedestrians within an EJ identified neighborhood by lengthening distance at crosswalks or creating a less pedestrian-friendly environment.

Roadway expansion projects run the greatest risk of negatively impacting EJ populations. As such, each of the following recommended roadway expansion projects will be addressed in relation to its potential impact on EJ populations.

1. **I 39/USH 51/STH 29 Corridor Majors Project:** The completion of the I 39/USH 51/STH 29 majors projects does not directly impact the identified EJ focus areas as shown in Figure 9-2. The reconstruction and expansion of seven miles of USH 51/STH 29, between Foxglove Road and Bridge Street includes expanding the freeway from the current four-lanes to six-lanes between the STH 29 east and STH 29 west interchanges. In addition, auxiliary lanes will also be added between STH 29 east and Marathon County N.

   This committed project, which is currently under construction, does not appear to directly impact the identified EJ population focus areas. However, EJ population areas may benefit given that some neighborhood traffic may shift to the freeway with the added capacity and reduction in congestion.

2. **Thomas St. Corridor & Bridge (River Drive to 17th Ave.):** Addressing existing and future capacity deficiencies along the Thomas Street Corridor between 17th Avenue and River Drive by adding capacity would directly impact an identified high EJ population focus area. However, the locally preferred alternative has not been determined. Currently, there are three project options being considered. These alternatives may differ with respect to the type and degree of impacts to the high EJ population neighborhoods. A detailed evaluation of the environmental justice impacts will need to occur as part of the on-going decision-making process of the Thomas Street project.

   Potential Negative Impacts Include:

   - There are two elementary schools within one block of Thomas Street, GD Jones Elementary and Holy Name Catholic School. Additional traffic lanes, increased traffic and higher vehicle speeds are of concern to students walking to and from these schools.
   - WATS Route J runs along this section of Thomas Street, which means more pedestrian activity as riders board and exit at bus stops along the corridor. A wider road for crossing pedestrians, increased traffic, faster traffic, and fewer gaps between cars are potential impacts to bus riders and other pedestrians along the corridor. Adequate area for buses to pull over to pickup and drop off passengers is a safety issue that may need to be addressed. A benefit may be that there are fewer delays resulting from congestion, which will benefit bus riders and improve transit schedule adherence.
   - Forty-two businesses are located within a ¼ mile of this section of Thomas Street, six of which are retail business. An expanded Thomas Street has the potential to hamper pedestrian and bike access to these business, which may disproportionately impact the EJ populations trying to access these businesses.

3. **Bus USH 51 (Military Road to Eagles Nest Boulevard):** Expansion from two-lanes to four-lanes of Bus USH 51/Grand Avenue between Military Road and Eagles Nest Boulevard would address a capacity deficiency forecast along this road segment and would extend the road's current four-lane section to Cedar Creek Mall area.. This project would not directly impact an identified EJ population focus area. However, extending transit service to Cedar Creek area is a short term priority for WATS. Improving this road segment may improve transit times to the area, which could be a benefit to transit users.
4. **STH 153 Corridor & Bridges (4th Street to STH 153 East):** The STH 153 Corridor and Wisconsin River Low and High Bridges are identified as having an existing and forecast capacity deficiency. Expanding the bridges and connecting roadways would not directly impact an identified EJ population focus area.
5. **South Metro Freeway Access and Arterial Study:** The proposed study would evaluate how best to address identified congestion and safety issues and forecasted capacity deficiencies on the I 39 northbound Bus USH 51 on-ramp and the southbound Bus USH 51 off-ramp. The study area that is identified does not directly impact any of the identified EJ population focus areas. However, this study will also consider improvements to the arterial system within the area. Potential improvements could impact both auto and transit access for EJ populations.
6. **Northern River Crossing Study:** The proposed study would evaluate the need for an additional river crossing in the northern metro area. The study would look at existing and future traffic levels at and near Wisconsin River bridges in the City of Wausau and address whether these bridges can adequately handle future traffic levels or whether an additional bridge is warranted. The study area identified does not include any areas within the identified EJ population focus areas. This project does not appear to have a direct impact on these populations. However, a new northern river crossing has the potential to shift some traffic away from the Bridge Street Bridge which is within an identified EJ focus area, which could be seen as a benefit.

CONCLUSION

Of the major recommended transportation improvements, the Thomas Street corridor has the most direct impact on an identified EJ population. Through the planning and implementation process, environmental justice issues for this project and others will require additional analysis for identifying potential impacts and developing appropriate measures for mitigating these impacts.

APPENDIX A – PUBLIC INVOLVEMENT MEETING SUMMARIES

At a Crossroads: Wausau Metropolitan Area Long Range Transportation Plan 2030

MEMORANDUM
SUMMARY OF TRANSPORTATION ISSUES IDENTIFICATION WORKSHOP

TO:	Marathon County Metropolitan Planning Commission & Technical Advisory Committee
FROM:	URS Corporation
DATE:	November 15, 2004
SUBJECT:	Transportation Issues Identification Workshop

The first of two public workshops planned during the LRTP study was held on October 13, 2004, at the Wausau Public Library. The workshop drew a group of eight citizens and interested individuals. Held from 6:30 p.m. to 8:30 p.m., the transportation issues identification workshop provided an opportunity for the public and project staff to share information on transportation issues within the Wausau Urbanized Area. Workshop attendees and staff discussed issues such as roadway deficiencies and enhancements, transit services, pedestrian and bicycle facilities and other general transportation improvements. The input obtained through the workshop will also lead toward finalizing the study goals and objectives.

A second public workshop that will address proposed transportation alternatives will be held later in the study process and will provide an informational exchange between the community and project staff.

Workshop Format

The informal structure of the workshop provided citizens with an opportunity to view display boards and data maps, discuss issues with project staff one-on-one, and respond to a questionnaire and comment sheet.

During the evening a 15-minute slide show presentation was repeated twice to reach all citizens who attended the workshop. The presentation provided citizens with a project overview that included the approach for completing the LRTP, project schedule, and next steps.

Comment Summary

Of the eight citizens who attended the workshop, six individuals completed a comment sheet. In addition to asking citizens for their general comments, the comment sheet solicited feedback from citizens about roadway issues, transit usage, and bicycle and pedestrian facilities in the Wausau area.

When residents were asked about the worst transportation problems in the Wausau area, issues identified included bottlenecks at certain locations; for example, when there is an incident on Grand Avenue between Townline and Sturgeon Eddy it causes a "major" bottleneck. Posted speed variation on roadways was listed as a concern in places such as the Scott Street Bridge area on the west side. It was noted that traffic speeds pose a safety hazard to pedestrians crossing roadways. The intersection of Bridge Street and 3rd Street was identified as a problem area and it was also suggested that a widening of Bridge Street should occur from 3rd Avenue to 3rd Street. A comment was also received that there are "too many one-way streets in downtown Wausau."

While a comment was received that bicycle and pedestrian facilities are improving in the Wausau area, workshop attendees suggested locations for improvements such as new and improved trails along the Wisconsin River and connection to Mountain Bay Trail from Rib Mountain State Park and the Rothschild Bridge.

Better public transportation and the addition of passenger rail service or an intercity bus were desires of respondents. It was suggested that service be extended to Cedar Creek, Rib Mountain shopping area, and the Village of

Weston. Respondents had concerns about further reduction in service and the need to better serve the disabled population.

A complete listing of the comments received is in the Appendix.

Advertisement

The issues identification workshop was advertised through the use of a press release and paid advertisement. The press release was sent to four area media sources on October 4, 2004, which included:

- Wausau Daily Herald
- WSAW TV 7
- WAOW TV 9
- WFXS FOX 55

A paid advertisement was placed in the Wausau Daily Herald and ran on the dates listed below:

- Thursday, October 7, 2004
- Sunday, October 10, 2004
- Wednesday, October 13, 2004

An announcement was also placed in the second edition of *Crossroads,* the project's electronic newsletter. Extra copies of the first and second newsletter were made available at the workshop.

Media Coverage

The workshop received television media coverage from WAOW-TV 9. On-camera interviews with Marathon County's transportation planner, David Mack, and a citizen participant occurred at the beginning of the workshop. The segment was scheduled to air that same evening during the ten-o-clock news. Additionally, on October 16, 2004, an article was published in the Wausau Daily Herald.

APPENDIX – ATTENDANCE SHEET

Wausau LRTP

PLEASE SIGN IN

Issues Identification Workshop October 13, 2004

Name/Agency	Mailing Address and / or E-mail Address
John Powell	221 Scott St. #545, Wausau, WI 54403
Don Cline	307 Lincoln Ave., Wausau, WI 54403
Todd McDonald	PO Box 8000, Wausau, WI 54401 tmcdonald@bhassoc.com
Vilas E. Machmueller	1415 McIntyre Ave., Weston, WI 54476
Joe Vraspir	616 Kent St., Wausau, WI 54403
Henry Luxem, Administrator, Village of Kronenwetter	2159 River Forest Ln., Mosinee, WI 54455
Elizabeth Putnam	800 Scott Street, Wausau Daily Herald
David Schroeder	

APPENDIX – COMMENT SHEET RESPONSES

Comment Sheet

Welcome to this evening's workshop. We appreciate your attendance and participation. Please take a few moments tonight to respond to the questions below. You may also e-mail or mail your comments to:

wausau_lrtp@urscorp.com

Jim Henricksen, Project Manager
URS Corporation
700 Third Street South, Suite 600
Minneapolis, MN 55415-1199

or

David Mack, Transportation Planner
Marathon County Conservation, Planning and Zoning Department
210 River Drive
Wausau, WI 54403

1. In your opinion, what are the worst transportation problems in the Wausau Area?

1. Too many areas going from 25 to 35 to 35 (like the Scott St. Bridge area on the west side).
2. Bridge Street and 3rd Street intersection. Trucks run over, people, curbs and stop signs going west or south at that turn area. No pedestrian access to north side of Bridge St. on west side, run for your life at times.
3. There are too many one way streets in downtown Wausau.
4. The bottleneck from Cedar Creek to north of Wausau.
5. When there is as minor an accident as a fender bender on Grand Ave. between Townline & Sturgeon Eddy, it causes a "major" bottleneck. I've seen as many as 3 Wausau police cars on the scene with 2 officers simply sitting in the car. Couldn't they route some of the traffic (if N. bound lanes affected) the wrong way on the one way street on the north side of the cemetery—or at least direct the merge from 2 to 1 lanes.
6. Blank.

2. Are there specific roadways or intersections in the area that you think need improvements?

1. Probably the interchange of Rib Mt. Drive and 51 in Rib Mt. It is just very congested.
2. A widening of Bridge Street at 3rd Ave. to 3rd Street—remove curves at 1st and Bridge. New bridge over river at Evergreen Rd. to west side at 51.
3. CTH N interchange at USH 51/STH 29. Thomas Street. Old 51 in Kronenwetter/Mosinee.
4. Yes. The Kowalaki interchange! (or some alternatives in the immediate vicinity to relieve the congestion at 185. The Eastern Bypass (Camp Phillips/X) should be elevated in priority. It would relieve the congestion on I39/51.
5. Blank.
6. Blank.

3. What do you think about the existing bicycle and pedestrian facilities in the Wausau Area? Are there locations where would you like to see new bike paths and/or sidewalks built?

   1. They are improving. I would like to see even more trails and better conditions along the Wisconsin River.
   2. Bus access to Rib Mt. State Park for handi-capped and elderly to DNR office, include bicyclists, skaters. State run transportation to top of Rib Hill for weekly campers, school children, widen road to top. Sidewalk on north side of Bridge St. Bridge as it crosses Bridge St. at Pick N Save.
   3. I'd like to see the Mountain Bay Bike Trail connect to Rib Mountain State Park. In addition, bicycle/ped accommodations along CTH N in Rib Mountain (CTH NN to USH 51/STH 29) would improve safety.
   4. Join Rothschild Bridge to Mountain Bay Trail.
   5. A good thing. How about urban X-C ski trails?
   6. Blank.

4. When you are out and about, do you have concerns about safety?

   1. No, not really.
   2. Traffic speed on roads, incl. Wausau streets, increase need for pedestrians to take more risks crossing roads. Florescent walkways, brighten signs help identify crosswalks, bus stops, etc.
   3. Yes. When turn left onto or off of Grand Ave. in Wausau.
   4. Always!
   5. Cell phone use. Failure to use or acknowledge turn signals.
   6. Blank.

5. Do you use the Wausau Area Transit System (WATS)? o Yes o No
Do you have comments about the transit system in general such as the need for more frequent service, longer service hours, or service to new areas?

   1. Yes. It would be nice to have stops/routes going out to Cedar Creek more, as well as Rib Mt. Shopping area.
   2. Yes. Occasionally. Handi-capped need better service and drop off areas. Bench seats at stops much needed.
   3. No. I'd love to see service in Rib Mountain (to Wal-Mart area).
   4. No. Service should be extended to Cedar Creek and the Village of Weston to the new hospital complex and the booming development following.
   5. Yes, sometimes. Less frequent at some times (eliminate Saturday service?) Lengthen hours—both ends. New areas—especially to industries (work sites).
   6. Yes. I have been riding the bus WATS since 1978. From 1978 to 2004 (WATS) or Mr. Greg Scubert and Mr. Peter Burch have cut 4 bus runs. At this rate by the year 2030 more bus runs will be cut and we will have very limited bus service.

6. What other transportation improvements would you suggest for the Wausau Area?

   1. Increase Airport size, if possible. And reexamine the 51/29 interchange to decrease accidents.

2. Widen 4 lanes at 17th Ave. to Grand Ave. & Thomas St. Express bus stop – westbound at Graphics Packaging, Inc. and Pick N Save. Put that stop in parking lot, why should handi-capped and people sit at curb side, feet in traffic lane of vehicles. Real injury threat area.
3. In the next 20-25 years, I foresee a need for a bridge across the Rib River west of Rib Mountain State Park.
4. Better public transportation.
5. Rail service or intercity bus.
6. Someone outside of WATS should take a look at what WATS is doing to see if there is a better way of doing things with the same money.

7. General Comments:

1. Currently, I am satisfied with transportation systems within the Wausau area.
2. Widen 5th St. to 3 lanes at East Wausau Ave. to Bridge St. as alternate to truck traffic on 3rd St. to Bridge St.
3. I'm concerned about Greyhound pulling out of Wausau and would love to see passenger rail service run through Wausau.
4. I think the planning is necessary and every effort should be made to move this along as quickly as possible! And, keep Rep. Obey in the loop! He has enough seniority and clout to direct some financial resources this way.
5. Blank.
6. I did dislocation my left knee in 2002. I have a WATS paratransit service card. In 2002 this is how WATS PLUS worked. You called day ahead of time to get WATS PLUS and then go for the appointment. Then when you are done call WATS PLUS and they will pick you up. In 2004 with WATS PLUS you call up a day a head of time and you must put down pick up time and then time you are coming back. If you miss the pick up time, you have to find some other way to get home. This is not good.

Thank you for your input.

At a Crossroads: Wausau Metropolitan Area Long Range Transportation Plan 2030

TECHNICAL MEMORANDUM:

TO:	Marathon County Metropolitan Planning Commission & Technical Advisory Committee
FROM:	URS Corporation
DATE:	Tuesday, September 6, 2005
SUBJECT:	Transportation Alternatives Public Workshop/Open House

INTRODUCTION

The second of two public workshops scheduled during the course of the LRTP study was held on September 13, 2005, at the Wausau Public Library. The workshop drew a group of nine citizens and interested individuals. Held from 4:00 p.m. to 7:00 p.m., the Transportation Alternatives Workshop/Open House provided an opportunity for the public and project staff to discuss potential transportation improvements within the Wausau metropolitan area. Attendees and staff discussed issues such as transit safety, transit services, roadway deficiencies, pedestrian and bicycle facilities and other potential transportation improvements. The input obtained at the Open House will be integrated into the final plan.

WORKSHOP FORMAT

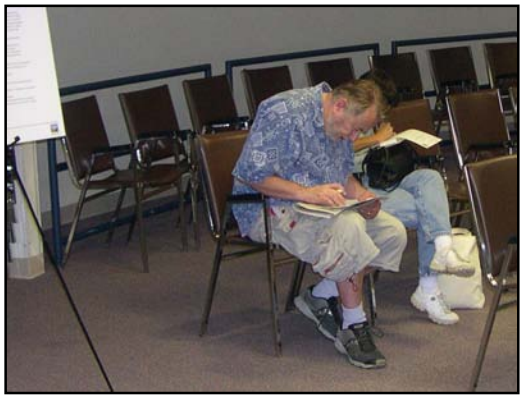
The informal structure of the workshop provided citizens with an opportunity to view display boards and data maps, discuss issues with project staff one-on-one, and respond to a questionnaire/comment sheet.

During the Open House a 45-minute slide show presentation was conducted in which attendees were encouraged to ask questions and provide input. The presentation provided information to citizens on the study process for analyzing alternative transportation improvements.

COMMENT SUMMARY

Of the nine citizens who attended the workshop, four individuals completed comment sheets. In addition to asking citizens for their general comments, the document solicited information regarding desired improvements for roadways, transit, and bicycle and pedestrian facilities in the Wausau area.

When residents were asked about what transportation improvements they would like made in the Wausau Area, additional bus services to communities surrounding Wausau was listed, as well as a higher priority given to bicycles and mass transit. Another resident suggested the need to improve safety by using Better Information signs for ramps and exits; reflectors and more visible lines on roads and ramps.



When asked about specific roadways or intersections that needed improvements one resident noted that the Bridge Street bus stop across from the Pick-N-Save grocery store was very dangerous for transit users given there is no crosswalk at the location and no sidewalk or a safe place to wait for the bus on that side of the street. A safety concern was mentioned at 3rd Street and Bridge Street where a tight corner results in truck traffic driving over the curb.

Bicycle and Pedestrian related improvements recommended by residents included, adding 5-foot paved shoulders along all County highways, similar to improved CTH KK. A new sidewalk north of Bridge Street from the Pick-N-Save to N. 1st Avenue was recommended as well as along Ross Avenue. Citizens mentioned their concerns with gaps in the area pedestrian and bicycle facilities. These gaps make it very difficult to use these transportation modes in order to navigate the Wausau community.

A complete listing of the comments received is in the Appendix section of this document.

ADVERTISEMENT

The Transportation Alternatives Public Workshop and Open House was advertised through the use of a press release and paid advertisement. The press release was sent to the Wausau Daily Herald on September 4, 2005.

A paid advertisement was placed in the Wausau Daily Herald and ran on the dates listed below:

- Tuesday, September 6, 2005
- Wednesday, September 7, 2005
- Saturday, September 10, 2005
- Sunday, September 11, 2005

An announcement was also placed in the third edition of *Crossroads,* the project's electronic newsletter.

MEDIA COVERAGE

The workshop received radio media coverage from WAUS. An on-air phone interview was conducted with Marathon County's transportation planner, David Mack, prior to the workshop. An article was published in the Wausau Daily Herald on Monday September 12, 2005 detailing his interview and inviting individuals to participate in the Open House.

ATTENDANCE SHEET

Alternatives Workshop/Open House September 13, 2005

Name/Agency	Mailing Address and / or E-mail Address
Joseph Hartill / Weston	3605 Ross Ave #1 Weston / heha2earthlink.net
Kathi Zoern	915 N 2nd Ave Wausau / kzoern@netscape.com
Jeff Betty	5901 Lakeshore Dr Wausau
Don Cline / Marathon County Labor Council	307 Lincoln Ave Wausau / kjcwau@dwave.net
Bob Wagner / WisDOT District 4	1681 2nd Ave S. Wisconsin Rapids
Barbara Z. Roberts	845 Everest Dr Rothschild 54474
Mike Burke	1001 Monroe Wausau
Matt Lehman	557 Scott St. Wausau 54403 / matt@wsau.com

COMMENT SHEET RESPONSES

Comment Sheet

Welcome to this evening's open house. We appreciate your attendance and participation. Please take a few moments tonight to respond to the questions below. You may also e-mail or mail your comments to:

wausau_lrtp@urscorp.com

Jim Henricksen, Project Manager
URS Corporation
700 Third Street South, Suite 600
Minneapolis, MN 55415-1199

or

David Mack, Transportation Planner
Marathon County Conservation,
Planning and Zoning Department
210 River Drive
Wausau, WI 54403

1. In your opinion, what transportation improvements would you like made in the Wausau Area?

    1. Better Information signs for ramps and exits; reflectors on roads and ramps and lines on road.

    2. Give priority to bicycles and mass transit.

    3. Routes to Weston, Schofield, Rib Mountain; run the buses later at night, Saturdays all year long, and to west side of industrial park at 72nd Avenue.

    4. Provide WATS service to Schofield, Weston, Rib Mountain, Kronnenwetter, Packer Dr.

2. Are there specific roadways or intersections that you think need improving?

    1. Bus stop at Bridge Street – 200 ???? eliminate from street to Pick-N-Save lot instead – SAFETY

    2. All County Roads should have a 5 ft. paved shoulder; see improved KK.

    3. Bridge Street and First Ave Wausau

    4. Hwy X needs 2-lane and improved shoulders due to Weston development and expansion.

3. What improvements to the existing bicycle and pedestrian facilities would you like made? Where would you like to see new bike paths and/or sidewalks?

1. New sidewalk north side of Bridge Street at Pic-n-Save to N. 1st Ave.

2. 28th Ave, Thomas St, Weston Ave, County N – Rib Mountain Dr in Business Area, County NN, Grand Ave.

3. Path along the River Drive Both sides of Wausau

4. Sidewalks on Ross Ave, The issue of scooters and wheelchairs need to be addressed with increased traffic in scooters and wheelchairs.

4. Do you have any safety concerns, walking, biking, driving or taking the bus?

   1. 3rd Street and Bridge St – Wausau. Truck turns have trailer tires going over curbs trying to make turn at corner.

   2. Cities, Towns and County must coordinate streets to connect all parts to create a complete network for bikes.

   3. No walk light at Crossway by Pick-N-Save Bridge Street 2 bus stops on either side of Bridge Street hard to cross street by mall to Wausau Post office.

   4. State Law signs on all crosswalks or lights similar library crosswalk bike trails enforce bike courtesy laws. Bridge and Pick-n-Save disabilities limit walking distance.

5. Do you use the Wausau Area Transit System (WATS)? o Yes 2 o No 1
   What improvements to the transit system would you like to see made?

   1. More Routes, Rib Mountain ????, also Weston and Schofield too.

   2.

   3. Run later in the evening, run on Saturday throughout year, more regional services to Weston Schofield, more weekend WATS service, maybe use smaller buses for less used routes.

   4. Routes to Weston, Schofield, and Rib Mountain.

7. General Comments: (use back of page for additional space for comments)

   1. Thanks for _____ area meetings

   2. The land use plan for the County should prohibit any building not connecting to existing sewer and water.

   3. More spaces for wheelchairs.

   4. More weekend WATS Service.

Thank you for your input. It is greatly appreciated.

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APPENDIX B – E-NEWSLETTERS

Continued from Page 1

The 2030 Long Range Transportation Plan is a joint project between the Wisconsin Department of Transportation and the Marathon County Planning Department. If you have a question about the project, please contact:

David Mack
Transportation Planning Director
Marathon County Planning Department
210 River Drive
Wausau, WI 54403
(715) 261-6043
dtmack@mail.co.marathon.wi.us
or
Robert Wagner
Planning Supervisor
WISDOT – District 4
1681 Second Avenue South
Wisconsin Rapids, WI 54495-4768
(715) 421-8053
robert.wagner1@dot.state.wi.us

What are the Key Steps in the Planning Process?

While the Wausau Area Transportation Study will look at a variety of issues related to the area's existing and future transportation system, a basic four-step project approach is used in the development of a successful transportation plan:

1) Data Collection
2) Existing Conditions Analysis
3) Development and Evaluation of Transportation and Land Use Scenarios
4) Plan Recommendations, Funding Alternatives and Implementation.

A major undertaking of the Long Range Transportation Planning process will be updating and refining the travel demand model, which will be used to create traffic forecasts, assess future land use impacts, and analyze potential transportation improvements. These technical analyses will play a key role in developing a fiscally constrained plan.

Can I Get Involved?

Absolutely! Your involvement in the planning process is crucial to the success of the transportation plan. Ultimately, the plan will reflect your community's needs — in places like Wausau, Schofield, Rothschild, Weston, Rib Mountain, Mosinee and Brokaw. Why is your input so critical? Simple – it is **your** plan.

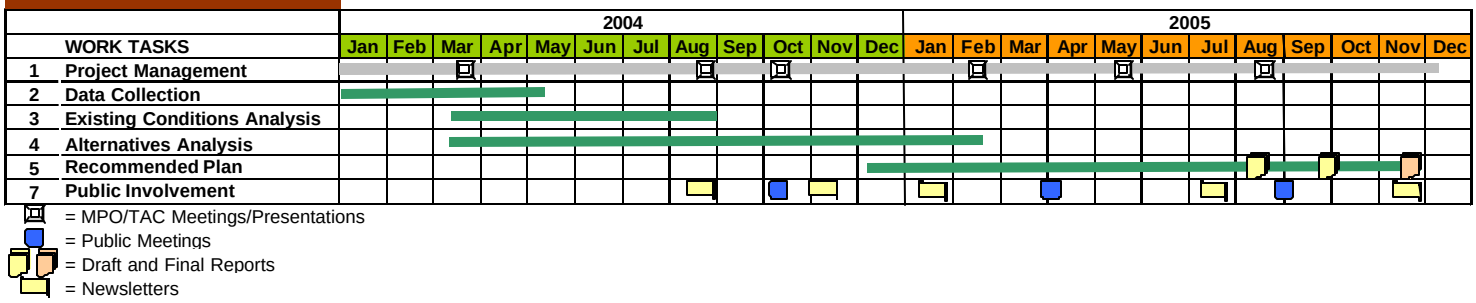
What Can I Do?

In the coming weeks and months, we will be visiting your communities and asking for your input on what works and what needs to be improved concerning transportation in your area. Issues may include access to destinations such as schools, shopping and entertainment or issues relating to specific transportation modes such as bicycling, walking, and public transportation.

In addition, we will update you regularly on the progress of the study by e-mailing you the *Wausau Area Crossroads*. Other ways we will involve the public in the planning process include:

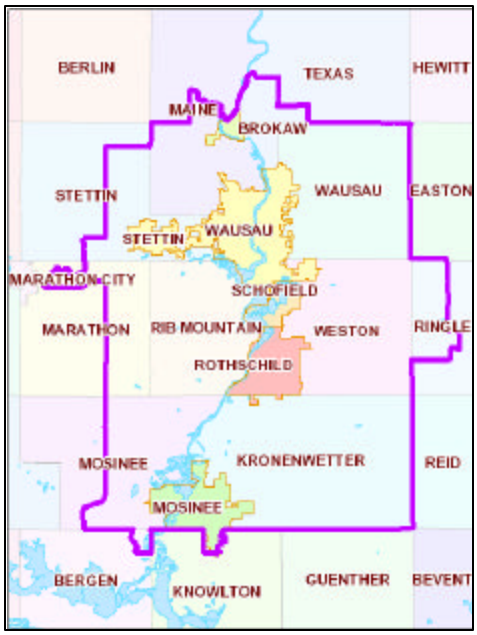
- Public Workshops
- Public Open House
- Community Press Releases

Project Schedule



What's an MPO?

A Brief Look At An MPO's Role in the Planning Process



The Wausau Area Metropolitan Planning Organization depicted above

In urbanized areas with populations over 50,000 people, federal highway and transit statutes require — as a condition for spending federal highway or transit funds — the designation of Metropolitan Planning Organizations (i.e. MPOs) which are responsible for planning, programming and coordinating federal highway and transit investments. The Intermodal Surface Transportation Efficiency Act (ISTEA) and the Transportation Equity Act for the 21st Century (TEA-21) contain a number of provisions that strengthen metropolitan transportation planning processes and enhance the planning and programming role of MPOs.

The Marathon County Planning Commission was designated as the agent for the Wausau MPO in 1983 and was reconstituted as the Marathon County Metropolitan Planning Commission in 1996. The Marathon County Metropolitan Planning Commission is composed of the chief elected officials of the communities that make up the Wausau Urbanized Area. The MPO planning area reflects the area that may become urbanized in the next 20 years and includes the following communities:

- City of Mosinee
- City of Schofield
- City of Wausau
- Village of Brokaw
- Village of Kronenwetter
- Village of Rothschild
- Village of Weston
- Town of Bergen
- Town of Maine
- Town of Mosinee
- Town of Rib Mountain
- Town of Stettin
- Town of Texas
- Town of Wausau
- Town of Weston
- Town of Marathon
- Town of Ringle

Continued from Page 1

Examples of data that will be rigorously analyzed during the initial phase of study include:

- ***2000 and 2030 (Projected) Socioeconomic Data*** *(population, households and employment)*
- ***Existing Land Use Plans for Area Communities***
- ***Roadway Data*** *(crash statistics, pavement and bridge conditions and traffic lane inventory)*
- ***Transit Data*** *(historic ridership, fleet inventory and operating efficiencies)*
- ***Bicycle/Pedestrian Facilities Data*** *(trail conditions, areas of concern)*
- ***Rail Data*** *(identification of at-grade crossings, train operations)*
- ***Airport Data*** *(historic levels of aircraft operations, existing and planned airport improvements)*

Wausau Area Crossroads

Issue 2

October 2004

This is the second in a series of E-Newsletters that will be sent concerning the Wausau Area Transportation Plan. The "Wausau Area Crossroads" will update everyone who is interested in the status of the Transportation Plan. If there are individuals you know who would like to receive this update but are not on our list or if you would like to be removed from the list please notify:

Jim Henricksen, Project Manager at (612) 373-6413 or wausau_lrtp@urscorp.com

Goals Set Path For Future Transportation System

An important step in developing the Wausau Area Long Range Transportation Plan (LRTP) is identifying the vision, goals and objectives. The LRTP is a working document that outlines how the area's transportation system will develop over the next twenty-five years and it is important that the improvements address the needs and the desires of the impacted communities.

In July 2004, the study's policy and technical committees initiated this step by participating in a survey that will provide input to help identify general issues within the Wausau metropolitan area. This information will be used to establish the Wausau Area 2030 LRTP project vision statement, goals and objectives.

Survey respondents were asked to rate by importance the issues in the Wausau area for the following topics:

Continued on Page 3

- **Safety**
- **Mobility**
- **Through Traffic**
- **Natural Environment**
- **Direct Routes/Accessibility**
- **Alternative Transportation Modes**
- **Cost**
- **Quality of Life**
- **Growth Management**
- **Future Infrastructure Planning**
- **Existing Economic Development**
- **Future Economic Development**

You're Invited…

TRANSPORTATION ISSUES IDENTIFICATION WORKSHOP

Wednesday
October 13, 2004
6:30 p.m. to 8:30 p.m.

at

Wausau Room
Wausau Headquarters Library
300 N. First St.
Wausau, WI 54403

IDEAS TO IMPROVE THE TRANSPORTATION SYSTEM?

SHARE THEM AT AN ISSUES IDENTIFICATION WORKSHOP
OPEN TO THE PUBLIC

Tell us about the transportation-related concerns or problems that you experience traveling within or through the Wausau metropolitan area. Whether your concerns relate to roads, transit, bicycles and/or walking, we want to hear about it! Let us know what works and what needs to be improved--issues may include access to destinations such as schools, shopping, employment, medical facilities, and entertainment.

An update on the Wausau Area 2030 Long Range Transportation Plan will be presented. The public workshop will cover existing transportation conditions within the Wausau metropolitan area and will provide an opportunity for questions and comments. Contact Jim Henricksen, URS Corporation, at (612) 373-6413 or David Mack, Marathon County Conservation, Planning and Zoning Department, at (715) 261-6043 for additional information or e-mail at: wausau_lrtp@urscorp.com.

Committee members identify transportation issues including:

Need for pedestrian facilities

Limited bus service

Lack of bicycle facilities

Given that places of employment not only attract workers, they also attract shoppers, students, truckers, etc. depending on the type of work being conducted. By using socioeconomic data, such as employment and population, it is possible to generate a better understanding of the distribution of human activities and travel demand.

What will transportation be like in the Wausau area in the year 2030? Where will be the most congested roadways? How will future land use development impact the transportation system?

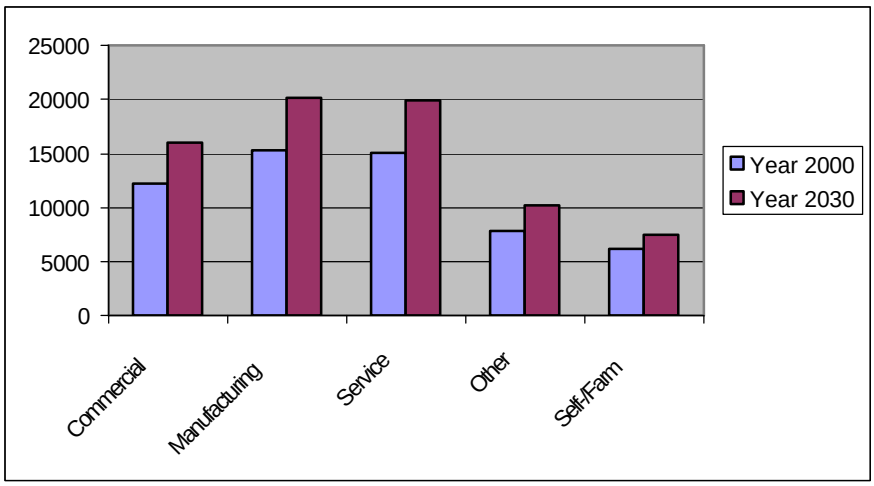
These questions may not be at the top of your priority list, but they are questions that the Wausau Area Long Range Transportation Plan will address. By analyzing year 2030 conditions now, communities within the Wausau area can identify deficiencies, plan improvements, and budget for needed improvements.

The Wausau Metropolitan Area has seen significant growth in population and employment over the past several decades. Population and employment are projected to continue to grow and the location and distribution of this growth will impact future transportation demand. Likewise, future transportation improvements may impact where and how future growth occurs further impacting the transportation system and the area's quality of life.

A tool that will be used to analyze year 2030 conditions is a travel demand forecasting model. A travel model is a computer program that replicates the transportation network of a particular area, such as the Wausau urbanized area. The model contains general information including number of lanes, travel speeds, and capacity.

Once the model reflects current travel conditions in the Wausau area, it can be used to evaluate future conditions. Assumptions regarding future development, including residential and employment growth, are entered in the model and then analyzed to determine the impacts on the transportation system. Based on a series of model runs, transportation improvements can be prioritized for inclusion in the Wausau Area LRTP.

Year 2030 Jobs Projection for the Urbanized Area



Source: North Central Wisconsin Regional Planning Commission (NCWRPC)
Includes the Towns of Guenther, Bergen, Knowlton, Marathon, and Mosinee.

Continued from Page 1

Survey participants unanimously rated **safety** as the highest of importance. **Mobility** and **Growth Management** were rated the next highest.

Safety Provide safe transportation on the roadway network with the objective of minimizing the number and severity of accidents.

Mobility Maintain and improve the quality of travel on the roadway network with the objectives of (1) reducing travel delays and minimizing congestion on roads and (2) reducing traffic on other congested roads.

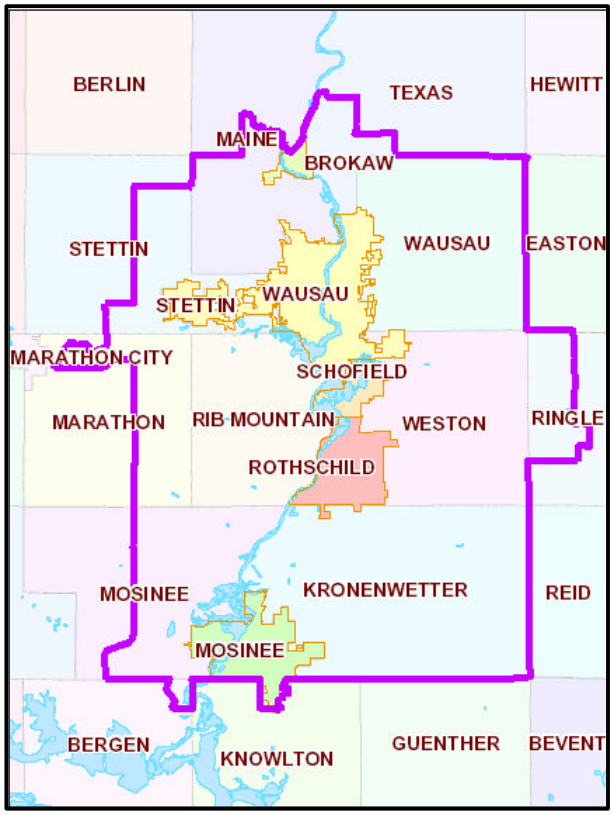
Growth Management Time the construction of roads to encourage contiguous growth and avoid leapfrog development by using zoning and other government regulations to prevent premature development before adequate infrastructure is in place to support it.

The survey results provide guiding principles for developing the goals and objectives for the 2030 LRTP. The goals and objectives should focus on the issues and concerns of the local communities as well as address the seven areas identified in the Transportation Equity Act for the 21st Century (Known as "TEA 21").

Are There Specific Requirements that the LRTP needs to address?

Yes. TEA-21 identifies seven broad areas to be considered in the planning process. These areas are:

- Support the **economic vitality** of the metropolitan area, especially by enabling global competitiveness, productivity, and efficiency.
- Increase the **safety and security** of the transportation system for motorized and non-motorized users.
- Increase the **accessibility and mobility** options available to people and for freight.
- Protect and enhance the **environment,** promote energy conservation, and improve quality of life.
- Enhance the **integration and connectivity** of the transportation system across and between modes (such as auto, bus, rail, air and so on for people and freight).
- Promote efficient **system management** and operation.
- Emphasize the **preservation** of the existing transportation system.



The Wausau Area Metropolitan Planning Organization depicted above

Wausau Area Crossroads

The 2030 Long Range Transportation Plan is a joint project between the Marathon County Conservation, Planning and Zoning Department and the Wisconsin Department of Transportation. If you have a question about the project, please contact:

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Transportation Planner
Marathon County Conservation, Planning and Zoning Department
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(715) 261-6043 dtmack@mail.co.marathon.wi.us

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Marathon County Conservation, Planning and Zoning Department
210 River Drive
Wausau, WI 54403

Wausau Area Crossroads

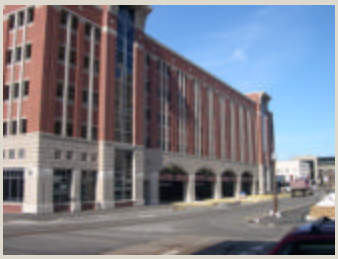
Wausau LRTP

September 2004

Issue 1

This is the first in a series of E-Newsletters that will be sent concerning the Wausau Area Transportation Plan. The "Wausau Area Crossroads" will update everyone who is interested in the status of the Transportation Plan. If there are individuals you know who would like to receive this update but are not on our list or if you would like to be removed from the list please notify:

Jim Henricksen, Project Manager at (612) 373-6413 or wausau_lrtp@urscorp.com



Wausau Area Transportation Plan To Be Developed

Improvements Sought Through The Year 2030

The Wausau Area Metropolitan Planning Organization (MPO) is beginning a transportation planning process to help improve everyday life for Wausau Area residents, employees and tourists.

The MPO has begun work on the Area's 2005-2030 Long Range Transportation Plan (LRTP) – a twenty-five year plan that aims to (among other things): improve the movement of people and goods; provide a transportation system that is reliable and accessible to all users; support the region's economic vitality; and, protect and enhance the area's high quality of life and environment.

Why is this Transportation Plan Needed?

Federal transportation legislation established in the Transportation Equity Act for the 21st Century (TEA-21 – pronounced "tea" 21) requires that a Long Range Transportation Plan be completed by MPOs at least every five years as a condition for receiving federal transportation funds.

The planning process is aimed at developing programs and policies to meet a region's transportation needs by analyzing the existing system, forecasting future conditions, and analyzing potential improvement alternatives. The project will develop a multi-modal investment strategy for meeting the mobility needs of people and businesses throughout a metropolitan area.

The Plan will serve as a planning tool for guiding decision-making related to the region's transportation system and therefore, community support of the plan is essential.

Continued on Page 2

Study's First Phase Well Underway

Data Collection to Help Identify Transportation Deficiencies

The initial task in developing the Wausau Metropolitan Area 2030 Long Range Transportation Plan will involve a comprehensive collection of data for various transportation modes including roadways, transit, bicycle/pedestrian elements, rail operations, and airports. The data collected will be used to analyze the existing Wausau Urbanized Area transportation system to identify possible deficiencies.

Continued on Page 3

Wausau Area Crossroads

Wausau LRTP

SEPTEMBER 2005

Issue 3

This is the third in a series of E-Newsletters that will be sent concerning the Wausau Area Transportation Plan. The "Wausau Area Crossroads" will update everyone who is interested in the status of the Transportation Plan. If there are individuals you know who would like to receive this update but are not on our list or if you would like to be removed from the list please notify:

Jim Henricksen, Project Manager at (612) 373-6413 or wausau_lrtp@urscorp.com

WAUSAU AREA LONG RANGE TRANSPORTATION PLAN PUBLIC OPEN HOUSE

The Marathon County Metropolitan Planning Organization and Conservation, Planning and Zoning Department along with their study partners will host a public open house and workshop on **Tuesday, September 13, 2005**. The open house will:

- Provide information on 2035 transportation system forecasts,
- Indicate potential transportation improvements being considered,
- Present information about the planning and decision-making process, and
- Offer the public an opportunity to ask questions or provide input on the future of the Wausau metropolitan area transportation system.

The workshop will be held Tuesday, September 13
4:00 p.m. to 7:00 p.m.
at the
Wausau Headquarters Library, Wausau Room
300 North First Street, Wausau, Wisconsin 54403.

The workshop is free and open to the public; the facility is handicapped accessible. The workshop will follow an informal format with a presentation at 5:00 and 6:00 p.m. allowing people to participate at their convenience anytime during the evening.

Improving Safety is a high priority of LRTP

A key component of the 2005 Wausau Area LRTP is a transportation safety analysis. The safety analysis seeks to identify crash patterns in order to develop suitable recommendations for mitigating crash severity and reducing the number of crashes.

The analysis objectives were to identify roadway segments with safety problems including higher than average:

- Vehicular crash rates
- Fatal and incapacitating crashes
- Run off the road crashes
- Railroad crossing crashes
- Intersection related crashes
- Bicycle-related crashes
- Pedestrian-related crashes

The safety analysis not only looked at vehicular crashes, it also looked at crashes involving pedestrians and bicycles. Pedestrian and bicycle safety issues are especially important given they tend to effect some of our most vulnerable populations, children, seniors, or person's with disabilities. Several streets with high levels of pedestrian and bicycle-related accidents within relatively short distances include: Stewart Ave., Bridge St., 6th St., 3rd Ave., 1st Ave., Forest Ave., and 1st St. The number and concentration of accidents on these streets over the past three years suggests a need for bicycling and pedestrian safety improvements.

Continued on page 3

Providing Transportation Options:

Employment related trips contribute to peak hour congestion.

Appealing pedestrian facilities improve one transportation option.

Reconstruction of roadways for safer levels of service.

Employment activities, roadway conditions, and pedestrian facilities all play an integral role in defining the travel behavior patterns that exist within the MPA. Improving transportation options allows for leisure activities as well as allowing more choices for people to move throughout the MPA.

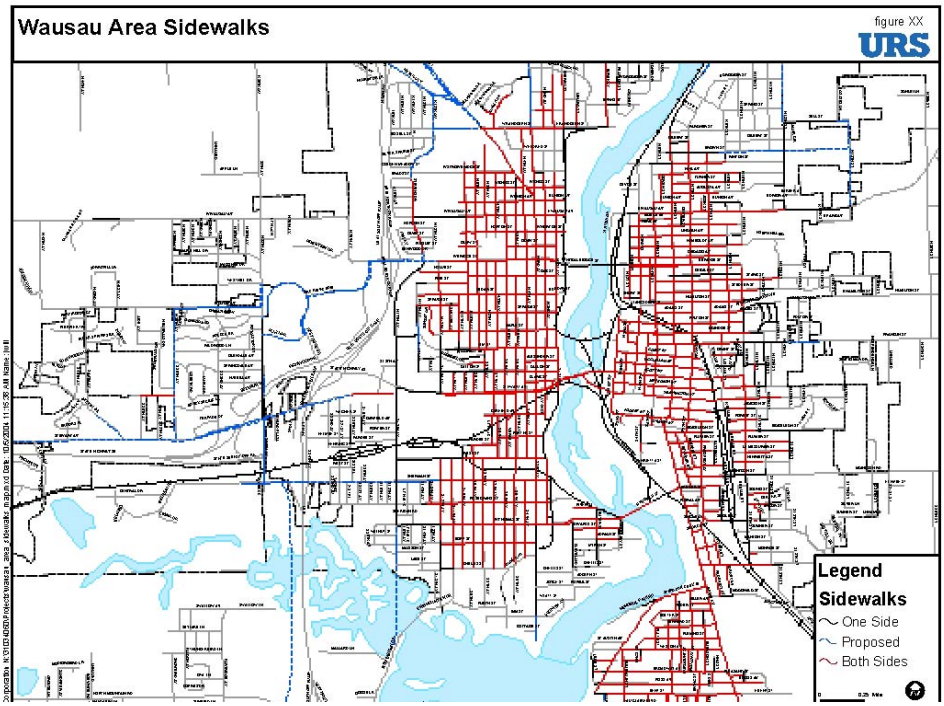
Defining Pedestrian and Bicycle Facilities throughout the Wausau MPA: What facilities currently exist? What facilities are planned? Do the facilities connect?

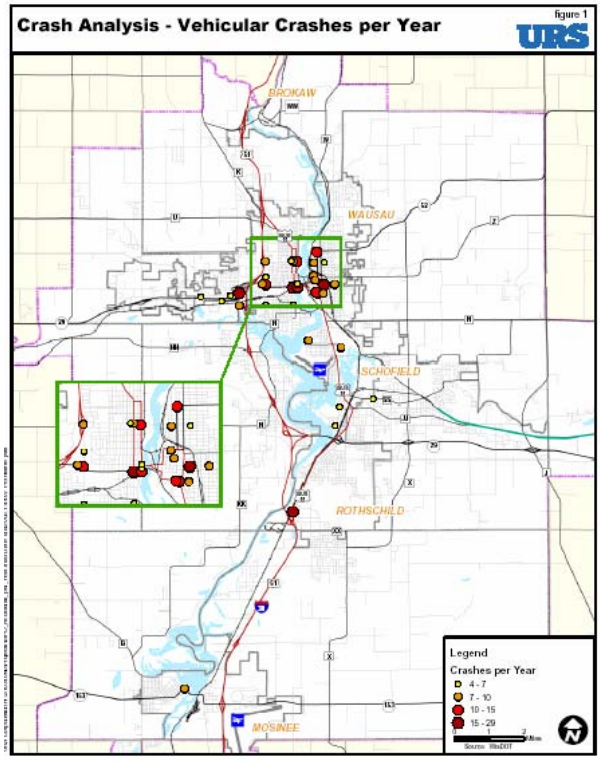
Determining the answer to these questions allows for guidance for future recommendations within the LRTP. These facilities allow residents to travel in ways that do not require an automobile for work related or leisure trips. Connectivity throughout the area also allows residents from many municipalities to utilize the network of sidewalks and trails throughout the entire metropolitan area rather than only one specific municipality.

The City of Wausau maintains a comprehensive sidewalk geographic database that illustrates sidewalks and bicycle facilities within the municipality. Sidewalks currently exist on both sides of many streets within the portions of Wausau built before World War II. Sidewalks are also planned for many developing areas within Wausau to provide connections to parks, schools, and other points of interest within the city.

Creating a regional connection to the Mountain Bay Trail, which terminates in the Village of Weston, would also allow residents of the MPA to connect to the 86-mile trail leading to Green Bay. Support exists among the municipalities for the creation of a regional Bicycle and Pedestrian Trail along the Wisconsin River running throughout the MPA. The connection of this trail with the Mountain Bay Trail as well as a future connection to Merrill would allow residents to travel via bicycle throughout the region.

Creating the regional system of bicycle and pedestrian facilities also provides the potential for travel without the use of automobiles within the region. These modes of transportation serve both recreational and utilitarian purposes when designed accordingly.





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A high number of average annual vehicular crashes indicates a potential safety problem. A majority of these areas of concern fall within the City of Wausau, however many of these roads serve high volumes traffic. Areas that stood out as high accident locations include:

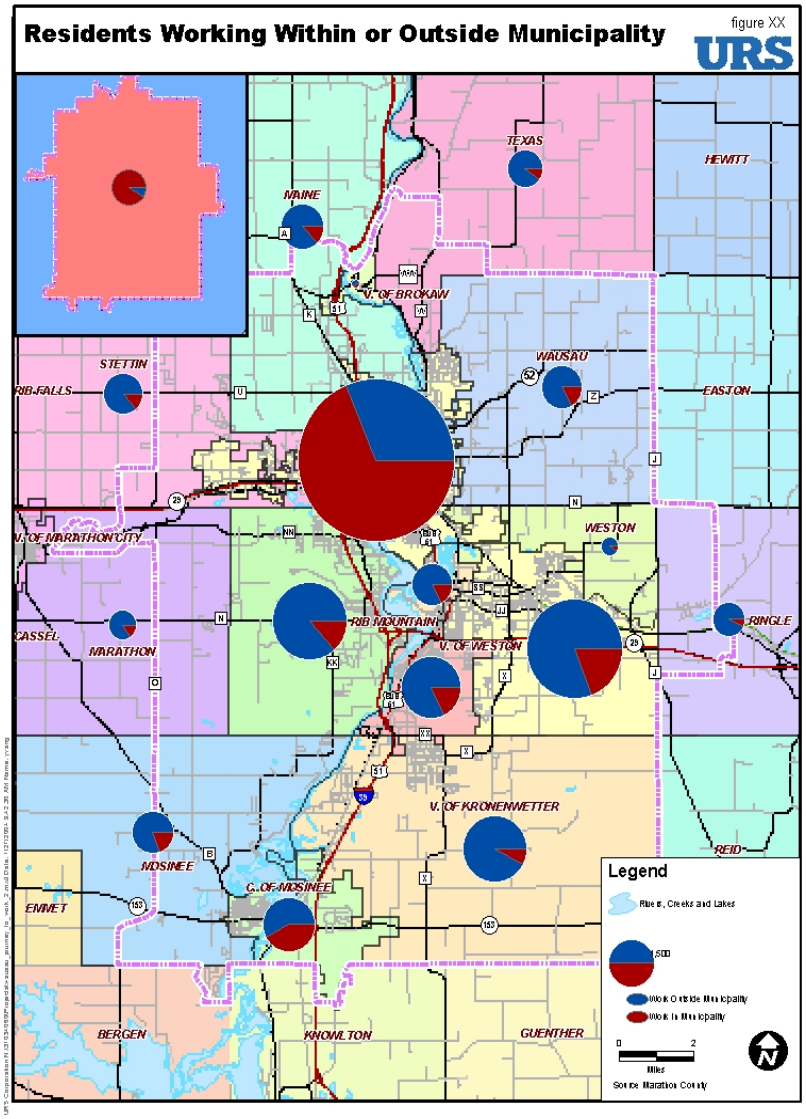
- Bridge Street at 25th St. N
- Bridge Street at 26th St. N
- Jefferson Street E at 57th St. N
- Norton Street at 8th Ave. N

Within less than a mile there have been six accidents involving railway crossings within the last four years. The railway crossing near US BUS 51 and CTH XX in Weston has seen three crashes over that period, the most recorded within the MPA.

The safety analysis findings will aid in the development of more effective safety improvement recommendations.

Where are area residents working within the region?

- A majority of Wausau Metropolitan Planning Area (MPA) residents within the workforce find employment in a municipality other than the municipality where they live.
- Residents living in the City of Wausau are more likely to find employment within the city limits and Wausau is the only municipality where more residents work within the city rather than finding employment elsewhere.
- A majority of the workforce within the MPA finds employment within the MPA and only 9% of residents within the workforce are employed in areas outside of the MPA.
- 38% of workers within the MPA find employment within the municipality in which they reside.
- Municipalities such as the City of Wausau, the Village of Brokaw, the Town of Stettin and the City of Schofield provide more jobs to the region than other municipalities within the MPA.
- Of the 9% of workers that look outside of the MPA for employment, the majority work in other municipalities within Marathon County or nearby Wood County.



The 2030 Long Range Transportation Plan is a joint project between the Marathon County Conservation, Planning and Zoning Department and the Wisconsin Department of Transportation. If you have a question about the project, please contact:

David Mack
Transportation Planner
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Wausau, WI 54403
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or

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robert.wagner1@dot.state.wi.us

Marathon County Conservation, Planning and Zoning Department
210 River Drive
Wausau, WI 54403

APPENDIX C – GOALS AND OBJECTIVES PROCESS

Wausau Area
2030 Long Range Transportation Plan

TECHNICAL MEMORANDUM

TO: Wausau Area MPO Technical Committee Members

FROM: URS Corporation

DATE: October 14, 2004

SUBJECT: Goals and Objectives Review and Survey Findings

The purpose of this memo is to review the goals and objectives developed for the 2020 Long Range Transportation Plan (LRTP); summarize the results from the survey that was distributed among the policy and technical committees; and recommend a vision statement and changes for the 2030 LRTP goals and objectives. The goals and objectives should focus on the issues and concerns of the local community as well as address the seven areas identified in the Transportation Equity Act for the 21st Century (known as "TEA-21").

Defining Goals and Objectives

Goals are general statements that pertain to area-wide or systemic issues, yet should be specific enough to tell whether the goal has been achieved. For example, "to improve the safety and efficiency of travel" can be a goal. The goal statement is measurable although provides no further information on how the goal may be achieved. Some goals may overlap with other goals. Decision-makers by definition assign priority to the various goals when making implementation decisions.

Objectives are more specific and measurable statements that expand upon the goal, identifying types of actions that advance the larger goal. Using the goal of "to improve the safety and efficiency of travel" as an example, an objective could be "to maintain or improve existing cross-town travel times on arterial corridors." Another objective could be "to reduce accidents by implementing safety improvements at intersections with the highest crash rates." There are generally several objectives associated with a particular goal and there may be some overlap between them.

The plan's goals should describe the general qualities, characteristics and conditions desired for the metropolitan area. Objectives should outline the more specific outcomes, plan recommendations should attempt to achieve. The goals and objectives are critical to the

development of the plan as they serve as the basis for the measures of effectiveness when analyzing transportation improvement alternatives.

Goals and Objectives from the 1996 LRTP

The following is a summary of the 2020 LRTP goals and objectives developed in 1996 for the Wausau Metropolitan Planning Area (MPA). These provide a starting point for considering 2030 LRTP goals and objectives. Some of the issues addressed in these goals and objectives may have been addressed and/or are no longer relevant given current conditions within the metropolitan area. A review of these goals and objectives are discussed on page 9.

The goals and objectives fall under the following three categories:

- Land-Use and Development
- The Transportation System
- The Planning Process

Land-Use and Development

Goal 1: Regional Character – The current character of the Wausau Metropolitan Area must be maintained.

Objectives:

- Provide opportunities for the existing major activity centers (downtown Wausau, the Stewart Avenue/Highway 51 interchange area, and the Schofield/Weston urban centers) to thrive.

- Maintain a balance in the mix of land-use to provide for a range of housing opportunities, with limitations in density.

- Continue to develop, both economically and culturally, as the center and the cross roads of the state.

Goal 2: Community Configuration – The Metro Area will encourage growth that is compact and generally occurs adjacent to existing developed areas.

Objectives:

- Provide new development redevelopment at densities compatible with existing development and making use of available capacity in public infrastructure.

- Manage growth to achieve a contiguous character with existing development minimizing urban sprawl and leap-frog development forms.

The Transportation System

Goal 3: Economic Development – The transportation system should support and enhance economic development within the region.

Objectives:

- Provide sufficient investment in transportation infrastructure and service to enhance economic conditions for the primary regional markets.

- Provide transportation systems to create a pattern of accessibility that matches and supports the land-use development plans in the region.

Goal 4: Environmental and Natural Resource Protection

4A) The transportation system should recognize the environmental condition of the region and minimize negative encroachments and disruptions on such areas.

Objectives:

- Minimize transportation system encroachments into undisturbed portions of significant natural resources, such as Rib Mountain, the Wisconsin, Rib and Eau Claire Rivers, and the Nine-Mile Recreation Area.

- Provide transportation systems and service that minimize significant encroachment t by non-local travel within resident areas.

4B) Natural resources will be given high priority and protection.

Objectives:

- Arrange land-use activities to protect high priority resources including the Wisconsin River corridor, the Little and Big Rib River Corridors, the Eau Claire River corridor, Rib Mountain, and the Nine-Mile Recreation Area.

- Provide opportunities in which the community can benefit from the natural resources via planned vistas, linkages, and land-use relationships (e.g., use of buffers, locating low density land-uses near natural resources, etc.)

Goal 5: Transportation Performance – The transportation system should provide quality service with reasonable speed, convenience, and safety for all users.

Objectives:

- Provide a roadway system with the capability of achieving appropriate performance levels for peak-period demand.

- Enhance the opportunity for using transportation modes other than the auto for person-trips, including pedestrian travel, bicycles, and public transportation, and provide public transportation service that is accessible to residential areas and to primary trip attraction areas (e.g., places of employment, shopping, education, public services, and recreation).

- Provide transportation system and land-use linkages to achieve reasonable travel times for intraregional trips by all modes, including the reduction of trip length as a strategy to reduce travel time.

- Provide effective linkages to non-local transportation systems (statewide, national) for all modes.

The Planning Process

Goal 6: Interagency Coordination – In conjunction with the transportation plan, a spirit on commitment to interagency coordination cooperation should be established in the region.

Objectives:

- Provide transportation services that achieve equity in benefits and costs among the regional communities (county, towns, and municipalities) and the state (WisDOT).

- Develop a transportation system organizational structure that matches functional hierarchy with jurisdiction (statewide, county level, regional, and subregional services) so that the functions of individual elements of the system are balanced with level of responsibility. For example, the county should be responsible for elements having county-wide or subregional impacts or benefits; municipalities for elements having local community impacts.

- Enhance intergovernmental relationships for coordination, cooperation, and to provide means for improving multimodal transportation.

Goal 7: Financial Feasibility – The transportation plan must be financially feasible.

Objectives:

- Define a feasible financing strategy for the transportation plan.

- Leverage the use of non-local resources to increase the amount and/or effectiveness of federal and state resources available to the region.

- Provide for equitable balance in the financial support from local communities within the region.

- Increase the use of private sector financial resources for transportation improvements.

Goal 8: Commitment to Implementation – The transportation plan should be supported by a commitment to implement the recommended improvements according to an identified schedule.

Objectives:

- Provide a management system for the transportation plan.

- Define specific milestones for implementation.

TEA-21 Guidelines

TEA-21 guidelines must be considered in developing the federally approved LRTP. These seven guidelines offer general transportation issues worth considering in the development of goals and objectives; the guidelines are as follows.

1. Support the economic vitality of the metropolitan area, especially by enabling global competitiveness, productivity, and efficiency.

2. Increase the safety and security of the transportation system for motorized and non-motorized users.

3. Increase the accessibility and mobility options available to people and for freight.

4. Protect and enhance the environment, promote energy conservation, and improve quality of life.

5. Enhance the integration and connectivity of the transportation system across and between modes (such as auto, bus, rail, air, and so on) for people and freight.

6. Promote efficient system management and operation.

7. Emphasize the preservation of the existing transportation system.

The goals and objectives should also reflect the concerns and issues of the affected citizenry. To assist in this effort, a survey was conducted to gauge the relative importance of the issues identified in the TEA-21 guidelines. The results of the survey are presented in the next section.

Goals and Objectives Issues Survey

To initiate the process of identifying an MPO vision statement and updating the goals and objectives for the 2030 LRTP, the MPO's policy and technical committees were asked to participate in a survey that would help highlight guiding principles for the LRTP and for future MPO planning efforts.

Survey participants were asked to consider the twelve statements below and rate each ones importance by checking the box next to one of the four responses from the choices provided, i.e., "no importance," "low importance," "medium importance," and "high importance."

Survey topics were designed not to be specific or controversial. They were intended to a) initiate the discussion for assessing LRTP goals and b) indicate MPO priorities when considering MPO transportation projects for funding and allocating planning resources.

- **Safety:** Provide safe transportation on the roadway network with the objective of minimizing the number and severity of accidents.
- **Mobility:** Maintain and improve the quality of travel on the roadway network with the objectives of (1) reducing travel delays and minimizing congestion on roads and (2) reducing traffic on other congested roads.

- **Direct routes/accessibility:** Make it easier and more direct to travel between major destinations with the objective of providing direct routes between major destinations and major roadways.
- **Through traffic:** Improve the flow of traffic with the objective of consolidating or limiting access points along major travel routes.
- **Alternative transportation modes:** Develop an integrated transportation system, which doesn't rely solely on the car with the objective of providing facilities for bikes and buses.
- **Natural Environment:** Maintain the quality of the natural environment with the objectives of (1) minimizing the amount of land used in constructing the new roadways, (2) minimizing the impact to natural resources, and (3) minimizing noise and other adverse impacts of traffic on residents and businesses.
- **Future Infrastructure planning:** Plan now for the infrastructure needs of residential and business development and construct infrastructure when needed with the objectives of (1) acquiring and preserving right-of-way before development occurs to minimize disruptions to existing and future homeowners and businesses and (2) minimizing the number of acres of land needed to purchase for improvements
- **Existing economic development:** Enhance access to existing business centers by improving traffic flow between development centers with the objectives of (1) providing good access to retail, commercial and industrial areas as growth occurs, (2) providing good freight access to-and-from retail, commercial and industrial areas as growth occurs and (3) providing good access to jobs.
- **Future economic development:** Stimulate new economic development in areas consistent with local and County land use plans by (1) constructing transportation improvements to provide good access to future planned business development locations and (2) building good freight access to-and-from future planned retail, commercial and industrial areas.
- **Quality of Life:** Maintain or Enhance the quality of life by (1) minimizing traffic through residential neighborhoods, (2) maintaining neighborhood identity and cohesion, (3) designing future roads to be compatible with surrounding areas, and (4) maintaining consistency with existing land use, pedestrian, bicycle and transit.
- **Growth management:** Time the construction of roads to encourage contiguous growth and avoid leapfrog development by using zoning and other government regulations to prevent premature development before adequate infrastructure is in place to support it.
- **Cost:** Minimize the short and long term cost of improvements funding through taxes with the objectives of (1) designing cost effective improvements by considering life cycle costs and (2) matching the scale and character of the improvements to the financial resources of the Wausau Metropolitan Planning Area.

Survey participants were then instructed to select rank six of the 12 topics in order of importance from the most important to the sixth most important.

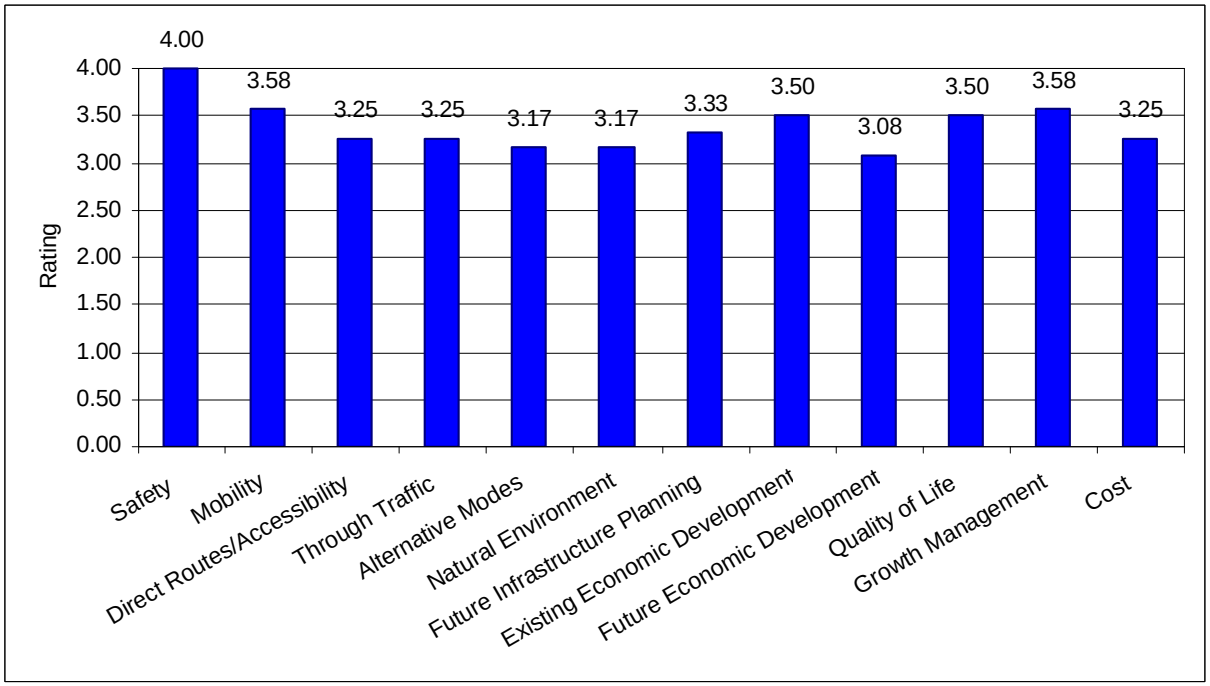
Those surveyed were finally asked to list the five most important transportation issues or problems facing the Wausau Metropolitan Area. This question was designed to solicit information about more specific and/or localized transportation problems.

Survey Responses

For the first section of the survey, survey responses were assigned a numeric value by URS ("1" = no importance, "2" = low importance, "3" = medium importance and "4" = high importance) and an average number was calculated for each statement. The results of this process are shown

if Figure 1. Survey respondents unanimously rated "Safety" as "high importance" scored the highest followed by "Future Infrastructure Planning." The complete results are shown in the chart below. Mobility and growth management were rated the next highest. Future economic development was rated the lowest, followed by alternative modes and natural environment.

Figure 1: Rating of Survey Statements



Source: URS Corp.

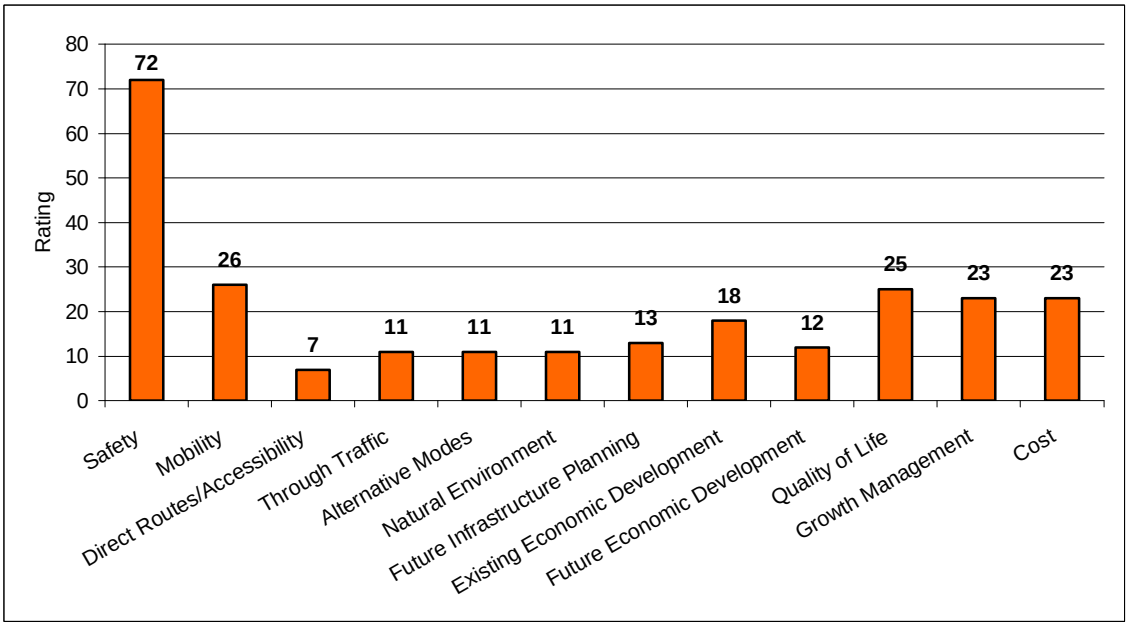
As was noted, none of the statements listed were particularly objectionable and therefore survey respondents were not likely to suggest they were of low importance. In an attempt to differentiate between these issues and establish a clearer picture of priorities, survey respondents were asked to rank six most important issues in order of importance.

Responses were then assigned a numeric value by URS as follows.

Most important = 6
2nd important = 5
3rd important = 4
4th important = 3
5th important = 2
6th important = 1

The results show "Safety" ranked the highest overall of the top six topics (see Figure 2). All twelve of the survey respondents listed safety as the most important transportation issue. None of the remaining issues rated the type of consensus in importance as safety. Still, five respondents of the 12 indicated mobility as the 2nd most important issue with another rating it 6th on their list of importance. Quality of Life, growth management, and cost, each had eight respondents including these issues in their top six. Three respondents listed quality of life as their second most important issue. Accommodating through-traffic flow ranked the lowest with four respondents including it in their top six issues, although none of them ranked it as one of their top three issues.

Figure 2: Issues Ranking of Importance



Source: URS Corp.

The final part of the survey requested that respondents list the five most important transportation issues or problems facing the Wausau Metropolitan Area. This question was intended to solicit more detailed and specific transportation problems.

Of the twelve respondents who submitted surveys, eight included a response to this question. Several respondents raised similar issues. The following bullet points identified issues and problems that received multiple responses (see Appendix A for complete listing).

- Insufficient public transit.
- Need for Eastern Arterial
- Need for a northern Wisconsin River Bridge Crossing
- Need for Pedestrian and Bicycle Facilities (alternative modes)
- Safety Concerns.

Vision Statement

In and effort to develop input regarding the development of a vision statement, a handout was distributed at the August 26, 2004 MPO Policy and Technical Committee meeting. The handout offered three alternative "vision statements" for the group to respond to. The handout also asked the group to finish the statement "The role of the Marathon County Metropolitan Planning Commission is…"

The handout did spark a discussion, which resulted in a proposed vision statement and it's subsequent adoption. The statement is as follows.

- Vision Statement Here -

Proposed Draft Goals and Objectives

In order to update transportation planning goals and objectives for the 2005 LRTP, the 1996 LRTP goals and objectives were reviewed for relevance to current conditions and issues and for consistency with the survey findings as previously described. Some proposed changes are merely attempts to express the goal and/or objective more succinctly. Additional goals were developed in order to address issues that were identified as highly important in the survey findings, but were not directly addressed in the 1996 goals and objectives.

The proposed changes are offered for consideration among the Policy and Technical Committee members, with the purpose of initiating discussion and ultimately achieving consensus in finalizing the LRTP planning goals and objectives.

As previously indicated, the 1996 LRTP Goals and Objectives were categorized under three general headings of: land use and development, transportation system, and planning process.

Potential changes to goals are indicated with a strikethrough line for proposed deletion and an underline for proposed additions. A separate column is used for proposed changes to objectives, with a column showing the 1996 original objective provided for comparison.

	GOALS	1996 OBJECTIVES	PROPOSED 2005 OBJECTIVES
Land-Use & Development	**1. Regional Character** – ~~The current character of the Wausau Metropolitan Area must be maintained~~. Maintain the character of the Wausau Metropolitan Area.	• Provide opportunities for the existing major activity centers (downtown Wausau, the Stewart Avenue/Highway 51 interchange area, and the Schofield/Weston urban centers) to thrive.	• Create a transportation system that enhances existing activity centers (downtown Wausau, the Stewart Avenue/Highway 51 interchange area, and the Schofield/Weston urban centers).
		• Maintain a balance in the mix of land-use to provide for a range of housing opportunities, with limitations in density.	• Encourage mixed land-uses and housing opportunities consistent with the area character that minimizes travel demand and increases transportation efficiencies.
		• Continue to develop, both economically and culturally, as the center and the cross roads of the state.	• Promote the area's continued economic and cultural development.
	2. Growth and Development ~~**Community Configuration**~~ – ~~The Metro Area will~~ Encourage compact and contiguous growth ~~that is compact and~~	• Provide new development and redevelopment at densities compatible with existing development and making use of available capacity in public infrastructure.	• Promote growth that efficiently utilizes existing infrastructure, minimizes the need for additional infrastructure, while maintaining compatibility with the community's character.

	GOALS	1996 OBJECTIVES	PROPOSED 2005 OBJECTIVES
	~~generally occurs adjacent to existing developed areas~~ to maximize transportation system efficiencies and minimize costs.	• Manage growth to achieve a contiguous character with existing development minimizing urban sprawl and leap-frog development forms.	• Discourage urban sprawl and leapfrog development patterns that increase travel demand and require greater amounts of transportation investments.
Transportation System	**3. Economic Development** – The transportation system should support and enhance economic development ~~within the region~~.	• Provide sufficient investment in transportation infrastructure and service to enhance economic conditions for the primary regional markets.	• Provide transportation infrastructure and services that enhance economic conditions for primary regional markets.
		• Provide transportation systems to create a pattern of accessibility that matches and supports the land-use development plans in the region.	• Provide appropriate accessibility and compatibility with community land use plans.
	4. Environmental and Natural Resource Protection – **A)** ~~The transportation decision system should~~ Recognize the environmental condition of the region and minimize negative encroachments and disruptions on such areas.	• Minimize transportation system encroachments into undisturbed portions of significant natural resources, such as Rib Mountain, the Wisconsin, Rib and Eau Claire Rivers, and the Nine-Mile Recreation Area.	• Protect the area's natural resources from negative transportation system impacts whenever feasible.
		• Provide transportation systems and service that minimize significant encroachment t by non-local travel within resident areas.	• Minimize significant encroachment by non-local travel within residential areas. Or • Protect residential areas from negative transportation system impacts.
	B) Natural resources will be given high priority and protection. Or Combine A) and B) to read: Protecting the area's natural resources is a	• Arrange land-use activities to protect high priority resources including the Wisconsin River corridor, the Little and Big Rib River Corridors, the Eau Claire River corridor, Rib Mountain, and the Nine-Mile Recreation Area.	• Protect high priority resources including the Wisconsin River corridor, the Little and Big Rib River Corridors, the Eau Claire River corridor, Rib Mountain, and the Nine-Mile Recreation Area.

	GOALS	1996 OBJECTIVES	PROPOSED 2005 OBJECTIVES
	high priority. Negative encroachments on these areas will be minimized.	• Provide opportunities in which the community can benefit from the natural resources via planned vistas, linkages, and land-use relationships (e.g., use of buffers, locating low density land-uses near natural resources, etc.)	• Maximize natural resource benefits to the community via planned vistas, linkages, and land-use relationships (e.g., use of buffers, locating low density land-uses near natural resources, etc.)
	5. Transportation Performance – The transportation system should provide quality service with reasonable speed, convenience, and safety for all users.	• Provide a roadway system with the capability of achieving appropriate performance levels for peak-period demand.	• Strive to achieve appropriate performance levels within the context of other community goals.
		• Enhance the opportunity for using transportation modes other than the auto for person-trips, including pedestrian travel, bicycles, and public transportation, and provide public transportation service that is accessible to residential areas and to primary trip attraction areas (e.g., places of employment, shopping, education, public services, and recreation).	• Enhance the opportunity for using transportation modes other than the auto for person-trips, including pedestrian travel, bicycles, and public transportation.
		• Provide transportation system and land-use linkages to achieve reasonable travel times for intraregional trips by all modes, including the reduction of trip length as a strategy to reduce travel time.	• Provide public transportation service that is accessible to residential areas and to primary trip attraction areas (e.g., places of employment, shopping, education, public services, and recreation).
		• Provide effective linkages to non-local transportation systems (statewide, national) for all modes.	•
		•	• Promote transportation system and land-use coordination that reduces trip lengths and travel times for all modes of travel.
Planning Process	**6. Interagency Coordination –** ~~In conjunction with the transportation plan, a spirit on commitment to interagency coordination~~	• Provide transportation services that achieve equity in benefits and costs among the regional communities (county, towns, and municipalities) and the state (WisDOT).	• Provide transportation services that achieve benefit and cost equity among member communities, the County and the State.

GOALS	1996 OBJECTIVES	PROPOSED 2005 OBJECTIVES
~~cooperation should be established in the region.~~ Foster cooperation and coordination among member municipalities and agencies through the planning process and implementation of the transportation Plan.	• Develop a transportation system organizational structure that matches functional hierarchy with jurisdiction (statewide, county level, regional, and subregional services) so that the functions of individual elements of the system are balanced with level of responsibility. For example, the county should be responsible for elements having county-wide or subregional impacts or benefits; municipalities for elements having local community impacts.	• Promote functional hierarchy with appropriate jurisdictional responsibility (statewide, regional, and subregional services) so that transportation system elements are balanced with level of responsibility. For example, the county should be responsible for elements having county-wide or subregional impacts or benefits; municipalities for elements having local community impacts.
	• Enhance intergovernmental relationships for coordination, cooperation, and to provide means for improving multimodal transportation.	• Enhance intergovernmental coordination and cooperation for improving multimodal transportation.
7. Financial Feasibility – The transportation plan must be financially feasible.	• Define a feasible financing strategy.	•
	• Leverage the use of non-local resources to increase the amount and/or effectiveness of federal and state resources available to the region.	•
	• Provide for equitable balance in the financial support from local communities within the region.	•
	• Increase the use of private sector financial resources for transportation improvements.	•
8. Commitment to Implementation – The transportation plan should be supported by a commitment to implement the recommended improvements according to an identified schedule.	• Provide a management system for the transportation plan. • Define specific milestones for implementation.	

GOALS	1996 OBJECTIVES	PROPOSED 2005 OBJECTIVES
9. **Safety –** Provide for a safe transportation system.	•	• Minimize the number and severity of vehicular crashes.
		• Design safe facilities that promote appropriate travel speeds, enhance predictability, and provide a safe and comfortable environment for all transportation system users.
10. **Future Infrastructure planning –** Proactively plan for anticipated infrastructure needs of residential and business development.	•	• Acquire and preserve right-of-way prior to development to minimize disruptions to existing and future homeowners and businesses.
	•	• Minimize the amount of land needed for improvements.
11. **Quality of Life –** Maintain and enhance the quality of life within the Wausau metropolitan area.	•	• Minimize traffic through residential neighborhoods.
	•	• Promote neighborhood identity and cohesion.
	•	• Design roads to be compatible with surrounding areas and be pedestrian, bicycle and transit friendly.
12. **Mobility:** Maintain and improve the quality of travel on the roadway network.	•	• Reduce travel delays and minimize congestion on roads.
	•	• Reduce traffic demand on congested roads.

Appendix A

1. Safety
2. Mobility
3. Direct routes/accessibility
4. Through traffic
5. Alternative transportation modes
6. Natural environment
7. Future infrastructure planning
8. Existing economic development
9. Future economic development
10. Quality of life
11. Growth management
12. Cost

Survey Responses Rating Issues Importance

Rank of Importance	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**
High Importance	12	8	5	4	3	2	6	6	4	6	8	5
Medium Importance	0	3	6	7	8	10	4	6	5	6	3	6
Low Importance	0	1	0	1	1	0	2	0	3	0	1	0
No Importance	0	0	1	0	0	0	0	0	0	0	0	1
Total	12	12	12	12	12	12	12	12	12	12	12	12

Survey Responses Ranking Issue Importance

Rank of Importance	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**
1st	12	0	0	0	0	0	0	0	0	0	0	0
2nd	0	5	0	0	0	0	1	1	0	3	1	1
3rd	0	0	0	1	2	1	0	2	2	0	1	3
4th	0	0	1	1	0	1	2	1	0	2	4	0
5th	0	0	1	2	1	2	0	1	2	1	0	2
6th	0	1	2	0	1	0	2	0	0	2	2	2
Total	12	6	4	4	4	4	5	5	4	8	8	8
Average Ranking Score	6	4.33	1.75	2.75	2.75	2.75	2.6	3.6	3	3.13	2.88	2.88

Responses to the Survey Question "List the five most important transportation issues or problems facing the Wausau Metropolitan Area."

1. The lack of an intercity bus service providing connections to all regions of the state for residents in the metro area that lack access to an automobile.
2. The lack of pedestrian facilities, such as sidewalks, in many parts of the metro area, particularly in the high growth areas.
3. The lack of on-street bicycle facilities, such as bicycle lanes, along arterial and major collector routes within the metro area.
4. The safety of some of the railroad crossings within the metro area.
5. A limited public transit system that does not provide service to many of the growth areas within the metro area.

1. Safety
2. Direct routes/accessibility
3. Future Infrastructure Planning
4. Quality of Life
5. Alternative transportation modes

1. An east side arterial
2. Interchanges at north and south ends of the east side arterial
3. Lack of adequate bus service to the south area
4. Failures to grasp the idea of the future problems developing in the south transportation system.

1. Lack of alternative routes around area (especially east side).
2. Lack of northern river crossing.
3. Federal Bureaucracy

1. Safety
2. Pedestrian/bike facility
3. Direct routes
4. Environment
5. Aging facility

1. 185 I-39 interchange
2. W.P.S.C. increased traffic next 4 years
3. Lack of eastern arterial around Wausau Area

1. Budget crisis / status of shcared revenue (future)
2. Conflict between area municipalities for projects / funding
3. Shrinking transit funding
4. Aging drivers
5. Lack of local transportation planning, capacity and the need to outsource everything.

1. Complete west and east arterials. Routes including north end bridge crossing Wisconsin River
2. Provide alternative routes to Grand Ave., Stewart Ave., Sherman St., Thomas St.
3. Upgrade Grand Ave., Stewart Ave. Sherman St. Thomas St. to provide safer routes.
4. Upgrade and/or complete LRTP with a coordinated land use plan.
5. Upgrade local connector to USH 51/I-39.

APPENDIX D – PAST TIP PROJECT PRIORITIZATION CRITERIA

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TRANSPORTATION IMPROVEMENT PROGRAM PROJECT CRITERIA

The following process was used in the past for ranking TIP projects and is presented here as a reference of past procedures. The LRTP TIP evaluation process and critera should be consistent with or based upon the LRTP process.

PRIORITIZATION CRITERIA FOR EXISTING FACILITIES

The recommended Transportation Improvement Program within the *Long Range Transportation Plan for the Wausau Metropolitan Area* and the prioritization criteria within this section assist the Marathon County Metropolitan Planning Commission in selecting projects for SIP/Urban funding. Project prioritization will be guided by the *Long Range Transportation Plan for the Wausau Metropolitan Area.* Projects eligible for SIP/Urban funding will be prioritized every three years in relation to the three year SIP/Urban funding allocation. The following criteria are applied to existing transportation facilities:

A) FUNCTIONAL CLASSIFICATION. Functional classification of urban streets and highways is the process by which streets and highways are categorized according to the character of service they provide, ranging from travel mobility to land access. Urban streets and highways are classified as principal arterials, minor arterials, collectors or local streets.

The higher functional classification roadway will determine the appropriate functional classification for interchange and intersection projects. Points awarded for the functional classification of a roadway include:

Functional Classification	Points
Principal Arterials	6
Minor Arterials	4
Collectors	2

B) TRAFFIC VOLUME. The traffic volume information is determined by the annual average daily traffic (AADT) data generated every three years from the Wisconsin Department of Transportation. For projects with various counts on different segments, a weighted AADT will be calculated by factoring the length of the segments by the associated segment AADT. For divided roads with

separate directional AADTs, the total two-way AADT will be combined. For two-lane facilities, points awarded for traffic volume include:

AADT	Points
0 - 1,000	0
1,001 -3,000	1
3,001 - 5,000	2
5,001 - 10,000	3
greater than 10,000	4

For four-lane facilities, points awarded for traffic volume include:

AADT	Points
0 - 2,000	0
2,001 - 6,000	1
6,001 - 10,000	2
10,001 - 20,000	4
greater than 20,000	6

C) CONCURRENT. The concurrent criterion lends priority to the projects that are a logical component of a programmed project. The purpose of the concurrent criteria is to minimize interruptions of service by simultaneously implementing roadway improvements. A concurrent project will receive two points if scheduled in the same construction year as a previously programmed project.

PRIORITIZATION CRITERIA FOR A PLANNED FACILITY

The recommended Transportation Improvement Program within the *Long Range Transportation Plan for the Wausau Metropolitan Area* and the prioritization criteria within this section assists the Planning Commission in programming SIP/Urban funds for planned transportation facilities.

A) FUNCTIONAL CLASSIFICATION. Points awarded for the functional classification of a roadway include:

Functional Classification	Points
Principal Arterials	6
Minor Arterials	4
Collectors	2

B) TRAFFIC VOLUME. The traffic volume information is determined by the projected annual average daily traffic (AADT) from the data within the *Long Range*

Transportation Plan for the Wausau Metropolitan Area. Wausau MPO staff and the Wisconsin Department of Transportation will estimate AADT for planned facilities not addressed in the *Long Range Transportation Plan for the Wausau Metropolitan Area.*

C) For projects with differing segment projections, a weighted AADT will be calculated by factoring the length of the segments by the associated segment AADT. For divided roads with separate directional AADTs, the total two-way AADT will be combined. For two-lane and four-lane facilities, points awarded for projected traffic volume include:

Two Lane Facility AADT	Points	Four Lane Facility AADT
0-1,000	0	0 - 2,000
1,001 - 3,000	1	2,001 - 6,000
3,001 - 5,000	2	6,001 - 10,000
5,001 - 10,000	4	10,001 - 20,000
greater than 10,000	6	greater than 20,000

While the process defined above provides an objective and quantifiable evaluation process, it does not address all or even most of the MPO adopted goals and objectives.