



Oshkosh Metropolitan Planning Organization

Long Range Transportation/Land Use Plan

Oshkosh Urbanized Area

October 2010

Prepared by the

East Central Wisconsin Regional Planning Commission

Adopted 10/29/2010

The East Central Wisconsin Regional Planning Commission's CY 2010 planning program is supported by federal assistance. Specific funding for this report was provided by the Federal Highway Administration, Federal Transit Administration, the Wisconsin Department of Transportation, the Economic Development Administration, the Wisconsin Department of Administration and the Wisconsin Department of Natural Resources.

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ABSTRACT

TITLE: Interim update to the Long-Range Transportation/Land Use Plan for the Oshkosh Urbanized Area

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SUBJECT: An interim update to the report on the long-range transportation/land use planning process for the Oshkosh Urbanized Area to the year 2035.

DATE: 10/29/2010

LOCAL PLANNING AGENCY: East Central Wisconsin Regional Planning Commission

SOURCE OF COPIES: East Central Wisconsin Regional Planning Commission
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The interim update to the Long-Range Transportation/Land Use Plan for the Oshkosh Urbanized Area was prepared to meet the requirements of the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU) for long-range transportation and land use planning in metropolitan areas.

Table of Contents

EXECUTIVE SUMMARY	ES-1
CHAPTER 1 - INTRODUCTION	1-1
PUBLIC PARTICIPATION PROCESS.....	1-1
PUBLIC INFORMATION MEETING.....	1-2
CHAPTER 2 - GOALS, OBJECTIVES AND POLICIES.....	2-1
CHAPTER 3 - TRANSPORTATION SYSTEMS	3-1
EXISTING CONDITIONS	3-1
HIGHWAY AND STREETS.....	3-2
SAFETY.....	3-2
STATE HIGHWAY SAFETY PLANNING	3-3
TRANSPORTATION SECURITY	3-6
TRANSIT SECURITY	3-6
SYSTEM PERFORMANCE INDICATORS.....	3-7
SUSTAINABILITY/LIVABILITY.....	3-12
SAFE ROUTES TO SCHOOL	3-13
TRANSIT	3-14
FREIGHT	3-20
CHAPTER 4 - FORECAST ANALYSIS.....	4-1
HOUSEHOLDS	4-1
EMPLOYMENT	4-2
SUMMARY	4-3
CHAPTER 5 – RECOMMENDATIONS	5-1
LAND USE	5-1
TRANSPORTATION	5-1
TRANSIT	5-5
CHAPTER 6 - ENVIRONMENTAL JUSTICE	6-1
ECONOMIC IMPACTS.....	6-1
SOCIAL IMPACTS	6-2
CHAPTER 7 – ENVIRONMENTAL MITIGATION	7-1
POLICY CONTENT.....	7-3
ENVIRONMENTAL FEATURES	7-8
CHAPTER 8 - STATE LONG RANGE TRANSPORTATION PLAN COORDINATION.....	8-1
CHAPTER 9 - FINANCIAL ANALYSIS	9-1

TABLES

Table 3-1	Vehicle Inspection Crash Summary, 2001-2004	3-5
Table 3-2	Oshkosh MPO 2010 Sufficiency Ratings	3-10

Table 3-3	Fixed Route Passengers, Expenses, Revenues, 2004-2009	3-15
Table 3-4	System-wide Passengers, Expenses, Revenues, 2004-2009	3-16
Table 3-5	Funding and Revenue Sources	3-16
Table 3-6	Federal Formula Share of the Transit Deficit	3-17
Table 3-7	Fixed Route Ridership and Fare Revenues, 2004 - 2009	3-17
Table 3-8	Transit Fares (Changes since January 2004)	3-18
Table 3-9	OTS Paratransit Ridership (2004-2009)	3-18
Table 3-10	OTS Paratransit Service, 2009	3-19
Table 3-11	Total OTS Ridership	3-20
Table 4-1	MPO County Compared to DOA County Households Estimates 2005-2035	4-1
Table 4-2	MPO and EMSI County Employment Estimates, 2005 - 2035	4-2
Table 7-1	Non-Metallic Mining Sites	7-9
Table 7-2	Transportation Projects in Proximity to Existing Farmlands	7-10
Table 7-3	Municipalities with Wellhead Protection Plan and/or Ordinances	7-13
Table 7-4	Transportation Projects in Proximity of Wetlands	7-18
Table 7-5	Transportation Projects in Proximity of Floodplains	7-19
Table 7-6	Solid Waste Landfills and Disposal Facilities	7-19
Table 7-7	Transportation Projects in Proximity of Woodland Areas	7-21
Table 7-8	Federally Listed Endangered, Threatened, Proposed and Candidate Species in Winnebago County	7-23
Table 7-9	Transportation Projects in Proximity of Rare, Threatened and Endangered Species and Natural Communities	7-24
Table 7-10	Transportation Projects in Proximity of Recreation Trails	7-26
Table 7-11	Transportation Projects in Proximity of the Fox-Wisconsin Heritage Route..	7-27
Table 7-12	Local Parks and Open Space	7-28
Table 7-13	Transportation Projects in Proximity of Natural Areas/ County Parks/Nature Centers	7-31
Table 7-14	Transportation Projects in Proximity of Recreation Facilities	7-32
Table 7-15	State and County Emission Summaries, 2005	7-33
Table 7-16	Transportation Projects in Proximity to State and National Register of Historic Places	7-35
Table 7-17	Transportation Projects in Proximity to Historical Markers	7-37
Table 7-18	Transportation Projects in Proximity of Cemeteries	7-38
Table 7-19	Oshkosh MPO Long Range Transportation/Land Use Plan Update Projects and Environmental/Cultural Features	7-77
Table 9-1	Projected State/Federal Long Range Program Cost	9-1
Table 9-2	Anticipated Revenues	9-2

FIGURES

Figure 3-1	State of Wisconsin Traffic Fatalities & Serious Injuries	3-4
Figure 3-2	Oshkosh MPO PASER, 2005-2009	3-8
Figure 3-3	Winnebago County IRI Ratings Percentage of Total Miles	3-9
Figure 4-1	MPO and DOA County Household Estimates, 2005-2035	4-2
Figure 4-2	MPO and EMSI County Employment Estimates, 2005-2035	4-3
Figure 7-1	Arsenic Advisory Area	7-12

EXHIBITS

Exhibit 3-1a	PASER Ratings, Oshkosh MPO 2005	3-21
Exhibit 3-1b	PASER Ratings, Oshkosh MPO 2007	3-23
Exhibit 3-1c	PASER Ratings, Oshkosh MPO 2009	3-25
Exhibit 3-2	Oshkosh Transit System	3-27
Exhibit 3-3a	Oshkosh Transit System, Route #1 - East Loop	3-29
Exhibit 3-3b	Oshkosh Transit System, Route #2 - Bowen Street	3-31
Exhibit 3-3c	Oshkosh Transit System, Route #3 - Senior Shuttle	3-33
Exhibit 3-3d	Oshkosh Transit System, Route #4 - North Main	3-35
Exhibit 3-3e	Oshkosh Transit System, Route #5 - Algoma Park	3-37
Exhibit 3-3f	Oshkosh Transit System, Route #6 - UWO/North Sawyer	3-39
Exhibit 3-3g	Oshkosh Transit System, Route #7 - West High	3-41
Exhibit 3-3h	Oshkosh Transit System, Route #9 - Ninth Avenuet	3-43
Exhibit 3-3i	Oshkosh Transit System, Route #10 - Neenah	3-45
Exhibit 3-3j	Oshkosh Transit System, Route #11 - South Park	3-47
Exhibit 6-1	Oshkosh MPO Area Recommended Projects Minority (Non-White) Population Concentration (2000)	6-3
Exhibit 6-2	Oshkosh MPO Area Recommended Projects Percent Households with Low to Extremely Low Income (2000)	6-5
Exhibit 6-3	Oshkosh MPO Area Fixed Transit Routes Minority (Non-White) Population Concentration (2000)	6-7
Exhibit 6-4	Oshkosh MPO Area Fixed Transit Routes Percent of Households with Low to Extremely Low Income (2000)	6-9
Exhibit 7-1	Oshkosh MPO Area Recommended Projects Geological Features & Farmland Resources	7-39
Exhibit 7-1	Insert A - Oshkosh MPO Area Recommended Projects Geological Features & Farmland Resources	7-41
Exhibit 7-1	Insert B - Oshkosh MPO Area Recommended Projects Geological Features & Farmland Resources	7-43
Exhibit 7-2	Oshkosh MPO Area Recommended Projects Groundwater Contamination Susceptibility Analysis	7-45
Exhibit 7-3	Oshkosh MPO Area Recommended Projects Water Resources	7-47
Exhibit 7-3	Insert A - Oshkosh MPO Area Recommended Projects Water Resources	7-49
Exhibit 7-3	Insert B - Oshkosh MPO Area Recommended Projects Water Resources	7-51
Exhibit 7-4	Oshkosh MPO Area Recommended Projects Wetlands & Floodplains	7-53
Exhibit 7-4	Insert A - Oshkosh MPO Area Recommended Projects Wetlands & Floodplains	7-55
Exhibit 7-4	Insert B - Oshkosh MPO Area Recommended Projects Wetlands & Floodplains	7-57
Exhibit 7-5	Oshkosh MPO Area Recommended Projects Wildlife Resources	7-59
Exhibit 7-5	Insert A - Oshkosh MPO Area Recommended Projects Wildlife Resources	7-61
Exhibit 7-5	Insert B - Oshkosh MPO Area Recommended Projects Wildlife Resources	7-63

Exhibit 7-6	Oshkosh MPO Area Recommended Projects Parks, Open Space & Recreational Resources	7-65
Exhibit 7-6	Insert A - Oshkosh MPO Area Recommended Projects Parks, Open Space & Recreational Resources	7-67
Exhibit 7-6	Insert B - Oshkosh MPO Area Recommended Projects Parks, Open Space & Recreational Resources	7-69
Exhibit 7-7	Oshkosh MPO Area Recommended Projects Cultural Features.....	7-71
Exhibit 7-7	Insert A - Oshkosh MPO Area Recommended Projects Cultural Features.....	7-73
Exhibit 7-7	Insert B - Oshkosh MPO Area Recommended Projects Cultural Features.....	7-75

APPENDICES

- APPENDIX A – Public Information Meeting Comments & Sign In Sheet
- APPENDIX B – SR
- APPENDIX C – Consultation List
- APPENDIX D - BRRTS Contamination Results
- APPENDIX E – NHI Map
- APPENDIX F – Historic Register
- APPENDIX G – Ozone Trends
- APPENDIX H – Affidavits
- APPENDIX I – Summary of Proceedings
- APPENDIX J – MPO Resolutions

EXECUTIVE SUMMARY

The purpose of the update to the Oshkosh Urbanized Area Long Range Transportation/Land Use Plan (LRTP) is to expand on issues not covered adequately by the existing LRTP, adopted October 2005 and amended October 2007. The 2005 plan was adopted at the same time as the transportation bill SAFETEA-LU and prior to the guidance and requirements being finalized. The major update will take place with the release of the 2010 decennial U.S. Census data beginning in about 2012. The LRTP is an evolving document constantly being updated, and it's through this process that the document adapts and becomes stronger. This update is one of many in the attempt to maximize the LRTP potential. The update consists of the following seven essential sections:

- Transportation systems
- Forecast Analysis
- Recommendations
- Environmental Justice
- Environmental Mitigation
- State Long Range Plan Coordination
- Financial Analysis

Transportation systems

The transportation systems section analyzes the existing system and updates the transportation components. Components include: highway, streets, safety, state highway safety planning, Safe Routes to School (SRTS), transit, transportation and transit security. Additional new components include: performance indicators, sustainability/livability, and freight. Although the updates to the LRTP are important, the primary focus of this section is to expand on additional new components

In reference to transportation planning, performance indicators are used to track and analyze transportation system assets. Performance indicators used include Pavement Surface Evaluation and Rating System (PASER), International Roughness Index (IRI) and bridge Sufficiency Rating (SR). Collecting and comparing performance indicator data from one year to the next allows the MPO to gauge how the transportation system as a whole changes over time. This analysis will allow the MPO, State and federal officials to make better informed decisions on the future of the Oshkosh urban area transportation system.

Sustainability and livability refer to creating a transportation network that adequately accommodates all users, while enduring in the human environment. A tool used to achieve sustainability and livability in transportation planning is a design concept called "Complete Streets". "Complete Streets" is a concept used to design roads that safely, conveniently and comfortably accommodate all users including bicyclist, pedestrians, mass transit, people with disabilities, the elderly, motorist, freight providers, and emergency responders.

Freight, at all jurisdictional levels, is becoming a priority as congestion continues to increase. The Metropolitan Planning Organization (MPO) is concerned with congestion and the future needs of the areas stakeholders. The MPO is cooperating on a study with the National Center for Freight and Infrastructure Research and Education (C-FIRE) at the University of Wisconsin

Madison on freight transportation patterns in the Northeast Wisconsin Region. It is the goal of the MPO to better understand freight needs and trends in the region through Travel Demand Modeling (TDM) to minimize future freight problems.

Forecast Analysis

The capability to forecast socio-economic data is a vital part of the transportation planning process. Socio-economic data is used in the TDM to simulate real world origin and destination trips. Trip generation reveals pressure points or congested levels of traffic on the transportation system for the desired out years. This allows the MPO to perform explicit analysis of future travel behavior along the major transportation corridors and to forecast traffic volumes and patterns across the region. As part of the review process for the update to the LRTP, the socio-economic data (household and employment) used in the TDM will be compared to Department of Administration (DOA) and Economic Modeling Specialists, Inc (EMSI) county estimates and projections. This allows the MPO to gauge if there is any significant visual difference between the socioeconomic and the DOA and EMSI data. This analysis is used to determine if the socio-economic data is in line with other similar projections.

Recommendations

The recommendations are developed based on committee member and public input, Transportation Improvement Program (TIP) transportation project list, Transit Development Plan (TDP) recommendations and local comprehensive planning policies. The TIP transportation project list is selected based on criteria developed by the LRTP goals, objectives and policies. The TDP supports and enhances the LRTP through the complete analysis and recommendations of the transit system. Local comprehensive plans are analyzed and compared to the LRTP to identify any inconsistencies.

Environmental Justice

Public participation is a very important part of any planning process. Connecting to the public and making sure that no race or socioeconomic group is being left out of the process is the primary purpose of environmental justice. Environmental justice is a process which seeks to ensure that access to transportation systems and the transportation planning process is available to all, regardless of race or socioeconomic status. Concerted efforts were made to include all individuals within the planning process. Public information meetings were held during all phases of the planning process. Advertisements were published in the local newspaper prior to these meetings. Newsletters and notices were distributed via mail and e-mail to various committees, organizations, and agencies throughout the planning process for distribution to as many individuals as possible.

Environmental Mitigation

Environmental mitigation is a system level review on committed and planned transportation projects in relation to environmental attributes. It should be emphasized that the MPO's role in examining issues related to environmental mitigation is to scan system level issues, not a project level environmental impact document, which requires field work and specific analysis under the National Environmental Policy Act (NEPA). Environmental attribute or set of attributes were GIS mapped showing the Oshkosh MPO Long Range Transportation/Land Use

projects and the proximity to each environmental resource. Buffers of one quarter mile are shown for improve/expand and new projects, while buffers of 250 feet are shown for bridge projects. It is assumed that potential impacts which must be mitigated for bridges are point specific. Environmental features with projects within proximity were analyzed and mitigation measures identified.

State Long Range Plan Coordination

The coordination between the State LRTP and the MPO's LRTP is required by federal legislation, thus the State and MPO work together to assure that planning goals and objectives are in line with each other. The State Long Range Plan Coordination section highlights the goals and objectives that are coordinated between the two jurisdictions.

Financial Analysis

The financial analysis section is intended to show that funding is reasonably available to implement the recommendations of the plan. The MPO uses an inflation factor to forecast revenues and expenditures. It is the responsibility of the MPO to show that their revenues and expenditures are fiscally constraint.

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CHAPTER 1- INTRODUCTION

The update to the Long-Range Transportation/Land Use Plan (LRTP) for the Oshkosh Urbanized Area was prepared to meet the requirements of the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU) for long-range transportation and land use planning in metropolitan areas.

The purpose of the interim update to the LRTP is to update and expand on issues not covered by the existing LRTP for the Oshkosh Urbanized Area, adopted October 2005 and amended October 2007. This update will provide the necessary information in the interim of the major update that will take place when the 2010 decennial U.S. Census is released. The update is in accordance with the requirements of SAFETEA-LU for long-range transportation and land use planning in metropolitan areas. As the Metropolitan Planning Organization (MPO) for the Oshkosh Urbanized Area, the East Central Wisconsin Regional Planning Commission (ECWRPC) is responsible for carrying out the urban transportation planning process.

A major focus of this update is to expand on freight and environmental planning within the MPO transportation planning process.

PUBLIC PARTICIPATION PROCESS

Public participation is a very important part of the transportation planning process and a priority for the Fox Cities MPO. In an effort to solicit public comments and inform the public, the MPO developed a series of newsletters to explain the update process to the LRTP and to provide the public with the opportunity to comment on any changes. The newsletter series consisted of the following six installments:

1. Introduction
2. Goals, Objectives, Policies Evaluation
3. Transportation System Performance Analysis
4. Forecast Review
5. Assessment of Planning Recommendations
6. Long Range Plan Update and Amendments

The MPO also solicited comments through postcards and the MPO website. The website was expanded to include a page devoted to the LRTP update. The page included the newsletter series, the draft plan and a section for public comment. The LRTP was also promoted at the Hispanic Interagency meeting, the East Central Regional Planning Commission Mini-conference and Housing Coalition meetings.

PUBLIC INFORMATION MEETING

On July 28, 2010 the Oshkosh MPO held a public information meeting at the Fox Valley Technical College in Oshkosh from 4:00 to 6:00 P.M. on the LRTP update. The primary focus of the public information meeting was on the environmental mitigation process. Maps were displayed illustrating the transportation projects and their relation to environmental features. Ten members of the public attended the meeting to view the LRTP update and the environmental mitigation maps. Comments were accepted at the meeting, through the mail and by email. A comment page was created on the MPO website. Downloadable versions of the LRTP plan and newsletter were available. Comments were received from the Wisconsin Department of the Interior (Fish and Wildlife Service), Wisconsin Historical Society and a number of concerned members of the public. All comments were compiled and displayed in Appendix A. The sign-in sheet for the public meeting is also displayed in Appendix A.

CHAPTER 2 - GOALS, OBJECTIVES AND POLICIES

SAFETEA-LU, signed into law in August of 2005, and predecessor transportation legislation require that all urbanized areas have a comprehensive, cooperative, and continuing planning process in place to guide effective use of federal funding assistance. SAFETEA-LU planning requirements reemphasize the integral relationship of land use with transportation infrastructure, as well as the need to address all mobility from a multimodal perspective, as previously emphasized under ISTEA and TEA-21. Additional areas of challenge under SAFETEA-LU include:

- Improving safety;
- Improving security;
- Reducing traffic congestion;
- Improving efficiency in freight movement;
- Increasing intermodal connectivity; and
- Protecting the environment.

To carry out the comprehensive planning program, SAFETEA-LU has reconfirmed the role of a cooperative planning institution, the MPO, to guarantee that all aspects of the urbanized area will be represented in the plan's development and that planning will be conducted on a continuing basis.

An extensive issues identification process involving representatives of governmental agencies, area officials, environmental groups, developers, business groups, civic organizations, minority advocates, and interested citizens, took place in 2004. Participants in the issues session, and those unable to attend, were invited to join the on-going Technical Advisory Committee (TAC) in the review and development of goals, objectives, and policies.

The goals and objectives pertinent to the long range planning process are as follows:

Transportation

Achieve a safe, efficient, accessible, and environmentally sound transportation system that provides mobility for all segments of the population and supports the economy of the region.

To attain this goal, the following objectives were identified:

- Integrated Planning;
- Maximum system effectiveness for all residents;
- An efficient street and highway system;
- Safety;
- Minimum environmental disruption;
- Compatibility with Land Use Patterns;
- Conservation of energy; and
- Multimodal interaction.

The goals, objectives, and policies related to these issue categories can be viewed within the Adopted Goals, Objectives, and Policies chapter of the planning document. Their relation to the

TEA-21 planning factors is also discussed. A further analysis of specific issues and how they would be impacted by various development scenarios is discussed within the Alternative Analysis chapter (See LRTP – pg 95). The 2005 adopted LRTP can be found on the Oshkosh MPO website at <http://www.eastcentralrpc.org/OshkoshMPO/index.html>.

CHAPTER 3 - TRANSPORTATION SYSTEMS

EXISTING CONDITIONS

Study Area

The study area, which includes the City of Oshkosh and all or portions of the towns of Algoma, Black Wolf, Nekimi, Omro, Oshkosh, and Vinland, increased from 67,419 persons in 1970 to 79,325 in 2000, or roughly 18 percent in 30 years. The number of households, on the other hand, increased by 51 percent in the same time period, as household sizes decreased and baby boomers reached the household formation stage.

Transportation System

The existing highway network in the Oshkosh Urbanized Area has generally kept pace with growth in population, employment, and the significant increase in auto trips. While the growth in population has been modest, traffic volumes have increased. In this sense the Oshkosh Urbanized Area reflects the national trend, which is based on a number of factors. Vehicle ownership has continued to increase. This was largely a result of an increasing incidence of two career families. In addition to these necessitating two vehicles for work trips, it creates a residual need for teens to be responsible for much of their own trip making, frequently resulting in a third, or fourth vehicle in the household.

Another factor which has contributed to the increase in vehicle use is the dispersion of land uses. Unlike the compact, mixed use neighborhood development characteristic of pre-1960 development, residential development is now more commonly on larger lots in subdivisions which are solely residential in nature, and likely miles from employment centers and shopping. The lower density reduces the efficiency and effectiveness of public transit and produces trip lengths which are not conducive to bicycle and pedestrian modes. Many of these areas also do not have facilities to safely serve bicycle or pedestrian travel modes. The end result is more, longer trips, reflected in the increase of Vehicle Miles Traveled (VMT).

Transit

The Oshkosh Transit System is owned and operated by the City of Oshkosh. The system has nine (9) routes, with buses running from 6:15 a.m. to 6:15 p.m. Routes run as far north as County Road Y, providing access to the Winnebago County Fairgrounds and County Park, and as far south as W. 20th Street. Route 9 extends west into the Town of Algoma, as far as Oakwood Road (Exhibit 3-3h). The route fee ranges from \$.50 for senior citizens and disabled to a \$1.00, which is one of the lowest in the State. A monthly pass for unlimited rides is available for \$15.00. Punch passes and tokens can also be purchased for convenience. A tripper service is also offered by Oshkosh Transit during the school year. Three additional buses are put into service on regular bus routes in the afternoon to expedite getting students home from school. The Oshkosh Transit System also provides lift service on all regular routes. Senior Citizens and Disabled passengers are also eligible for the half-fare program. Passengers need to show an ADA card or Dial-A-Ride card to take advantage of this reduced rate.¹

¹ Winnebago Comprehensive Plan, 2006

Air

Wittman Regional Airport is located at 525 West 20th Avenue within the City of Oshkosh. Although passenger service is no longer available, the airport continues to provide aircraft rental and charter flights. Every summer during the last week of July, Wittman Regional Airport becomes the busiest airport in the world when the Experimental Aircraft Association (EAA) holds its annual Fly-In Convention at the facility. This event attracts more than 825,000 visitors and aviation enthusiasts annually. The airport is operated by Winnebago County and receives a state and federal subsidy annually to maintain service and operations. At this time, there are no future plans for further expansion of the airport facilities.²

HIGHWAY AND STREETS

The existing highway network in the Oshkosh Urbanized Area has generally kept pace with growth in population, employment, and the significant increase in auto trips. While the growth in population has been modest, traffic volumes have increased. In this sense the Oshkosh Urbanized Area reflects the national trend, which is based on a number of factors. Vehicle ownership has continued to increase. This was largely a result of an increasing incidence of two career families. In addition to necessitating two vehicles for work trips, it creates a residual need for teens to be responsible for much of their own trip making, frequently resulting in a third, or fourth vehicle in the household.

Another factor which has contributed to the increase in vehicle use is the dispersion of land uses. Unlike the compact, mixed use neighborhood development characteristic of pre-1960 development, residential development is now more commonly on larger lots in subdivisions which are solely residential in nature, and likely miles from employment centers and shopping. The lower density reduces the efficiency and effectiveness of public transit and produces trip lengths which are not conducive to bicycle and pedestrian modes. Many of these areas also do not have facilities to safely serve bicycle or pedestrian travel modes. The end result is more, longer trips, reflected in the increase in the statistic of VMT.

Preservation

The Oshkosh MPO is not only working to accommodate growing traffic needs through expansion, but also to preserve the current transportation network to ensure a safe and efficient system. Preservation is becoming a greater issue as the entire transportation system grows older and funding becomes tighter. The MPO is working to strengthen and preserve the overall transportation system through sound planning principles.

SAFETY

The goal of the Oshkosh MPO is to reduce the potential for traffic accidents and provide for safe and secure transportation of goods and people through the region, thus safety is an important aspect of the LRTP.

² Winnebago Comprehensive Plan, 2006

According to the Federal Highway Administration (FHWA), 42,708 Americans were killed in traffic crashes in 2006. In 2006 Wisconsin Department of Transportation (WisDOT) reported that 712 persons were killed and 35,296 injured in crashes throughout the State of Wisconsin. The figures pertaining to persons killed do not include alternative modes fatalities. The transportation planning process can play a key role in reducing crashes through the identification of safety issues and common challenges.

By including all aspects of transportation safety in the planning process, engineering, education, enforcement, and emergency medical response, units of government are able to make safer and more efficient transportation improvement choices. It is also important to examine safety on a comprehensive scale by including all forms of transportation (automobile, transit, bicycle, pedestrian, rail, etc.) and how they interact system-wide. By examining current conditions and trends, future hazards and incidents can be reduced, if not prevented.

The Oshkosh MPO recognizes the importance of safety within the planning process and has conducted an in-depth analysis of multimodal crashes throughout the Urbanized Area in 2004 to assist in the transportation decision-making process. By examining and understanding the crash data and incorporating safety conscious planning, the MPO can identify safety issues, common challenges and ways to over-come them, which will result in a safer system for all users.

STATE HIGHWAY SAFETY PLANNING

As part of the requirements for the SAFETEA-LU plan amendment, the LRTP plan must incorporate the goals and objectives from the State Strategic Highway Safety Plan.

Wisconsin has one of the best highway safety records in the United States, with a motor vehicle fatality rate consistently below the national average. In 2008, the Green Bay/Appleton Area (including the Oshkosh MPO) had a 79.2 Percent seat belt usage, which was the highest percentage in the State. Despite this, many people are killed or injured every year on Wisconsin's roadways. Figure 3-4 displays traffic fatalities and serious injuries for the State of Wisconsin from 2003 to 2008. The moving annual average for traffic fatalities is 757, while the six year average for serious injuries is 5,033. The WisDOT and its safety partners are challenged with continuing to lower these numbers and improve overall highway safety.³

The vision for the *2010 Wisconsin's Highway Safety Plan* is:

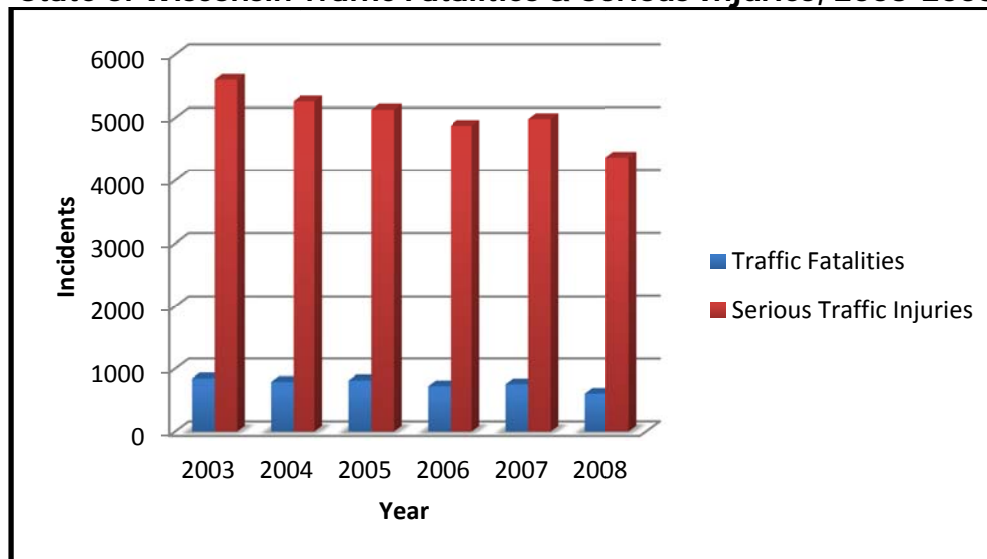
"Zero fatalities. Our transportation system is essential to society's continuing prosperity and an inescapable component to everyday life in Wisconsin; as a society we should not accept casualties as a foregone consequence of that system. Wisconsin citizens and state policymakers work toward achieving zero fatalities and incapacitating injuries on our roadways. Our belief is that any death is one too many, and we work toward saving as many lives as possible using the resources available."

The ten items of highest priority in the Department's 2006-08 Strategic Highway Safety Plan are listed in priority order below (HSPP-related goals bolded):

³ 2010 State of Wisconsin Highway Safety Performance Plan.

1. **Increase seat belt use/air bag effectiveness;**
2. Improve design/operation of intersections;
3. **Improve data/decision support systems;**
4. **Reduce speed-related crashes;**
5. **Reduce impaired driving;**
6. Minimize consequences of leaving roadway;
7. Design safer work zones;
8. Reduce head-on and cross-median crashes;
9. Keep vehicles on the roadway; and
10. **Increase driver awareness.**

Figure 3-1
State of Wisconsin Traffic Fatalities & Serious Injuries, 2003-2008



Source: 2010 State of Wisconsin Highway Safety Performance Plan.

The MPO LRTP adopted goals and objectives are consistent with many of the priorities discussed in the Strategic Highway Safety Plan. The MPO will continue to work with WisDOT, municipalities and local law enforcement to address these issues.

Local law enforcement will continue to use methods such as "Click it or Ticket" campaigns to remind drivers of the importance of safety belt use and driver awareness. Local law enforcement should continue to pursue various funding for increased patrols to apprehend drivers that are impaired.

WisDOT will continue to use campaigns to promote behavior changes and driver awareness in work zones, and eliminate safety problems as they arise (install median-guards, eliminate at-grade crossings, etc).

The Oshkosh MPO collected intersection crash locations in the Oshkosh area from 2001-2004 with data provided by WisDOT. There were a total of 5,800 reported accidents that occurred in the Oshkosh Urbanized Area. Intersection with 20 or more accidents and or an average of 5 crashes a year was used as a threshold to identify high risk intersections. Table 3-1 identifies the high risk intersections.

**Table 3-1
Vehicle Intersection Crash Summary, 2001-2004**

INTERSECTION ID #	INTERSECTING ROADWAYS				# OF CRASHES
1	USH 41		USH 45	STH 76	31
2	Jackson Street	USH 45/STH 76	CTH Y		27
3	W Murdock Ave	STH 21	Vinland Street	Elmwood Rd	28
4	USH 41		USH 45	STH 110	104
5	STH 21		N Washburn Street	Omro Rd	36
6	STH 21		Westhaven Dr	Emmers La	42
7	Oakwood Road		Witzel Avenue		21
8	Wisconsin Street		W Murdock Avenue		59
9	Wisconsin Street		High Avenue		30
10	Witzel Avenue		Sawyer Street		38
11	Witzel Avenue		N Koeller Street		57
12	USH 41		STH 21		231
13	Jackson Street		W Murdock Avenue		66
14	Murdock Avenue		Kentucky Street		29
15	Murdock Avenue		N Main Street		29
16	Bowen Street		E Murdock Avenue		28
17	Ohio Street		Witzel Avenue		32
18	Ohio Street		W 9th Avenue		43
19	W 9th Avenue		Oregon Street		27
20	N Main Street		Otter Avenue	Pearl Avenue	38
21	N Main Street		High Avenue	Waugoo Ave	27
22	Knapp Street		W 9th Avenue		40
23	S Washburn Street		W 9th Avenue		44
24	USH 41		9th Avenue		69
25	Koeller Street		W 9th Avenue		96
26	S Koeller Street		W 20th Avenue		37
27	USH 41		STH 44		72
28	W 20th Avenue		Knapp Street		36
29	STH 26		Plainview Street		23
30	CTH N	STH 26	USH 41		30
31	Jackson Street		W New York Avenue		45
32	Washburn Street		Witzel Avenue		24
33	Jackson Street		W Smith Avenue		28
34	Algoma Boulevard		W Snell Road		24
35	Congress Avenue		High Avenue		30
36	Congress Avenue		Arboretum Drive	Summit Ave	25
37	Oshkosh Avenue		N Sawyer Street		25
38	Oshkosh Avenue		N Westfield Street		21
39	Witzel Avenue		N Westfield Street		21
40	Wisconsin Street		Pearl Avenue		24
41	Algoma Boulevard		Wisconsin Street		25
42	E Murdock Avenue		Harrison Street		21
43	N Main Street		Irving Avenue		20
44	N Main Street		Ceape Avenue		21
45	Oregon Street		W 6th Avenue		27
46	Ohio Street		W 6th Avenue		23
47	Knapp Street		W South Park Ave		25
48	W 20th Avenue		S Washburn Street		20
49	W 20th Avenue		W South Park Ave		25

Source: ECWRPC 2005, WisDOT 2001-2004.

MPO staff will continue to collect and analyze crash information for intersections and roadways throughout the Oshkosh Urbanized Area and present this information to committee members and decision-makers. This information will be used to determine and identify high-risk areas so decision-makers can develop solutions to reduce incidents.

TRANSPORTATION SECURITY

The need for ensuring the operation and integrity of America's surface transportation system is evident following the events of September 11, 2001 and Hurricane Katrina. A resilient and efficient transportation system is critical to ensuring safe, continuous movement of people and goods during a natural or human catastrophe. The full capability of the transportation system must be harnessed and optimized to effectively move people and goods during a natural or human catastrophe.

SAFETEA-LU emphasizes the need to improve transportation security and requires security to be addressed as a stand alone planning factor since its passage in 2005. The Oshkosh MPO recognizes the importance of security within the Urbanized Area and will consult with local municipalities to insure transportation system security.

Winnebago County is currently updating their 2004-2008 Hazard Mitigation Plan.

Network

The transportation network in Winnebago County offers the foundation for movement of goods and people into, out of, through and within the county. An efficient transportation system is crucial for emergency service and evacuation. Major corridors within the county consist of U.S. Highways 41 and 45 and State Highways 76, 44, 26, and 21. U.S. Highway 41, 45 and State Route 76 provide north/south movement between Milwaukee and Green Bay. State Route 21 and 44 provide east/west route in Winnebago County.

Coordination

A security incident can affect any number of people at any time and any place. Being prepared to handle any situation at any time requires coordination and planning. The Oshkosh MPO recommends the development of an evacuation plan, an alternate route plan and an Intelligent Transportation System (ITS) Plan at a regional level to ensure preparedness. The Winnebago County Hazard Mitigation Plan should be consulted and coordinated throughout the process.

TRANSIT SECURITY

Oshkosh Area Transit has developed a System Security and Emergency Preparedness Plan (SSEPP), in 2005 to protect passengers, employees, volunteers and contractors, and any other individuals who come into contact with the system, both during normal operations and under emergency conditions. The SSEPP is a living document and is constantly being amended to become more comprehensive and complete.

The SSEP Program provides Oshkosh Transit System with a security and emergency preparedness capability that will:

1. Ensure that security and emergency preparedness are addressed during all phases of system operation, including the hiring and training of agency personnel; the procurement and maintenance of agency equipment; the development agency

- policies, rules, and procedures; and coordination with local public safety and community emergency planning agencies.
2. Promote analysis tools and methodologies to encourage safe system operation through the identification, evaluation and resolution of threats and vulnerabilities, and the on-going assessment of agency capabilities and readiness.
 3. Create a culture that supports employee safety and security and safe system operation (during normal and emergency conditions) through motivated compliance with agency rules and procedures and the appropriate use and operation of equipment.⁴

SYSTEM PERFORMANCE INDICATORS

Streets, Highways & Bridges

Pavement Surface Evaluation and Rating System

Pavement Surface Evaluation and Rating System (PASER) is a visual survey method used to rate the condition of the roads through the condition of various types of pavement distress on a scale of 1-10. PASER uses 10 separate ratings with 1 being the worst and 10 being a newly constructed pavement. PASER measures the distress of a pavement's surface. This method is based upon sound engineering principles.

Routine Maintenance

Roads with PASER of 8, 9 and 10 require routine maintenance. Routine Maintenance is the day-to-day, regularly-scheduled activities to prevent wear and tear on the roadway surface. This includes street sweeping, ditch maintenance, gravel shoulder grading, and crack sealing. This category also includes roads that are newly constructed or recently seal-coated and require little or no maintenance.

Capital Preventive Maintenance

PASER ratings 5, 6, and 7 are included in this category. Capital preventive maintenance (CPM) is at the heart of asset management. It is the planned set of cost effective treatments to an existing roadway that retards further deterioration and maintains or improves the functional condition of the system without significantly increasing the structural capacity. The purpose of CPM is to protect the pavement structure; slow the rate of deterioration; and/or correct pavement surface deficiencies. Roads in this category still show good structural support but the surface is starting to deteriorate. CPM is intended to address pavement problems before the structural integrity of the pavement has been severely impacted.

Structural Improvements

Roads with a PASER rating of 1, 2, 3, or 4 are in need of some type of structural improvement such as resurfacing or major reconstruction. Rutting is beginning to take place. Alligator cracking is evident.

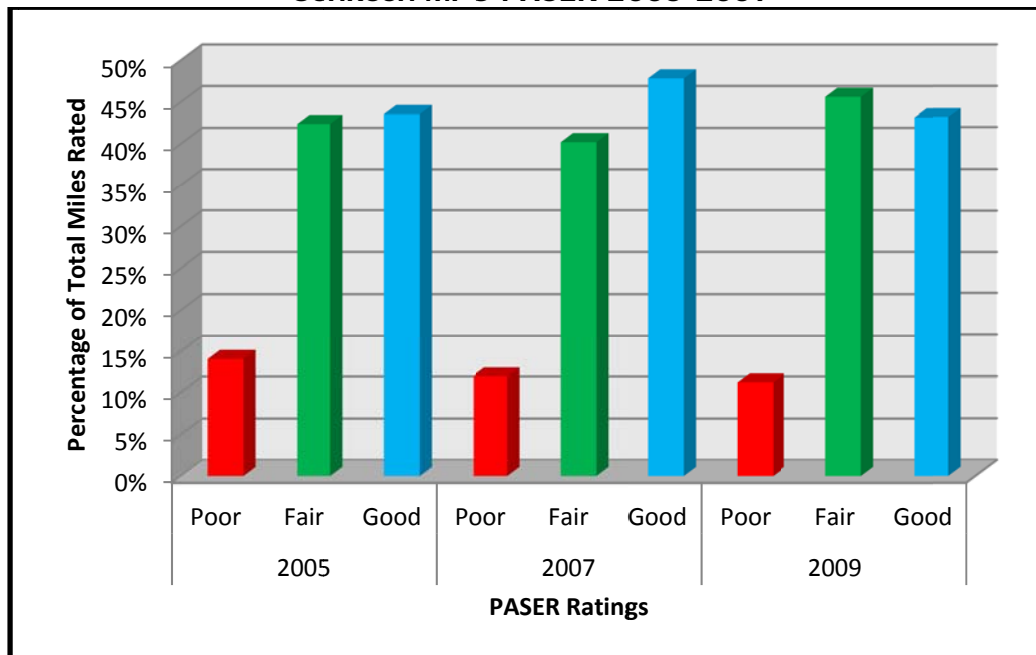
⁴ Oshkosh Transit System Security and Emergency Preparedness Plan (SSEPP), 2005

Oshkosh MPO PASER Data

PASER data is collected by local municipalities every two years and submitted to WisDOT, who compiles and inputs the data into the Wisconsin Information System for Local Roads (WISLR) web based software and database. Figure 3-2 is a compilation of the MPO PASER data from 2005 to 2009. Collecting and comparing PASER data from one year to the next allows the MPO to gauge how the transportation system as whole changes over time. Ratings 1-4 decreased 2.83 percent, ratings 5-7 increased 3.23 percent and ratings 8-10 decreased 0.40 percent from 2005 to 2009. The MPO is experiencing a shift from "good" to "fair" roads and from "poor" to "fair" and "good" roads. The shift is slight, but should be noted especially in times of financial difficulties.

Exhibits 3-1(a-c) display 2005, 2007 and 2009 PASER data on a map. Ratings 1-4 are identified in the red and represent "poor" roads that require structural improvements. Ratings 5-7 are identified in the green and represent "fair" roads that require capital preventative maintenance. Finally the ratings 8-10 are identified in the blue and represent "good" roads that require routine maintenance. The map allows the MPO to experience the system in its entirety and identify those areas that are lacking.

Figure 3-2
Oshkosh MPO PASER 2005-2009



Source: 2005, 2007, 2009, WisDOT WISLR data

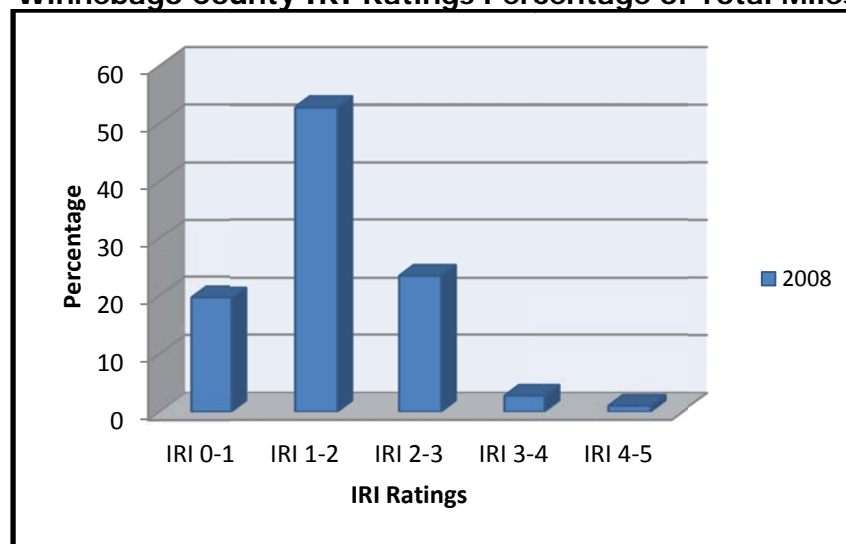
International Roughness Index

International Roughness Index (IRI) is a method for estimating the roughness of a pavement section. Roughness affects not only ride quality, but also vehicle delay costs, fuel consumption and maintenance costs. The IRI statistics is calculated from a single longitudinal profile measured with a road profiler in both inside and outside of the wheel paths. The average taken from the wheel paths is reported as the IRI statistic. A value of 0 equals a perfectly flat road; values increasing from 0 represent the deviation of the surface. Increased deviation can affect

vehicle dynamics and ride quality. Nationally the IRI has been accepted as the method for rating State and Federal roads.⁵

Figure 3-3 displays 2008 IRI ratings for Winnebago County. Winnebago County's IRI ratings allow the MPO to track State and Federal road dynamics. The 2008 IRI data is a starting point that will be compared to future years to determine trends. In 2008, 19.7 percent fall within 0-1 inches, 52.8 percent fall within 1-2 inches, 23.63 percent fall within 2-3 inches, 3 percent fall within 3-4 inches and finally 1.1 percent fall within 4-5 inches of the total Winnebago County State and Federal roads.

Figure 3-3
Winnebago County IRI Ratings Percentage of Total Miles



Source: 2008, WisDOT Data

Bridge Inspection and Ratings

Wisconsin's bridges are inspected every two years and sometimes more frequently depending on any known deficiencies. Bridge inspections can range from routine to in-depth contingent on the bridge's characteristics and needs. Bridge inspectors are trained to follow FHWA standards and guidelines. Smaller bridges can be inspected on foot, while larger bridges require a "reach all" vehicle with a jointed arm and bucket to provide a detail analysis. Inspectors survey the following bridge facets:

- The superstructure or beams that support the deck looking for cracks, rust, or any problems with bolts or rivets;
- The substructure units (which support the superstructure);
- Bridge approaches and the deck or surface of the bridge; and
- On bridges over large bodies of water, inspections require divers to check supporting piers.⁶

The information collected from the bridge inspection is used to assign the bridges with a Sufficiency Rating (SR). SR take into account 75 factors reviewed during the inspection. The

⁵ AASHTO Designation: PP 37-04

⁶ <http://www.dot.wisconsin.gov/projects/bridges/> September 20, 2010

SR ranges from 0 to 100 with 0 representing an in-sufficient or deficient bridge and 100 representing a sufficient bridge. Municipalities are eligible for rehabilitation funding with bridges with a SR of 80 or less and replacement funding with SR of 50 or less.

In the Oshkosh MPO area there are a total of 61 bridges with SR for 2010. There are 41 bridges (67 percent) that have SR 80 and above. There are 17 bridges (28 percent) qualify for rehabilitation funds and 3 (5 percent) qualify for replacement funds. Table 3-2 lists the 92 bridges, their location and SR.

**Table 3-2
Oshkosh MPO 2010 Sufficiency Ratings**

BRIDGE ID	VILLAGE/TOWN/CITY	OWNER	FEATURE ON	FEATURE UNDER	SUFFICIENCY RATING
B700107	C-OSHKOSH	CITY	N CAMPBELL RD	CAMPBELL CREEK	97.9
B700104	C-OSHKOSH	CITY	USH 45-STH 175	MERRITTS CREEK	65.9
B700053	C-OSHKOSH	STATE	9TH AVE	USH 41	92.6
B700034	C-OSHKOSH	STATE	K W 20TH AVE	USH 41	74.5
P700710	C-OSHKOSH	CITY	WESTFIELD ST	SAWYER CREEK	70
P700708	C-OSHKOSH	CITY	W 28TH AVE	MERRITTS CREEK	76.5
B700278	C-OSHKOSH	CITY	N KOELLER ST	SAWYER CREEK	78.8
B700151	C-OSHKOSH	CITY	NINTH AVENUE	SAWYER CREEK	97.9
B700086	C-OSHKOSH	COUNTY	I OREGON ST	GLATZ CREEK	96.3
B700122	C-OSHKOSH	CITY	Westhaven Drive	Sawyer Creek	93
B700248	C-OSHKOSH	CITY	SAWYER ST	SAWYER CREEK	80.3
B700250	C-OSHKOSH	CITY	PEDESTRIAN BRIDGE	USH 45 - S MAIN ST	18
P700712	C-OSHKOSH	CITY	W 35TH AVE	MERRITTS CREEK	89.4
P700713	C-OSHKOSH	CITY	WAUKAU AVE	MERRITTS CREEK	89.4
B700137	C-OSHKOSH	CITY	USH 45-STH 175	GLATZ CREEK	63.9
B700239	C-OSHKOSH	CITY	OAKWOOD RD	SAWYER CREEK	99.1
B700236	C-OSHKOSH	CITY	STEARNS ROAD	SLOUGH CREEK	83
B700211	C-OSHKOSH	CITY	LAKE BUTTE DES MORTS DR	SLOUGH CREEK	94.6
B700261	C-OSHKOSH	CITY	Washburn Street	SAWYER CREEK	78.5
B700064	T-ALGOMA	COUNTY	E	SAWYER CREEK	98.1
B700007	T-ALGOMA	STATE	USH 41 NB	LAKE BUTTE DES MORTS	81
B700047	T-ALGOMA	STATE	USH 41 SB	LAKE BUTTE DES MORTS	80.5
B700024	T-ALGOMA	STATE	USH 41 SB	STH 21	78
B700025	T-ALGOMA	STATE	USH 41 NB	STH 21	78
B700100	T-ALGOMA	TOWN	OMRO ROAD	HONEY CREEK	99.9
B700153	T-ALGOMA	COUNTY	K	SAWYER CREEK	95.4
B700246	T-ALGOMA	COUNTY	K (W 20TH AVE)	BR SAWYER CREEK	81.5
B700085	T-ALGOMA	COUNTY	I	MERRITTS CREEK	96.3

B700098	T-ALGOMA	STATE	STH 21	HONEY CREEK	70
B700099	T-ALGOMA	STATE	STH 21	HONEY CREEK	70
B700138	T-ALGOMA	STATE	STH 44-STH 91 E	USH 41	99.4
B700281	T-BLACK WOLF	TOWN	KOELPIN RD	WILLOW HARBOR CREEK	88
B700103	T-BLACK WOLF	STATE	USH 45-STH 175	WEYHURST CREEK	86.1
B700087	T-BLACK WOLF	TOWN	FISK AVE	WEYHURST CREEK	96.9
B700088	T-BLACK WOLF	TOWN	FISK AVE	WEYHURST CREEK	96.9
B700101	T-BLACK WOLF	STATE	USH 45	WILLOW HARBOR BAY TRIB	92
B700102	T-BLACK WOLF	STATE	USH 45	WILLOW HARBOR CREEK	92
B700094	T-BLACK WOLF	STATE	USH 45	VAN DYNE CREEK	92.1
B700040	T-BLACK WOLF	COUNTY	Z	VAN DYNE CREEK	72.1
P700079	T-BLACK WOLF	TOWN	HOWLETT RD	VANDYNE CREEK	89.5
P700911	T-BLACK WOLF	TOWN	BLACK WOLF POINT RD	WILLOW HARBOR CREEK	46.9
P200933	T-FRIENDSHIP	TOWN	LONE ELM RD	DRAINAGE DITCH	90.4
B700052	T-NEKIMI	COUNTY	I	WEYHURST CREEK	90.9
B700042	T-NEKIMI	TOWN	NEKIMI AVE	WEYHURST CREEK	40.9
B700171	T-NEKIMI	TOWN	KNAPP RD	GLATZ CREEK	86
B700200	T-NEKIMI	STATE	STH 26	USH 41	97.8
B700212	T-OSHKOSH	STATE	USH 45 SB	SLOUGH CREEK	93.5
B700213	T-OSHKOSH	STATE	USH 45 NB	SLOUGH CREEK	93.5
B700216	T-OSHKOSH	STATE	USH 45 NB	CTH Y	96.4
B700215	T-OSHKOSH	STATE	USH 45 SB	CTH Y	96.4
B700177	T-OSHKOSH	STATE	USH 41 NB	USH 45	96.5
B700176	T-OSHKOSH	STATE	USH 41 SB	USH 45	94.4
B700026	T-OSHKOSH	STATE	USH 41 NB	USH 45 NB	76.5
B700027	T-OSHKOSH	STATE	USH 41 SB	USH 45 NB	57.4
B700028	T-OSHKOSH	STATE	USH 41 NB	WESTWIND RD	77.5
B700029	T-OSHKOSH	STATE	USH 41 SB	WESTWIND RD	60.5
B700008	T-OSHKOSH	STATE	USH 41 NB	LAKE BUTTE DES MORTS	80
B700048	T-OSHKOSH	STATE	USH 41 SB	LAKE BUTTE DES MORTS	91.5
B700006	T-OSHKOSH	STATE	USH 41 NB	LAKE BUTTE DES MORTS	90.5
B700046	T-OSHKOSH	STATE	USH 41 SB	LAKE BUTTE DES MORTS	79.5
B700065	T-OSHKOSH	STATE	Y SUNNYVIEW RD	USH 41	95.9

Source: WisDOT, 2010

SUSTAINABILITY/LIVABILITY

Sustainable and livable are different concepts, but can coexist together. The concept of sustainability implies the capacity to endure while livability refers to the suitability of the human environment. Together they refer to a suitable human environment that can endure. In the transportation world that means creating a transportation network that adequately accommodates all users while enduring in the human environment. "Complete Streets" is an interdisciplinary approach to incorporate the needs of all users into the design of road construction projects.

Complete Streets

A "Complete Streets" concept is an approach to design roads that accommodate all users including bicyclist, pedestrians, mass transit, people with disabilities, the elderly, motorist, freight providers, and emergency responders. It also looks at existing and future land use and users that use the surrounding land. This concept attempts to create a safe, accessible and connected transportation network for all modes and users. Reference to "Complete Streets" concepts is included in Federal and State law.

Federal law (Title 23 U.S.C. 217) refers to bicycle transportation and pedestrian walkways. It states that walkways must be provided on bridges, considered in planning, cannot sever a route for bicyclists, and must consider safety of non-motorized traffic on new and reconstruction projects. Exceptions to bicycle transportation and pedestrian walkways requirements include the following:

1. Bicyclist and pedestrians are prohibited by law from using the roadway;
2. The cost of establishing bikeways or walkways would be excessively disproportionate to the need or probable use; and
3. Where sparsity of population or other factors indicate an absence of need.

State law states that the state department of transportation shall ensure that bike and pedestrian ways are established in all new highway construction and reconstruction projects funded in whole or in part from state funds or federal funds appropriated under s. 20.395 or 20.866. Exceptions to these rules are the following:

1. Bicyclist or pedestrians are prohibited by law from using the highway that is the subject of the project;
2. The cost of establishing bikeways or walkways would be excessively disproportionate to the need or probable use of the bikeways or pedestrian ways. For purposes of this subdivision, cost is excessively disproportionate if it exceeds 20 percent of the total project cost;
3. Establishing bike or pedestrian ways would have excessive negative impacts in a constrained environment;
4. There is an absence of need for the bikeways or pedestrian ways, as indicated by sparsity of population, traffic volume, or other factors; and
5. The community where bike and pedestrian ways are to be located refuses to accept an agreement to maintain them.

The Oshkosh MPO supports “Complete Streets” through their goals, objectives and policies. The MPO also use the components of the “Complete Streets” approach by including safety, multimodalism, and capacity as a criterion when selecting transportation projects for federal funding as part of the TIP.

SAFE ROUTES TO SCHOOL

The Safe Routes to School (SRTS) Program is a new initiative that was included in 2005 in the SAFETEA-LU transportation bill. The program encourages and enables communities and school districts to create safe routes for students of all ages and abilities, K-8 to use to walk or bike to school. The SRTS program focuses on the five E’s (Engineering, Encouragement, Education, Enforcement, and Evaluation) when addressing these issues and making future recommendations. This program not only encourages students to walk or bike to school, but also addresses childhood obesity and environmental impacts of students walking/biking to school.

The prevalence of obesity is becoming a serious problem for children in today’s society. Obesity trends in adolescents have at least double since 1971 compared to 2008 figures.⁷ In 1969, approximately 50 percent of children walked or bicycled to school, with approximately 87 percent of children living within one mile of school walking or bicycling. Today, fewer than 15 percent of school children walk or bicycle to school.⁸ One way to reduce the number of overweight children is to encourage them to exercise and be active such as biking or walking to school. SRTS is a program that encourages communities and school districts to work together to develop safe routes to school to provide children with the necessary environment to live a healthy and safe lifestyle. Communities and school districts are encouraged through SRTS program to work together to prevent today’s generation from being the first in over 200 years to live less healthy and shorter lifespans than their parents.⁹

Traffic congestion and safety is a concern for every community in today’s auto dependent society. As much as 20 to 30 percent of morning traffic can be generated by parents driving their children to school.¹⁰ SRTS projects focus on infrastructure improvements, traffic education for students, and driver enforcement that provide positive impacts on the safety of children many of whom already walk or bicycle to school in unsafe conditions.¹¹ By encouraging students to walk/bike to school, the program is also reducing the number of students that are dropped off or picked up by parents, therefore reducing the number of vehicles on road and increasing the safety around the school.

Grant money through WisDOT is available for communities to develop a SRTS Plan. Once a plan is developed, the community can apply for infrastructure or non-infrastructure funds through the SRTS program. These funds can be used for developing infrastructure or for education for parents, children, and the general public, encouragement activities or increased

⁷ Centers for Disease Control and Prevention, http://www.cdc.gov/nchs/data/hestat/obesity_child_07_08/obesity_child_07_08.htm

⁸ <http://www.saferoutespartnership.org/local/4149>

⁹ S. Jay Olshansky, Ph. D., Douglas J. Passoro, M.D., Ronald C. Hershov, M.D., Jennifer Layden, M.P.H., Bruce A. Carnes, Ph. D., Jacob Brody, M.D., Leonard Hayflick, Ph. D., Robert N. Butler, M.D., David B. Allison, Ph. D., and David S. Ludwig, M.D., Ph. D., “A Potential Decline in Life Expectancy in the United States in the 21st Century,” *New England Journal of medicine*: Volume 352: 1138-1145, March 17, 2005

¹⁰ <http://www.saferoutespartnership.org/local/4149>

¹¹ <http://www.saferoutespartnership.org/mediacenter/quickfacts>

law enforcement. This program is 100 percent funded. The state of Wisconsin has received approximately \$10 million dollars for 2005-2009.¹²

Oshkosh MPO SRTS Program

In 2005, East Central staff assisted in the development of the Oshkosh SRTS MPO Plan. Parents at Jefferson Elementary School and Smith Elementary School noted that a student have been struck by a vehicle and although no serious injuries were incurred it was deemed necessary to develop a SRTS Program as a proactive step to ensuring students in the Oshkosh School District were able to walk or bike to school safely.

Below is a list of schools that participated in the plan development. Currently Jefferson Elementary School and Smith Elementary School are actively participating in the SRTS Program. Both schools have participated in International Walk to School Day, Bike Rodeo, and they have done a parent pledge program. In 2010, the Oshkosh SRTS Task Force were awarded WisDOT SRTS Grant funds to provide additional pedestrian signage and ladder style crosswalks at key intersections, increased law enforcement, and a SRTS Coordinator to assist in getting additional Oshkosh Schools to participate

Oshkosh School District

- Carl Traeger Elementary & Middle Schools
- Emmeline Cook Elementary School
- Franklin Elementary School
- Grace Lutheran School
- Jacob Shapiro Elementary School
- Jefferson Elementary School
- Merrill Elementary & Middle School
- Read Elementary School
- Seton Catholic School
- Smith Elementary School
- South Park Middle School
- Webster Stanley Elementary & Middle School

TRANSIT

Service Area

The Oshkosh Transit System (OTS) provides transit services primarily within the City of Oshkosh. An exception to this is a route between the City of Oshkosh and the City of Neenah. For planning purposes, the OTS service area generally follows the Oshkosh Urbanized Area boundary. This boundary includes the City of Oshkosh and parts of the Towns of Algoma, Black Wolf, Nekimi, and Oshkosh. An overview of the service area is on Exhibit 3-2.

¹² <http://www.saferoutespartnership.org/state/366582/wisconsin>

Service Characteristics

Fixed Routes

Individual route maps are included in Exhibits 3-3, Insets a-e.

Ridership

Since 2004 fixed route ridership had steadily increased, until experiencing a nearly 13 percent decrease in 2009. The steady increase between 2004 and 2008 can be attributed to a period of relatively high gas prices, which at one point exceeded \$4.00 per gallon, as well as a heightened movement of green and sustainable practices. In addition to the declining cost of gas, the drastic decrease in fixed route ridership in 2009 can be attributed to a fare increase (from \$0.50 to \$1.00) and the recent conditions of local and regional economies, in which unemployment rates exceeded 10 percent.

However, other traditional factors do impact transit ridership. Among these factors are: increased auto ownership because of higher incomes, movement of business and residential activity to outlying areas, dispersing travel patterns and a shift in social priorities which, during the 1970's, looked to transit as a solution to urban congestion, pollution and mobility problems. Until 2009, the unlinked ridership has been on the rise since 2001, after several years of fluctuation.

Unlinked passengers represent the total number of boardings, including all transfers on the system, while revenue passengers represent the total number of boardings which generate revenue. Revenue miles represent the number of miles the bus is in service carrying passengers, while generating revenue. Tripper is a secondary route designed to pick up additional riders if the transit agency is experiencing volume overflows on a particular route.

**TABLE 3-3
FIXED ROUTE RIDERSHIP TRENDS (2004-2009)**

Year	Tripper Passengers	Revenue Passengers	Revenue Miles	Unlinked Passengers
2004	26,698	715,009	581,075	911,265
2005	20,577	778,647	598,942	984,625
2006	21,319	769,508	569,041	1,007,609
2007	23,157	794,552	574,701	1,056,364
2008	22,090	803,737	546,381	1,097,189
2009	16,277	699,529	538,328	929,503

Source: Oshkosh Transit

Funding Availability

Since 1974, OTS has received transit funding from state and federal sources, which over the years have paid up to 75 percent of the operating budget. Funding support from state and federal sources has contributed to improvements in transit service. While funding grew steadily during the 1970's, some fluctuations occurred during the 1980's and 1990's. The impact of these fluctuations has affected the local cost of service, and to some degree service levels.

Table 3-4 shows the trends in expenses and funding sources since 2004. Overall, expenses have increased at a modest rate, averaging roughly 6 percent annually, mainly the result of inflationary and general cost increases. Aside from a decrease in 2003, operating revenues have generally been on the rise since 1998.

The relative share of transit expenses paid by all sources during the past six years is also shown on Table 3-4 in dollars and in Table 3-5 by percentage. Overall, the general trend has been a fluctuation in federal, state, county, and local shares. Federal subsidies have increased by nearly 60 percent since 2004 and have more than tripled since 1998. State, county, and local shares continue to fluctuate, with the local share crossing the \$1 million threshold for the first time in 2008. Operating revenues as a share of expenses have also fluctuated since 2004, which did peak at over 16 percent in 2009.

TABLE 3-4
SYSTEM-WIDE TRANSIT EXPENSES AND REVENUES (2004 – 2009)

Operating Year	Expenses	Revenues	Deficit	Federal Share	State Share	Local Share	County Share
2004	\$3,515,331	\$508,444	\$3,006,887	\$989,869	\$1,126,375	\$617,355	\$273,288
2005	\$3,837,251	\$529,318	\$3,307,933	\$1,114,938	\$1,128,607	\$753,928	\$310,460
2006	\$3,924,959	\$573,399	\$3,351,560	\$1,388,004	\$953,815	\$680,741	\$329,000
2007	\$4,201,192	\$602,759	\$3,598,433	\$1,355,474	\$1,088,355	\$812,664	\$341,940
2008	\$4,483,790	\$657,697	\$3,826,093	\$1,309,050	\$1,198,265	\$1,000,258	\$318,520
2009	\$4,818,173	\$784,329	\$4,033,844	\$1,581,596	\$1,211,194	\$868,978	\$372,076

Source: Oshkosh Transit

TABLE 3-5
FUNDING AND REVENUE SOURCES

Year	Operation Revenues	Federal Share	State Share	Local Share	County Share
2004	14%	28%	32%	18%	8%
2005	14%	29%	29%	20%	8%
2006	15%	35%	24%	17%	8%
2007	14%	32%	26%	19%	8%
2008	15%	29%	27%	22%	7%
2009	16%	33%	25%	18%	8%

Source: Oshkosh Transit

Federal Transit Aids

Until 1983, the Oshkosh area consistently received federal funding for the full 50 percent formula entitlement. Since that time, federal operating assistance has funded a lower share, with a significant decrease yearly until 1996. Since getting back to the 25 percent threshold in 2001, federal shares have fluctuated between 32 percent (2002) and 41 percent (2006) over the past decade. Since 2005, the federal transportation bill SAFETEA-LU (Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users) has provided a steady increase in federal subsidies to transit systems. For the first time in many years, federal funding accounted for the majority of OTS funding in 2006.

State Transit Aids

State shares as a percentage of funding have gradually declined since 1998 and more so since the recent increases in federal funding enacted in SAFETEA-LU.

Local and County Subsidy

The most consistent shares of funding have been at the local and county level. With local shares averaging roughly 18 percent and county shares averaging about 8 percent of funding since 1998. Both of these share sources have remained fairly constant due to the increase in federal subsidies which has helped offset increasing expenses.

**TABLE 3-6
FEDERAL FORMULA SHARE OF THE TRANSIT DEFICIT**

Year	Federal Recognized Loss	Federal Share	Formula Share
2004	\$3,006,887	\$989,869	33%
2005	\$3,307,933	\$1,114,938	34%
2006	\$3,351,560	\$1,388,004	41%
2007	\$3,598,433	\$1,355,474	38%
2008	\$3,826,093	\$1,309,050	34%
2009	\$4,033,844	\$1,581,596	39%

Source: Oshkosh Transit

Operating Revenues

Fixed route passenger fares and non-farebox revenues have averaged about 10 percent of transit expenses since 2004. Fixed route passenger fares account for most of this. Non-farebox revenues have been declining since 2006 (Table 3-7). Farebox are revenues collected through ridership fares and non-farebox are revenues collected through advertising and specialized contracts.

**TABLE 3-7
FIXED ROUTE RIDERSHIP AND FARE REVENUES (2004 – 2009)**

Year	Revenue Passengers	Passenger Revenue	Other Revenues	Total Revenues
2004	715,009	\$270,379	\$41,298	\$311,677
2005	778,577	\$302,801	\$40,370	\$343,171
2006	769,916	\$345,975	\$42,874	\$388,849
2007	794,552	\$369,811	\$35,066	\$404,877
2008	803,737	\$410,797	\$28,481	\$439,278
2009	699,529	\$481,632	\$26,000	\$507,632

Source: Oshkosh Transit

In 1978, when the City acquired the Oshkosh Transit System, fares were established at \$0.25 for adults and \$0.10 for children, elderly, and handicapped. Rates have been raised several times over the years and are currently \$1.00 for adults and children over six years old. Elderly and disabled rates during off-peak hours are at \$0.50 (Table 3-8), currently the lowest fares in the State. Punch passes for 20 rides are available for \$20.00, and monthly passes (unlimited rides during the calendar month) are available for \$25.00. In December 2003, OTS began selling three month passes at a non-discounted rate, which are currently at \$60.00.

**TABLE 3-8
TRANSIT FARES (CHANGES SINCE JANUARY 2004)**

Type	January 2004	July 2005	January 2006	January 2007	July 2008	January 2009
Cash Fare	\$0.50	\$0.50	\$0.50	\$0.50	\$0.75	\$1.00
Senior	\$0.25	\$0.25	\$0.25	\$0.25	\$0.25	\$0.50
Disabled	\$0.25	\$0.25	\$0.25	\$0.25	\$0.25	\$0.50
Children	FREE <6	FREE <6	FREE <6	FREE <6	FREE <6	FREE <6
Punch Pass (20 rides)	\$10.00	\$10.00	\$10.00	\$10.00	\$15.00	\$20.00
Tokens (20 rides)	\$15.00	\$15.00	\$15.00	\$15.00	\$20.00	\$25.00
Monthly Pass	\$12.50	\$15.00	\$18.00	\$20.00	\$20.00	\$25.00
3 Month Pass	\$37.50	\$45.00	\$50.00	\$50.00	\$50.00	\$60.00
Route 10 to Neenah	\$1.00	\$1.50	\$1.50	\$1.50	\$1.50	\$2.00
Route 10 to Neenah – Senior & Disabled	\$0.50	\$0.75	\$0.75	\$0.75	\$0.75	\$1.00
EAA	\$1.00 (one way)	\$3.00 (round trip)	\$4.00 (round trip)	\$4.00 (round trip)	\$5.00 (round trip)	\$1.50 (one way)
EAA Pass	\$15.00	\$21.00	\$25.00	\$20.00	\$20.00	\$20.00

Source: Oshkosh Transit

Paratransit Service

In addition to fixed-route service, OTS currently provides paratransit service within the city limits. Wheelchair-accessible Cabulance is offered to the non-ambulatory disabled and Dial-A-Ride taxi service is provided to the elderly population, age 60 and over. Paratransit service is eligible for the same federal and state aids as fixed-route service. Paratransit ridership has fluctuated over the last decade. Ridership figures since 2004 are listed in Table 3-9 and a comparison between Cabulance and Dial-A-Ride is exhibited in Table 3-10.

**TABLE 3-9
OTS PARATRANSIT RIDERSHIP (2004 – 2009)**

Year	Revenue Passengers	Unlinked Passengers
2004	100,056	141,545
2005	94,056	139,780
2006	87,054	130,893
2007	87,958	139,886
2008	104,944	148,557
2009	103,044	147,923

Source: Oshkosh Transit

**TABLE 3-10
OTS PARATRANSIT SERVICE, 2009**

Characteristic	Cabulance	Dial-A-Ride
Eligibility	Wheelchair with an ADA card	Ambulatory with an ADA card and Seniors age 60 and over
Service Area	City of Oshkosh	City of Oshkosh
Service Provider	Cabulance, Inc.	Oshkosh City Cab
Service Hours	24 hours daily	24 hours daily
Fleet	12 lift-equipped vans	12 taxi sedans
Fares	\$1.50 during hours OTS of operation; \$5.00 other hours	ADA fare is \$1.50 during hours of OTS operation and \$5.00 for other times. Non-ADA fares are always \$2.50.
Ridership	24,527	66,160
Operating Cost	\$398,556	\$562,360

Source: Oshkosh Transit

Cabulance

OTS has been in compliance with federal 504 regulations since acquiring 14 lift-equipped buses in 1980. The level of service to the disabled was increased in 1990 by contracting with a private operator, Oshkosh City Cab, for Cabulance door to door wheelchair accessible service 24 hours daily. In 2009, Cabulance provided 24,527 rides at a cost of \$398,556. The fare is \$5.00 a trip for hours other than OTS hours of operation.

In 1992, an ADA Paratransit Plan was prepared in compliance with the new Americans with Disabilities Act. This act requires fixed-route systems to have lifts on all newly-purchased buses and provide paratransit service to persons unable to use the fixed route system. Since the fixed route system is fully lift-equipped and paratransit is already in place, the only changes required were adjustments to Cabulance to meet ADA service parameters regarding fares and eligibility criteria. OTS fulfilled their compliance with ADA by 1993, when fares were reduced to twice the adult fare, from \$2.50 to \$1.00, and new ADA eligibility criteria became fully effective.

Dial-A-Ride

As a component of the ADA planning process and to improve coordination and cost-effectiveness, in 1991 OTS assumed responsibility for the Dial-A-Ride program administered by the City through the Oshkosh Seniors Center. Service is provided to the elderly age 60 or over and the disabled, 24 hours daily by Oshkosh City Cab. Fares are \$5.00 a trip for hours other than OTS hours of operation. 66,160 rides were provided in 2009, at a cost of \$562,360. ADA fares are \$1.50 during hours of OTS operation and non-ADA fares are \$2.50.

Total Ridership

Ridership totals since 2004, for both fixed route service and paratransit service, are listed below in Table 3-11. Total ridership is equal to the total number of unlinked trips for both services.

**TABLE 3-11
TOTAL OTS RIDERSHIP**

Year	Total OTS Ridership (Unlinked Trips)
2004	1,052,810
2005	1,124,405
2006	1,138,502
2007	1,196,250
2008	1,245,746
2009	1,077,426

Source: Oshkosh Transit

FREIGHT

Center for Freight and Infrastructure Research and Education

The Oshkosh MPO and the Transportation and Urban Systems Analysis Laboratory (TUSALAB) are cooperating to study freight transportation patterns in the Northeast Wisconsin Region to determine the current and future needs of the area stakeholders. This research project is jointly sponsored by WisDOT and the National Center for Freight and Infrastructure Research and Education (C-FIRE) at the University of Wisconsin Madison. The purpose of the study is to predict the freight needs and patterns for the area stakeholders. This will be accomplished by gaining an in-depth understanding of how freight stakeholders make decisions in their different roles regarding goods movement and how they interact with each other. The goal is to develop freight forecasting methods of enhanced behavioral realism and policy sensitivity to better support freight infrastructure investment and policy making in the future. The study data will be collected through surveys developed and administered by C-FIRE.

Fox River Lock System

The Lower Fox is a 39 mile long river controlled by 17 wooden hand operated locks and 4 dams. At one time, the Lower and Upper Fox River was a thriving transportation route, moving passengers and freight from the Port of Green Bay to Lake Winnebago to Portage. However, with the development of the railroads the Fox River commercial transport business ceased to be relevant. In 1983 the U.S. Army Corps of Engineers closed the Fox River lock system to commercial traffic. All but 3 out of the 17 locks were abandoned and left to slowly decay until 2001 when the State of Wisconsin took over the lock system and began restoration.

Today, the Fox River Lock System is not only an important historical asset and transportation network for tourism and recreation, but a foundation of a once thriving commercial transport network. If the current modes of commercial transportation can no longer support the demand of the freight users, then the Fox River lock system should be considered as a viable solution to meet future transportation needs.

CHAPTER 4 - FORECAST ANALYSIS

TDM are used to evaluate a Transportation system and predict future traffic demands. The TDM used in the Oshkosh LRTP is a trip based four-step model consisting of trip generation, trip distribution, mode choice, and forecasting. The TDM uses socio-economic data, roadway attributes and various parameters to estimate the trip making within and across the model study area. The model estimates trips by calculating the number and types of trips traveling between transportation analysis zones across the various modes and transportation routes available. This procedure was conducted for three distinct analysis years, 2005, 2020 and 2035. Within each analysis year, the Fox Valley TDM model estimates the movements for four distinct time periods, AM, midday, PM and evening. The TDM is used to analyze the composition of traffic, purpose of travel, peak hour usage, and origin-destination linkages. This allows for explicit analysis of future travel behavior along the MPO's major transportation corridors. The TDM will also be a useful tool for forecasting traffic volumes and patterns across the MPO region.

The TDM for the current LRTP was used to project three build scenarios: current planned, compact build, and full build. The three build scenarios were designed to provide a detailed analysis of potential build out options for the MPO. The MPO LRTP used the current planned scenario to make predictions and recommendations.

As part of the review process for the update to the LRTP the socio-economic data (household and employment) used in the TDM will be compared to Department of Administration (DOA) and Economic Modeling Specialists, Inc (EMSI) county estimates and projections. The socioeconomic data was broken down to the county level. The DOA data was collected in 2008 by the Demographic Service Department of the Wisconsin DOA and broken down to the county level. The 2005 data are estimates and 2020 and 2035 data are projections. EMSI data was collected by the Fox Valley Workforce Development Board in 2010 and broken down to the county level. The 2005 and 2009 data are estimates and the 2015, 2019, 2020 and 2035 data are projections. The MPO socioeconomic county data was compared to DOA and EMSI estimates and projects to determine if there is any significant visual difference between the socioeconomic and the DOA and EMSI data.

HOUSEHOLDS

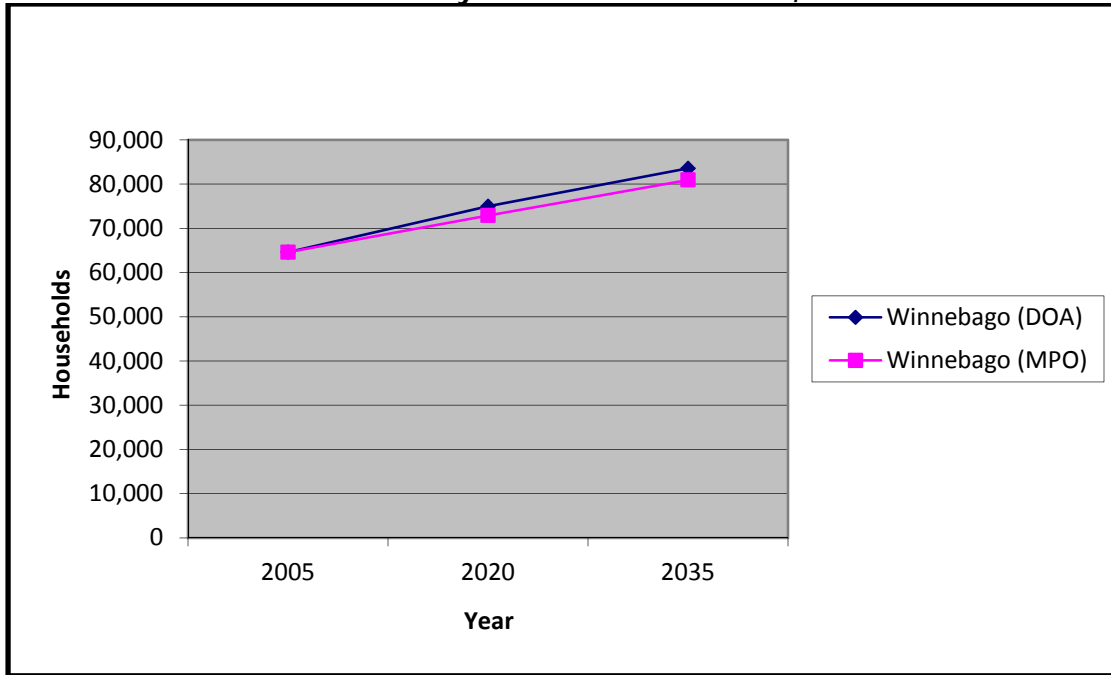
Table 4-1 and Figure 4-1 displays Oshkosh MPO and DOA household projections. The Oshkosh MPO projected a 25.3 percent increase over the 30 year period with an annual growth rate of 0.8 percent for Winnebago County. The DOA projected a 29.4 percent increase over the 30 year period for Winnebago County with an annual increase of 1.0 percent.

Table 4-1
MPO County Compared to DOA County Household Estimates, 2005-2035

	2005	2020	2035
Winnebago (DOA)	64,596	74,968	83,557
Winnebago (MPO)	64,594	72,893	80,935

*Department of Administration - Demographic Services Center 2008

**Figure 4-1
MPO and DOA County Household Estimates, 2005-2035**



Source: Department of Administration - Demographic Services Center 2008

EMPLOYMENT

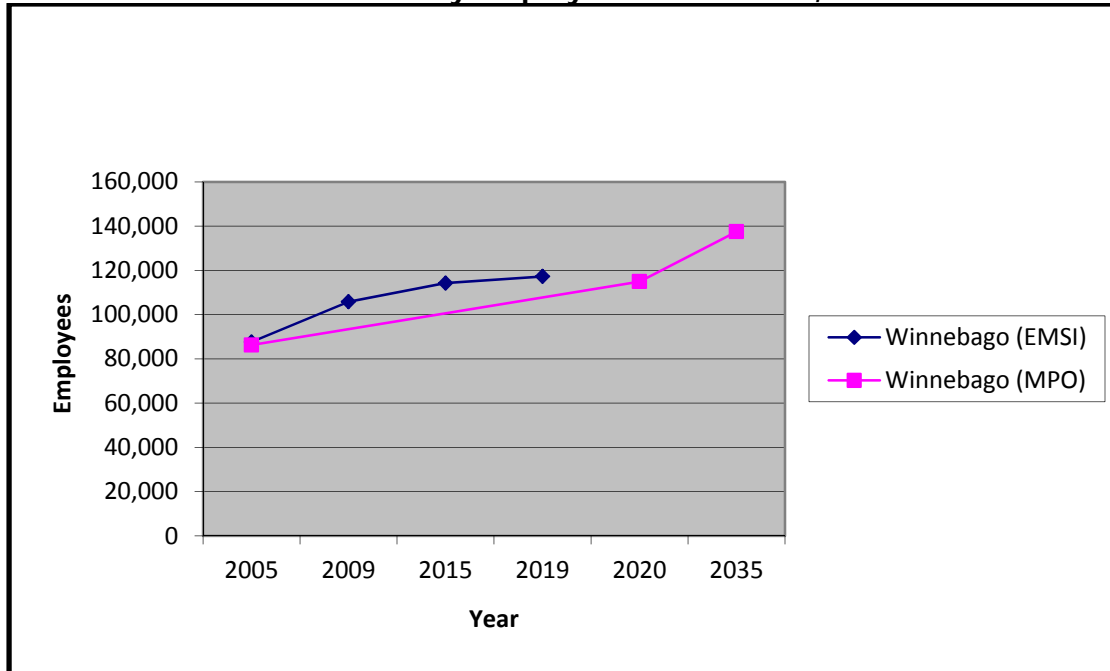
Table 4-2 and Figure 4-2 display the Oshkosh MPO and EMSI employment data and projections. The Oshkosh MPO projected an annual growth rate of 2.0 percent for Winnebago County and EMSI projected annual growth rate of 2.4 percent.

**Table 4-2
MPO and EMSI County Employment Estimates, 2005-2035**

	2005	2009	2015	2019	2020	2035
Winnebago (EMSI)	87,640	105,832	114,238	117,229	----	----
Winnebago (MPO)	86,242	----	----	----	114,935	137,506

Source: EMSI Complete Employment - 3rd Quarter 2009

Figure 4-2
MPO and EMSI County Employment Estimates, 2005-2035



Source: EMSI Complete Employment - 3rd Quarter 2009

SUMMARY

Review of forecasts for household and employment in the MPO TDM compared to the DOA and EMSI projections are not visually significant enough to warrant a change to the TDM projections at this time, therefore the forecasts remain valid. The forecasts will be re-evaluated with the next major LRTP plan update when the 2010 Census data becomes available.

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CHAPTER 5 – RECOMMENDATIONS

The recommendations are developed based on committee member and public input, Transportation Improvement Program (TIP) transportation project list, Transit Development Plan (TDP) recommendations and local comprehensive planning policies. The TIP transportation project list is selected based on criteria developed by the LRTP goals, objectives and policies. The TDP supports and enhances the LRTP through the complete analysis and recommendations of the transit system.

The following is a summary of recommendations including land use, highway transportation projects, and transit system.

LAND USE

Land use recommendations include the implementation of adopted land use policies.

TRANSPORTATION

The recommendation for the implementation of adopted policies also applies to the transportation policies.

List of specific modal recommendations follow:

- 1) Network Facility: **USH 41**
Facility Segment: STH 26 to MPAB.
Jurisdiction: WisDOT
Implementation Date: 2010 – 2016
Proposed Project: Reconstruct to 6 lanes from STH 26 to the Metropolitan Planning Area Boundary. Includes the Lake Butte des Morts bicycle and pedestrian crossing.
 *Project is currently being constructed

- 2) Network Facility: **USH 45**
Facility Segment: Waukau Ave to Ripple Ave.
Jurisdiction: Winnebago County
Implementation Date: Short Range 0 – 15 years
Proposed Project: Reconstruct USH 45 as 4 lanes from Waukau Avenue to Ripple Avenue.

- 3) Network Facility: **USH 45**
Facility Segment: Jackson St to Algoma Blvd.
Jurisdiction: Winnebago County
Implementation Date: Long Range 15 – 30 years
Proposed Project: Relocation of USH 45 south of the UW-Oshkosh campus

- 4) Network Facility: **STH 76**
Facility Segment: USH 41 to STH 15
Jurisdiction: WisDOT
Implementation Date: Long Range 15 – 30 years
Proposed Project: Reconstruct STH 76 as 4 lanes from USH 41 to STH 15
- 5) Network Facility: **STH 21 FREEWAY CONVERSION**
Facility Segment: USH 41 to West External
Jurisdiction: WisDOT
Implementation Date: Long Range 15 – 30 years
Proposed Project: Freeway conversion of STH 21 from USH 41 to West External which includes a free flow interchange with USH 41, frontage roads north and south of STH 21 over USH 41, and an interchange at STH 21 and Oakwood Road. Corridor study is scheduled to be completed in 2011
- 6) Network Facility: **CTH A**
Facility Segment: CTH Y to MPAB
Jurisdiction: Winnebago County
Implementation Date: Long Range 15 – 30 years
Proposed Project: Further study of a 4-lane facility from CTH Y to the Metropolitan Planning Area Boundary (Fox Cities Urbanized Area).
- 7) Network Facility: **CTH GG**
Facility Segment: CTH A to STH 76.
Jurisdiction: Winnebago County
Implementation Date: Long Range 15 – 30 years
Proposed Project: Construct to 4 lanes.
- 8) Network Facility: **CTH I**
Facility Segment: Ripple Ave. to Fisk Ave.
Jurisdiction: Winnebago County
Implementation Date: 2014
Proposed Project: Reconstruct to 4 lanes
- 9) Network Facility: **CTH Y**
Facility Segment: STH 76 to CTH A
Jurisdiction: Winnebago County
Implementation Date: 2012
Proposed Project: Reconstruct to 4 lanes
- 10) Network Facility: **BOWEN STREET**
Facility Segment: Ceape Avenue to Sterling Avenue
Jurisdiction: City of Oshkosh
Implementation Date: Long Range 15 – 30 years
Proposed Project: Reconstruct facility within existing right-of-way to 48 feet with 4 lanes.

- 11) Network Facility: **FERNAU AVENUE**
Facility Segment: STH 76 to Vinland St.
Jurisdiction City of Oshkosh
Implementation Date: 2013 STP-Urban Project
Proposed Project: Reconstruct 4-lane urban.
- 12) Network Facility: **FISK AVENUE**
Facility Segment: USH 41 to CTH I.
Jurisdiction Winnebago County, City of Oshkosh
Implementation Date: Short Range 0 -15 years
Proposed Project: Study for access control and capacity needs/expansion.
- 13) Network Facility: **IRVING AVENUE**
Facility Segment: Wisconsin Street to Jackson St.
Jurisdiction City of Oshkosh
Implementation Date: Long Range 15 – 30 years
Proposed Project: Reconstruct
- 14) Network Facility: **MAIN STREET**
Facility Segment: New York Avenue to Murdock Avenue
Jurisdiction City of Oshkosh
Implementation Date: 2011
Proposed Project: Reconstruct
*Project scheduled to be completed in 2011
- 15) Network Facility: **NEW YORK AVENUE**
Facility Segment: High Avenue to Hazel Street.
Jurisdiction City of Oshkosh
Implementation Date: 2011
Proposed Project: Reconstruct
*Project scheduled to be completed in 2011
- 16) Network Facility: **SNELL ROAD**
Facility Segment: CTH A to Vinland Rd.
Jurisdiction City of Oshkosh
Implementation Date: 2010
Proposed Project: Reconstruct as 2 lanes.
*Project scheduled to be completed in 2010
- 17) Network Facility: **VINLAND ROAD**
Facility Segment: Smith Street to Snell Road.
Jurisdiction City of Oshkosh, Town of Oshkosh
Implementation Date: Short Range 0 - 15 years
Proposed Project: Completion of a new 2-lane facility to accommodate bicycles and pedestrians with regard to residential and industrial development.

- 18) Network Facility: **WASHBURN STREET**
Facility Segment: STH 21 to Witzel Ave.
Jurisdiction City of Oshkosh
Implementation Date: Short Range 0 – 15 years
Proposed Project: Construct 4-lane urban section
- 19) Network Facility: **WASHBURN STREET**
Facility Segment: Dickinson Ave. to 20th Ave.
Jurisdiction City of Oshkosh
Implementation Date: Short Range 0 – 15 years
Proposed Project: Construct 4-lane urban section
- 20) Network Facility: **WEST SIDE ARTERIAL**
Facility Segment: STH 91 to STH 21.
Jurisdiction Winnebago County
Implementation Date: Long Range 15 – 30 years
Proposed Project: Construction of a west side arterial parallel to USH 41 from STH 91 to STH 21, with an interchange at STH 21
- 21) Network Facility: **9TH AVENUE**
Facility Segment: Oakwood Road to Linden Oaks Drive.
Jurisdiction City of Oshkosh
Implementation Date: Short Range 0 – 15 years
Proposed Project: Widen to accommodate bicycles and pedestrians within the plan horizon.
- 22) Network Facility: **20TH AVENUE**
Facility Segment: Oakwood Road to Oregon St
Jurisdiction City of Oshkosh, Town of Algoma
Implementation Date: Short Range 0 – 15years
Proposed Project: Widen to accommodate bicycles and pedestrians within the plan Horizon.
- 23) Network Facility: **STH 21**
Facility Segment: Fox River Lift Bridge
Jurisdiction WisDOT
Implementation Date: 2012
Proposed Project: Bridge Rehab
*Project scheduled to be completed in 2012
- 24) Network Facility: **STH 21, OSHKOSH AVE.**
Facility Segment: Fox River Bridge
Jurisdiction WisDOT
Implementation Date: 2012
Proposed Project: Bridge Rehab
*Preliminary Engineering in 2010

- 25) Network Facility: **SHERMAN ROAD**
Facility Segment: WCL Crossing Signal and Gates
Jurisdiction: Office of the Commissioner of Railroads, City of Oshkosh
Implementation Date: 2012
Proposed Project: Reconstruction
- 26) Network Facility: **OMRO ROAD BIKE PATH**
Jurisdiction: Town of Algoma
Implementation Date: 2014+
Proposed Project: Bike Path added to roadway
- 27) Network Facility: **OMRO ROAD**
Facility Segment: Leonard Point to Brooks
Jurisdiction: Town of Algoma
Implementation Date: 2014+
Proposed Project: Reconstruction, 2 lane urban with bicycle/pedestrian facilities
- 28) Network Facility: **SNELL ROAD**
Facility Segment: WIS 76 to CTH A
Jurisdiction: Town of Oshkosh
Implementation Date: 2014+
Proposed Project: Reconstruct as 4 lanes.

TRANSIT

The Oshkosh Transit Development Plan is in the process of being developed and will be incorporated in the major update when the 2010 census data becomes available.

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CHAPTER 6 - ENVIRONMENTAL JUSTICE

Environmental justice is a process which seeks to ensure that access to transportation systems and the transportation planning process is available to all, regardless of race or socioeconomic status. The Oshkosh Urbanized Area has a substantially low minority population located in the northern portion of the MPO (Exhibit 6-1). Public involvement efforts within the planning process to include minority groups have included notification to local minority organizations and agencies.

Consistent areas of low income populations were defined through the use of 2000 census tract data. These areas were categorized as less than 15 percent, 15 to 29.99 percent, 30 to 44.99 percent, 45 to 59.99 percent, and 60 or more percent of the total households (Exhibit 6-2). Also included within Exhibit 6-2 is the location of identified Transportation Improvement Program (TIP) projects from 2011 to 2015 and their geographic relationship to these low income areas.

Efforts were made to include all individuals within the planning process. Public information meetings were held during all phases of the planning process. Advertisements were published in the local newspaper prior to these meetings. Newsletters and notices were distributed via mail and e-mail to various committees, organizations, and agencies throughout the planning process for distribution to as many individuals as possible. Locations of public information meetings were crucial in the public involvement process. All meeting locations were selected to include easy access for all individuals, especially transit and alternative mode users, as well as facilities which catered to the mobility needs of the disabled. Various planning documents, including the draft of this plan were open for public comment. Public participation throughout the process is characterized as consistent.

A goal of the Oshkosh Metropolitan Planning Organization is to "provide an efficient and accessible transportation system which will meet the short and long range needs, interests, and objectives of all of the MPO's citizens". As identified in Exhibits 6-1 and 6-2, a good portion of short and long range projects are scheduled for areas of minority (non-white) and/or low income populations. Although there are no major concerns at this time, these projects will continue to improve the accessibility, mobility, and safety of all users using all modes, while posing no significant negative impacts. Exhibits 6-3 and 6-4 show areas of minority (non-white) and low income populations in relation to transit which is relied on by many of these individuals to access major employment areas, medical facilities, post-secondary education, recreation, shopping centers, etc.

ECONOMIC IMPACTS

The LRTP has the potential to extend into economic and social arenas. Level of service on roadways, multimodal opportunities, and accessibility for businesses are all issues to be considered. If levels of service on the transportation network decline during the planning period, the potential for more time spent on roadways would be significant. Additional business and personal travel time translates into increased transportation costs. However, economic incentives exist to keep business travel expenses to a minimum, and policies within the plan target the need to maintain acceptable levels of service on roadways.

Focusing on maintaining and improving existing facilities and multimodal opportunities will provide benefits to businesses and residents. The plan identifies policies, which if enacted, would ensure that appropriate types and levels of multimodal transportation services are provided to the area. Additionally, maintaining and/or improving transportation facilities will enable the transportation system to continue to provide adequate accessibility to agricultural supplies and markets. An integrated transportation system combining different modes, including rail and trucking facilities, enhances the movement of goods and services. Efficiently routing truck traffic and providing joint terminals and delivery services would increase the accessibility of distant suppliers. Enhanced accessibility and multi-modalism will provide incentives for businesses to expand and improve the business climate to attract new businesses.

SOCIAL IMPACTS

Several objectives within the long range transportation/land use plan note the importance of an efficient and environmentally sound transportation network, along with efficient and environmentally sound land uses. Implementation of these objectives would improve quality of life and make the Oshkosh Urbanized Area a more attractive community. The Oshkosh Urbanized Area has substantial shoreland along Lake Winnebago, much of which is already developed. This plan adopted by the Oshkosh MPO include policies such as the preservation and redevelopment of waterfront areas for greater recreational use, preserving scenic easements for viewsheds, and creating multimodal recreational opportunities, such as bicycling or walking along a redeveloped waterfront or park area. Enacting these policies would make the Oshkosh Urbanized Area a more attractive place to work, live, and play.

CHAPTER 7 – ENVIRONMENTAL MITIGATION

Federal law requires considering environmental mitigation activities in developing transportation plans. New consultation requirements with federal and state natural resource, and management, environmental protection and other agencies are also necessary.

Metropolitan planning regulations state in 23 CFR 450.322 (f.) (7) that the plan shall include, at minimum:

“A discussion of types of potential environmental mitigation activities and potential areas to carry out these activities that may have the greatest potential to restore and maintain the environmental functions affected by the metropolitan transportation plan. The discussion may focus on policies, programs or strategies, rather than at the project level. The discussion shall be developed in consultation with Federal, State and Tribal land management, wildlife and regulatory agencies. The MPO may establish reasonable time frames for performing this consultation.”

This chapter documents compliance with these requirements.

The ECWRPC has conducted extensive additional consultation and system level analysis of the relationship between the Oshkosh MPO Long Range Transportation/Land Use Plan projects and various natural features and resources. The consultation list is located in Appendix C.

Consultation with these agencies included direct telephone or email communications, use of data developed by these agencies and other informal conversations at meetings in advance of the March 3, 2010 (Tribal) and March 11, 2010 consultation meetings to discuss environmental mitigation. Additional agencies were also invited to participate in this process in the consultation letter sent to approximately 31 agencies or stakeholders.

Environmental features and natural resources analyzed include:

- Geographic and Topography (Scenic Resources)
 - Steep Slopes
 - Niagara Escarpment
- Geologic Features and Farmland Resources
 - Metallic and Non-metallic Mineral Resources
 - Bedrock
 - Farmland
- Water Resources
 - Watersheds and Drainage
 - Lakes and Ponds
 - Rivers and Streams
 - Designated Trout Streams
 - Exceptional Water Resources
 - Wetlands
 - Floodplains
 - Groundwater
 - Wellhead Protection Areas

- Solid and Hazardous Waste Sites
- Leaking Underground Storage Sites (LUST)
- Wildlife Resources
 - Wildlife Habitat
 - Rare, Threatened and Endangered Species and Natural Communities
 - Woodlands
- Parks, Open Space and Recreational Resources
 - Wisconsin Department of Natural Resources and Public Lands
 - Open Space
 - Recreational Trails
 - Heritage Routes and Rustic Roads
 - Environmental Corridors
 - Natural Areas, County Parks and Nature Centers
 - Local Park and Recreation Areas
 - Proposed Facilities
- Air Quality
- Cultural Resources
 - State and National Registry of Historic Places
 - Architecture and History Inventory
 - Archaeological Sites Inventory
 - Wisconsin Historic Markers
 - Cemeteries
 - Museums and Other Historic and Cultural Resources

The Oshkosh MPO Long Range Transportation/Land Use Plan includes projects that are both committed and planned. For each environmental attribute or set of attribute listed above, a GIS map was prepared showing the Oshkosh MPO Long Range Transportation/Land Use projects and the proximity to each resource featured. To clarify data, an overall map of the Oshkosh MPO showing projects and environmental features is followed by larger scale maps for each of the environmental maps that have been generated. Where projects or features are not in proximity to one another, or if there is no data, these expanded map views have been omitted, since they would show nothing.

It should be emphasized that Oshkosh MPO's role in examining issues related to environmental mitigation is to scan system level issues – this is not a project level environmental impact document, which requires field work and specific analysis under the National Environmental Policy ACT (NEPA). Rather the planning regulations require system level or regional analysis to look at cumulative effects of all projects (not those of individual projects) from a high level – which may streamline later project level or site specific analysis to the extent they may flag or act as “an early warning system’ to both transportation and resource agencies of issues which may need to be considered in later project level analysis, but more importantly, to assure that the planning and programming process as a whole considers what the long term environmental mitigation issues are for the MPO in light of future plans.

Since this high level view is the core of the MPO planning requirements (as opposed to the project level NEPA process), the legislation and regulations specifically exempt consideration of planning factors and environmental mitigation at the Plan or TIP phase from judicial review. Judicial review, however, is the crux of the NEPA project level analysis, a level of analysis that the MPO has no direct role in but to review and comment like any other interested party.

This is an important distinction, since this is precisely what the MPO has considered in developing the land use vision in terms of mitigating long term environmental impacts of sprawl and related transportation travel demand, as well as the future analysis contained in this chapter to look at mitigation of cumulative effects of the entire plan.

As such, this high level view may inform the NEPA process, but is quite distinctly different from it by design and intent, since project engineering design decisions are typically not known at the planning stage. However, earlier awareness of potential issues from a high level or overview may better alert implementation agencies of the need to consider issues at the project stage when the project is designed. This may include the presence or absence of historic sites, or possible locations of potential contamination areas that may require mitigation at the project stage when engineering begins, plans are being prepared and a NEPA style project level analysis is required.

POLICY CONTENT

The management and protection of natural resources is governed at many levels; federal, state, regional, county and local.

Federal

At the federal level, several major provisions have been developed to protect our natural resources. Along with other threats to our air, water, forests, deserts, and mountains; transportation projects are required to meet a long list of environmental requirements. In addition, proposed construction projects may involve the need for permits in several areas. A few of these polices are highlighted below:

- The ***Clean Water Act (CWA-1972)*** provided the statutory basis for the NPDES permit program and the basic structure for regulating the discharge of pollutants from point sources to waters of the United States.
 - Section 401
 - Section 402 of the CWA specifically required EPA to develop and implement the National Pollutant Discharge Elimination System (NPDES).
 - Sections 401 and 404 require that persons wanting to dispose of dredged or fill material in navigable waters obtain a permit from the Army Corps of Engineers and/or state.
- ***Safe Drinking Water Act (1974)*** was passed to protect public health by regulating the nation's public drinking water supply. The law was amended in 1986 and 1996 and requires many actions to protect drinking water and its sources: rivers, lakes, reservoirs, springs, and ground water wells.
- ***Clean Air Act*** ensures that transportation plans, programs, and projects conform to Wisconsin's air quality implementation plans. The Clean Air Act, along with the Congestion Mitigation and Air Quality Improvement sections of ISTEA, apply to air quality non-attainment and maintenance areas.
- ***The Endangered Species Act (1973)*** "provides for the conservation of species that are endangered or threatened throughout all or a significant portion of their range and

the conservation of the ecosystems on which they depend"¹³. These federal laws grant much of the authority and bases for state and, henceforth, local regulation over elements of the natural environment.

- ***Rivers and Harbors Act of 1899***, Section 10 applies to the construction of bridges, causeways, dams and dikes.
- ***Executive Order 11990*** protects wetlands.
- ***National Historical Preservation Act of 1966***, Section 106, as Amended requires federal agencies to insure that their actions (grants, funding, permits, activities such as highway building, etc.) do not adversely affect archaeological sites in or eligible for the National Register of Historic Places.

State

The State of Wisconsin has had a strong history of conservation ethics when it comes to the protection and management of natural resources. The Wisconsin State Statutes reflect this ethic be the various laws and programs established within them. A listing of some of these policies is listed below:

- ***Threatened and Endangered Species (Administrative Rule NR-27)*** protects threatened and endangered animal and plants and there habitat.
- ***Wetland Water Quality Standards (Administrative Rule NR-103)*** establishes water quality standards for wetlands.
- ***Shoreland Management Program (Administrative Rule NR 115)*** establishes minimum shoreland zoning standards for shoreland subdivision and zoning ordinances.
- ***Floodplains Management Program (Administrative Rule 116)*** provides a uniform basis for the preparation and implementation of sound floodplain regulations for all Wisconsin municipalities.
- ***Shorelands/Wetlands Protection (Administrative Rule NR 117)*** establishes minimum standards for city and village shoreland–wetland zoning ordinances.
- ***Stormwater Management (Administrative Rule NR 216)*** establishes criteria defining those storm water discharges needing WPDES storm water permits so as to minimize the discharge of pollutants carried by storm water runoff from certain industrial facilities, construction sites and municipal separate storm sewer systems.
- ***Runoff Management (Administrative Rule NR 151)*** establishes runoff pollution performance standards for nonagricultural facilities and transportation facilities and performance standards and prohibitions for agricultural facilities and practices designed to achieve water quality standards. ***TRANS 401*** reflects the performance standards for transportation facilities.
- ***Water Quality Certification (Administrative Rule NR 299)*** explains the procedures for certifying projects that impact wetlands.
- ***Time Limits and Fees for Waterway and Wetland Permit Decisions (Administrative Rule NR 300)*** describe time limits and fees for waterway and wetland permits.
- ***Wetland Compensatory Mitigation (Administrative Rule NR 350)*** describes the requirements for the wetland compensatory mitigation program.
- ***Exemptions from Water Quality Certification in Nonfederal Wetlands (Administrative Rule NR 351)*** identifies federal materials to be used for determining

¹³ <http://www.nmfs.noaa.gov/pr/laws/esa/>

whether certain activities in non-federal wetlands are exempt from water quality certification requirements.

- **Chapter 30 Permits**
- **Section 44.40 Wisconsin Statutes** states that archaeological sites can be protected during the course of state agency activities (grants, funding, permits, ground disturbing projects) if the sites have been recorded with the Office of the State Archaeologist.
- **Section 157.70 Wisconsin Statutes** states that all human burial sites, including cemeteries and Indian mounds, are protected under state law.
- **Water Quality Act Section 404** permit is required to place dredged or fill material into the waters of the United States including wetlands. This program ensures that chemical, physical, and biological integrity of these waters is protected from placements of dredged or fill materials that could permanently destroy or alter the character of these valuable resources. The Section 404 Program (including Section 10 waters) that pertains to coastal waters in Wisconsin is administered by the U.S. Army Corps of Engineers while the portion of the program that deals with non-coastal waters is administered by the WDNR.
- **Water Quality Act Section 402** requires a National Pollutant Discharge Elimination System Storm Water discharge permit for construction projects which involve land clearing of five acres or greater. Permit application requirements include the name of receiving water, identification of soil erosion controls during construction and identification of measures to control pollutants in storm water discharges that occur after construction. These requirements reduce impacts on water quality during and after construction.

Local

- **Winnebago County**
 - Winnebago County Zoning Ordinance, Chapter 17.31 Winnebago County Construction Site Erosion Control and Stormwater Management Ordinance
 - Winnebago County Zoning Ordinance, Chapter 17.21 Floodplain Ordinance's purpose is to protect life, health and property, and to minimize expenditures of public moneys.
 - Winnebago County Zoning Ordinance, Chapter 17 sets the requirements for Mineral Extraction (Section 17.19); Shoreland District Overlay (Section 17.20); Floodplain Zoning District (Section 17.21); Wetland District Overlay (Section 17.22); Surface Water Drainageway District (Section 17.23); Erosion Control and Stormwater (Section 17.31); and Historic Structures/Sites (Section 17.36).
- **City of Oshkosh**
 - Section 24.7 Storm Drainage Regulations - The purpose of this ordinance is to control and minimize storm water runoff increases and thereby preserve the natural resources, control floods, protect the quality of public waters, protect wildlife, protect the tax base, and protect and promote the health, safety and general welfare of the people of the City of Oshkosh.
 - Section 30-39 City of Oshkosh Floodplain Ordinance - This Ordinance is intended to regulate floodplain development to protect life, health and property and to minimize expenditures of public funds.

- City of Oshkosh Stormwater Utility is very active within the City. Various documents can be found on the City of Oshkosh's website at http://www.ci.oshkosh.wi.us/Public_Works/Storm_Water_Utility/.
- **Town Zoning**
 - All towns within Winnebago County are regulated under Town zoning ordinances except for the town of Black Wolf and Oshkosh.
 - **Town of Black Wolf**
Section 12 Illicit discharge Control - The purpose of this Chapter is to provide for the health, safety and general welfare of the residents of the Town of Black Wolf and protect waters of the state through the regulation of illicit discharges to the municipal separate storm sewer system as required by federal and state law.
 - **Town of Oshkosh**
The Town of Oshkosh is under Winnebago County Zoning Rules and Ordinances.¹⁴ Town ordinances that are applicable to environmental resources include:
 - Title 6 Public Roads
 - Title 7 Licensing, Permit, Fees and Regulation
 - Title 12 Parks and Navigable Waters

Consistency

Information contained on the maps provided in this report was derived from a variety of local, state and federal data sources. An attempt was made to reconcile this information with existing state and local resource agency inventories and maps to ensure consistency. Available plans for protection, development, and use of natural resources were considered in the development of this section. In addition to the data bases referred to within the text, the following data bases and reports were reviewed.

- **Land Legacy Plan**¹⁵ identifies places critical to meet conservation and outdoor recreation needs over a 50-year time frame. In all, a total of 229 named Legacy Places were identified. Winnebago County has a total of four Legacy Places; Glacial Habitat Restoration Area, Lakes of the Winnebago Pool, Lower Wolf River Bottomlands, and Rush Lake. The Oshkosh MPO is part of the Southeast Glacial Plains Ecological Landscape. Conservation needs and opportunities within these landscapes include the restoration of wetlands as areas are retired from farming. Thought should also be given to connecting public conservation lands that are isolated to nearby conservation lands. Environmental corridors of sufficient width facilitate the movement of species from one area to another.
- **Wisconsin's Wildlife Action Plan**¹⁶ presents priority conservation actions to protect the species and their habitats. According to the plan, opportunities within the Southeast Glacial Plains Ecological Landscape include the protection of the Niagara Escarpment, glacial eskers and drumlin fields that are unique and, in some cases world-renowned; linking scattered woodlots and for controlling invasive exotic species; and restoration and management of wetlands and shallow water lakes (e.g., Lake Winnebago Pools).

¹⁴ <http://www.tn.oshkosh.wi.gov/docview.asp?docid=1137&locid=159>

¹⁵ http://dnr.wi.gov/master_planning/land_legacy/

¹⁶ <http://www.dnr.state.wi.us/org/land/er/WWAP/index.htm>

- **State Comprehensive Outdoor Recreation Plan (SCORP), 2005 to 2010¹⁷** is done every 5 years to identify essential issues that affect the future of Wisconsin outdoor recreation. The plan lists the top 15 Wisconsin Statewide Land Legacy Recreation Areas in need of near term preservation and/or continued protection. One of these land legacy recreation areas are within the Oshkosh MPO, the Winnebago Pool Lakes (4th priority). The MPO is part of the Lake Winnebago Waters SCORP Planning Region. As part of this SCORP process, outdoor recreation participation surveys conducted by the National Survey on Recreation and the Environment (NSRE) have examined 62 recreational uses broken down to the SCORP regional level. Participation rates for adults age 16 and older, within the Lake Winnebago Waters planning region, was the highest in the state for bicycling (55.6%), visiting outdoor theme/water parks (42.9%), warm water fishing (45%), mountain biking (34.4%), visiting other waterside besides beaches (30.1%), off road driving (34.7%), primitive camping (19.2%), rafting (17.2%), horseback riding – any type (11.6%), disc golf (12.3%), horseback riding – on trails (10.7%) and off-road motorcycling (7.9%). While not the highest in the state participation rates for walking for pleasure (85.8%) and family gathering (81.2%) enjoyed over an 80 percent participation rate. This transportation plan is consistent with the goals outlined in Chapter 7 of the SCORP plan. These goals that apply to transportation include (1) Protect, Restore, and Enhance Wisconsin’s Natural Resources for Outdoor Recreation, (2) Continue to Improve and Develop Wisconsin Outdoor Recreation Facilities, (3) Continue to Provide and Enhance Public Access to Wisconsin Recreational Lands and Waters, (4) Understand the Threats and Opportunities of Wisconsin’s Developing Urban Areas and Areas of Rapid Population Growth, (5) Promote Wisconsin Outdoor Recreation as a Means to Better Health and Wellness for State Citizens, and (6) Maintain and Enhance Funding Opportunities for Wisconsin Outdoor Recreation.
- **Winnebago County Land and Water Resource Plan** is currently in draft form. It evaluates the resource conditions and issues of Winnebago County and presents a plan to address those issues.
- **Local Comprehensive Plans** have been developed and adopted for the following jurisdictions:
 - **2006 Winnebago County Comprehensive Plan**, adopted 3/21/2006¹⁸. The objectives of the environmental chapter of the plan that relate to transportation planning include: Preserve large, contiguous tracts of farmland in rural areas; Protect surface and ground water resources through lake, stream, and river corridor preservation and development policies; Prevent non-point pollution through construction site erosion control, stormwater management, and development that sustains resources; Protect aquatic and wildlife habitat by managing development away from environmental corridors, riparian areas and woodlands; Protect air resources through development that encourages pedestrian traffic and minimizes vehicle miles traveled; and Protect and develop passive and active recreational resources (e.g. parks, biking/hiking trails, hunting & fishing opportunities).
 - **City of Oshkosh Comprehensive Plan, 2005-2025**, adopted 3/22/2005.
 - **Town of Algoma Comprehensive Plan, 2007-2026**, adopted 5/18/2005, amended 2/21/2007.
 - **Town of Black Wolf Comprehensive Plan**, adopted 11/17/2008.

¹⁷ <http://www.dnr.wi.gov/planning/scorp/>

¹⁸ <http://www.uwex.edu/ces/cty/winnebago/wcplanning/documents/06EnvironmentalResources.pdf>

- **Town of Nekimi Comprehensive Plan.**
- **Town of Oshkosh Comprehensive Smart Growth Plan, amended 3/26/2007.**

ENVIRONMENTAL FEATURES

For each environmental feature there is a short narrative summarizing the data, limitations, an overview of the mitigation issues and system level mitigation measures. Buffers of one quarter mile are shown for improve/expand and new projects, while buffers of 250 feet are shown for bridge projects. It is assumed that potential impacts which must be mitigated for bridges are point specific. Longer corridor construction projects are usually linear and would therefore have broader potential impacts to be mitigated and may impact one or more environmental feature. Environmental features have been divided into: Geographic and Topography; Geologic Features; Water Resources; Wildlife Resources; Parks, Open Space, and Recreational Resources; Air Quality; and Cultural Resources.

This report presents material at a high system level view, therefore maps and information in this chapter should be used with extreme caution and may not, except at the most generalized level be valid for looking at specific project impacts and offsets without detail project engineering design and field reviews as part of the project level analysis and permit process.

The GIS feature analysis should stand as is and represents a good faith effort to permit a system level view, as required by the planning regulations but should not be used to identify specific impacts or offsets best left to the project level review and permit process. Still maps are illustrative and may be useful by road agency, resource and permit agencies in looking at overall systemic impacts which can further refine over time and in the local level review and permit process.

Geographic and Topography (Scenic Resources)

Winnebago County's topography is comprised of the physiographic landscapes: the Southeast Glacial Plains.¹⁹ The topography is nearly level or gentle rolling slopes of 6% or less over 90% of the terrain. Two escarpments run northeasterly across the county ranging from 750 to about 950 ft. above sea level owing to land relief on the order of about 200 feet. The most prominent features are the broad expanses of lakes and adjacent marshes. Topographic features are controlled by the surface geology, which is mainly sandstone and limestone positioned equally throughout the western and eastern parts of the county. A varying thickness of glacial till overlies the irregular surface of these rock formations. The glacial material over the limestone formations is, however, much thinner than the material over the sandstone.²⁰

Geologic Features and Farmland Resources

Metallic and Non-metallic Mineral Resources

No active metallic mining activities occur within the Oshkosh Cities MPO as metallic minerals are not present. The bedrock geology of the MPO does, however lend itself to the production of building and crushed stone. Extensive glacial activity is also responsible for providing sand and gravel, which is mainly found in outwash formations.

¹⁹ <http://dnr.wi.gov/landscapes/index.asp>.

²⁰ Winnebago Comprehensive Plan, 2006

Soil suitability for sand and gravel

Soil suitability for road materials (sand and gravel) is shown on Exhibit 7-1, Insets A-B. This information can be used as guidance as to where to look for probable sources and are based on the probability that soils in a given area contain sizeable quantities of sand or gravel. These materials can be used as a source for roadfill and embankments. Soils suitable for gravel and sand (5 acres or more) are limited within the Oshkosh MPO. About 8.34 percent (3373.51 acres) of soils are suitable for gravel and sand. These areas are scattered throughout the MPO, though more concentrated areas exist in the northwest portion of the MPO and near Lake Butte des Morts in the Town of Algoma.

Existing Non-Metallic Mining Sites

Non-metallic mineral resources include all mined minerals other than those mined as source of metal. Economically important non-metallic minerals include stone, sand and gravel. Non-metallic Mining Sites within the Oshkosh MPO was obtained from Winnebago County in 2009 and are based on permit data. Exhibit 7-1, Insets A-B and Table 7-1 indicates existing non-metallic mine locations for clay, clay and fill, gravel, limestone, sand, and sand and gravel.

Table 7-1
Non-Metallic Mining Sites

Material	Limestone	Sand/Gravel	Sand	Clay/Fill	Gravel	Clay	Total
Number	4	0	0	0	0	0	4

Bedrock

Bedrock geology for the Oshkosh MPO is made up Sinnipee Group that is composed of dolomite.²¹ These rocks were formed during the Ordovician Period during which Wisconsin was submerged at least three times. Animals and plants living in the seas deposited layers and reefs of calcium carbonate which are now dolomite. At one time, glaciers covered what is now the Oshkosh MPO, leaving behind hills and ridges of sand and gravel as well as flat lake beds of sand, silt and clay. Approximately 0.16 percent (63.07 acres) has areas of high bedrock that are five acres or more in size within the MPO. Areas of high bedrock (5 acres or more) are shown on Exhibit 7-1, Insets A-B. These areas are found in the towns of Oshkosh and Algoma.

According to the Geographic/Geologic Features and Farmland Resources map (Exhibit 7-1, inserts A-B) there are no projects within proximity of high bedrock. Project proximity to environmental features is based on a system level analysis.

Farmland Resources

Prime farmland areas are designated based on the soil suitability. Almost all the projects within the Oshkosh MPO either cross, are in proximity to, or go through prime farmland, thus a visual inspection of each site for agricultural activity should be considered in relation to projects. Soils suitable for farmland are shown on Exhibit 7-1, Insets A-B.

Mitigation Issues and System Level Mitigation Measures

Wisconsin is rooted in agriculture and has a long history of supporting farming in the state. Legislation that has protected farming include the Wisconsin's "Right-to-Farm Law", Wisconsin

²¹ Bedrock Geology of Wisconsin, UW-Extension Geological and Natural History Survey, April 1981, revised 1995.

Statutes 823.08 (protects farming from nuisance complaints), to its more recent “Working Lands Initiative” that among other things encourages counties to develop updated farmland preservation plans and have them certified by the state for farmland preservation. While most counties in the state have an existing farmland preservation plan, many of these plans are more than 30 years old and are outdated. Winnebago County has a Farmland Preservation Plan that was prepared under the provisions of the Farmland Preservation Act, Chapter 91, section 91.51 – 79, Wisconsin Statutes.

Transportation projects should consider farmland preservation and impacts during planning, design, construction and maintenance of transportation projects within these areas. Access to farmland areas is critical for farmers to plant, harvest and maintain their crops and properly care for their animals. Dust, noise and other aspects of construction may interfere with farming activities. Transportation projects may fragment parcels of land, making it harder to permanently access fields or maintain viability. Mitigation measures include maintaining access, limiting land acquisitions, etc.

Several projects within the Oshkosh MPO are in proximity to an existing farming operation, as indicated on the existing land use map. These projects are included in Table 7-2.

**Table 7-2
Transportation Projects in Proximity to Existing Farmlands**

Project Number	Project Location	Project Number	Project Location
5	STH 21 FREEWAY CONVERSION	12	FISK AVENUE, USH 41 to CTH I
6	CTH A, CTH Y to MPAB	17	VINLAND ROAD, Smith Street to Snell Road.
8	CTH I, Ripple Avenue to Fisk Avenue	19	WASHBURN STREET, Dickinson Avenue to 20th Avenue
9	CTH Y, STH 76 to CTH A	20	WESTSIDE ARTERIAL, STH 91 to STH 21
11	FERNAU AVENUE, STH 76 to Vinland Street	25	SHERMAN ROAD, WCL Crossing Signal and Gates

Water Resources

Water resources are sources of water that are useful or potentially useful to humans. Water is needed for life to exist and is used for household, agricultural, recreational, industrial and environmental activities.²² There are numerous pressures facing our water resources, such as invasive species, beach closures due to pollution, sewer overflows, wetland loss, stormwater runoff, drought, floods, increasing water demands by residential, agricultural, recreation and industrial activities, climate change, and potential ground and surface water contamination due to pesticides, chemicals, and natural occurring minerals.

²² Wikipedia, <http://en.wikipedia.org/wiki/Water> resources, 2/16/07.

Watershed, lakes, ponds, river, stream data was obtained from the WDNR. Wetland data was provided by the WDNR in 2004, while floodplain data was FEMA certified on November 4, 2009. Wetland mitigation areas were obtained from WisDOT.

Groundwater

An aquifer is a rock or soil layer capable of storing, transmitting and producing potable water for human consumption. In Winnebago County there are several aquifers; the *sandstone aquifer* is the source of the most potable water within Winnebago County. The *Platteville-galena aquifer* is composed primarily of dolomite and provides adequate water to private wells. *Sand and gravel aquifer* consists of permeable sediments of unconsolidated glacial deposits and is the most susceptible to contamination.²³

With the exception of the City of Oshkosh, residents within the MPO rely on groundwater as a source of drinking water. Groundwater is obtained from both shallow wells and aquifers and deeper wells and aquifers. Shallow wells and aquifers are more susceptible to contamination than deeper ones.

Groundwater Contamination Susceptibility

The ease that pollutants can be transported from the land surface to the top of the groundwater or "water table" defines a groundwater's susceptibility to pollutants.²⁴ Materials that lie above groundwater offer protection from contaminants. However, the amount of protection offered by the overlying materials varies, depending on the materials. In order to identify areas sensitive to contamination, the WDNR, in cooperation with UW-Extension, Wisconsin Geological and Natural History Survey and the USGS, evaluated the physical resource characteristics that influence this sensitivity. Five resource characteristics were identified: depth to bedrock; type of bedrock; soil characteristics; depth to water table; and characteristics of surficial deposits. Each of the five resource characteristics was mapped, and a composite map was created. A numeric rating scale was developed and map scores were added together.

An index method was used to determine susceptibility; however this method of analysis is subjective and includes little quantifiable or statistical information on uncertainty. This limits the use of the information for defensible decision making. Therefore, while groundwater contamination susceptibility maps can be useful, this level of uncertainty must be kept in mind.

According to the groundwater contamination susceptibility map, a majority of the Oshkosh MPO ranges from less susceptible to average susceptible for contamination. Areas more susceptible to groundwater contamination are located near Lake Winnebago (south of the Fox River) and in the southwest portion of the MPO in the Town of Nekimi (Exhibit 7-2).

Mitigation Issues and System Level Mitigation Measures

Potential groundwater impacts should be considered during planning, design, construction and maintenance of transportation projects within areas of higher susceptibility to groundwater contamination. Transportation projects can impact groundwater when materials such as paint, solvent, fuel, etc. enter areas that provide direct links to the groundwater system.

²³ Winnebago County Comprehensive Plan, 2006.

²⁴ http://wi.water.usgs.gov/gwcomp/find/Winnebago/index_full.html. Protecting Wisconsin's Groundwater Through Comprehensive Planning.

Projects within areas of higher potential for groundwater contamination should integrate stormwater management into the design of the site. Stormwater management systems should be designed to protect area groundwater supplies, such as draining away from these areas. Parking or storing equipment in areas of potential groundwater contamination should be prohibited. All hazardous materials should be properly handled, stored and disposed of properly. If possible construction should utilize less hazardous materials when possible. Equipment should be kept in good working order and leak free. Avoid hosing down equipment on site.

New or wider roadways increase the amount of impervious surface that is available. Therefore groundwater mitigation measures should include permanent stormwater management systems. Stormwater runoff can contain chemicals from leaking vehicles, road salt and other pollutants that can enter the groundwater system.

According to the Groundwater Contamination Susceptibility Analysis map there is one project within proximity of a susceptibility to groundwater contamination. Reconstruction of USH 45 as 4 lanes from Waukau Avenue to Ripple Avenue (project #2) will be in proximity of groundwater contamination susceptibility.

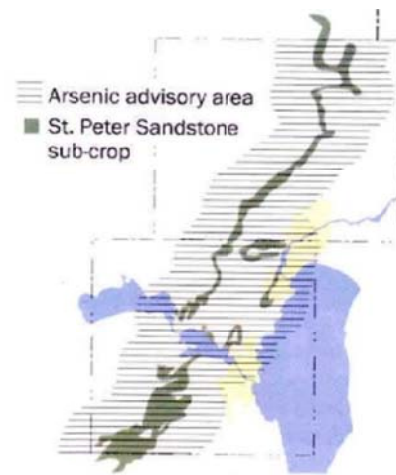
Groundwater Quality

The quality of groundwater used for domestic purposes within East Central Wisconsin is relatively good, although specific locations may have localized problems due to geologic or aquifer characteristics. A portion of the Oshkosh MPO has been identified as an "Arsenic Advisory Area" by the WDNR²⁵ (Figure 7-1). This area coincides with the sub-crop of the St. Peter Sandstone and has one of the primary sulfide mineral bearing zones lying just below the glacial sediments. These sulfides breakdown when exposed to oxygen to create arsenic. Ingested arsenic is a known cause of cancer, including cancer of the skin, lungs, bladder and kidneys.

Wellhead Protection Areas

Two of the nine municipalities within Winnebago County have wellhead protection plans. There are zero municipalities that have a wellhead protection ordinance. Table 7-3 displays the municipalities that have wellhead protection plans and or wellhead protection ordinances.²⁶ Wellhead protection plans are developed to achieve groundwater pollution prevention measures within public water supply wellhead areas. A wellhead protect plan can be all of or part of the well recharge area. The well recharge area is the entire area of land that allows water and other fluids to flow into the subsurface and move toward the well.

Figure 7-1



²⁵ Milestone Report #1, State of the Region, East Central Wisconsin Regional Comprehensive Plan 2030, adopted April 2003.

²⁶ <http://wi.water.usgs.gov/gwcomp/find/index.html>. Protecting Wisconsin's Groundwater Through Comprehensive Planning.

Table 7-3
Municipalities with Wellhead Protection Plan and or Ordinances

Municipality	Protection Plan	Ordinance
Winnebago County		
*Algoma	X	
Omro	X	

*Municipality is part of the MPO.

Source: WDNR

According to the WDNR website²⁷ the Town of Algoma and Omro have wellhead protection plans within Winnebago County.

Mitigation Issues and System Level Mitigation Measures

Wells provide direct links to the groundwater system. Additionally pollutants on the land can seep into the ground and move towards municipal wells. Potential impacts to wellhead protection areas should be considered during planning, design, construction and maintenance of transportation projects. If a wellhead protection area is impacted specific measures to protect the wellhead will depend on the depth to bedrock; type of bedrock; soil characteristics; depth to water table; and characteristics of surficial deposits. At a minimum, care should be taken to direct stormwater runoff away from these areas.

Watersheds and Drainage

The WDNR has divided the state into three major river basins; the Oshkosh MPO is contained entirely within the Lake Michigan Basin.²⁸ Each major river basin is further broken down into 24 hydrological based Water Management Units (WMUs). The Oshkosh MPO is part of the Lower Fox River, and the Upper Fox River WMUs or basins (Exhibit 7-3). Geographic Management Units (GMUs) are similar to WMU but differ because they incorporate county boundaries and are not entirely hydrological based. The Oshkosh MPO is part of the Lower Fox River, and the Upper Fox River GMUs. GMUs are further divided into smaller units based on smaller sub-watersheds. The Wisconsin DNR has completed several reports analyzing water quality for designated GMUs.²⁹

The Lower Fox River Basin encompasses about 638 square miles and is made up of six sub-watersheds; one of which is found with the MPO: Little Lake Butte Des Morts Sub-watershed (LF06).³⁰

- The Little Lake Butte Des Morts Sub-watershed contains about 44 square miles and is located almost entirely within Winnebago County. It includes the cities of Neenah and Menasha and the southern end of the City of Appleton. This watershed was added to the Lower Fox River Basin in 1995, when the basin and watershed boundaries of the Upper and Lower Fox River Basins were revised. A very small portion of this Sub-watershed is part of the Oshkosh MPO.

²⁷ List Of Communities In Wisconsin With Wellhead Protection Plans (Updated July 8, 2008).

<http://www.dnr.state.wi.us/org/water/dwg/gw/whp/communities.pdf>

²⁸ <http://www.dnr.state.wi.us/org/gmu/sidebar/whatis.htm#major>, 2/16/10

²⁹ WDNR. 2002. State of the Basin Reports. <http://dnr.wi.gov/org/gmu/stateofbasin.html>

³⁰ WDNR. <http://www.dnr.state.wi.us/org/gmu/lowerfox/surfacewaterfiles/watersheds/lf01.html>. Accessed 2/22/10.

The Upper Fox River Basin occupies a total of 2,090 square miles and is broken down into 15 sub-watersheds. Four of the sub-watersheds are part of the Oshkosh MPO. These include the Lake Winnebago/North and West (UF01), the Fond du Lac River (UF03), the Lake Butte des Morts (UF04) and the Fox River (UF05) watersheds.³¹

- The Lake Winnebago/North and West Sub-watershed is located along the west and north shore of Lake Winnebago from Oshkosh to just west of High Cliff State Park. It includes portions of the cities of Oshkosh (Oshkosh MPO), Neenah, and Menasha. The watershed has approximately 15 miles of frontage on Lake Winnebago and is a major contributor of phosphorus and suspended solids and was ranked "high" for streams.
- The Fond du Lac River Watershed is the second largest watershed in the Upper Fox River Basin with an area of about 225 square miles. It is located along the southern and southwestern shore of Lake Winnebago and includes all the streams flowing to the lake between Oshkosh and Fond du Lac in Fond du Lac and Winnebago Counties.
- The Lake Butte des Morts South Watershed lies in east central Winnebago County. It includes approximately the southwest 1/3 of the City of Oshkosh and the southern shore of Lake Butte des Morts to where the Fox River empties into the lake. Agriculture is the primary land use, but there is a very sizable urban area in the watershed.
- The Fox River Watershed is located in southern Winnebago County and small portions of Fond du Lac and Green Lake Counties. Agriculture is the dominant land use in the watershed with cash crop and dairy farming utilizing the greatest acreage.

Mitigation Issues and System Level Mitigation Measures

Water resources are considered impacted if (1) polluted stormwater runoff reaches lakes, ponds, rivers and streams; (2) area vegetation is removed; (3) there is damage to stream beds or banks caused by heavy equipment; or (4) accidental spills such as paint, salt, solvent, etc. that run directly into bodies of water. Therefore, surface water impacts should be considered during planning, design, construction and maintenance of transportation projects.

If it is determined that a water resource could be impacted by the project, if possible, steps should be taken to avoid impacts to these resources. If however, impacts are unavoidable, then a course of action should be established to minimize these impacts. Stormwater management should be incorporated into the site design, low impact development practices should be utilized that help infiltrate stormwater into the ground, instead of diverting stormwater directly to the water resource. Special requirements should be incorporated that address water resource sensitivity into the plans and specifications. Erosion control practices should be implemented to capture sediments and control runoff before site disturbance occurs. Specific projects that may potentially impact lakes, ponds, marshes, rivers, streams, wetlands and floodplains are discussed below under mitigation issues and system level mitigation measures.

Lakes and Ponds

Natural lakes in Wisconsin are categorized by the source of their water supply. The four types of natural lakes are: drainage lakes, seepage lakes, spring lakes and drained lakes.³²

³¹ <http://www.dnr.state.wi.us/org/gmu/upfox/upfox1.pdf>. Accessed 2/22/10.

³² Wisconsin Lakes. WDNR, 2009.

- **Drainage lakes** have both an inlet and outlet whose main water source is stream drainage. Most major rivers in Wisconsin have drainage lakes along their course. Drainage lakes owe one-half of their maximum depth to a dam and are considered to be artificial lakes or impoundments.
- **Seepage lakes** do not have an inlet or an outlet, and only occasionally overflow. As landlocked water bodies, the principal source of water is precipitation or runoff, supplemented by groundwater from the immediate drainage area. Since seepage lakes commonly reflect groundwater levels and rainfall patterns, water levels may fluctuate seasonally. Seepage lakes are the most common lake type in Wisconsin.
- **Spring lakes** have no inlet, but do have an outlet. The primary source of water for spring lakes is groundwater flowing into the bottom of the lake from inside and outside the immediate surface drainage area.
- **Drained lakes** have no inlet, but like spring lakes, have a continuously flowing outlet. Drained lakes are not groundwater-fed. Their primary source of water is from precipitation and direct drainage from the surrounding land. Drained lakes are the least common lake type found in Wisconsin.

Two lakes/quarries are found within the Oshkosh MPO; Lake Winnebago and Lake Butte des Morts.

- **Lake Winnebago**, a drainage lake, is the largest inland lake in Wisconsin; it has a maximum depth of 21 feet and covers about 137,708 acres. It also has the largest volume (696 billion gallons) and the longest shoreline (85 miles) than any lake in Wisconsin.
- **Lake Butte des Morts**, a drainage lake, has a maximum of 9 feet and encompasses an area of 8,581 acres. It is part of the Winnebago Pool Lakes and is fed by the Fox River (Southwest corner) and the Wolf River (Southeast corner). It drains via the Fox River into Lake Winnebago.

Mitigation Issues and System Level Mitigation Measures

Protection of lakes and ponds require mitigation measures that are centered around sound construction management practices and permitting. Project level reviews should include, but are not limited to proper permits, soil erosion protections, control and limitation of pollutants, vegetation buffers and sedimentation control measures. According to the Water Resource map there is one project within proximity of lakes and ponds. Reconstruction of USH 45 (project #1) to 6 lanes from STH 26 to the Metropolitan Planning Area Boundary will be in proximity of Lake Butte des Morts. Project includes the Lake Butte des Morts bicycle and pedestrian crossing.

Rivers and Streams

There are four named rivers and streams within the Oshkosh MPO (Exhibit 7-3, Insets A-B).

- **Upper Fox River**³³ flows from central Wisconsin into Lake Winnebago. For a half-mile the river flows through the Butte des Morts Sub-watershed. In this area, the general condition of the river is considered poor; there is acute aquatic toxicity as well as PAH's present.

³³ <http://dnr.wi.gov/water/ListWaterByWatershed.aspx>

- **Van Dyne Creek** is part of the Upper Fox Basin and the Fond du Lac Sub-watershed. It flows into Lake Winnebago.
- **Weyhurst Creek** is part of the Upper Fox River, Fond du Lac River Sub-watershed. It flows into Lake Winnebago.
- **Sawyer Creek** is part of the Upper Fox Basin and the Lake Buttes des Morts/South Watershed. It is nine miles in length.
- **Campbell Creek** is part of the Lake Buttes des Morts Sub-watershed. It flows into the Fox River near Dempsey Trail.

Mitigation Issues and System Level Mitigation Measures

Mitigation measures to protect rivers and streams are centered around sound construction management practices and permitting. Project level reviews should include, but are not limited to proper permits, soil erosion protections, control and limitation of pollutants, vegetation buffers and sedimentation control measures. According to the Water Resource map (Exhibit 7-3) there are two projects within proximity of rivers, stream and creeks. Reconstruction of USH 45 (project #2) as 4 lanes from Waukau Avenue to Ripple Avenue and construction of a 4-lane urban section on Washburn Street from Dickinson Ave. to 20th Ave. (project #19).

Designated Trout Streams

Wisconsin trout streams are placed into three classes for fish management purposes by the Wisconsin Department of Natural Resources³⁴:

- **Class 1.** These are high quality trout waters, have sufficient natural reproduction to sustain populations of wild trout at or near carry capacity. Consequently, streams in this category require no stocking of hatchery trout. These streams or stream sections are often small and may contain small or slow-growing trout, especially in the headwaters.
- **Class 2.** Streams in this classification may have some natural reproduction, but not enough to utilize available food and space. Therefore, stocking is required to maintain a desirable sport fishery. These streams have good survival and carryover of adult trout, often producing some fish larger than average size.
- **Class 3.** These waters are marginal trout habitat with no natural reproduction occurring. They require annual stocking of trout to provide trout fishing. Generally, there is no carryover of trout from one year to the next.

According to the WDNR, there are no designated trout streams within the Oshkosh MPO.

Outstanding Resource Waters or Exceptional Water Resources

Wisconsin has designated many of the state's highest quality waters as Outstanding Resource Waters (ORWs) or Exceptional Resource Waters (ERWs). Waters designated as ORW or ERW are surface waters which provide outstanding recreational opportunities, support valuable fisheries and wildlife habitat, have good water quality, and are not significantly impacted by human activities. ORW and ERW status identifies waters that the State of Wisconsin has determined warrant additional protection from the effects of pollution. These designations are intended to meet federal Clean Water Act obligations requiring Wisconsin to adopt an "antidegradation" policy that is designed to prevent any lowering of water quality – especially in those waters having significant ecological or cultural value.³⁵

³⁴ Wisconsin Trout Streams, WDNR. Last revised April 7, 2010. <http://dnr.wi.gov/fish/species/trout/streammaps.html>.

³⁵ <http://dnr.wi.gov/org/water/wm/wqs/orwerw/index.htm>

- **ORWs:** ORWs typically do not have any point sources discharging pollutants directly to the water (for instance, no industrial sources or municipal sewage treatment plants), though they may receive runoff from nonpoint sources. New discharges may be permitted only if their effluent quality is equal to or better than the background water quality of that waterway at all times—no increases of pollutant levels are allowed.
- **ERWs:** If a waterbody has existing point sources at the time of designation, it is more likely to be designated as an ERW. Like ORWs, dischargers to ERW waters are required to maintain background water quality levels; however, exceptions can be made for certain situations when an increase of pollutant loading to an ERW is warranted because human health would otherwise be compromised.

Waters currently designated as ORWs and ERWs are listed in Wisconsin's Administrative Code in chapters NR 102.10 (ORWs) and NR 102.11 (ERWs). According to the WDNR website and the Wisconsin Administrative Code, there are no ORW or ERW waters listed within the Oshkosh MPO.

Wetlands

Wetlands act as a natural filtering system for nutrients such as phosphorus and nitrates. More importantly, wetlands also serve as a natural buffer protecting shorelines and stream banks from erosion. Wetlands are essential in providing wildlife habitat, flood control and groundwater recharge. Consequently, local, state and federal regulations place limitations on the development and use of wetlands and shore lands. The U.S. Army Corps of Engineers has authority over the placement of fill materials in virtually all wetlands two acres and larger or adjacent to navigable waters. The Wisconsin Department of Natural Resources and United States Department of Agriculture also have jurisdiction over wetlands within Wisconsin. The U.S. Department of Agriculture incorporates wetland preservation criteria into its crop price support programs. Prior to placing fill or altering wetland resources, the appropriate agencies must be contacted to receive authorization.

The wetlands surveyed according to the Wisconsin Wetlands Inventory (WWI) Map are shown in Exhibit 7-4 and Insets A-B. The WWI maps show graphic representations of the type, size and locations of wetlands in Wisconsin. They have been prepared from the analysis of high altitude imagery in conjunction with soil surveys, topographic maps, previous wetland inventories and field work. Therefore it should be noted that using remotely sensed information as a primary data source places limitations on the information. As a result, this information should be used as a guide for planning purposes only.³⁶ Wetland information depicted within this report was obtained from the WNDNR in 2004.

Wetlands within the Oshkosh MPO are somewhat scattered, but larger wetland associations are found near and around Sawyer and Weyhurst creeks and the east shore of Lake Butte Des Morts. Wetland vegetation can be classified as Forested Broad Leaved Deciduous, Forested Emergent Wet Meadow, Emergent Wet Meadow, Shrub/Shrub Broad Leaved Deciduous. Not including small tracts of wetlands (less than five acres); only about 3.32 percent (1,342.01 acres) of the Oshkosh MPO is classified as wetlands.

³⁶ <http://dnr.wi.gov/wetlands/inventory.html>

Mitigation Issues and System Level Mitigation Measures

If at all possible avoid locations in proximity to wetlands. If project location is unavoidable, a wetland mitigation plan should be developed that identifies measures proposed to minimize adverse impact and replace lost wetland habitat values and other wetland functions and values. A mitigation plan should include design features such as culverts to retain hydrological connection between areas fragmented by the project, soil erosion protections, control and limitation of pollutants, vegetation buffers and sedimentation control measures. Mitigation measures should be centered around sound construction management practices and permitting. Several projects within the Oshkosh MPO either cross, are in proximity to or go through a DNR designated wetland. These projects are included in Table 7-4.

**Table 7-4
Transportation Projects in Proximity of Wetlands**

Project Number	Project Location	Project Number	Project Location
1	USH 41, STH 26 to MPAB	17	VINLAND ROAD, Smith Street to Snell Road
6	CTH A, CTH Y to MPAB	21	9TH AVENUE, Oakwood Road to Linden Oaks Drive.
11	FERNAU AVENUE, STH 76 to Vinland Street	22	20TH AVENUE, Oakwood Road to Oregon Street
12	FISK AVENUE, USH 41 to CTH I	26	OMRO ROAD BIKE PATH
13	IRVING AVENUE, Wisconsin Street to Jackson Street	27	OMRO ROAD, Leonard Point to Brooks
16	SNELL ROAD, CTH A to Vinland Road	28	SNELL ROAD, WIS 76 to CTH A

Floodplains

Areas susceptible to flooding are considered unsuitable for development due to potential health risks and property damage. Floodplain information for the MPO is contained within the following documents: FEMA Floodplain 2003, Winnebago County adopted by FEMA on March 17, 2003 and Winnebago County on March 25, 2003. 100 year floodplain information is shown on Exhibit 7-4, Insets A-B.

While floodplains are scattered throughout the MPO, larger areas are associated with Lake Butte Des Morts, the lower Fox River and Sawyer Creek (Exhibit 7-4, Insets A-B). Approximately 7.26 percent (2,935.12 acres) of land within the Oshkosh MPO are within the 100 year floodplain.

Mitigation Issues and System Level Mitigation Measures

In general, several projects are either within close proximity or are in a 100 year floodplain. Most of these projects represent stream and river crossing or work near Lake Winnebago. However, from a system level view, the Oshkosh area has experienced flooding in recent years. Therefore, project staging and safety/security issues should be coordinated to avoid potential flood evacuation and emergency response problems during construction. Maps contained in this report should help facilitate examination of these system level issues by transportation or

emergency management agencies and land use decision makers to potentially mitigate impacts of floods on public property and on public safety.

Additionally, there is a special need for sound construction engineering and management practices when constructing public facilities in flood prone areas. Projects within proximity of the 100 year floodplain are shown in Table 7-5.

**Table 7-5
Transportation Projects in Proximity of Floodplains**

Project Number	Project Location	Project Number	Project Location
1	USH 41 , STH 26 to MPAB	21	9TH AVENUE , Oakwood Road to Linden Oaks Drive
2	USH 45 , Waukau Ave to Ripple Avenue	23	STH 21 , Fox River Lift Bridge
6	CTH A , CTH Y to MPAB	24	STH 21, OSHKOSH AVE. , Fox River Bridge
10	BOWEN STREET , Ceape Avenue to Sterling Avenue	27	OMRO ROAD , Leonard Point to Brooks
15	NEW YORK AVENUE , High Avenue to Hazel Street	28	SNELL ROAD , WIS 76 to CTH A
18	WASHBURN STREET , STH 21 to Witzel Avenue		

Hazardous and Contaminated Sites

The WDNR Bureau of Waste Management Program operates the Solid and Hazardous Waste Information System (SHWIMS) provides access to information on sites, and facilities operating at sites, that are regulated by the Wisconsin DNR Waste Management program. Activities that occur at Facilities include landfill operation, waste transportation, hazardous waste generation, wood burning, waste processing, sharps collection and many more. A search of the data base for solid waste landfills/disposal facilities indicates that there are three landfills/disposal facilities within the Oshkosh MPO (Table 7-6).

**Table 7-6
Solid Waste Landfills and Disposal Facilities**

Facility Name	Status	County	Address	Municipality
GENERAL CHEMICAL LLC	OPERATING	WINNEBAGO	LARSEN RD	NEENAH TN
TOMAHAWK LAND CO OF DELAWARE LLC NORTH LF	OPERATING	WINNEBAGO	3111 CTH G	VINLAND TN
WINNEBAGO CNTY SUNNYVIEW LF	OPERATING	WINNEBAGO	100 W COUNTY RD Y	OSHKOSH

Source: WDNR SHWIMS on the Web, August 16, 2010

The WDNR Remediation and Redevelopment (RR) Program oversees the investigation and cleanup of environmental contamination and the redevelopment of contaminated properties. A tracking system the Bureau of Remediation and Redevelopment Tracking System (BRRTS) is available on the internet. This on-line database provides information about contaminated

properties and other activities related to the investigation and cleanup of contaminated soil or groundwater in Wisconsin. According to the website, there are 864 Environmental Repair (ERP³⁷) sites and Leaking Underground Storage Tank (LUST³⁸) Sites in Winnebago County (See Appendix D for complete list).

Mitigation Issues and System Level Mitigation Measures

Hazardous materials contamination is more of an issue in project construction design and best management practices, as developed through the project review and construction permit process. Consideration of these sites at the stage of system planning may enhance opportunities to coordinate site closure, cleanup, construction and remediation economies of scale and permit earlier more cost effective environmental mitigation of these sites. Mitigation practices for hazardous/contaminated materials or sites include a project area contamination survey to determine if any known or potential sites of environmental contamination exist that could affect the project's design, cost or schedule. Common hazardous/contaminated sites identified include leaking underground fuel storage tanks from former or existing gas stations, former landfills, adjacent industrial or commercial operations and asbestos lined utility pipes or structure components. Special attention may be warranted when transportation projects and LUST site clusters also correspond to wellhead, flood prone or other areas where mitigation may be even more important to protect public health.

Wildlife Resources

Wildlife Habitat

Ecological landscapes are areas that differ from each other in ecological attributes and management opportunities. They have unique combinations of physical and biological characteristics, such as climate, geology, soils, water and vegetation. Levels of biological productivity, habitat suitability, and the presence of rare species and natural communities also differ. The Oshkosh MPO falls within the Southeast Glacial Plains Ecological Landscape.³⁹

- **Southeast Glacial Plains Ecological Landscape** covers the bulk of the non-coastal area in southeast Wisconsin and totals approximately 4.9 million acres. This landscape is characterized by gently rolling to flat topography with clay or silt loam textured soils on glacial till plains and moraines.

The Southeast Glacial Plain Ecological Landscapes support numerous habitat types. Habitats found within the MPO include streams, lakes, rivers, woodlands, marshes, open wet meadows, and fallow/abandoned farmland. The Winnebago County Soil Survey indicates that within the MPO wildlife is comprised of pheasant, partridge, cottontail, gray squirrel, fox squirrel, deer, ruffed grouse, waterfowl (mallards, blue winged teal) and songbirds.⁴⁰

³⁷ ERP sites are sites other than LUSTs that have contaminated soil and/or groundwater. Examples include industrial spills (or dumping) that need long term investigation, buried containers of hazardous substances, and closed landfills that have caused contamination. The ERP module includes petroleum contamination from above-ground (but not from underground) storage tanks.

³⁸ A LUST site has contaminated soil and/or groundwater with petroleum, which includes toxic and cancer causing substances. However, given time, petroleum contamination naturally breaks down in the environment (biodegradation). Some LUST sites may emit potentially explosive vapors.

³⁹ WDNR, <http://dnr.wi.gov/landscapes/index.asp>. Accessed 8/17/10.

⁴⁰ Soil Survey of Winnebago County, Wisconsin. May 1980.

Woodlands

Originally, Winnebago County was mostly forest and oak savanna, with area of sedge meadow and prairie grass in the northern and western part of the county. Most of the forest was cleared for agricultural crops with roughly 20,000 acres of woodland left. The woodland composition comprises of the following: oak-hickory; 7,000 acres, maple-beech-birch, 6,000 acres; ash-aspen-cottonwood, 5,000 acres, and mixed conifers, 2,000 acres. The County's woodland stock provides a considerable source of timber and related products for private use. The woodlands also provide habitat for a variety of wildlife species.

Forest and woodlands are classified into one of two categories: general (unplanted) woodlands and planted woodlands (Exhibit 7-5). General woodlands are naturally occurring forests and hedgerows. Planted woodlands are tree plantations in which trees are found in rows; these areas include orchards, timber tracts and other general uses.

Mitigation Issues and System Level Mitigation Measures

Although some tree removal will be necessary, existing and ornamental vegetative cover should be retained whenever possible within the right-of-way. Where existing groundcover must be removed, replacement vegetation should be established in a timely manner using seed and mulch or sod. Roadside trees adjacent to residences should be saved whenever possible. Where trees are to be removed in front of residences, property owners should be given appropriate notice, and should be offered replacement trees to help offset the functional or aesthetic loss of the trees.

Replacement tree species, size and number should be determined by the WisDOT following coordination with adjacent property owners.

Table 7-7 shows the projects that either cross, are in proximity to or go through woodland areas.

**Table 7-7
Transportation Projects in Proximity of Woodland Areas**

Project Number	Project Location	Project Number	Project Location
1	USH 41, STH 26 to MPAB	16	SNELL ROAD, CTH A to Vinland Road
2	USH 45, Waukau Ave to Ripple Avenue	17	VINLAND ROAD, Smith Street to Snell Road
6	CTH A, CTH Y to MPAB	21	9TH AVENUE, Oakwood Road to Linden Oaks Drive
8	CTH I, Ripple Avenue to Fisk Avenue	26	OMRO ROAD BIKE PATH
9	CTH Y, STH 76 to CTH A	27	OMRO ROAD, Leonard Point to Brooks
11	FERNAU AVENUE, STH 76 to Vinland Street	28	SNELL ROAD, WIS 76 to CTH A
12	FIK AVENUE, USH 41 to CTH I.		

Rare, Threatened and Endangered Species and Natural Communities

The Fish and Wildlife Service (FWS) in the Department of the Interior and the National Oceanic and Atmospheric Administration (NOAA)-Fisheries in the Department of Commerce (National Marine Fisheries Service – NMFS) share responsibility for administration of the Endangered Species Act (ESA)⁴¹. The purpose of the ESA is to protect and recover imperiled species and the ecosystems upon which they depend. The FWS has primary responsibility for terrestrial and freshwater organisms, while the NMFS are mainly responsible for marine wildlife such as whales and anadromous fish such as salmon.

Under the ESA, species may be listed as either endangered or threatened. “Endangered” means a species is in danger of extinction throughout all or a significant portion of its range. “Threatened” means a species is likely to become endangered within the foreseeable future. Before a plant or animal species can obtain the protection of the ESA, it has to be added to the Federal lists of threatened and endangered plants and wildlife. The List of Endangered and Threatened Wildlife (50 CFR 17.11) and the List of Endangered and Threatened Plants (50 CFR 17.12) contain the names of all species of mammals, birds, reptiles, amphibians, fishes, insects, plants and other creatures that have been determined by the USFWS and the National Oceanic & Atmospheric Administration (NOAA) Fisheries (for most marine life) to be in greatest need of Federal protection. As of March 2008, the FWS has listed 1,925 species worldwide as endangered or threatened; 1,351 occur in the United States.

Species are listed as endangered or threatened based solely on their biological status and threats to their existence. FWS considered five factors when evaluating a species (1) damage to, or destruction of, a species habitat; (2) overutilization of the species for commercial, recreational, scientific or educational purposes; (3) disease or predation; (4) inadequacy of existing protection; and (5) other natural or manmade factors that affect the continued existence of the species.

Candidate species are plants and animals for which the USFWS has sufficient information on their biological status along with the threats they face, to propose them as endangered or threatened under the Endangered Species Act. However, development of a proposed listing regulation is precluded by other, higher priority listing activities. Candidate species receive no legal protection. However, the USFWS encourages concerned parties to form partnerships to conserve these species, because they are species that may warrant protection in the future under the ESA.

The Wisconsin Natural Heritage Inventory (NHI) program^{42,43} is part of an international network of NHI programs. The program uses a standard methodology for collecting, characterizing, and managing data. NHI programs focus on locating and documenting occurrences of rare species and natural communities, including state and federal endangered and threatened species. Due to the vulnerability of rare species to collection and destruction, NHI data is exempt from the Wisconsin Open Records Law.

⁴¹ http://www.fws.gov/endangered/factsheets/ESA_basics.pdf. <http://www.fws.gov/endangered/whatwedo.html>.

⁴² WDNR. <http://dnr.wi.gov/org/land/er/nhi/CountyMaps/>. Accessed 2/26/10.

⁴³ The DNR Aquatic Terrestrial Resource Inventory (ATRI database), <http://wiatri.net/indexIE.htm> was reviewed but not utilized since the database contains information from the WNHI program. The WNHI program houses the most complete database on the locations and status of rare species, natural communities, and natural features in Wisconsin. Data provided by the WNHI are not based on a comprehensive rare species inventory of the state. The WNHI makes no guarantee or warranty concerning the accuracy or completeness of information contained in the database and does not necessarily endorse any interpretation or products derived from the data.

The U.S. Fish and Wildlife Service (USFWS) identifies two (2) federally listed species for Winnebago County⁴⁴, while the Wisconsin Natural Heritage Inventory further identifies 42 aquatic and terrestrial animal occurrences, 13 aquatic and terrestrial plant occurrences and 25 aquatic and terrestrial natural community occurrences (Table 7-8, Exhibit 7-5 and Inserts A-B)⁴⁵. A complete list of occurrences and maps for each county can be found Appendix E.

Below is a listing of federally endangered species:

Table 7-8
Federally Listed Endangered, Threatened, Proposed and Candidate Species in Winnebago County

Species	Status	Habitat
Whooping Crane (<i>Grus americanus</i>)	**Non-essential experimental population	Open Wetlands and lakeshores
Eastern prairie fringed orchid (<i>Platanthera leucophaea</i>)	Threatened	Wet Grasslands

Source: <http://www.fws.gov/midwest/endangered/lists/wisc-cty.html>. Visited August 20, 2010.

Generalized versions of the database are included on Exhibit 7-5 and Inserts A-B.

Mitigation Issues and System Level Mitigation Measures

Winnebago County is home to two federally listed species. In addition, 80 occurrence have been noted in Winnebago County per the Wisconsin Natural Heritage Inventory. Early in the planning phase, field surveys may be necessary to identify rare, endangered and threatened species and/or habitat that may be impacted during construction and continued maintenance of the project. Depending on the species identified; seasonal and other limitations may be imposed on the project.

Projects that may be impact WDNR endangered species habitat are included in Table 7-9.

⁴⁴ <http://www.fws.gov/midwest/endangered/>. Revised January 2010.

⁴⁵ http://dnr.wi.gov/org/land/er/nhi/countyMaps/pdfs/Fond_du_Lac_County.pdf. Accessed 5/20/10

**Table 7-9
Transportation Projects in Proximity of Rare, Threatened and Endangered Species
and Natural Communities**

Project Number	Project Location	Project Number	Project Location
2	USH 45, Waukau Ave to Ripple Avenue	16	SNELL ROAD, CTH A to Vinland Road
3	USH 45, Jackson St to Algoma Boulevard	17	VINLAND ROAD, Smith Street to Snell Road
6	CTH A, CTH Y to MPAB	18	WASHBURN STREET, STH 21 to Witzel Avenue
8	CTH I, Ripple Avenue to Fisk Avenue	22	20TH AVENUE, Oakwood Road to Oregon Street
9	CTH Y, STH 76 to CTH A	23	STH 21, Fox River Lift Bridge
10	BOWEN STREET, Ceape Avenue to Sterling Avenue	24	STH 21, OSHKOSH AVE., Fox River Bridge
11	FERNAU AVENUE, STH 76 to Vinland Street	25	STH 21, Fox River Lift Bridge
13	IRVING AVENUE, Wisconsin Street to Jackson Street	26	OMRO ROAD BIKE PATH
14	MAIN STREET, New York Avenue to Murdock Avenue	27	OMRO ROAD, Leonard Point to Brooks
15	NEW YORK AVENUE, High Avenue to Hazel Street	28	SNELL ROAD, WIS 76 to CTH A

Parks, Open Space, and Recreational Resources

Public open space such as parks and parkways are important to the quality of life within a community. These lands serve many purposes including outdoor recreation and education; buffers between different land uses; flood and stormwater management; habitat preservation; air and surface water quality improvements; protection of groundwater recharge areas; and aesthetics.

Mitigation Issues and System Level Mitigation Measures

Potential impacts on parks, open space and recreational areas should be considered during the planning, design, construction and maintenance of transportation projects. Parks, open space and recreational areas are considered impacted if land is acquired for a project, if land is otherwise occupied (such as a retention basin) in a manner that is adverse to the recreational purpose of the land or if a project in the proximity of the resource substantially impacts its purpose.

Section 4(f) of the United States Department of Transportation Act of 1966 (subsequently codified into 49 United States Code Section 303) stipulates that federally funded transportation projects cannot use publicly-owned public parks or recreation areas unless there is no feasible and prudent alternative to the use of the land, and that the action includes all possible planning to minimize harm resulting from the use.

Planning should include an inventory of existing and future identified park, open space and recreation areas to determine if the resource could be impacted by the transportation project. If possible avoid impacts to park, open space and recreational areas. Where impacts are unavoidable, mitigate them as much as possible. Some mitigation techniques to consider include (1) acquiring the impacted property and compensating for the loss either monetarily or by acquiring replacement land; (2) acquire scenic easements and construct appropriate visual screening consistent with the context of the recreational use; (3) Restore, relocate or rehabilitate impacted features and context (natural areas and facilities); (4) Preserve as much of the resource and site features as possible; and (5) avoid and mitigate new visual, atmospheric, and/or audible elements that detract from the character of the resource.

Wisconsin Department of Natural Resources (WDNR) and Public Lands

Since 1876, the State of Wisconsin has been acquiring land to meet conservation and recreation needs. Public lands managed by the Wisconsin Department of Natural Resources provide many opportunities and public spaces to hunt, fish, hike, canoe, or watch or photograph wildlife.

State Fishery Areas (SFAs) protect important waterways in Wisconsin by providing a natural buffer from agricultural practices and urban runoff. SFAs often preserve and manage the headwaters or springs of streams which serve as the biological base for fish and other aquatic life. SFAs also increase the availability of public access to navigable waterways throughout the state. There are no SFAs in the Oshkosh MPO

State Wildlife Areas are managed to sustain the wildlife and natural communities found on the properties and to provide a full range of traditional outdoor recreational uses. There are no State Wildlife Areas in the Oshkosh MPO.⁴⁶

State Parks and Forests provide places for outdoor recreation and for learning about nature and conservation. There are no State Parks or Forests in the Oshkosh MPO area.⁴⁷

Open Space

Public open spaces such as parks, natural areas and parkways are important to the quality of life within a community. These lands serve many purposes including outdoor recreation and education; buffers between different land uses; flood and stormwater management; habitat preservation; air and surface water quality improvements; protection of groundwater recharge areas; and aesthetics. They can also enhance the value of nearby properties.

Recreational Trails

A multitude of recreational trails intersect the Oshkosh MPO area (Exhibit 7-6, Inserts A-B). A number of trails are listed below:

- ***Wauwasha State Trail*** - utilizes an abandoned railroad corridor and is 21.8 miles long. The trail is walkers, hikers, bikers, horseback riders, and snowmobilers during the winter months. Within the MPO, the trail follows the north shore of Lake Butte des Morts, crosses the Fox River and continues south toward Fond du Lac County.

⁴⁶ http://dnr.wi.gov/org/land/wildlife/wildlife_areas/

⁴⁷ <http://dnr.wi.gov/org/land/parks/index.html>

- **Quarry Park Trail** – provides a connection between the Wiouwash State Trail and the Oshkosh-Ripon Trail. It connects to the Wiouwash State Trail on the north side of the Fox River and continues diagonally through the City of Oshkosh to Highway 41, where it connects to the Oshkosh Ripon Trail.
- **Oshkosh-Ripon Trail** – it will eventually provide a linkage between the cities of Oshkosh and Ripon. It commences at the Quarry Park Trail and USH 41 continues diagonally toward Ripon.
- **Winnebago County Park Trail** – provides a connection between the Wiouwash State Trail and the Oshkosh-Fox Cities Trail.
- **Oshkosh-Fox Cities Trail** – provides a connection between Oshkosh and the Fox Cities along CTH A.

Mitigation Issues and System Level Mitigation Measures

Numerous projects will either cross, are in proximity to recreational trails. Table 7-10 shows all projects that either crosses, are in proximity to recreational trails.

**Table 7-10
Transportation Projects in Proximity of Recreational Trails**

Project Number	Project Location	Project Number	Project Location
1	USH 41, STH 26 to MPAB	16	SNELL ROAD, CTH A to Vinland Road
2	USH 45, Waukau Ave to Ripple Avenue	19	WASHBURN STREET, Dickinson Avenue to 20th Avenue
3	USH 45, Jackson St to Algoma Boulevard	23	STH 21, Fox River Lift Bridge
5	STH 21 FREEWAY CONVERSION, USH 41 to West External	24	STH 21, OSHKOSH AVENUE, Fox River Bridge
6	CTH A, CTH Y to MPAB	25	SHERMAN ROAD, WCL Crossing Signal and Gates
9	CTH Y, STH 76 to CTH A	26	OMRO ROAD BIKE PATH
13	IRVING AVENUE, Wisconsin Street to Jackson Street	27	OMRO ROAD, Leonard Point to Brooks
14	MAIN STREET, New York Avenue to Murdock Avenue	28	SNELL ROAD, WIS 76 to CTH A
15	NEW YORK AVENUE, High Avenue to Hazel Street		

Heritage Routes and Rustic Roads

Heritage Routes

The Fox-Wisconsin Heritage Parkway is currently pursuing a federal designation as a National Heritage Area. The parkway follows the Marquette and Joliet route of discovery and incorporates the Lower Fox, the Upper Fox and the Lower Wisconsin rivers. Much of the Oshkosh MPO is included within the parkway.

Rustic Roads

The Rustic Roads System was created by the State Legislature in 1973 to help citizens and local units of government preserve scenic lightly traveled country roads for the leisurely enjoyment of bicyclists, hikers, and motorists.⁴⁸ They offer excellent opportunities to travel through attractive rural areas. The scenic qualities of these roads are protected by agreement with bordering property owners and by implementing roadside maintenance practices that allow wildflowers and other native flora to extend to the edge to the pavement. According to the WisDOT website there is no rustic road within the Oshkosh MPO.⁴⁹

Mitigation Issues and System Level Mitigation Measures

Potential impacts on Heritage Routes and Rustic Roads should be considered during the planning, design, construction and maintenance of transportation projects. Heritage Routes and Rustic Roads are considered impacted if land is acquired for a project, if land is otherwise occupied in a manner that is adverse to the recreational purpose of the land or if a project in the proximity of the resource substantially impacts its purpose.

The Fox-Wisconsin Heritage Route is a designation, thus requiring potential projects within proximity to consider the effects of the project on the designation. Table 7-11 show all projects that either cross, are in proximity to the Fox River Heritage Parkway.

**Table 7-11
Transportation Projects in Proximity of the Fox-Wisconsin Heritage Route**

Project Number	Project Location	Project Number	Project Location
1	USH 41, STH 26 to MPAB	23	STH 21, Fox River Lift Bridge
3	USH 45, Jackson St to Algoma Boulevard	24	STH 21, OSHKOSH AVENUE, Fox River Bridge

Environmental Corridors

Environmental Corridors are continuous systems of open space created by the natural linkage of environmentally sensitive lands such as woodlands, wetlands and habitat areas that provide important travel ways for a variety of wildlife and bird species. These corridors often lie along streams, rivers and other natural features. Environmental corridors are sensitive natural resources; preserving these corridors from development protects habitat and keeps non-point source pollution to a minimum thus ensuring that high quality groundwater and surface water is maintained and habitat is not impaired. Within the Oshkosh MPO, environmental corridors include the Fox-Wisconsin Heritage Parkway, recreational trails and waterways.

Mitigation Issues and System Level Mitigation Measures

Environmental corridors have the potential to be impacted during construction of transportation projects, thus a careful analysis of environmental corridors within proximity of transportation projects should occur. Transportation projects at a system level analysis that will have adverse

⁴⁸ WisDOT. 2005. *Wisconsin's Rustic Roads: A Positive Step Backward*. <http://www.dot.state.wi.us/travel/scenic/rusticroads.html>

⁴⁹ <http://www.dot.wisconsin.gov/travel/scenic/rusticroad82.htm>

effects on the environmental corridors are described in the following sections of this report: Heritage Routes and Rustic Roads; Lakes and Ponds; and Rivers and Streams.

Natural Areas/County and Local Parks/Nature Centers

Below is an inventory of the natural areas, county and local parks and nature centers found within the Oshkosh MPO.

County Facilities

County facilities provide for a range of active and passive regional recreational activities. A listing of these facilities and a brief description follows:

- ***Sunnyview Exposition Center and Fairgrounds*** is located at 500 E County Road Y (Sunnyview Road), Oshkosh, WI 54901. It occupies approximately one hundred acres approximately 5 miles north of the City of Oshkosh and ten miles south of the City of Neenah. Facilities include a 31, 453 square foot Exposition Building with a capacity of 4,000 people; barn facilities (5); outdoor food court; Grand Stand with a capacity of 4,000 people; Toilet/Shower Building; Covered Arena; Outdoor Arena and parking.
- ***Winnebago County Community Park*** is located at 501 East County Road Y, Oshkosh, WI 54901. The County's Community Park offers sits on a 270-acre site in the far northern section of the City of Oshkosh. Facilities include baseball, soccer, rugby, disc golf, archery, horseshoe, a dog park and fishing ponds. Some of the more unique offerings within the county parks system include a BMX track, cross- country trails, dog exercise areas and an historic archaeological site.
- ***Lake Butte des Morts Boat Landing*** is located at 5316 Leonard Point Road, Omro
- ***Grundman Park Boat Landing*** is located at 1801 Grundman Lane, Oshkosh
- ***Asylum Point Boat Landing*** is located at 3400 Sherman Road, Oshkosh
- ***Black Wolf Boat Landing*** is located at 6850 Fond du Lac Road, Oshkosh

While some local parks listed below in Table 7-12 provide activities for a more regional population, many found within the City of Oshkosh and the Town of Algoma are classified as neighborhood parks and are designated to serve the very local population.

Table 7-12
Local Parks and Open Space

Municipality	Name	Function	Location
C. Oshkosh	Menominee Park	Community/Regional Park	Hazel Avenue and Merritt Street
C. Oshkosh	Asylum Park	Community/Regional Park	□herman Road on Lake Winnebago
C. Oshkosh	Red Arrow Park	Community/Regional Park	Corner of Eagle Street and Taft Ave.
C. Oshkosh	South Park	Community/Regional Park	Corner of S. Park Avenue and Ohio St
C. Oshkosh	Jacob Shapiro Park	Community/Regional Park	South of Kolf Center (UW-Oshkosh)
C. Oshkosh	44 th Parallel Park	Neighborhood Park	Allerton Drive and Thornton Avenue

C. Oshkosh	Abby Area Park	Neighborhood Park	Westhaven Drive and Abbey Avenue
C. Oshkosh	Al Broulbre Memorial Park	Neighborhood Park	S. Main Street and the Fox River
C. Oshkosh	Congress Avenue Athletic Park	Neighborhood Park	Congress Avenue and Beech Street
C. Oshkosh	East Hall Field	Neighborhood Park	New York Avenue and Jackson Street
C. Oshkosh	Fugleberg Park	Neighborhood Park	S. Main Street at Fugleberg Trail
C. Oshkosh	Quarry Park	Neighborhood Park	17 th Avenue and Knapp Street
C. Oshkosh	Rainbow Park	Neighborhood Park	West of Oshkosh Avenue Bridge by Fox River
C. Oshkosh	Stevens Park	Neighborhood Park	Frankfort Street and Bayshore Drive
C. Oshkosh	Teichmiller Park	Neighborhood Park	Crane Street (north end)
C. Oshkosh	Westhaven Circle Park	Neighborhood Park	Newport Drive at Westhaven Drive
C. Oshkosh	Bauman Park	Playlot	Josslyn Street at Buchanan Avenue
C. Oshkosh	Congress Avenue Tot Lot	Playlot	Congress Avenue and Beech Street
C. Oshkosh	Mary Jewel Park	Playlot	Oshkosh Avenue at N. Eagle Street
C. Oshkosh	West Algoma Park	Playlot	Oshkosh Avenue off of Eagle Street
C. Oshkosh	Mt. Vernon Street Tot Lot	Playlot	Mt. Vernon Street
C. Oshkosh	Stoegbauer Park	Playlot	6 th Avenue and Idaho Street
C. Oshkosh	Abe Rochlin Park	Special Purpose	Oshkosh Avenue and Sawyer Street
C. Oshkosh	Carl E. Steiger Park	Special Purpose	North of Ohio Street Bridge on Fox River
C. Oshkosh	FVTC Athletic Fields	Special Purpose	Campbell Street
C. Oshkosh	Garden Club Park	Special Purpose	4 th Avenue and Mason Street
C. Oshkosh	Killian C. Spanbauer Park (Spanbauer Field)	Special Purpose	Sawyer Street and 8 th Avenue
C. Oshkosh	Opera House Square	Special Purpose	Market Street
C. Oshkosh	Riverside Park	Special Purpose	East of Main Street Bridge
C. Oshkosh	Roe Park	Special Purpose	Washington Avenue and Court Street
C. Oshkosh	William A. Steiger Park	Special Purpose	South of Ohio Street on Fox River

C. Oshkosh	Jackson Athletic Field		Jackson Street and West Nevada Avenue
C. Oshkosh	Campbell Creek Marsh	Conservation/Preservation	Campbell Road
C. Oshkosh	Glatz Nature Center	Conservation/Preservation	Junction of Doty Street and S. Main Street
C. Oshkosh	Hikers Monument/Paine Conservancy	Conservation/Preservation	Congress Avenue at Algoma Boulevard
C. Oshkosh	North High School Conservancy	Conservation/Preservation	North High School
C. Oshkosh	Sawyer Creek Park	Conservation/Preservation	East of Oakwood Road
C. Oshkosh	24 th Avenue Boat Launch	Boat Launch/Pier	24 th Avenue at South Park Avenue
C. Oshkosh	Bowen Street Pier	Boat Launch/Pier	Bowen Street at Bayshore Drive
C. Oshkosh	Fugleberg Boat Launch	Boat Launch/Pier	S. Main Street at Fugleberg Trail
C. Oshkosh	Menominee Park Boat Launch	Boat Launch/Pier	Siewert Trail at Fox River
C. Oshkosh	Mill Street Boat Launch	Boat Launch/Pier	Mill Street
C. Oshkosh	Rainbow Park Boat Launch	Boat Launch/Pier	Veterans Trail at Fox River
C. Oshkosh	W. Steiger Park Boat Launch	Boat Launch/Pier	South of Ohio Street on Fox River
C. Oshkosh	Akan Acres Park		North of Oshkosh North H.S. on Morgan Avenue
C. Oshkosh	Pollack Community Water Park	Public Water Park	1550 Taft Avenue
T. Algoma	Town Hall Park		15 N. Oakwood Road
T. Algoma	Kewaunee Park	Neighborhood Park	Kewaunee Street
T. Algoma	Wetland Preserve		Northeast corner of town
T. Algoma	Sheldon Nature Center		Oakwood School site
T. Algoma	Future Park		
T. Algoma	Future Park		
T. Algoma	Future Park		
T. Algoma	Future Park		
T. Algoma	Future Park		
T. Oshkosh			

Source: City of Oshkosh Comprehensive Plan, Oshkosh Convention and Visitors Bureau, Town of Algoma Comprehensive Plan, adopted 2/21/2007.

Mitigation Issues and System Level Mitigation Measures

Numerous park facilities have the potential to be impacted during construction of the transportation projects. While, the facilities themselves may not be impacted, access to the facilities could be restricted. Therefore, construction and timing near these facilities should be coordinated with the appropriate municipal and school departments so that disruption of facility use is limited.

Projects that could potentially impact park sites are included in Table 7-13.

**Table 7-13
Transportation Projects in Proximity of
Natural Areas/County and Local Parks/Nature Centers**

Project Number	Project Location	Project Number	Project Location
1	USH 41, STH 26 to MPAB	19	WASHBURN STREET , Dickinson Avenue to 20th Avenue
3	USH 45, Jackson Street to Algoma Boulevard	21	9TH AVENUE , Oakwood Road to Linden Oaks Drive
9	CTH Y, STH 76 to CTH A	23	STH 21 , Fox River Lift Bridge
10	BOWEN STREET , Ceape Avenue to Sterling Avenue	25	SHERMAN ROAD , WCL Crossing Signal
13	IRVING AVENUE , Wisconsin Street to Jackson Street	26	OMRO ROAD BIKE PATH
15	NEW YORK AVENUE , High Avenue to Hazel Street	27	OMRO ROAD , Leonard Point to Brooks
16	SNELL ROAD , CTH A to Vinland Avenue	28	SNELL ROAD , WIS 76 to CTH A
17	VINLAND ROAD , Smith Street to Snell Road		

Recreation Facilities

Five golf courses are found within the Oshkosh MPO and are listed below:

- **Lake Shore Municipal Golf Course** - 2175 Punhoqua St., Oshkosh, WI 54902
- **Oshkosh Country Club** - 11 W Ripple Rd., Oshkosh, WI 54902
- **Far vu Golf Course** - 4985 County Road R, Oshkosh, WI 54902
- **Westhaven Golf Club** - 1400 Westhaven Dr., Oshkosh, WI 54904
- **Sunset Par 3 Golf Course** – 3669 S. Washburn Street, Oshkosh, 54904

Mitigation Issues and System Level Mitigation Measures

Numerous golf course facilities have the potential to be impacted during construction of the transportation projects. While, the facilities themselves may not be impacted, access to the facilities could be restricted. Therefore, construction and timing near these facilities should be coordinated with the appropriate golf course.

Projects within proximity of recreational areas are listed in Table 7-14

**Table 7-14
Transportation Projects in Proximity of Recreation Facilities**

Project Number	Project Location	Project Number	Project Location
1	USH 41, STH 26 to MPAB	26	OMRO ROAD BIKE PATH
2	USH 45, Waukau Avenue to Ripple Avenue	27	OMRO ROAD, Leonard Point to Brooks
24	STH 21, OSHKOSH AVE., Fox River Bridge		

Air Quality

Air quality, particularly good air quality, is often taken for granted. Clean air is vital to maintain public health. Sound local and regional planning can minimize negative impacts to the air. As communities become more spread out, the use of automobiles increases dramatically, resulting in more emissions and subsequent decrease in air quality. Emissions from certain industrial uses also have the potential to impact air quality.

The Clean Air Act, which was last amended in 1990, requires the Environmental Protection Agency (EPA) to set National Ambient Air Quality Standards for pollutants considered harmful to public health and the environment. Two standards are set; primary and secondary. Primary standard limits are set to protect public health, while secondary standards are set to protect public welfare (protection against decreased visibility, damage to animals, crops, vegetation and buildings). National Ambient Air Quality Standards are set for six principal pollutants; carbon monoxide, lead, nitrogen dioxide, particulate matter, ozone and sulfur dioxide.⁵⁰

Ozone air quality monitoring sites within the MPO are located at the Thrivent facility at 4321 and 4432 Meade Street in Appleton. The primary and secondary National Ambient Air Quality Standard for ozone is 0.075 ppm.⁵¹ EPA's website indicates that between 2005 and 2008, these standards were not exceeded at the Thrivent locations. Additionally the EPA website indicates that the standard for Outagamie and Fond du Lac County were 0.062 in 2008, this is below the national standard. Data was not available for Winnebago or Calumet counties.

The National Ambient Air Quality Standard for particulate matter is 15 $\mu\text{g}/\text{m}^3$ for the annual (Arithmetic Mean) and 35 $\mu\text{g}/\text{m}^3$ for the 24-hour. Outagamie County did not exceed these standards in 2008 (no data is available for Winnebago County).⁵² According to the State and County Emission Summaries, residential wood combustion and miscellaneous were the major source of emissions in Wisconsin (56%), and Winnebago County (61%), in 2005 (Table 7-15).⁵³

No information on the other pollutants (carbon monoxide, lead, nitrogen and sulfur dioxide) was available.

⁵⁰ <http://www.epa.gov/air/criteria.html>

⁵¹ To attain this standard, the 3-year average of the fourth-highest daily maximum 8-hour average ozone concentrations measured at each monitor within an area over each year must not exceed 0.075 ppm.

⁵² 11.2 $\mu\text{g}/\text{m}^3$ Annual (Arithmetic Mean) and 31 $\mu\text{g}/\text{m}^3$ 24 hour. EPA Website.

⁵³ http://www.epa.gov/cgi-bin/broker?_service=data&_debug=0&_program=dataprog.dw_do_all_emis_2005.sas&pol=231&stfips=55

**Table 7-15
State and County Emission Summaries, 2005**

Source Sector	Winnebago County		Wisconsin	
	Emissions Tons	Emissions Percent	Emissions Tons	Emissions Percent
Residential Wood Combustion	505	31.76%	20,800	26.57%
Miscellaneous	472	29.69%	22,864	29.21%
Industrial Process	199	12.52%	7,966	10.18%
Road Dust	138	8.68%	7,762	9.92%
Non Road Equipment	128	8.05%	6,189	7.91%
Fossil Fuel Combustion	56	3.52%	2,273	2.90%
On Road Vehicles	51	3.21%	2,586	3.30%
Electricity Generation	25	1.57%	5,425	6.93%
Waste Disposal	16	1.01%	2,209	2.82%
Fires	-	-	102	0.13%
Solvent Use	-	-	99	0.13%
Total	1,590	100.00%	78,275	100.00%

Source: <http://www.epa.gov>

Mitigation Issues and System Level Mitigation Measures

Particulates in the air can cause or aggravate a number of health problems and have been linked with illnesses and deaths from heart and lung diseases.⁵⁴ Particulates of concern include both very small and somewhat larger dust particles and are a mixture of solids and liquids. Smaller particles (less than 10 micrometers) are of a greater concern because they can pass through the nose and throat and get deep into the lungs. Larger particles (greater than 10 micrometers) do not usually reach the lungs but they can irritate eyes, nose and throat.

Fine particulates (less than 2.5 micrometers) are produced anytime fossil fuels (coal, oil and diesel) or wood are burned. They are produced by power plants, wood stoves, motor vehicles, agricultural burning and forest fires to list a few. Coarse "dust" particles (2.5 to 10 micrometers) are produced during crushing or grinding and from vehicles traveling on paved or unpaved roads. They can also be produced by blowing wind over dusty surfaces. Mitigation activities can include watering of dusting surfaces, daily cleanup of dirt tracked on roadways, properly tuned vehicles, avoidance of on-site burning of wood and other waste materials, etc.

Cultural Resources

Cultural Resources, like natural resources are valuable assets which should be preserved. These resources define a community's unique character and heritage. Included in this section is an inventory of historic buildings, sites, structures, objects, archeological sites and districts.

State and National Register of Historic Places

The Wisconsin Historical Society's Division of Historical Preservation (DHP) is a clearing house for information related to the state's cultural resources including buildings and archeological sites. The primary responsibility of the DHP is to administer the State and National Register of

⁵⁴ <http://www.airnow.gov/index.cfm?action=pubs.aqguidepart>

Historic Places programs. The National Register is the official national list of historic properties in the United States that are worthy of preservation. The program is maintained by the National Park Service in the U.S. Department of Interior. The State Register is Wisconsin's official listing of state properties determined to be significant to Wisconsin's heritage. The inventory is maintained by the DHP. Both listings include sites, buildings, structures, objects, and districts that are significant in national, state, or local history. Sites are chosen based on the architectural, archeological, cultural, or engineering significance.

Within the Oshkosh MPO, the following number of properties is listed on the State and National Register of Historic Places, by community (Exhibit 7-7, Inserts A – B⁵⁵).⁵⁶

- ***Algoma Boulevard Historic District*** - Algoma Blvd. from Woodland Ave. to Hollister Ave., Oshkosh
- ***Methodist Church*** - 1174 Algoma Blvd. Algoma Boulevard, Oshkosh (1)
- ***Amos House*** - 1157 High Ave., Oshkosh (2)
- ***Abraham Briggs, House*** - 1010 Bayshore Dr. Bowen, Oshkosh (3)
- ***Brooklyn No. 4 Fire House*** - 17 W. Sixth Ave., Oshkosh (4)
- ***Buckstaff Observatory*** - 2119 N. Main St., Oshkosh (5)
- ***Chief Oshkosh Brewery*** - 1610 Doty St., Oshkosh (6)
- ***Daily Northwestern Building*** - 224 State St., Oshkosh (7)
- ***First Methodist Church*** - 502 N. Main St., Oshkosh (8)
- ***First Presbyterian Church*** - 110 Church Ave. , Oshkosh (9)
- ***Frontenac*** - 132-140 High St. and 9 Brown St. , Oshkosh (10)
- ***Guenther, Richard, House*** - 1200 Washington Ave. , Oshkosh (11)
- ***Hooper, Jessie Jack, House*** - 1149 Algoma Blvd. , Oshkosh (12)
- ***Irving Church Historic District*** - Roughly bounded by W. Irving Ave., Franklin St., Church Ave., Wisconsin St. and Amherst Ave. , Oshkosh
- ***Lutz, Robert, House*** - 1449 Knapp St., Oshkosh (13)
- ***Mayer-Banderob House*** - 809 Ceape Ave., Oshkosh (14)
- ***Morgan, John R., House Museum*** - 234 Church Ave., Oshkosh (3)
- ***North Main Street Historic District*** - Roughly, N. Main St. from Parkway Ave. to Algoma Blvd., and Market St. NW. to High Ave., Oshkosh
- ***Orville Beach Memorial Manual Training School*** - 240 Algoma Blvd., Oshkosh
- ***Oshkosh Grand Opera House*** - 100 High Ave., Oshkosh (15)
- ***State Normal School Historic District*** – Oshkosh
- ***Building at 800 Algoma Blvd.***, Oshkosh (25)
- ***Building at 842 Algoma Blvd.***, Oshkosh (26)
- ***Building at 912 Algoma Blvd.***, Oshkosh (27)
- ***845 Elmwood Ave.***, Oshkosh (28)
- ***Overton Archeological District*** - Oshkosh
- ***Oviatt House*** - 842 Algoma Blvd., Oshkosh (16)
- ***Paine Art Center and Arboretum*** - 1410 Algoma Blvd., Oshkosh (5)
- ***Paine Lumber Company Historic District*** - Off Congress Ave. roughly between High, New York, and Summit avenues, and Paine Lumber Access Rd., Oshkosh
- ***Pollock, William E., Residence*** - 765 Algoma Blvd., Oshkosh (17)
- ***Read School*** - 1120 Algoma Blvd., Oshkosh (18)

⁵⁵ Note: Numbers refer to Exhibit 7-7, Insert A – B.

⁵⁶ <http://www.wisconsinhistory.org/hp/register/summary.asp>. Accessed 3/1/10.

- **Riverside Cemetery** - 1901 Algoma Boulevard, Oshkosh
- **Security Bank** - 903 Oregon St., Oshkosh (19)
- **Trinity Episcopal Church** - 203 Algoma Blvd., Oshkosh (20)
- **Wall, Thomas R., Residence** - 751 Algoma Blvd., Oshkosh (21)
- **Washington Avenue Historic District** - Merritt Ave., Linde and Lampert streets, Washington Ave., Bowen and Evan streets., Oshkosh
- **Waterman, S. H., House** - 1141 Algoma Blvd., Oshkosh (22)
- **Winnebago County Courthouse** - 415 Jackson St., Oshkosh (23)
- **Wisconsin National Life Insurance Building** - 220 Washington Ave., Oshkosh (24)

The National Register is not a static inventory. Properties are constantly being added, and, less frequently, removed. It is, therefore, important to access the most updated version of the National Register properties. This can be found by accessing the DHP website (<http://www.wisconsinhistory.org/hp/register/summary>) or by contacting the DHP at (608)264-6500.

Mitigation Issues and System Level Mitigation Measures

While a visual inspection does not suggest any broad system level cumulative environmental impacts to any known properties or historic districts that area listed on the National Register, a few transportation projects do come within close proximity to historic properties. Transportation projects near historic buildings may have to exercise caution so as not to damage these more fragile structures during construction (Table 7-16).

Table 7-16
Transportation Projects in Proximity to State and National Register of Historic Places

Project Number	Project Location	Project Number	Project Location
3	USH 45 , Jackson Street to Algoma Boulevard	13	IRVING AVENUE , Wisconsin Street to Jackson Street
10	BOWEN STREET , Ceape Avenue to Sterling Avenue	15	NEW YORK AVENUE , High Avenue to Hazel Street

Architecture and History Inventory (AHI)

In order to determine those sites that are eligible for inclusion on the National Register, the DHP frequently funds historical, architectural, and archeological surveys of municipalities and counties with the state. Surveys are also conducted in conjunction with other activities such as highway construction projects. A search of the DHP's on-line Architecture and History Inventory (AHI) database reveals a number of sites within the Fox Cities MPO:⁵⁷

Inclusion in this inventory conveys no special status, restrictions, or benefits to owners of these properties. It simply means that some type of information on these properties exists in the DHP's collections. AHI is primarily used as a research and planning tool. Like the National Register, this is not a static inventory. Properties are constantly being updates. The AHI database is searchable by county, municipality and street; therefore it is recommended that a search of the database be done for each specific project. Information can be found on the DHP's website <http://www.wisconsinhistory.org/ahi/summary.asp>.

⁵⁷ <http://www.wisconsinhistory.org/ahi/summary.asp>. Accessed 3/1/10.

Mitigation Issues and System Level Mitigation Measures

Due to the large number of properties on the AHI database; a visual search between the database and transportation projects was not completed. However, as noted above inclusion in this inventory conveys no special status, restriction, or benefits to owners of these properties. This tool is to be used primarily as a research and planning tool. It is suggested that this inventory be consulted during the planning and design stage to see if any locally significant properties are present and that local historic preservation organizations be consulted.

Archaeological Sites Inventory (ASI)

An inventory similar to the AHI exists for known archeological sites across the state; the Archaeological Sites Inventory (ASI). Due to the sensitive nature of archaeological sites, information as to their whereabouts is not currently made available on-line. This information is distributed only on a need-to-know basis. Archaeological sites are added to as they are discovered; discovery is a continual process. For technical assistance and up to date information on sites within a given area, contact the DHP at (608)264-6500.

Mitigation Issues and System Level Mitigation Measures

During the planning and design stage, a determination should be made to see if there are any known archaeological sites within the vicinity of the transportation projects. If any known sites are present, the state archeologist will be consulted.

Wisconsin Historical Markers

Wisconsin historical markers identify, commemorate and honor important people, places, and events that have contributed to the state's rich heritage. The Wisconsin Historical Markers Program is a vital education tool, informing people about the most significant aspects of Wisconsin's past. The Society's Division of Historic Preservation administers the Wisconsin Historical Markers Program. Applications are required for all official State of Wisconsin historical markers and plaques. According to the Wisconsin Historical Society, five historical markers or plaques are located within the Oshkosh MPO (Exhibit 7-7, Inserts A – B⁵⁸).⁵⁹

- ***Knaggs Ferry*** - Rainbow Park, near junction of Veterans Trail and Punhoqua Street, Oshkosh, Winnebago County (1)
- ***University of Oshkosh*** - UW-Oshkosh campus, Oshkosh, Winnebago County (2)
- ***S.J. Wittman - Aircraft Designer, Race Pilot, Inventor*** - Wittman Field Airport, 525 W 20th Ave, Oshkosh, Winnebago County (3)
- ***Coles Bashford House*** - 1619 Oshkosh Ave, Oshkosh, Winnebago County (4)
- ***Edgar Sawyer House*** - Oshkosh Public Museum, 1331 Algoma Blvd, Oshkosh, Winnebago County (5)

Mitigation Issues and System Level Mitigation Measures

During the planning and design stage, a determination should be made to see if there are any historical markers within the vicinity of the transportation projects. Projects in the vicinity of identified historical markers are indicated in Table 7-17.

⁵⁸ Note: Numbers refer to Exhibit 7-7, Insert A – B.

⁵⁹ <http://www.wisconsinhistory.org/hp/markers/markerslist.pdf>. Revised 8/27/08

**Table 7-17
Transportation Projects in Proximity to Historical Markers**

Project Number	Project Location	Project Number	Project Location
3	USH 45 , Jackson Street to Algoma Boulevard	23	STH 21 , Fox River Lift Bridge
22	20th AVENUE , Oakwood Road to Oregon	24	STH 21, OSHKOSH AVENUE , Fox River Bridge

Museums/Other Historic and Cultural Resources

Museums protect valuable historic resources for community enjoyment. Residents are welcome to learn from the exhibits and amenities they have to offer (Exhibit 7-7, Inserts A – B⁶⁰).

- ***EAA Air Adventure Museum*** -3000 Poberezny Drive, Oshkosh (1)
- ***Military Veterans Museum*** - Park Plaza Complex, Oshkosh (2)
- ***J. R. Morgan House/Museum*** - 234 Church Ave., Oshkosh (3)
- ***Oshkosh Public Museum*** - 1331 Algoma Blvd, Oshkosh (4)
- ***Paine Art Center and Arboretum*** - 1410 Algoma Blvd., Oshkosh (5)
- ***Oshkosh Community Playground*** - Menominee Park, Oshkosh (6)
- ***EAA Air Venture Oshkosh*** - Wittman Regional Airport, Oshkosh
- ***Grand Opera House*** - 100 High Ave., Oshkosh (1)
- ***Leach Amphitheater*** - 303 Ceape Avenue, Oshkosh (2)

Mitigation Issues and System Level Mitigation Measures

During the planning and design stage, a determination should be made to see if there are any Museums/Other Historic and Cultural Resources within the vicinity of the transportation projects. Transportation projects near historic buildings may have to exercise caution so as not to damage these more fragile structures during construction. System level analysis identifies the following projects within proximity to Museums/Other Historic and Cultural Resources USH 45, Jackson Street to Algoma Boulevard (Project 3) and 20th Avenue, Oakwood Road to Oregon (Project 22).

Cemeteries

A listing of cemeteries was obtained from ECWRPC 2005 land use and is shown on Exhibit 7-7. According to this land use, eleven cemeteries are present within the Oshkosh MPO.

- ***Ellenwood Cemetery*** - Hwy 44 and Rte K (20th St), Oshkosh WI
- ***Plummer Cemetery*** - 4723 N State Hwy 110 (3-4 miles North of US Hwy 41), Oshkosh Township, Oshkosh, WI
- ***Lakeview Cemetery*** - Algoma Boulevard
- ***Riverside Cemetery*** -1901 Algoma Blvd., Oshkosh, WI
- ***Calvary Cemetery*** - Algoma Blvd across the street from Northern part of Riverside Cemetery
- ***Sacred Heart Cemetery*** - 2595 Knapp St Rd (behind airport runways), Algoma Township, Oshkosh, WI

⁶⁰ Note: Numbers refer to Exhibit 7-7, Insert A – B.

- **Peace Cemetery** - South of Oshkosh on Waukau Rd 1/2 mile east of Oregon Road
- **Boyd Cemetery** - South of Oshkosh, W. Waukau Ave, West of Oregon St (Cty I), Algoma Township, Oshkosh, WI
- **Oaklawn (Fleming) Cemetery** - 1312 Nekimi Avenue
- **State Hospital Cemetery** -
- **Winnebago County Cemetery** - Cty Y, north of Winnebago

Mitigation Issues and System Level Mitigation Measures

Exhibit 7-7, Inserts A and B show the transportation projects in relation to the cemeteries found within the 2005 land use. Visual inspection has shown no substantial system level cumulative effects of area transportation projects on cemeteries. However, some spot level locations may have projects in close proximity to cemeteries. These projects may require consideration in the design and construction permitting process.

According to the visual review the maps, the following Table 7-18 lists the projects that are within proximity of cemeteries.

**Table 7-18
Transportation Projects in Proximity of Cemeteries**

Project Number	Project Location	Project Number	Project Location
1	USH 41, STH 26 to MPAB	19	WASHBURN STREET, Dickinson Avenue to 20th Avenue
2	USH 45, Waukau Ave to Ripple Avenue	22	20TH AVENUE, Oakwood Road to Oregon Street
9	CTH Y, STH 76 to CTH A		

CHAPTER 8 - STATE LONG RANGE TRANSPORTATION PLAN COORDINATION

Federal and State legislation require the Wisconsin Department of Transportation (WisDOT) to develop a statewide Long Range Transportation Plan. Federal legislation (SAFETEA-LU) requires each state to coordinate with local MPOs. SAFETEA-LU places greater emphasis on transportation system security considerations, consultation activities, and linking statewide planning activities to project-level activities than previous legislation. State legislation, specifically the comprehensive planning law (Section 66.1001, Wis. Stats.) focuses on improving communication within and among jurisdictions to make more informed decisions that result in smart growth.

Connections 2030, Wisconsin's Long Range Transportation Plan (LRTP) envisions an integrated multimodal transportation system that maximizes the safe and efficient movement of people and products throughout the state, enhancing economic productivity and the quality of Wisconsin's communities while minimizing impacts to the natural environment. The Wisconsin LRTP will help the state maintain and enhance its transportation system to meet the needs of the 21st century and fulfill the state's transportation vision. The focus is on maintaining and enhancing that system to support future mobility and economic growth.

Connections 2030 sets the foundation for Wisconsin's transportation system with an emphasis on:

- Safety and security
- Preserving the existing and future system
- Optimizing investment in the system for continued safety, enhanced mobility and efficiency
- Responding to local, regional, national and international economic trends to maintain state economic competitiveness
- Considering environmental issues to maintain Wisconsin's quality of life
- Providing users with transportation choices

The Oshkosh MPO's long range plan's goals, objectives and policies support the Wisconsin's *Connections 2030*, LRTP's vision and emphasis. Throughout the transportation planning process the MPO is working closely with WisDOT to ensure coordination between agencies. It is through this process that LRTP are implementable and successful at all levels of government.

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CHAPTER 9 - FINANCIAL ANALYSIS

As required by SAFETEA-LU, starting December 11, 2007, revenue and cost estimates must use an inflation rate(s) to reflect “year of expenditure dollars”, based on reasonable financial principles and information, developed cooperatively by the State, MPOs, and public transportation operators. Federal regulations require that only funding for federal-aid highways be addressed.

WisDOT Office of Policy and Budget decided that the inflation rate of 2.8 percent should be applied to the total annual program cost for the financial analysis chapter of the LRTP as the basis for comparison with estimated revenues in a demonstration of fiscal constraint. This inflation rate is Consumer Price Index (CPI) driven, and not driven by the construction index, in keeping with the limited funds available in the budget.

The financial analysis is intended to show that funding is reasonably available to implement the recommendations of the plan. The Financial Plan section of this document includes a compilation of state and federal highway funds which are currently available to the Oshkosh area jurisdictions. (See LRTP – pg 173) Local funding level projections are based on historic spending levels. The anticipated needs are estimated based on WisDOT's Urban Corridors Study, a pavement inventory and output from the Wisconsin Information System for Local Roads (WISLR), and proposed project needs from previous studies. Over the life of the plan, needs are projected at over \$693 million, while anticipated funding is estimated at over \$1 billion over the remaining 25 year plan horizon.

ESTIMATED LONG RANGE FINANCIAL NEED WITH ANNUAL INFLATION FACTOR

The 2010 Federal and State annual program cost was projected out twenty-five years based on the annual 2.8 inflation factor. Expenditures are estimated around \$693 million in transportation improvements over the remaining life of the plan. State and federal funding for expansion and preservation of the local road system is expected to amount to over \$369 million (Table 9-1).

Table 9-1
Projected State/Federal Long Range Program Cost
Oshkosh Metropolitan Planning Area

	2010-2014	2015-2024	2025-2035	Total
Highway Expansion*	\$29,342,672	\$72,362,268	\$106,444,186	\$208,149,127
Preservation/Maintenance	\$22,734,031	\$56,064,629	\$82,470,520	\$161,269,180
Local Road Improvements	\$27,711,404	\$68,339,380	\$100,526,557	\$196,577,341
Bike and Pedestrians	\$2,183,119	\$5,383,813	\$7,919,536	\$15,486,468
Transit	\$15,838,585	\$39,059,698	\$57,456,432	\$112,354,715
Total Funding	\$97,809,810	\$241,209,787	\$354,817,229	\$693,836,826

Source: WisDOT, ECWRPC 2010

The constant dollar assumption to project local funding combined with the state and federal projections provided by WisDOT, shows anticipated revenue over the life of the plan at over \$1 billion (Table 9-2).

Table 9-2
Anticipated Revenues
Oshkosh Metropolitan Planning Area

	2010-2014	2015-2024	2025-2035	Total
Local	\$55,239,102	\$136,225,722	\$200,386,700	\$391,851,524
State and Federal	\$97,809,810	\$241,209,787	\$354,817,229	\$693,836,826
Total Revenue	\$153,048,912	\$377,435,509	\$555,203,930	\$1,085,688,350

APPENDIX