

CHAPTER 10: Preserve Wisconsin's Quality of Life

WisDOT's vision for Wisconsin is a well-managed, safe and efficient transportation system that carefully balances consideration of the human environment and historic resource conservation.

Wisconsin's communities and natural resources are critical to the state and its residents' quality of life as they provide a strong foundation for the state's economic growth. As the agency responsible for mobility in Wisconsin, WisDOT focuses on maintaining critical transportation functions (safety, security and efficiency), balancing responses to stakeholder issues and addressing potential environmental impacts. To accomplish this, WisDOT will:

- » Ensure that the department considers the range of impacts the transportation system may have on the environment, and identify feasible, cost-effective solutions that avoid, minimize or mitigate those impacts as appropriate
- » Comply with state and federal environmental laws
- » Encourage public participation in the environmental review process

In addition, WisDOT supports stewardship activities that enhance the environment within the context of its transportation programs and projects. Activities include, but are not limited to, wetland banking, habitat conservation, voluntary air quality improvement efforts and preserving prairie remnants along the highway system.

The department also recycles a variety of materials as part of "The New Recycling Law" (1989 Wisconsin Act 335). Recovered materials such as portland cement concrete pavement, reclaimed asphaltic

► **POLICIES IN THIS CHAPTER FOR PRESERVING WISCONSIN'S QUALITY OF LIFE:**

- › *Continue a comprehensive approach to integrating transportation and environmental issues*
- › *Emphasize air quality improvement*
- › *Emphasize the preservation of protected resources*
- › *Incorporate environmental justice in all planning, programming and project decisions*
- › *Continue community sensitive solutions efforts*
- › *Preserve and enhance a positive land use/transportation relationship*

pavement, fly ash and glass are used in construction, reconstruction and for incidental transportation improvements consistent with standard engineering practices. Materials may be used as long as they meet performance specifications and criteria. Recycled materials are not used if they result in poor performance, are not cost effective or are found to impair health, safety or the environment.

For the purpose of this plan, "quality of life" refers to the natural and cultural features of Wisconsin that make this state a pleasant place to work and live. The policies in this chapter describe the department's role, scope of responsibility and future direction in transportation planning and environmental sustainability. They focus on maintenance and preservation of natural and

FOR THE PURPOSE OF THE CONNECTIONS 2030 PLAN, "QUALITY OF LIFE" refers to the natural and cultural features of Wisconsin that make this state a pleasant place to work and live.



sensitive resources, clean water and air quality; sound and noise pollution abatement; and incorporating aesthetic elements into the built environment.

The policies also address the land use and transportation relationship, and effects on the built and natural environment, with discussion regarding agricultural land and protected resources.

Challenges

The department recognizes that transportation decisions can negatively impact the state's natural and built environments. Challenges include how to appropriately balance safety and security needs while avoiding, minimizing or mitigating potential environmental impacts. These impacts typically are the result of transportation improvements designed to meet increased demands on the system by vehicles traveling on the roads, airways and railroads. They also are the result of development pressures and demands for additional access to the transportation system.

While WisDOT is not always able to avoid or minimize every impact, the department uses a broad range of tools to evaluate and manage impacts, and balance stakeholder interests, to the extent possible.

Opportunities

Given these challenges, WisDOT continues to identify opportunities that will emphasize and preserve community character and aesthetics. Efforts focus on designing and building transportation facilities within the context of the natural surroundings and community character. Stricter environmental regulations, improved partnerships with key stakeholders and agencies, updated technologies, and increased awareness of the relationship between transportation and land use, contribute to preserving these natural and cultural resources.

In addition, efforts at the local, state, national and international levels to address climate change (see "Emphasize air quality improvement" policy

in this chapter) and energy independence (see Chapter 7, *Foster Wisconsin's Economic Growth*) offer opportunities to improve air quality and address the use of natural resources. Other related policies are in Chapter 5, *Preserve and Maintain Wisconsin's Transportation System* and Chapter 9, *Promote Transportation Efficiencies*.

To build on existing department efforts and implement the plan's vision, the following key policies are defined for this chapter:

- » Continue a comprehensive approach to integrating transportation and environmental issues
- » Emphasize air quality improvement
- » Emphasize the preservation of protected resources
- » Continue Community Sensitive Solutions efforts
- » Incorporate environmental justice in all planning, programming and project decisions
- » Preserve and enhance a positive land use/ transportation relationship

In addition to the policies described, WisDOT's efforts to integrate environmental considerations into transportation decision-making will continue to:

- » Comply with federal and state environmental laws, regulations and executive orders relevant to transportation and support future standards and programs
- » Support and fulfill the WisDOT - Wisconsin Department of Natural Resources (DNR) cooperative agreement, and other current and future interagency agreements
- » Meet recognized standards, practices and guidelines for assessing and mitigating direct, indirect and cumulative environmental impacts
- » Seek balanced solutions when potential conflicts arise on projects or initiatives

► POLICY:

Continue a comprehensive approach to integrating transportation and environmental issues

Environmental protection is an important component of WisDOT's transportation investment decisions. Ensuring that transportation decisions and environmental protection are integrated enables the department to respond to mobility and safety needs while working to address potential environmental impacts.

To continue a comprehensive approach to integrating transportation and environmental issues, WisDOT will:

- » Work to streamline the state's environmental review process
- » Collaborate with local, state and federal resource agencies, as well as the general public and other key stakeholders, in the environmental decision-making process

Background

WisDOT environmental policies are based on federal and state environmental laws, regulations, executive orders and interagency agreements, as well as the National Environmental Policy Act and the Wisconsin Environmental Policy Act. Combined, these environmental regulations require WisDOT to avoid, minimize and mitigate, whenever possible, the potential negative impacts of transportation decisions and/or actions on the state's natural and cultural resources.

WisDOT works with all stakeholders to identify natural and cultural resources and address the impacts that transportation decisions may have on them. To build on existing methods and integrate best practices, the department will continue to consider and, where appropriate, apply new methodologies when integrating environmental considerations into transportation decision-making. For example, in the future, the use of the ecosystem approach may be

National Environmental Policy Act and Wisconsin Environmental Policy Act

Passed in 1969, the National Environmental Policy Act directs federal agencies to conduct environmental reviews to consider the potential environmental impacts of their proposed actions and reasonable alternatives to those actions.

Wisconsin adopted the Wisconsin Environmental Policy Act in 1972, directing all state agencies to gather relevant information and consider it in their decision-making processes. Under the Act, if the proposed action is identified to be a "major action significantly affecting the quality of the human environment," the law requires interagency consultation and preparation of an environmental impact statement regarding possible environmental impacts.

In addition, the Wisconsin Environmental Policy Act requires state agencies to study, develop and describe alternatives when a particular course of action involves unresolved conflicts in the use of available resources.

considered to integrate management of land, water and living resources, as well as social, economic or other environmental factors.

The ecosystem approach is a method used to sustain or restore natural systems and their functions. It is a goal-driven approach, based on a collaboratively developed vision of desired future conditions that integrates ecological, economic and social factors. It is applied within a geographic framework defined primarily by ecological boundaries.

WisDOT's efforts to protect the environment are project-specific, with protection focused on small and/or isolated habitats. An ecosystem approach can result in more effective protection of natural resources by



focusing on the larger ecological community. While the current state and federal regulatory framework does not enable full implementation of an ecosystem approach, the department will evaluate opportunities to integrate aspects of this approach, as appropriate.

Work to streamline the state's environmental review process

WisDOT will continue to ensure that all of its processes meet environmental regulations. In addition, WisDOT will work with its partners to identify and implement efficiencies in its study and documentation methods. The department will also work with federal, state and local agencies to identify

ways to shorten the review and approval process. Environmental streamlining and stewardship requires transportation agencies to work together with natural, cultural and historic resource agencies to establish realistic timeframes for the environmental review of transportation projects. By working together, agencies meet established timeframes while continuing to protect and enhance the environment.

The efficient and effective coordination of multiple environmental reviews, analyses, and permitting actions is essential to meeting the environmental streamlining and stewardship mandates for highway and transit projects defined under SAFETEA-LU.

WisDOT tribal planning consultation policy

WisDOT will consult with tribes who have ancestral homelands within the state boundaries on all decisions that may affect tribal rights and interests in regard to long and short range transportation planning. WisDOT is committed to government-to-government consultation with tribes on actions that affect identified tribal rights and issues.

Consultation means respectful, effective communication in a cooperative process that works toward a consensus, before a decision is made or an action is taken. Consultation means more than simply informing affected tribes about what the department is planning to do. WisDOT acknowledges that consultation is a process, not a guarantee of agreement on outcomes. While dedicated to implementing constructive consultation practices, the department hopes to go beyond issue-specific consultation. The goal is to achieve mutually beneficial priorities, programs and interests.

Due to the complexity of WisDOT, the department may not be able to identify in advance all issues that may be appropriate subjects for tribal consultation. However, WisDOT will begin the planning consultation process, as follows:

- › The WisDOT Bureau of Planning and Economic Development and the WisDOT Tribal Liaison shall review tribal long-range transportation plan documents whenever WisDOT and/or a tribe updates their respective long-range transportation plan.
- › When WisDOT is developing a long-range transportation plan, the Bureau of Planning and Economic Development will hold:
 - A meeting with representatives from the Tribal Planning Departments of all 11 tribal Nations in Wisconsin, planning representatives from each WisDOT region, the Bureau of Indian Affairs, and the Federal Highway Administration, to discuss the transportation issues and needs
 - A statewide followup meeting to discuss the draft plan
 - A meeting at any other time as requested by individual tribes and/or WisDOT.
- › WisDOT shall hold one regional planning meeting per year per WisDOT transportation region with WisDOT Regional Office Planning staff and tribes located within that region. The meeting shall focus on short-range planning goals and specific planning goals within WisDOT's Six-Year Highway Program.



▲ *Figure 10-1: Wisconsin works with stakeholders to identify natural and cultural resources and address the impacts that transportation projects may have on them.*

Recent changes to federal environmental review requirements mandated by SAFETEA-LU affect how WisDOT plans and implements transportation projects. These changes are intended to streamline the environmental review process and provide for early, formal coordination among interested agencies and the public. This new, incremental flexibility could improve interagency coordination and speed up project delivery.

Collaborate with environmental resource agencies and other key stakeholders on the data collection and decision-making process

WisDOT will continue to work with local, state and federal agencies, tribes, stakeholders and the public to explore reasonable and appropriate ways to address

environmental impacts resulting from transportation plans or projects. This will include consulting with Wisconsin's 11 federally recognized tribal nations, pursuant to the 2005 partnership agreement established between WisDOT, the Federal Highway Administration (FHWA), and the tribes, and WisDOT's Tribal Planning Consultation Policy. It also includes interagency agreements with state agencies including the Wisconsin DNR, the Wisconsin Department of Agriculture, Trade and Consumer Protection and the State Historical Preservation Office. Each agreement outlines roles, responsibilities and expectations for interagency coordination and communication.

In addition to working with federal and state agencies, WisDOT will continue to work with local governments to coordinate state transportation plans



and projects with local comprehensive planning and other activities. WisDOT will also compare the statewide transportation plan with federal, state and tribal conservation plans, maps and inventories of natural and historic resources and other documents.

When working on specific transportation projects, WisDOT will continue to inform all affected agencies, organizations and the public about the potential environmental impacts of proposed transportation actions or decisions. The department will also work with its stakeholders to consider the benefits, costs and trade-offs of various actions before

making decisions. WisDOT will continue providing opportunities for community participation and input during project planning, design and implementation.

Finally, WisDOT will work with its partners to enhance the information sharing process. Critical efforts will focus on working with environmental agencies to improve the quality, completeness and accessibility of environmental data, analysis and documentation made available to the public and decision-makers. These efforts will help build consensus, reduce conflict and improve the overall effectiveness of the environmental review process.

► **SUMMARY OF POLICY ACTION ITEMS:**

Continue a comprehensive approach to integrating transportation and environmental issues

Entire planning period (2008 – 2030)

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- Improve the quality, completeness and accessibility of environmental data, analysis and documentation.
 - Build consensus with stakeholders by coordinating with state and federal agencies, local governments, tribes and the public.
 - Improve the overall effectiveness of the environmental review process.
 - Identify and address emerging environmental issues that affect the quality or cost of transportation plans and projects.
 - Coordinate state transportation efforts with local comprehensive plans and land use activities.
 - Compare statewide transportation plans with federal, state and tribal conservation plans, maps and inventories of natural and historic resources, if available, as well as other required documents.
 - Evaluate the existing state regulatory framework and review options to integrate aspects of a systematic “ecosystem” approach.
 - Continue to honor and implement the 2005 partnership agreement and the WisDOT Tribal Planning Consultation Policy, as well as agreements with other state agencies.
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► **POLICY:**
Emphasize air quality improvement

To maintain and improve air quality throughout Wisconsin, WisDOT will:

- » Comply with existing policies and regulations aimed at maintaining and improving air quality
- » Support and participate in air quality improvement programs and activities
- » Monitor emerging air quality issues

Background

Despite increases in the number of vehicle miles traveled, emissions from motorized vehicles have decreased due to cleaner fuels and engines. However, motorized vehicles remain a contributor to overall air quality issues. As a result, transportation agencies have a role in implementing the laws and regulations established to protect the nation's air quality. WisDOT has been, and continues to be, committed to national and state efforts aimed at improving air quality.

As part of the Clean Air Act¹ (as amended in 1990), the U.S. Environmental Protection Agency (EPA) established allowable ambient concentrations for six "criteria" pollutants: carbon monoxide, nitrogen dioxide, ozone, particulate matter, sulfur dioxide and lead. The standards for these six criteria pollutants are commonly referred to as the National Ambient Air Quality Standards (NAAQS).

Areas that do not exceed the NAAQS levels are considered attainment areas. Areas where any of the standards are violated are considered non-attainment areas. Once an area has attained the NAAQS standard, the area requests redesignation to attainment status.

¹The Clean Air Act of 1970 sets limits on certain air pollutants, as well as the amount of air pollution that can be emitted in the United States. It is administered by the EPA.

National Ambient Air Quality Standards (NAAQS)

The Clean Air Act, last amended in 1990, requires the U.S. EPA to set National Ambient Air Quality Standards (40 CFR part 50) for pollutants considered harmful to public health and the environment. The Clean Air Act established two types of national air quality standards. Primary standards set limits to protect public health, including the health of "sensitive" populations such as asthmatics, children and the elderly. Secondary standards set limits to protect public welfare, including protection against decreased visibility, and damage to animals, crops, vegetation and buildings.

~ www.epa.gov/air/criteria.html

In order to be redesignated, several requirements must be met, including a fully approved maintenance plan. The maintenance plan demonstrates continued attainment of the NAAQS standards for 10 years, followed by a revised maintenance plan covering an additional 10 years (this revision is due in the eighth year of the first 10-year period).

In addition to setting specific emissions levels for the above criteria pollutants, the U.S. EPA is also responsible for establishing and overseeing implementation of national programs aimed at reducing mobile source pollution. Specifically, the U.S. EPA issues rules setting emission limits for light-duty cars and trucks, heavy-duty trucks and buses, locomotives, construction equipment, off-road vehicles, etc.

On July 20, 2005, the U.S. EPA proposed requirements for an emissions trading program as part of its Regional Haze Rule. Regional haze regulations call for states to establish goals for improving visibility in national parks and wilderness areas, and to develop long-term strategies and regulations for reducing emissions of air pollutants that cause visibility impairments. The steps



Best available retrofit technology

On June 15, 2005, the U.S. Environmental Protection Agency finalized amendments to the July 1999 regional haze rule. These amendments apply to the provisions of the regional haze rule that require emission controls known as best available retrofit technology for industrial facilities emitting air pollutants that reduce visibility by causing or contributing to regional haze.

States were required to develop their implementation plans by December, 2007. They were then asked to identify facilities that must reduce emissions under best available retrofit technology requirements and then set best available retrofit technology emissions limits for those facilities.

~ www.epa.gov/air/visibility/fs_2005_6_15.html

states take to implement these regulations are expected to have the additional benefit of improving visibility in broad areas across the country beyond the Class I areas² addressed specifically in the new regulations. These changes apply to the processes used by states or tribal governments to demonstrate that an emissions trading program could be used as an alternative to applying best available retrofit technology.

The best available retrofit technology requirements of the regional haze rule apply to facilities built between 1962 and 1977 that have the potential to emit more than 250 tons per year of visibility-impairing pollution. Those facilities fall into 26 categories, including utility and industrial boilers, and large industrial plants such as pulp mills, refineries and smelters. Many of these facilities have not previously been subject to federal pollution control requirements.

² Any mandatory Federal Class I area, established under the Clean Air Act Amendments of 1977, where visibility is deemed to be an important value. For more information, refer to the Code of Federal Regulations, Title 40, Part 81, Subpart D.

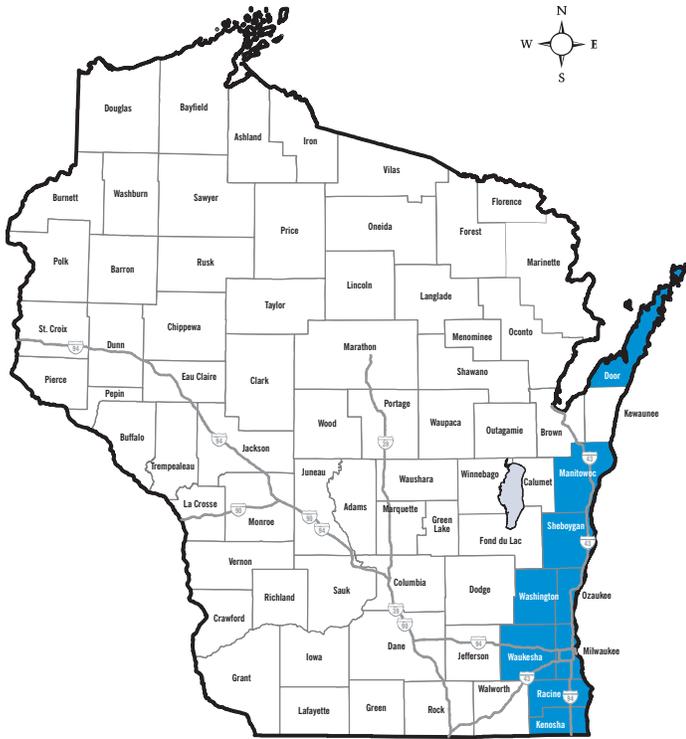
In Wisconsin, air quality is affected by emissions originating within the state and emissions transported northward along Lake Michigan from surrounding states. The highest levels of air pollution occur in Wisconsin's southeastern counties and in the counties along Lake Michigan. Pollutants of greatest concern to Wisconsin include ozone³ and particulate matter. Wisconsin does not currently appear to be at risk of exceeding the NAAQS standards for carbon monoxide, nitrogen dioxide, sulfur dioxide and lead.

Nine Wisconsin counties (Map 10-1) – Milwaukee, Kenosha, Racine, Ozaukee, Waukesha, Sheboygan, Door, Manitowoc and Washington – are designated as non-attainment for the current ozone standard. In addition, the Clean Air Act requires the U.S. EPA to review the standards set for criteria pollutants every five years. The Clean Air Act requires the Wisconsin DNR to prepare a state implementation plan describing how the state will bring these counties into attainment with current ozone standards. The U.S. EPA has concluded that the 1997 primary standard of 0.08 ppm with an eight-hour averaging time is not adequate to protect public health with a sufficient margin of safety. Therefore, the U.S. EPA has strengthened the level of the eight-hour primary ozone standard to 0.075 parts per million.

With this modification to the standard, Wisconsin's non-attainment areas may also change. Monitoring data from 2004 to 2006 shows that eight of these counties (excluding Door and Sheboygan) met the ozone standard during that timeframe. As a result, the Wisconsin DNR has requested the U.S. EPA redesignate those counties as ozone maintenance areas and approve the maintenance plans developed to ensure that the standard is maintained for at least 10 years.

In addition, the Wisconsin DNR will submit to the U.S. EPA an eight-hour ozone state implementation plan for Door and Sheboygan counties to fulfill Clean Air Act requirements. Changing standards and

³ Ground level ozone is formed from NOx and VOCs reacting to sunlight. These pollutants come from motor vehicle exhaust and industrial emissions, gasoline vapors, and chemical solvents, as well as natural sources. Ground-level ozone is the primary constituent of smog. Sunlight and hot weather cause ground-level ozone to form in harmful concentrations in the air.



▲ *Map 10-1: The counties shown in blue above are considered National Ambient Air Quality Standard ozone non-attainment areas.*

atmospheric conditions could put other counties in non-attainment status.

In addition to ozone, particulate matter is another pollutant of concern in Wisconsin. Particulate matter is a complex mixture of extremely small particles and liquid droplets. It is made up of a number of components such as nitrates and sulphates, organic chemicals, metals, and soil or dust particles. The U.S. EPA has designated three Wisconsin counties as non-attainment for the particulate matter 2.5 standard. While transportation is a contributor to increased

State implementation plans

State implementation plans are the individual state’s regulations and other materials for meeting clean air standards and associated Clean Air Act requirements.

State implementation plans include:

- › EPA-approved state regulations
- › State-issued, EPA-approved orders requiring pollution control at individual companies
- › In rare cases, federally promulgated regulations, designated as a federal implementation plan
- › Planning documents such as area-specific compilations of emissions estimates and computer simulations (modeling analyses) demonstrating that the regulatory limits assure that the air will meet air quality standards.

~ www.epa.gov/ARD-R5/sips/

ozone, vehicle emissions are expected to decrease in the next 20 years. This will be a result of technological improvements in vehicles and fuels, replacement of vehicles with newer, cleaner vehicles and, to a lesser extent, reduced traffic congestion over the planning period. WisDOT will closely monitor gas price changes and will implement appropriate responses given that these changes may affect driving, congestion, emission levels and funding (see Chapter 7, *Foster Wisconsin’s Economic Growth*, and Chapter 12, *Funding Wisconsin’s Transportation System*, for more information).

Conformity rule

The conformity rule requires a quantitative analysis showing that a transportation plan, program or project does not worsen air quality by exceeding the motor vehicle emission limits established in the State Implementation Plan.





▲ *Figure 10-2: Air pollutants deposited in lakes or rivers can affect the quality of drinking water. WisDOT is committed to participating in efforts to decrease overall emissions.*

Air quality implications for human health

Good air quality is important to human health. How air pollution affects a person's health depends on the particular pollutant, its concentration in the air, the length of time the lungs are exposed to it, and existing health conditions. The concentrations of certain air pollutants can be measured with air quality monitoring equipment. The Wisconsin DNR monitors many types of air pollutants through a statewide monitoring network.

Air pollutants can also indirectly affect health. Air pollutants deposited in lakes or rivers can affect the quality of the drinking water, and pollutants deposited on land or water may enter the food chain and bioaccumulate in food. WisDOT is committed to participating in efforts to decrease overall emissions. That is why *Connections 2030* includes several policies aimed at transportation demand management strategies, highway preservation, improving system efficiencies and enhancing modal choices.

Comply with existing policies and regulations for improving air quality

In keeping with the requirements of the federal Clean Air Act, the Wisconsin DNR Cleaner Air Faster initiative and state air quality regulations, WisDOT will, in cooperation with its partners:

- » Comply with conformity rules in non-attainment and maintenance areas
- » Offer technical assistance to help non-attainment areas achieve compliance
- » Identify opportunities to keep potential non-attainment counties in attainment status
- » Participate in developing control measures to meet the limits on motor vehicle emissions established in the State Implementation Plan

- » Participate in regional air quality control efforts
- » Support changes to the federal conformity rule to increase flexibility, provide adequate time and simplify the process
- » Work with partners to integrate transportation and air management processes

Support and participate in air quality improvement programs and activities

WisDOT will continue to participate in several programs aimed at improving air quality. These programs include the vehicle inspection and maintenance program, Congestion Mitigation and Air Quality program, air quality watches and advisories, and voluntary air quality improvement programs. Each of these programs is briefly described below.

Vehicle Inspection and Maintenance Program

Most passenger and light-duty vehicle owners in Wisconsin's seven southeastern counties must, as a condition of registration renewal, periodically have their vehicle emissions tested to verify that they meet specific emissions standards. This testing program is one of the actions identified in the state implementation plan to help the state meet the federal ozone standard.

The 2007 Wisconsin Act 20 allows Wisconsin to use only one type of emissions test – the On Board Diagnostic II (OBDII) – to determine compliance with established standards, beginning on July 1, 2008.

Most model year 1996 and newer passenger vehicles are OBDII-equipped, and these vehicles represent an increasingly large majority of the testable fleet. They can be checked for emissions-related problems without expensive, high-maintenance test equipment.

Since passenger vehicles older than model year 1996 were not required to be equipped with OBDII systems, no vehicles from model years 1995 and earlier are tested under Act 20. The reduction in the number of tests on gasoline burning passenger vehicles is offset somewhat by the inclusion of light duty diesel

Transportation demand management

One of several methods developed to partially address congestion and air quality issues is the concept of transportation demand management. Transportation demand management strategies use incentives, disincentives, and market devices to shift travel into non-motorized or higher-occupancy modes, reduce or eliminate the need to travel, or shift travel onto less congested routes. In some cases, Transportation demand management also refers to providing or expanding alternatives to single-occupancy vehicle travel, such as transit, bicycling, and walking.

~ ntl.bts.gov/DOCS/tdm.html

vehicles (automobiles and trucks) and heavier trucks up to 14,000 pounds gross vehicle weight rating, beginning with model year 2007, effective January 1, 2010. Implementing OBDII-only testing has temporarily reduced the number of vehicles tested annually. By 2014, however, annual test volume will exceed pre-2008 levels.

Switching to OBDII-only testing will yield several benefits to the state, including:

- » Significant cost savings
- » Enhanced customer convenience
- » Sustained air quality benefits
- » Expanded testing to include diesel powered and heavier commercial vehicles

In 2008, 623,719 emissions tests were performed. This figure includes tests yielding a result of pass, fail, abort, void and waiver.



Modal characteristics for carbon dioxide emissions and fuel efficiency

Public transit:

- › Current public transportation use reduces U.S. gasoline consumption by 1.4 billion gallons each year. Public transit produces 50 percent less carbon dioxide per passenger mile than private vehicles.
- › Public transit saved 6.9 million metric tons of carbon dioxide (CO₂) in 2005.
- › Some transit agencies are registered on the Chicago Climate Exchange for carbon trading.

Intercity bus:

- › Intercity bus has one of the lowest CO₂ emissions per passenger mile of all major travel modes.
- › Intercity bus is six times more energy efficient, per passenger, than the auto.

Intercity passenger rail:

- › On a per-passenger basis, Amtrak operations are 18 percent more energy efficient than the airlines and 17 percent more efficient than private autos.
- › Development of improved intercity passenger rail has the potential to reduce growth in vehicle miles traveled and carbon emissions along corridors.
- › Amtrak is registered on the Chicago Climate Exchange for carbon trading.

Transportation demand management and bicycle and pedestrian initiatives:

- › Transportation demand management measures and bike and pedestrian initiatives, along with improved public transportation, have the potential to reduce vehicle miles traveled in certain areas, further reducing carbon emissions.

Highway congestion reduction:

- › Free flowing traffic along Wisconsin's highways produces fewer CO₂ emissions than stop-and-go traffic. WisDOT actions described in the Chapter 9, *Promote Transportation Efficiencies* policy "Optimize traffic movement on the state trunk highway system by utilizing tools to improve existing capacity and, where necessary, adding capacity," along with investments in alternative modes, can help reduce Wisconsin's carbon footprint.

~ Davis, Todd and Hale, Monica. *Public Transportation's Contribution to U.S. Greenhouse Gas Reduction*.

Science Applications International Corporation. September 2007

~ Bailey, Linda. *Public Transportation and Petroleum Savings in the U.S.: Reducing Dependence on Oil*. ICF International. January 2007

Congestion Mitigation and Air Quality Program

The Congestion Mitigation and Air Quality Program provides federal funds for transportation projects that improve air quality and reduce traffic congestion in counties designated as non-attainment or maintenance areas. Examples of eligible projects are:

- » Pedestrian and bicycle facilities
- » Capital and operating assistance for new transit services
- » Rideshare promotions, vanpool purchases and park and ride lots
- » Alternative fuel vehicles and fueling facilities
- » Traffic flow improvement and congestion reduction projects
- » Diesel engine idling reduction and retrofit projects (newly eligible)

In recent years, the majority of approved projects have focused on transportation demand management strategies including bicycle, pedestrian and public transit projects. While these projects result in improved air quality, greater benefits could be realized from projects targeted at improvements in vehicle and fuel technology.

WisDOT will identify ways to encourage state and local sponsors to propose projects that yield greater air quality benefits. Examples may include electric and alternative fuel vehicle programs, diesel retrofit and idling reduction initiatives, and traffic congestion mitigation projects.

State air quality agencies recommend Congestion Mitigation Air Quality Program funding eligibility be expanded to include potential non-attainment counties to help keep them in attainment. While this is not allowed under the current program structure, WisDOT will consider including potential non-attainment counties if the program eligibility is expanded and funds become available. To assist potential applicants and funding recipients, WisDOT

will continue to provide outreach and information regarding the program's funding eligibility requirements and restrictions.

Air quality watches/advisories

As a public service, Wisconsin's DNR issues air quality watches and advisories for particulate matter and ozone whenever air quality reaches, or is forecasted to reach, the orange level (unhealthy for sensitive groups) as defined by the U.S. EPA. The alerts encourage residents and drivers to modify behaviors that impact the region's air quality.

Recommended travel changes include relying on carpooling, telecommuting and conference calling to continue business operations and minimize travel, as well as delaying lawn mowing and car refueling until the alert has expired. Whenever the Wisconsin DNR issues an advisory, WisDOT voluntarily encourages reduced highway maintenance activities and reduced staff travel within the affected counties.

Voluntary air quality improvement programs

WisDOT and the states' metropolitan planning organizations and regional planning commissions provide technical assistance and expertise to Wisconsin Partners for Clean Air and the Dane County Clean Air Coalition. These organizations work with local stakeholders to voluntarily reduce air pollution emissions. Fond du Lac and Jefferson counties and municipalities such as the city of Manitowoc also have established voluntary air quality improvement programs. WisDOT will partner with voluntary clean air programs and local governments to further promote energy conservation and air quality attainment goals.

WisDOT will also continue to implement projects that enhance traffic flow, improve safety and minimize traffic idling. Examples include installing roundabouts and improving signal timing and ramp metering along highly traveled corridors.

In addition to facility improvements, WisDOT will continue to encourage implementation of transportation demand management strategies where appropriate and likely to yield results





WisDOT is a member of the the Wisconsin Clean Diesel Coalition, which is working to reduce emissions from at least 50,000 diesel-powered engines by 2010. Some of the strategies the coalition is pursuing include outreach and funding for reducing operational and idling emissions from both on- and off-road vehicles.

(see the policy called “Encourage transportation demand management strategies” in Chapter 8, *Provide Mobility and Transportation Choice*) and the development of congestion management strategies in urban areas (see the policy called “Optimize traffic movement on the state trunk highway system by utilizing tools to improve existing capacity and, where necessary, adding capacity” in Chapter 9, *Promote Transportation Efficiencies*).

WisDOT also applies and supports a variety of strategies that address traffic movement and have potential air quality improvement benefits. Examples of these are designing roundabouts to manage traffic flow at intersections (see Chapter 9, *Promote Transportation Efficiencies*) and supporting transportation demand management strategies such as park and ride facilities and ride-share programs (see Chapter 8, *Provide Mobility and Transportation Choice*). WisDOT will work with partners to integrate transportation and air management processes to better align decisions with air quality improvement schedules.

Monitor emerging air quality issues

WisDOT will continue to monitor several emerging issues that may affect air quality throughout Wisconsin. The issues include:

Air toxics

Mobile Source Air Toxics are compounds emitted from highway vehicles and nonroad equipment that are known or suspected to cause cancer or other serious negative health and environmental effects. WisDOT will follow U.S. EPA regulations and address air toxics in environmental documents in accordance with Federal Highway Administration guidelines.

Mobile Source Air Toxics standards will likely become a more important issue in the environmental review process. New diesel regulations, low-sulfur fuel and market forces are expected to have a positive impact on this issue.

Construction emissions

Emissions from construction projects produce particulate matter and can form ozone. WisDOT will consider retrofit, idling and fuel restrictions on state highway construction projects and county maintenance contracts in non-attainment and at-risk counties to limit ozone and particulate matter pollution. For example, the Marquette Interchange reconstruction project included voluntary idling restrictions and the use of cleaner on-road diesel fuel.

Idling restrictions

WisDOT will track and support truck idling restriction initiatives and projects (for example, truck stop electrification) in eastern Wisconsin as well as any national regulatory initiatives that may develop over the plan period.

Clean Air Interstate Rule

WisDOT will monitor implementation of the Clean Air Interstate Rule, a federal program that seeks to cap and reduce sulfur dioxide and nitrous oxide emissions in 28 eastern states, including Wisconsin. The Clean Air Interstate Rule focuses on power plant emissions and is expected to benefit air quality and attainment in Wisconsin.

Climate change

At the international, national and state levels, assessing the effects of, and solutions to, global warming is gaining priority.

Nationally, the U.S. Congress is working on the issue of climate change in several proposed bills. Wisconsin has begun discussions to evaluate instituting a carbon emission cap and trade program. In 2007, nine midwestern states, including Wisconsin, signed a climate change accord to combat global warming by targeting greenhouse gas emissions with carbon trading programs and other initiatives to meet emission targets.

All 12 Midwestern states signed an agreement aimed at reducing dependency on petroleum-based energy sources, particularly foreign oil.

In addition, in 2007 Wisconsin's Governor established the Governor's Task Force on Global Warming to look at actions to curb greenhouse gas emissions in Wisconsin. The Governor's Task Force on Global Warming presented its findings and recommendations for a state plan to reduce Wisconsin's contribution to global warming in July 2008. At the local level, as of 2007, more than 700 cities across the United States, including 16 in Wisconsin, signed on to meet the Kyoto protocol's greenhouse gas emission reduction targets (U.S. Conference of Mayors Climate Protection Agreement), in addition to many other local initiatives.

The burning of fossil fuels and the resulting greenhouse gas emissions, particularly carbon dioxide (CO₂), are the largest contributors to human causes of climate change. Currently, carbon dioxide emissions resulting from transportation sources account for one-third of all carbon dioxide emissions (in Wisconsin, the transportation sector is responsible for approximately 24 percent of greenhouse gas emissions). In general, alternatives to single-occupancy private automobiles and trucks are more fuel-efficient and typically have fewer carbon emissions per passenger mile.

WisDOT will address climate change and energy independence by increasing the state's



▲ *Figure 10-3: The burning of fossil fuels and the resulting greenhouse gas emissions, particularly carbon dioxide, are the largest contributors to human causes of climate change.*

investment in alternative modes of transportation, as detailed in Chapter 8, *Provide Mobility and Transportation Choice*. WisDOT will provide assistance to and follow the findings of the Governor's Task Force on Global Warming and other state and national initiatives, and will continue to track ways to reduce carbon emissions of transportation in the state. WisDOT will also continue to work with the Wisconsin Office of Energy Independence to identify how best to provide needed expertise to communities that benefit from the Office of Energy Independence grants.



► **SUMMARY OF POLICY ACTION ITEMS:**
Emphasize air quality improvement

Short- and medium-term (2008 - 2013)

- Update/develop outreach materials to inform state and local agencies about Wisconsin's complex Congestion Mitigation Air Quality program funding structure.
 - Encourage retrofit, idling and fuel restrictions on state highway construction projects in the nonattainment and potential non-attainment counties, and apply restrictions to county maintenance contracts in these areas.
 - Encourage state and local sponsors to bring forward Congestion Mitigation Air Quality program projects that yield greater air quality benefits.
 - Monitor mobile source air toxics regulations to more adequately address air toxins in environmental documents, in accordance with Federal Highway Administration guidance.
 - Monitor the implementation of the Clean Air Interstate Rule to anticipate effects on the mobile sector.
-

Medium- and long-term (2014 - 2030)

- Consider expanding Congestion Mitigation Air Quality Program eligibility to include potential non-attainment counties, if allowed by federal regulations.
 - Monitor state and national efforts and be prepared to address potential future greenhouse gas regulations, pursuant to changes in state and federal regulations.
-

Entire planning period (2008 - 2030)

- Monitor conformity rule amendments and support changes that increase flexibility, allot adequate time, and simplify the process.
 - Continue to encourage transportation alternatives to single-occupant vehicles.
 - Consider reducing maintenance and travel activities in potential non-attainment counties whenever Wisconsin DNR issues an air quality advisory.
 - Partner with voluntary clean air programs and local governments to further promote energy conservation and air quality attainment goals.
 - Encourage implementation of transport demand management strategies.
 - Work with partners to integrate transportation and air management processes to better align decisions with air quality improvement schedules.
 - Continue to work with the Wisconsin Office of Energy Independence to identify how best to provide needed expertise to communities that benefit from the Office of Energy Independence grants.
-

► **POLICY:**
*Emphasize the preservation of
 protected resources*

WisDOT will continue efforts to integrate consideration of environmental and cultural resource issues into transportation decision-making. Transportation projects are closely reviewed to see how they might impact the community and the natural and cultural environments. WisDOT will continue to coordinate with federal, state and local governments, as well as the general public and other key stakeholders, to evaluate appropriate and reasonable approaches to protect these resources.

To emphasize the preservation of protected resources in relation to transportation development, WisDOT will:

- » Identify sensitive resources early in the transportation planning process
- » Avoid or minimize impacts on sensitive protected resources, as well as historical and archeological sites, and mitigate unavoidable impacts
- » Develop guidance and establish procedures to discourage transportation development activities from intensifying the spread of invasive plants
- » Continue efforts to control erosion at transportation construction sites and adhere to “no net loss” wetland strategies
- » Continue to mitigate environmental impacts and monitor compliance



Section 106 of the National Historic Preservation Act requires that the Federal Highway Administration consult with any interested groups or agencies of protected resources, including tribes, for undertakings that may affect properties considered to have historical resources.

Section 4(f) of the Department of Transportation Act of 1966 directs that special efforts should be made to avoid impacts to parks, historic resources and wildlife refuges.

Background

Wisconsin’s natural and cultural resources are a vital part of the state’s history and economy. Preserving these resources enhances and fosters recreation and tourism in the state. WisDOT is committed to working with natural resource agencies

WISCONSIN’S NATURAL AND CULTURAL RESOURCES are a vital part of the state’s culture and economy. WisDOT is committed to working with natural resource agencies to meet or exceed standards established for specific protected resources, as required by national and state environmental laws and regulations.



Regulations and agreements that govern historic properties

- › Section 106 of the National Historic Preservation Act
- › WisDOT and State Historic Preservation Officer statewide programmatic agreements
- › Chapter 26 of the Facilities Development Manual

to meet or exceed standards established for specific protected resources, as required by national and state environmental laws and regulations.

Identify sensitive resources early in transportation planning processes

WisDOT will use the corridor management plan development process to help identify and locate sensitive resources along corridors early in the planning process. Efforts will focus on applying existing procedures that use multi-disciplinary teams during plan development, project design and construction, and facility maintenance. The corridor management process will include consideration of state and regional plans and program information from the Wisconsin DNR and other resource agencies. Using this approach provides opportunities for stakeholders to be contacted early, to identify appropriate inventories and databases, and obtain their input during transportation project decision-making.

Avoid or minimize impacts on sensitive natural areas, as well as historical and archeological sites, and mitigate unavoidable impacts

WisDOT will continue to minimize and mitigate transportation project impacts on parks, recreation areas and wildlife refuges, as well as on public or private historic or archeological sites eligible for the National Register of Historic Places. WisDOT will continue to follow Section 106 of the National Historic Preservation Act and Section 4(f) of the

Department of Transportation Act of 1966, as part of the evaluation process to identify sites that may be affected by a transportation plan or project.

The Wisconsin Burial Sites Preservation Law (Wis. Stats 157.70) provides for the protection of all burial sites in Wisconsin. If a burial site is discovered during a WisDOT project, work must stop immediately and the Burial Sites Preservation Office and the WisDOT Bureau of Equity and Environmental Services must be notified. Tribal burial sites on tribal trust lands are handled differently from other burial sites as WisDOT abides by the Native American Graves Protection and Repatriation Act (25 U.S.C. 3001). However, the Bureau of Equity and Environmental Services remains the appropriate state contact.

Develop guidance and establish procedures to discourage transportation activities from intensifying the spread of invasive plants

To mitigate the negative impacts of invasive species on Wisconsin's natural resources, the state established the Council on Invasive Species. The council is responsible for making recommendations to the Wisconsin DNR for:

- › A system for classifying invasive species under the invasive species program
- › A procedure for awarding cost sharing grants to public and private entities for up to 50 percent of the costs of eligible projects to control invasive species
- › Studies of issues related to controlling invasive species

WisDOT will track the decisions of the council and implement appropriate best management practices. Some state-owned highway rights of way contain or cross areas of high quality native habitat that may include or support threatened and endangered species. However, many of these habitats are failing due to invasive species and the lack of an ongoing management program. Invasive species can impact not only sensitive natural resources, but also sport fishing, forestry, agriculture, tourism and more. To address invasive species, WisDOT will first seek funding and work

with the Wisconsin DNR to develop and implement a program of “early detection, rapid response” for invasive species. WisDOT will take mitigating actions to address noxious weeds, as required under Wisconsin Statute 66.0407. WisDOT will seek the necessary resources to manage this effort. Beyond the invasive species identified under state statute, WisDOT is aware of the potential ecological problems associated with garlic mustard and spotted knapweed.

In addition, WisDOT will continue to plant and manage native species. WisDOT will also work with the Wisconsin Department of Agriculture, Trade and Consumer Protection and the Wisconsin DNR to identify and help control the spread of emerald ash borer wherever it is found in Wisconsin.



▲ *Figure 10-4: WisDOT’s wetland banking system has developed 3,780 acres of wetland.*

Continue efforts to control erosion on transportation construction sites, and adhere to ‘no net loss’ wetland strategies

WisDOT will continue its efforts to minimize the effects of transportation projects on water quality. Over the past several years, WisDOT has successfully undertaken water quality protection and erosion control programs. The department follows the published stormwater and erosion control rule for transportation projects developed by the department in conjunction with the Wisconsin DNR and other stakeholders. To further protect water resources, the department makes every possible effort to limit sediment runoff around construction zones. For example, the erosion control Product Acceptability List has become a standard not only for WisDOT projects, but also for other types of construction.

WisDOT remains committed to protecting and preserving wetlands. Section 404 of the Clean Water Act establishes a program that regulates the discharge of dredged and fill material into federal waters, including wetlands. This is the primary federal regulatory program for wetlands.

In accordance with this regulation and agreements with federal agencies, and working with the Wisconsin DNR, WisDOT will first work to avoid wetlands when developing or enhancing roadways. When wetlands cannot be avoided, WisDOT will continue to adhere to the “no net loss” principle by replacing lost wetlands with new or restored wetlands in compliance with corresponding regulations and agreements. As wetlands may be affected by transportation projects, WisDOT will continue to make every possible effort to maintain and protect these important habitats. Without a healthy wetland mitigation program, regulatory authorizations to build and maintain transportation facilities are jeopardized.

Among the efforts under way is the department’s maintenance and expansion of a statewide system of wetland banks. The WisDOT wetland mitigation program consists of one wetland mitigation “bank” that consists of many “bank sites.” A wetland mitigation project is one that restores, enhances or creates wetlands to compensate for adverse impacts

on other wetlands. The banking system includes sites where wetlands are restored, enhanced or created to provide transferable credits that may be subsequently applied to compensate for adverse impacts to other wetlands. WisDOT is committed to an ongoing search for suitable wetland bank sites.

The WisDOT wetland mitigation bank is similar to transportation infrastructure with regards to maintenance – the more acres there are in the bank, the more funds are needed to conduct necessary maintenance.

WisDOT strives for the highest quality and most diverse mitigation sites possible, and maintains the largest wetland banking system in the state, with 34 sites. To date, WisDOT's wetland banking system has developed 4,126 acres of wetlands in a combination of sites, as well as on-site and off-site compensation projects. WisDOT will continue the wetland banking system and integrate the banking system into the ecosystem management approach as appropriate. Locating and funding future wetland bank sites will likely be a challenge.

Continue to mitigate environmental impacts and monitor compliance

Effective transportation and a healthy environment are both highly valued by Wisconsin citizens, as both significantly contribute to economic health and a good quality of life. Transportation, like all human activities, affects the environment. The production of fuels and vehicles, the construction and maintenance of infrastructure, the operation of various modes, and the disposal of waste from those processes all affect land, water and air. In keeping with the requirements outlined under SAFETEA-LU and the department's policies, WisDOT will continue to fully implement environmental mitigation commitments made during the transportation development process. In addition, WisDOT will identify and address mitigation requirements pursuant to federal legislation and state interagency agreements.

Finally, department staff will conduct the necessary follow-up work to ensure mitigations are completed and will establish a process to track completion and compliance.

► SUMMARY OF POLICY ACTION ITEMS: *Emphasize the preservation of protected resources*

Short-term (2008 – 2013)

- Seek funding to develop an invasive plant species “rapid-detection and early response” program and work with the Wisconsin DNR to develop and implement the program.
-

Entire planning period (2008 – 2030)

- Incorporate the concepts and requirements of “avoid, minimize, or where necessary mitigate, impacts to sensitive resources,” and consider other state agency plans and programs in the transportation decision making process.
 - Continue to incorporate WisDOT's environmental policies and processes into the transportation decision-making process.
 - Implement cost-effective practices to minimize impacts on surface and ground water resources during and after construction.
 - Continue to adhere to the “no net loss” principle when replacing or restoring impacted wetlands.
 - Continue to follow the Section 106 and Section 4(f) evaluation processes to minimize transportation project impacts on publicly owned parks and wildlife refuges, as well as historic and archeological sites.
 - Continue to monitor mitigation efforts.
-

► **POLICY:**
Incorporate environmental justice in all planning, programming and project decisions

Pursuant to Title VI of the Civil Rights Act of 1964 and Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations, WisDOT will continue to incorporate analysis of disproportionate impacts on low-income and minority populations in all planning, programming and project activities. To achieve this, WisDOT will:

- » Conduct environmental justice analyses on all transportation planning and project activities
- » Seek input from a wide variety of stakeholders
- » Assist metropolitan planning organizations in addressing environmental justice in transportation planning activities

In addition to the commitments outlined in this policy, the department will continue to demonstrate its leadership and commitment to the Civil Rights Act by promoting fairness and equity in the delivery of its transportation services, as well as providing business and employment opportunities in Wisconsin's transportation projects (see the "Promote a diverse workforce in Wisconsin's transportation industry by building alliances and business opportunities through civil rights initiatives" policy in Chapter 7, *Foster Wisconsin's Economic Growth*).

Title VI

Title VI was enacted as part of the landmark Civil Rights Act of 1964. It says that – in operating a federally assisted program – a recipient cannot, on the basis of race, color, or national origin, segregate or separately treat individuals in any manner related to the receipt of any service, aid or benefit.

~ www.usdoj.gov/crt/cor/coord/titlevi.htm

As a leader in promoting civil rights, WisDOT will:

- » Encourage businesses certified as socially and economically disadvantaged to participate in the transportation industry, and target information and assistance to increase competition
- » Build partnerships and stakeholder alliances to leverage equity goals, requirements, and efforts focusing on Wisconsin's tribal nations as transportation partners
- » Initiate and implement efforts to build a diverse, skilled and professional transportation workforce

Background

Executive Order 12898, *Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations*, and subsequent U.S. DOT orders, require federal agencies and agencies receiving federal

IN ADDITION TO THE COMMITMENTS outlined in this policy, the department will continue to demonstrate its leadership and commitment to the Civil Rights Act by promoting fairness and equity in the delivery of its transportation services, as well as providing business and employment opportunities in Wisconsin's transportation projects.





▲ *Figure 10-5: Public participation is critical to a successful transportation planning and project development process.*

funding to make achieving environmental justice part of their mission.

Conduct environmental justice analyses on all transportation planning and project activities

WisDOT will continue to conduct environmental justice analyses on all transportation planning and project activities. These analyses include:

- » Identifying and locating minority and low-income populations within the applicable study and project areas
- » Determining whether potential disproportionate impacts may occur as a result of proposed plan and project alternatives



▲ *Figure 10-6: WisDOT will work with metropolitan planning organizations to identify potential outreach techniques and will review metropolitan planning organization public participation plans to verify that the plans include outreach to minority and low-income populations.*

- » Taking action, where appropriate, to mitigate disproportionate impacts resulting from WisDOT actions

WisDOT will continue to monitor environmental justice analysis techniques used by other states and metropolitan planning organizations to identify best practices for Wisconsin.

Seek public input from a wide variety of stakeholders

Public participation is critical to the transportation planning and project development process. WisDOT will use public involvement techniques that encourage participation by minority, low-income, senior and disabled populations.

For instance, WisDOT is currently using grassroots outreach efforts through community-based organizations, local leadership, one-on-one communication, small discussion groups, and advisory committees to ensure that everyone has a voice in the decisions made on the southeast I-94 North-South Corridor project. Similar strategies were used during preliminary engineering and reconstruction of the Marquette Interchange in southeast Wisconsin.

In addition, WisDOT was the first state agency to draft a Tribal Partnership Agreement with state tribes as prompted by Wisconsin Executive Order 39. The Tribal Partnership Agreement is designed to

WisDOT IS CURRENTLY USING

grassroot outreach efforts through community-based organizations, local leadership, one-on-one communication, small discussion groups, and advisory committees to ensure that everyone has a voice in the decisions made on projects.

increase the tribes' access to WisDOT's resources and opportunities afforded by highway contracting. As part of this commitment, the department allocated resources and created a tribal liaison position to build the government-to-government relationship between WisDOT and the state's 11 tribes.

Assist metropolitan planning organizations in addressing environmental justice in transportation planning activities

Metropolitan planning organizations are required to conduct environmental justice analyses of their transportation planning activities. WisDOT will

Three fundamental environmental justice principles:

- › Identify and, where appropriate, mitigate disproportionately high and adverse human health and environmental effects, including social and economic effects, on minority and low-income populations.
- › Ensure the full and fair participation of all potentially affected communities in the transportation decision-making process.
- › Prevent the denial of, reduction of, or significant delay in, the receipt of benefits by minority and low-income populations.

~ www.fhwa.dot.gov/safetealu/summary.htm



work with the Federal Highway Administration to develop guidance for metropolitan planning organizations regarding environmental justice and will review and assist with these analyses as needed. Metropolitan planning organizations and WisDOT are required to ensure that outreach activities in their public participation plans are designed to

include minority and low-income populations. WisDOT will work with metropolitan planning organizations to identify potential outreach techniques and will review metropolitan planning organization public participation plans to verify that the plans include outreach to minority and low-income populations.

► **SUMMARY OF POLICY ACTION ITEMS:**

Incorporate environmental justice in all planning, programming and project decisions

Short-term (2008 – 2013)

-
- Continue to educate WisDOT staff on the principles of environmental justice.
 - Identify minority and low-income populations, conduct environmental justice analyses, and include minority and low-income populations in public outreach for plans and projects.
 - Continue to review environmental documents to ensure that environmental justice is adequately addressed at the project level.
 - Verify that metropolitan planning organization plans contain an environmental justice analysis and that the public participation plans identify activities to reach out to environmental justice populations.
 - Work with the Federal Highway Administration to develop environmental justice guidance for metropolitan planning organizations.
 - When possible, work to avoid, minimize or mitigate disproportionate impacts resulting from WisDOT plans or activities.
 - Monitor environmental justice activities in other states to identify best practices that can be implemented in Wisconsin.
-

► **POLICY:**
Continue community sensitive solutions efforts

Community sensitive solutions is a collaborative, interdisciplinary approach to transportation planning and project development. Community sensitive solutions incorporates early involvement of all stakeholders to ensure that transportation projects are in harmony with federal and state requirements, community values and the natural, social, economic and cultural environments. This integration of projects into the community and environment requires careful planning. The potential consequences from different planning, design and construction choices must be balanced, and the design must be

tailored to fit a project's unique circumstances. The seven qualities of a successful community sensitive solutions approach include:

- » An interdisciplinary, flexible project development approach
- » An emphasis on project management
- » Responsiveness to environmental issues
- » An aesthetically pleasing, quality project
- » Safe and efficient facilities
- » Delivery of projects on time and within budget
- » Early and frequent public involvement



▲ *Figure 10-7: The Starkweather Path, in Madison, was a local effort to include two bicycle and pedestrian bridges to link area neighborhoods divided by major streets. Completion of this project provides the neighborhoods with bicycle and pedestrian access to employment centers such as the Airport Business Park, Madison Area Technical College, Olbrich Park and the Capitol City bike and pedestrian trail.*



WisDOT's vision for community sensitive solutions is to deliver a comprehensive transportation network that provides safe, user-friendly access and mobility that corresponds to the values of Wisconsin residents.

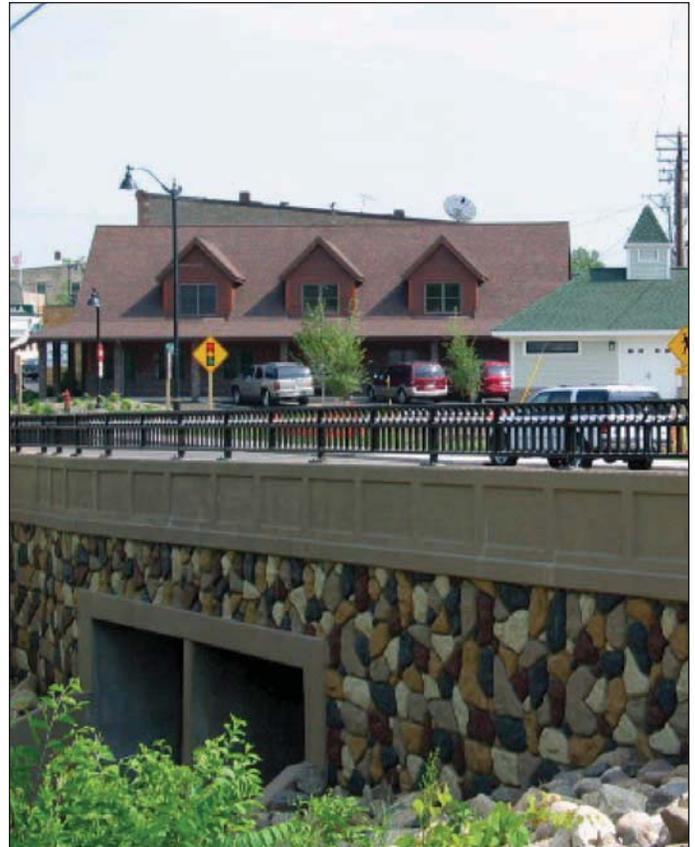
To provide a process that considers community values and interests while continuing to provide quality transportation services, WisDOT will continue to:

- » Coordinate community sensitive solutions efforts with local stakeholders
- » Seek public input early and throughout the transportation decision-making process

Background

Since 2002, WisDOT has used the community sensitive solutions process to enhance excellence in transportation project development. Community sensitive solutions emerged in Wisconsin as part of a nationwide movement for transportation projects known as context sensitive solutions. This represented a significant change in transportation project planning, as agencies such as WisDOT began to work within a broader context. Transportation needs, such as access to land and markets, mobility, and safety in travel for all transportation modes, continue to grow.

However, added to these needs are concerns about where and how transportation facilities are to be planned, developed and designed, and the relative impacts to adjacent communities. This context requires that many perspectives and interests be considered in the project planning process before project development decisions are made. The need for a balanced approach was recognized in the



▲ *Figure 10-8: WisDOT's experience has shown that an open dialogue early can help address community concerns up front and deliver an aesthetically pleasing project on time and on budget.*

Intermodal Surface Transportation Efficiency Act (ISTEA) of 1991 and the Transportation Equity Act for the 21st Century (TEA-21) of 1998. It was reaffirmed with the 2005 Safe, Accountable, Flexible, and Efficient Transportation Equity Act – A Legacy for Users (SAFETEA-LU). As a result, WisDOT is continuing to enhance the transportation project

SINCE 2002, WISDOT HAS USED *the community sensitive solutions process to enhance excellence in transportation project development. Community sensitive solutions emerged in Wisconsin as part of a nationwide movement for transportation projects known as context sensitive solutions.*

Context sensitive solutions

The concept of context sensitive solutions (CSS) has been evolving in the transportation industry since the National Environmental Policy Act of 1969 required transportation agencies to consider the possible adverse effects of transportation projects on the environment.

CSS is a collaborative, interdisciplinary approach that involves all stakeholders to develop a transportation facility that fits its physical setting and preserves scenic, aesthetic, historic and environmental resources, while maintaining safety and mobility. CSS is an approach that considers the total context within which a transportation improvement project will exist.

~ www.contextsensitivesolutions.org/content/topics/what_is_css/

planning and development process to acknowledge all stakeholder interests, while providing safe and efficient transportation facilities.

Even though the concept and process are documented in the department's guidance and manuals, the philosophy is still in its infancy and implementation will continue to evolve throughout the plan period. WisDOT will formalize elements of the community sensitive solutions policy to establish reasonable consistency statewide. This is necessary because many community sensitive solutions elements, such as public involvement, are folded into normal project planning and development activities while others, such as aesthetic improvements, are not. This makes it challenging to track the effectiveness of community sensitive solutions.

Clearly defining the process within WisDOT will make it easier to show how the philosophy and the seven qualities of successful community sensitive

solutions occur throughout all project stages, from planning to completion.

Community sensitive solutions expands the nature of WisDOT's current activities, focusing on early outreach to understand community values. Specific needs are communicated up front, helping to facilitate a cooperative approach. With early coordination and communication, consensus around plan or project goals is developed, and more sound investment decisions result. Experience has shown that an early and open dialogue can help address community concerns and deliver an aesthetically pleasing project on time and on budget.

Coordinate community sensitive solutions with local stakeholders

WisDOT will continue to coordinate community sensitive solutions efforts with local stakeholders. As part of this process, WisDOT will:

- » Continue using flexible design standards for community sensitive solutions projects
- » Encourage transportation projects that minimize negative community impacts while supporting and preserving local character

Continue using flexible design standards for community sensitive solutions projects

Flexible design standards that preserve safety and needed operational characteristics can be applied to ensure that a transportation project blends into a community. WisDOT worked with Federal Highway Administration officials in developing the flexible design standards that are now part of WisDOT's *Facilities Development Manual*.

Community sensitive solutions relies on identifying and meeting multiple goals including transportation goals, community goals, and environmental goals. It also relies on transportation professionals supporting collaborative development to reach the most creative and successful solution to problems, opportunities and needs of a project area or corridor.



WisDOT generally works within the flexibility defined by the design standards to minimize impacts and help fit the project within the variety of communities through which the project passes. However, in some instances, a community may request consideration of a design that is outside what is normally considered for a given structure.

For example, if a community voices a desire for lane widths other than the standard 12-foot wide lanes, and studies of the requested alignment show that it is safe, WisDOT may “flex” the standard design to allow the new lane widths. Flexibility built into the *Facilities Development Manual's* design standards makes it easier for WisDOT planners and engineers to develop creative solutions that balance community values with the needs of the traveling public.

Encourage transportation projects that minimize negative impacts while supporting and preserving local character

Whenever possible, WisDOT will continue to encourage transportation projects that:

- » Minimize negative construction impacts on communities
- » Support and preserve community character
- » Utilize community sensitive solutions to reduce the barrier effects of past transportation projects

Community sensitive solutions is used to minimize construction impacts on communities in both rural and urban contexts. In rural areas, the community sensitive solutions process has many applications including preserving scenic vistas, engaging in prairie restoration and saving rural bridges (for additional information on Scenic Byways and Rustic Roads, see Chapter 7, *Foster Wisconsin's Economic Growth*).

WisDOT's Marquette Interchange reconstruction project in Milwaukee provides several examples of how community sensitive solutions was used to minimize the impacts of a construction project in an urban context.



▲ *Figure 10-9: Milwaukee's church steeples were the inspiration for concrete bridge columns on the new Marquette Interchange.*

The visual identity of the newly reconstructed Marquette Interchange was developed from information gathered in visual preference surveys taken in public meetings and neighborhood focus groups. Survey participants strongly identified with Milwaukee's skyline of spires, a preference that resonated with different ethnic groups.

As shown in Figure 10-9, the concrete column design selected for the interchange reflects the church steeples visible along Milwaukee's skyline. This project demonstrates how community sensitive solutions can be used to create unique designs that not only serve a functional purpose, but are aesthetically pleasing and fit the character of a community.

WisDOT recognizes that some transportation projects have created barriers to personal travel needs within communities. Using the elements of



THE VISUAL IDENTITY of the new Marquette Interchange in Milwaukee was developed from information gathered in visual preference surveys taken in public meetings and neighborhood focus groups.

community sensitive solutions, WisDOT will work with local governments to coordinate design and investment decisions to reduce the barrier effects of major transportation infrastructure. WisDOT will use community sensitive solutions techniques to mitigate barrier effects and other transportation impacts by:

- » Mitigating temporary barriers during construction projects
- » Ensuring that projects fit into the landscapes they pass through
- » Considering, and where appropriate, addressing through retrofits the needs of bicyclists and pedestrians (for example, comfortable, safe crossings)

The Marquette Interchange reconstruction project and the Starkweather Path project in Madison

represent significant investments beyond those currently identified for typical community sensitive solutions related projects. If WisDOT were to incorporate similar high-profile community sensitive elements on future large urban projects, a significant funding commitment would be required.

Seek public input early and throughout the transportation decision-making process

Incorporating community sensitive solutions into planning and project development starts with the people who use or reside along the facilities. Involving people during planning, before design decisions are made, is vital to obtaining trust and participation, as well as ensuring that the transportation facility fits the community character. When transportation planning reflects community input and takes into consideration the impacts on both natural and human environments, it promotes partnerships that lead to balanced decision-making.

The corridor management activities and corridor management plans used in the implementation of *Connections 2030* will create many opportunities for WisDOT to work with communities and to use the community sensitive solutions process. The corridor maps in the plan show WisDOT's multimodal corridor vision for the statewide system-level priority corridors. The corridor management approach will allow WisDOT region offices to work with local governments to define more detailed and specific multimodal corridor visions in the future. This integrated and collaborative approach is a core concept of the plan.

WisDOT's commitment to meaningful public participation is implemented by using the community sensitive solutions approach as part of the corridor management planning processes. In the early stages of developing corridor management plans, communities and regions define a vision for a corridor's future. Plan recommendations identify how current problems will be addressed, while also anticipating future needs and solutions. By keeping local characteristics in mind during the planning process, corridor plans can lead to a project that will stand the test of time.



To ensure that the community sensitive solutions process continues to be valuable both to WisDOT and Wisconsin communities, WisDOT will develop a process to measure the effectiveness of community sensitive solutions and incorporate the results into future updates of the community sensitive solutions policy. WisDOT will also continue its early and continuous public involvement in all planning and project development activities statewide.

To continue improving the community sensitive solutions process, WisDOT will update the public involvement chapter of the *Facilities Development Manual* to better reflect the community sensitive solutions philosophy. It will also link community sensitive solutions to the corridor management process, expand the community sensitive solutions process to all projects statewide, and include strategies for early and frequent public involvement.

► **SUMMARY OF POLICY ACTION ITEMS:**
Continue community sensitive solutions efforts

Short-term (2008 – 2013)

- Work within WisDOT to ensure that the community sensitive solutions approach is used in all projects.
 - Use community sensitive solutions in conjunction with the corridor management approach.
 - Formalize the community sensitive solutions policy in the department's manuals and processes.
 - Update the public involvement chapter of the Facilities Development Manual to better reflect the community sensitive design philosophy.
 - More clearly define the roles and responsibilities of implementing community sensitive solutions within the department.
-

Entire planning period (2008 – 2030)

- Engage in opportunities for the department and communities to work together to encourage transportation facilities that support and preserve the community character.
 - Continue to work with the Federal Highway Administration on streamlining approval for community sensitive solutions flexible design standards.
 - Develop a process to measure the effectiveness of community sensitive solutions from a local community and WisDOT perspective, and incorporate the results into a community sensitive solutions policy.
-

► **POLICY:**
Preserve and enhance a positive land use/transportation relationship

WisDOT will work with local governments to integrate land use and transportation into decision-making processes to preserve and enhance communities. It will encourage community input and participation in the project decision-making process. To implement this policy, WisDOT will continue to:

- » Address direct land use effects of transportation
- » Evaluate and address indirect, cumulative and community land use effects of transportation projects
- » Integrate land use and transportation through coordinated planning at all levels of government

Background

Transportation is just one of many factors that impact land use. Other factors that influence land use decisions include local and regional geographic, social, demographic, and economic conditions, local land use plans and policies, and individual preferences.

Wisconsin's local governments can make land use decisions through local planning, and they can implement these decisions through land use regulations. Some of these are zoning, subdivision regulations, official mapping, and building codes. Local governments can also use non-regulatory tools, such as cooperative boundary agreements, purchase of development rights, capital improvement plans, and impact fees. According to the Comprehensive Planning Law (Wisconsin Statute 66.1001), beginning in 2010, if a local unit of government engages in zoning, subdivision regulations, or official mapping, those actions must be consistent with that unit of government's comprehensive plan.

Since land use issues are very complex and because they present comprehensive challenges beyond WisDOT's authority, cooperative approaches are

Direct land use effects

Direct land use effects are directly linked to a project and are highly predictable. They occur at the same time and place as the project. Examples of direct land use effects are:

- > Taking agricultural land out of production by building a highway
- > Displacing businesses and homes when acquiring additional right of way

needed to develop and implement solutions. WisDOT participates on numerous statewide councils and work groups focusing on land use-related issues. WisDOT staff frequently participate in local comprehensive planning efforts where these issues can be further explored. WisDOT project designers work closely with local governments in planning future transportation infrastructure development.

WisDOT will continue to work with communities to consider how local development decisions and local transportation needs impact both state and local networks. Efforts may include identifying ways to facilitate growth while continuing to provide a safe, efficient and reliable transportation system (see the policy called "Preserve the local road and bridge system" in Chapter 7, *Foster Wisconsin's Economic Growth*).

Continue to address direct land use effects of transportation decisions

Transportation projects sometimes require additional land for new or expanded right of way or site-specific facilities. As a result, some projects may displace public and private developed land (for example, homes, businesses, and industrial uses). Rural projects requiring additional land are more likely to displace farmland.



Under state and federal laws and regulations, WisDOT must purchase displaced properties impacted by the improvement (both land and any impacted improvements) at fair market value and provide relocation assistance and compensation as appropriate. Federal and state laws and regulations also establish specific analysis and mitigation requirements whenever a transportation project directly impacts wetlands, parklands or cultural resources (see the “Emphasize the preservation of protected resources” policy in this chapter for more information).

WisDOT recognizes the significance of land use disruptions and will continue to assist and/or compensate households and businesses impacted by transportation projects when necessary. WisDOT will also comply with federal and state standards in identifying and evaluating direct effects on farmland, parkland and cultural resources. Examples of potential direct effects include impacts on agricultural lands and noise resulting from traffic movement.

Agriculture

Transportation projects may affect both individual farmland owners and the farmland resources of an area. For example, highway expansion can directly remove farmland from production and indirectly

encourage dispersed development by improving access to rural areas. In response to dispersed development, farmland may become fragmented, conflicts may arise between new residents and farm operations, and farmers may feel pressured to sell property for conversion to other uses.

The Department of Agriculture, Trade, and Consumer Protection is required to prepare an Agricultural Impact Statement for any proposal to acquire more than five acres from a farm operation, and/or there is a potential for condemnation of farmland. Agricultural Impact Statements assess the effects of public projects on farm operations, farmland and rural communities.

WisDOT will continue to work with the Department of Agricultural, Trade and Consumer Protection to assess the potential impacts of transportation projects on agricultural lands. Finally, WisDOT will consider the importance of agricultural land when making project level decisions, and will continue to focus efforts on minimizing, to the extent possible, the negative impacts on agriculture.

Noise

Noise is defined as any unwanted sound, and is considered a direct effect when potential



Factors in development

Transportation projects are one of many factors influencing the type, location, amount, timing and pace of residential, commercial and industrial development. Other important factors include:

- > Public sewer and water availability
- > Land cost and availability
- > Local planning and zoning regulations
- > Environmental conditions and restrictions
- > Economic development incentives

transportation impacts are assessed. Vehicular traffic sounds constitute noise, and can interrupt normal activities when they reach a certain level. Areas likely to be sensitive to noise include residential developments, recreational areas, schools, churches and cemeteries. Commercial and industrial land uses are generally less sensitive to noise.

When traffic noise impacts occur, measures to reduce or eliminate them are considered by the project sponsor where such measures are determined to be “reasonable and feasible.” Noise may be mitigated through a variety of actions that modify the noise source, path, or receiver characteristics. WisDOT uses various methods to address noise resulting from transportation activities.

One method is the use of noise barriers. Barriers can be either earth berms or walls constructed from pre-approved materials, forming a continuous barrier between the noise source and receiver. Noise barriers must be continuous, without opening for driveways or side roads. Pavement design methods, such as tining, which creates minute grooves in the pavement, are also used to address noise resulting from vehicles traveling on roadways. WisDOT will continue to monitor noise concerns, and when feasible and appropriate to minimize or mitigate their effects.

Evaluate and address indirect and cumulative effects

In addition to assessing a proposed transportation project’s direct effects, WisDOT also analyzes the project’s indirect and cumulative effects.

Indirect effects

Indirect effects associated with transportation projects are caused by the decisions of others (for example, communities and developers). They may occur later in time, or beyond the project right of way, but they are linked to transportation projects and can be reasonably foreseeable. For a more detailed definition and related procedures, refer to Section 102 of the National Environmental Policy Act (NEPA), 42 U.S.C. § 4321-4327, and the CEQ Regulations for Implementing the Procedural Provisions of NEPA, 40 C.F.R. parts 1500-1508. These effects typically

Case study: STH 26 Corridor Plan

The *STH 26 Corridor Plan*, completed in 2004, coordinated local access needs, planned land use, and the local road system to preserve the long-term safe and efficient functioning of WIS 26 from Janesville to Waupun. This 67-mile stretch of highway crosses the boundaries of 24 local units of government. Because of diverse comprehensive plans and the need for intergovernmental coordination, the corridor plan used a collaborative approach to develop many of its recommendations and implementation strategies. The *STH 26 Corridor Plan* represents an approach that anticipates change and recognizes relationships between transportation and land use. It provides strategies and recommendations that, if implemented, will help preserve the state’s investment in the WIS 26 corridor for many years.

are related to the type of transportation project (for example, additional lanes, new interchange), changes in access, and local conditions.

Indirect effects may include changes in land use (such as concentrated development near a transportation facility), population density, growth rate, economic development, the rate of development and the ecosystem. These effects may be perceived as positive or negative or both, depending on the specific effect.

If a project’s analysis shows negative indirect effects, WisDOT may consider mitigation measures. Wisconsin Statute 86.255 (the “quarter-mile rule”) limits WisDOT’s ability to mitigate indirect effects through compensatory measures. The department will continue to work with communities by implementing community sensitive solutions (see the “Continue community sensitive solutions efforts”



policy in this chapter), coordinating decisions, and providing technical assistance to communities help them to make informed land use decisions.

Cumulative effects

Cumulative effects include the total effect on the human, cultural or natural environment due to past, present and future activities or actions.

Transportation project impacts are just part of the total cumulative effect on land use and development. This encompasses the proposed project impacts, additional transportation and other infrastructure improvements, as well as all public and private development projects.

Transportation projects can impact a community through a trickle-down effect, as one impact may indirectly impact another part of the community. As a result, cumulative impacts will differ based on individual communities and environmental resources. The direct and indirect impacts of transportation projects are analyzed along with other non-project related impacts in the examination of the cumulative impacts on various resources.

WisDOT will investigate ways to better analyze the possible cumulative effects associated with proposed transportation projects and improve the processes for this analysis. This analysis provides WisDOT and other decision-makers, such as local governments, with valuable information about the human, cultural and natural resources that may be affected, throughout time and continued actions. However, some project effects can result in impacts that cross between the different types of effects, including community and neighborhood effects.

Community and neighborhood effects

The physical presence of a new or expanded transportation facility, plus the direct impacts and indirect effects, can alter the character and cohesion of the affected communities. Community effects are highly variable depending on the project's scope, location, timing and the local context. These effects may become apparent over time and some can be viewed as both adverse and beneficial.

Examples of potential project effects on communities include:

Community character. A transportation project may permanently change the character of a community by altering the setting or introducing an incompatible element into the landscape. Both linear facilities (such as highways) and site-specific facilities (such as rail stations) may be viewed as incompatible with the character of a community unless efforts are made to work with the community and integrate the project. Community character can include both the built and natural environment.

Community cohesion. A transportation project may sever or disrupt patterns of social interaction among individuals, groups and institutions, creating a barrier to these activities. The interruption of these interactions can, in turn, result in reduced stability and social cohesion.

Both of these elements are addressed through the department's implementation of community sensitive solutions (see the "Continue community sensitive solutions efforts" policy in this chapter).

To address these effects on communities and neighborhoods, WisDOT will continue to:

- » Avoid, minimize or mitigate identified negative effects, where feasible, on all proposed actions where WisDOT has environmental review and approval responsibility (state highway and bridge projects, Transportation Economic Assistance projects, local roads, etc.)
- » Attempt to identify reasonably foreseeable indirect, cumulative and community effects, and apply current regulations and guidance
- » Consider and, where feasible, integrate, local comprehensive plans when assessing potential transportation decisions and projects
- » Collaborate with stakeholders and resource agencies to find workable solutions to negative impacts that reach across the responsibility of all parties



▲ *Figure 10-10: Coordinated transportation and land use planning is key to minimizing negative effects and successfully integrating transportation facilities into communities.*

- » Continue training to implement policy and guidance on transportation and land use, indirect and cumulative effects, and community impacts analysis, while building on past efforts

Continue efforts to integrate land use and transportation decisions

Intergovernmental cooperation and consistency between transportation and land use plans helps preserve and enhance the state's transportation system. Coordinated transportation and land use planning is key to minimizing negative effects and successfully integrating transportation facilities into communities. For this reason, WisDOT will continue its efforts related to assisting local governments with their comprehensive planning activities and through WisDOT corridor planning activities.

In keeping with SAFETEA-LU, WisDOT will continue to develop policies and guidance to improve coordination and consultation activities. Emphasis will focus on

implementing the corridor management approach describe in this chapter. These policies will help ensure that all interested agencies, stakeholders, and the public are consulted early and often at all levels of planning, project development and environmental review. A primary objective will be to address transportation and land use issues before they become conflicts.

Local comprehensive planning

As the result of Wisconsin's Comprehensive Planning Law passed in 1999, WisDOT has modified its planning methods. These changes include:

- » Increased involvement in the development of local comprehensive plans
- » Planning for future transportation needs at the corridor level
- » Providing Internet resources for land use and transportation issues, including comprehensive planning



WisDOT will continue to provide and expand resources, training and guidance to strengthen coordination with local governments as they prepare and update comprehensive plans, especially related to the coordination of transportation with land use and economic development. These activities will enhance WisDOT's long range and corridor planning efforts. WisDOT will continue to develop guidance for implementing changes resulting from SAFETEA-

LU related to incorporating local plans into state and MPO transportation plans.

Finally, WisDOT will continue to implement corridor management into its project planning and development process. Efforts will focus on continued development of corridor planning guidance and policies, and training to enhance the planning process and coordination with local governments.

► **SUMMARY OF POLICY ACTION ITEMS:**

Preserve and enhance a positive land use/transportation relationship

Short-term (2008 – 2013)

- Develop policies and guidance to improve public and intergovernmental coordination and consultation activities.
 - Enhance WisDOT's public involvement efforts for the planning and project development process through improved guidance, training and overall coordination.
 - Continue training and implementation of WisDOT policies and technical guidance on the analysis of indirect and cumulative effects, including community effects.
 - Establish and enhance policies for developing and implementing corridor plans statewide.
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Entire planning period (2008 – 2030)

- Continue to ensure that individuals, businesses and other property owners affected by relocation programs are treated in a fair, consistent and equitable manner, in accordance with federal and state laws.
 - Continue to fully consider impacts for land use, community character, and indirect and cumulative effects in consultation with various state and federal agencies, property owners, stakeholders and local governments.
 - Comply with laws and regulations in evaluating effects on farmland, parkland and cultural resources.
 - Continue to identify all reasonably foreseeable indirect and cumulative effects in compliance with federal requirements, and avoid or minimize negative impacts.
 - Enhance policies and guidance on land use and transportation issues including studying best practices and methods from around the country.
 - Coordinate state transportation efforts with local comprehensive plans and land use activities.
 - Provide resources to strengthen coordination between WisDOT and local governments in local comprehensive planning efforts.
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