

Impact Analysis Methodology

US 41 Interstate Conversion Plan

IH 94 – IH 43

Kenosha, Racine, Milwaukee, Waukesha, Washington, Dodge, Fond du Lac,
Winnebago, Outagamie, and Brown Counties, Wisconsin
WisDOT Project I.D. 1113-00-00



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1. Introduction

This is the first revision of the Impact Analysis Methodology since it was presented to agencies at the May 10, 2012 scoping meeting and the public at the May public information meetings. Because the Federal Highway Administration (FHWA) and the Wisconsin Department of Transportation (WisDOT) are proposing to change the project's environmental document type from an environmental impact statement (EIS) to an environmental report (ER), it was necessary to remove references to an EIS and the tiered EIS process in this document. FHWA and WisDOT are proposing to change the document type because interstate conversion will not result in significant impacts. The memorandum supporting the change in environmental document type is available from the Northeast Region.

1.1 Purpose of Impact Analysis Methodology

The current federal surface transportation law is known as *Moving Ahead for Progress in the 21st Century* (MAP-21). Like the previous federal transportation law (*Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users* (SAFETEA-LU 6002)), MAP-21 requires lead agencies for proposed federally funded transportation projects to determine the appropriate methodology and level of detail for analyzing impacts, in collaboration with cooperating and participating agencies.¹ Consensus on the methodology² is not required, but the lead agency must consider the views of the cooperating and participating agencies with relevant interests before making a decision on a particular methodology. Well-documented, widely accepted methodologies, such as those for noise impact assessment and evaluation of impacts under Section 106 of the National Historic Preservation Act, would require minimal collaboration. If a cooperating or participating agency criticizes the proposed methodology for a particular environmental factor, the agency should describe its preferred methodology and why it is recommended. The purpose of the impact analysis methodology is to communicate and document the lead agency's structured approach to analyzing impacts of the proposed transportation project and its alternatives. Collaboration on the impact analysis methodology is intended to promote an efficient and streamlined process and early resolution of concerns or issues.

The methodology discussion for each resource known or believed to be within the project study area has three parts. Subsection 1 identifies the laws, regulations and guidelines applicable to the particular resource. Subsection 2 discusses the purpose of evaluating potential resource impacts and general methodologies commonly used on proposed Wisconsin Department of Transportation (WisDOT) transportation projects to define, identify, and determine potential impact to the resource. Subsection 3 discusses any project-specific methodologies used to further refine the work completed as part of Subsection 2.

1.2 Project Background

The Federal Highway Administration (FHWA), in cooperation with the Wisconsin Department of Transportation (WisDOT), will prepare an Environmental Report (ER) for a proposal to convert U.S. Highway 41 (US 41) from a non-Interstate freeway to an Interstate from the Zoo Interchange (I-94) in Milwaukee to I-43 in Green Bay. The 132-mile corridor is located in Milwaukee, Waukesha, Washington, Dodge, Fond du Lac, Winnebago, Outagamie, and Brown counties. Under the previous federal transportation law (i.e., SAFETEA-LU), the US 41 corridor was identified as a potential segment for inclusion on the Interstate Highway system. The corridor was defined as "United States Route 41 corridor between Interstate Route 94 via Interstate 894 and Highway 45 near Milwaukee and Interstate Route 43 near Green Bay in the State of Wisconsin." The project's southern terminus identified in SAFETEA-LU is the Mitchell Interchange in Milwaukee.

¹ The congressional Conference Report accompanying SAFETEA-LU states: "Collaboration means a cooperative and interactive process. It is not necessary for the lead agency to reach consensus with the participating agencies on these issues; the lead agency must work cooperatively with the participating agencies and consider their views, but the lead agency remains responsible for decision making." FHWA's NEPA regulations (23 CFR 771) require that federal agencies with jurisdiction by law (permitting or land transfer authority) be invited to be Cooperating Agencies for an EIS. SAFETEA-LU created a new Participating Agency category for the EIS process. Participating Agencies are federal and non-federal governmental agencies that may have an interest in the project because of their jurisdictional authority, special expertise and/or statewide interest.

² The methodology used by the lead agency must be consistent with any methodology established by statute or regulation under the authority of another federal agency.

For the purposes of this study, the project's southern terminus is the US 41 and I-94 interchange located approximately one mile south of the Wisconsin-Illinois state line where US 41 merges with I-94. The southern terminus of the US 41/I-94 interchange marks the end of the Illinois Tollway, signifies the I-94 entrance into Wisconsin, and joins US 41 in Illinois to the I-94 corridor. This interchange links Wisconsin's major urban service areas served by US 41 with the Chicago metropolitan area through both I-94 and US 41. Because the 43 miles from the Zoo Interchange to the US 41/I-94 Interchange is already an Interstate Highway, that area is not part of the conversion of US 41. However, it is part of the study area since it would likely be signed consistent with the numbering for the converted section of US 41. The 175-mile corridor is located in Kenosha, Racine, Milwaukee, Waukesha, Washington, Dodge, Fond du Lac, Winnebago, Outagamie, and Brown counties. The US 41 corridor as defined above is shown on Exhibit 1-1 in Section 1.3.

As part of this study, WisDOT proposes to install interstate route signs along the converted US 41 corridor. The American Association of State Highway and Transportation Officials (AASHTO) in conjunction with FHWA identified I-41 as the interstate number designation in November 2012.

WisDOT and FHWA have determined that none of the improvements necessary to upgrade the current US 41 facility to Interstate standards are ready for consideration at this time. Any identified improvements that are specified to be completed within a specified time period as a condition of converting the facility will be outlined in the FHWA/WisDOT Agreement. The direct impacts of these improvements will be evaluated as part of the NEPA process for future US 41/I-41 improvements. Mitigation measures to address the impacts would also be evaluated. In addition, the Agreement will identify other deficiencies that must be addressed as part of future reconstruction projects, with no specific timeframe. These improvements would be fully evaluated in the future, as part of separate environmental documents outside the umbrella of this study since the conversion and shielding are not specifically contingent upon any of those improvements.

FHWA and WisDOT will prepare an ER that will compare the Build Alternative (convert US 41 to an interstate) and the No Build Alternative (no conversion). The ER will also evaluate direct environmental impacts of installing interstate signs and the indirect and cumulative effects of the proposed conversion of US 41 to an Interstate Highway. If the selected alternative is to convert US 41, subsequent environmental studies/documents would be completed in the future.

Because the only improvement the study will evaluate in detail is the installation of interstate signs, the project will have limited impacts to a limited range of natural resources in WisDOT's right-of-way. As a result, the impact methodology for most natural resource categories indicates there will be no analysis of impacts unless the installation of interstate signs would affect the resource. If a natural resource would be affected by an interstate sign, the impact methodology language would be the same as that used on other studies.

The conversion of US 41 to an Interstate is not expected to relocate residences or businesses, but the project may still have positive and negative impacts on the human environment. As an example, the interstate designation may increase the attractiveness of the corridor, or parts of it, to new development. Conversely, potential changes to truck weight and size regulations and outdoor advertising regulations that may occur with interstate conversion may have adverse impacts on some businesses. Given the potential for the interstate conversion to affect the human environment, the impact methodology for some human environment resources may be more involved than on other transportation studies.

2. General Economic Impact Methodology

2.1 Laws, Regulations, and Guidelines

General economic impacts for transportation projects are evaluated in accordance with the following key regulations and guidance: FHWA's Technical Advisory 6640.8A, *Guidance for Preparing and Processing Environmental and Section 4(f) Documents* (1987), and WisDOT's *Facilities Development Manual* Chapter 25, Socioeconomic Factors.

2.2 General Methodology

Evaluation of direct economic impacts include cost estimates of the proposed action and its alternatives; applicable effects on economic development trends and viability; effects on employment opportunities; effects on highway-dependent businesses; effects on existing and planned business development; and effects on tax revenues. Economic impacts that can be quantified based on available data will be discussed in the ER, and other impacts will be discussed qualitatively.

2.3 Project-Specific Methodology

Data for the general economic impact assessment will be obtained primarily from the 2000 US Census of Population and Housing. If data from the 2010 US Census are available, they will be used. Supplemental data will be obtained from Metropolitan Planning Organizations, local and regional land use plans, development plans, and discussion with local officials. A questionnaire to gain the insights of local and regional economic development experts in regard to the project will also be used.

Some of the outdoor advertising and oversize/overweight methodologies discussed in Section 3, Business Impact Methodology, may have connections to this section. The full discussion of those methodologies is together under one topic. See Section 3 for more information.

3. Business Impact Methodology

Potential direct business impacts discussed in this section include displacements, the costs associated with changes in business advertising (websites, printed materials, etc.) caused by the potential renaming of US 41, impacts associated with oversize/overweight trucks, and impacts associated with outdoor advertising.

3.1 Business Displacement Laws, Regulations, and Guidelines

Business impacts for transportation projects are evaluated in accordance with the following key regulations and guidance: The Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 as amended (49 CFR Part 24), and FHWA's Technical Advisory 6640.8A, *Guidance for Preparing and Processing Environmental and Section 4(f) Documents* (1987).

3.1.1 General Methodology

No business relocation impacts are anticipated as part of this study, because only the impacts of installing interstate highway signs within WisDOT's right-of-way will be discussed in the ER.

3.1.2 Project-Specific Methodology

There is no project specific methodology for business impacts.

3.2 Outdoor Advertising Laws, Regulations, and Guidelines

Outdoor Advertising impacts on transportation projects are evaluated in accordance with the following key laws, regulations and guidance along interstate highways: Highway Beautification Act of 1965, Bonus Act of 1959, and Kerr Amendment of 1959, state/federal agreements dated June 19, 1961 and March 28, 1972, U.S. Department of Transportation (U.S. DOT), FHWA Title 23—Code of Federal Regulations Part 750—Highway Beautification, WisDOT administrative rules, Trans 201, Wisconsin State Statute 84.3, local sign control and zoning ordinances, and guidance to local communities found in the WisDOT publication, *A Guide For Community Planning in Interchange Areas*.

3.2.1 General Methodology

First, a determination of on- or off-premise signs should be made. On-premises signs are not controlled by the Highway Beautification Act of 1965 nor the Bonus Act of 1959. They will only be identified in this phase. These are signs that advertise the business activity conducted or its products located on that commercial or industrial property.

The Outdoor Advertising Control inventory of US 41 will be checked for accuracy. Questionable locations or size, lighting, or spacing questions will be researched from the WisDOT sign permit files. These files typically contain a photo of the sign, its size, location, zoning (if not zoned, its commercial or industrial use), owner of the sign and site, and any other relevant correspondence or information that was considered to permit the sign. Inventories with field inspection data are available at WisDOT Region offices, WisDOT Central Office, or certified local agencies. When sign permits are renewed and surveillance discovers prohibited substantial changes to non-conforming signs, or the installation of signs without permits, the inventory is updated. If more precise location, size, spacing, lighting or other details about the sign are needed, field work including photos and surveys will be conducted.

Transportation improvements and guidelines as the roadway is brought up to Interstate standards may cause a change in the status of an existing legally permitted sign, or make a potential sign site ineligible after interstate designation. Existing signs that will need to be removed or relocated due to conflicts with post-Interstate status construction projects will be identified for further action in future NEPA documents.

As part of the project, off-premise outdoor advertising along the US 41 route will be placed into the following categories:

- Nonconforming sign – a sign that lawfully existed on March 18, 1972, or that was lawfully erected after March 18, 1972, that subsequently did or does not conform to the requirements of Wisconsin State Statute 84.30, TRANS 201, or 23 CRF750.
- Illegal sign – a sign erected after March 18, 1972, without a permit, a sign that is erected or maintained in a manner that violates any requirement of a permit, Chapter TRANS 201 or Wisconsin State Statute 84.30, a nonconforming sign that has lost its nonconforming status, or a grandfathered sign that has lost its grandfathered status.

While past, current and future geometric improvement projects to the roadway are constructed to current interstate standards, outdoor advertising regulations have not been affected or altered in the past. With implementation of this action, all WisDOT sign permit coordinators and staff would review all new permit applications to verify they meet the criteria for interstate highway installations. Furthermore as the process moves forward, it would include outreach to the communities along the corridor to assess the study area's land use and zoning, development patterns and future construction projects. Communities that are "certified cities" (Fond du Lac, Greenfield, Milwaukee, and West Allis) that regulate and control outdoor advertising within their city limits would need to modify their local ordinances and outdoor advertising control procedures to comply with the above-cited laws and regulations along the redesignated interstate route.

3.2.2 Project-Specific Methodology

Preliminary classification determinations of outdoor advertising signs will be based on existing information and field inspection or surveys. No valuation of existing or future sign sites, nor the cost of potential acquisitions or relocations of existing signs or sites, will be part of this study. Future removals or relocations based on geometric changes specified in the deficiency report will be addressed in future NEPA documents, if needed.

No additional project-specific methodology has been identified for outdoor advertising impacts.

3.3 Oversize/Overweight Laws, Regulations, and Guidelines

Vehicle size, weight, and load are regulated and restricted in accordance with the following key regulations and guidance: Code of Federal Regulations Title 23 Highways Chapter I Part 657 and Code of Federal Regulations Title 23 Highways Chapter I Part 658; and Wisconsin State Statutes Chapter 348.

3.3.1 General Methodology

Because the issue of oversize/overweight (OS/OW) vehicles is not normally discussed in ERs, there is no general methodology for this topic.

3.3.2 Project-Specific Methodology

The maximum gross vehicle weight allowed on Interstates is 80,000 pounds except where lower gross vehicle weight is dictated by the bridge formula. Currently weight loads on US 41 can exceed weights allowed on an interstate when authorized by permit or statutory exception for divisible and non divisible loads. All permit types and statutory overweight loads, for which no permit is required, may operate on US 41 today. Therefore, converting US 41 to an Interstate could have effects on firms that ship commodities and the carriers that provide shipping services.

Existing numbers, commodity types, and seasonal use of the US 41 corridor by OS/OW vehicles will be estimated based on limited field data, available permit information, and input from industry experts.

The ER is being written assuming legislation grandfathering current OS/OW regulations on US 41 will be passed before WisDOT converts US 41 to an interstate. As a result, the ER will discuss the potential impacts to OS/OW vehicles associated with the grandfathering legislation.

3.4 Route Designation Laws, Regulations, and Guidelines

Route designation impacts are expected to be economic impacts associated with revising business, marketing, and promotional materials that reference the route designation number. General economic impacts for transportation projects are evaluated in accordance with the following key regulations and guidance: FHWA's Technical Advisory T6640.8A, *Guidance for Preparing and Processing Environmental and Section 4(f) Documents* (1987), and WisDOT's Facilities Development Manual Chapter 25, Socioeconomic Factors.

The American Association of State Highway Transportation Officials (AASHTO) *Transportation Policy Book* (January 2000), Sections HO1 and HO2, provides guidance on assigning a route designation number. The final approval of an interstate route designation number is given by the AASHTO Standing Committee on Highways with concurrence and approval from FHWA.

3.4.1 General Methodology

Evaluation of the direct economic impacts associated with a new route designation number will be qualitatively analyzed to identify potential impacts of the proposed route designation and assess the consequences of the effects.

3.4.2 Project-Specific Methodology

No project-specific methodology has been identified for route designation impacts.

4. Community and Residential Impact Methodology

4.1 Laws, Regulations, and Guidelines

Community and residential impacts for transportation projects are evaluated in accordance with the following key regulations and guidance: The Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 as amended (49 CFR Part 24), FHWA's Technical Advisory 6640.8A, *Guidance for Preparing and Processing Environmental and Section 4(f) Documents* (1987) and WisDOT's Facilities Development Manual Chapter 25, Socioeconomic Factors.

4.2 General Methodology

No residential impacts are anticipated as part of the study because only the impacts of installing interstate signs within WisDOT's right-of-way will be discussed in the ER.

4.3 Project-Specific Methodology

No project-specific methodology has been identified for community and residential impacts.

5. Indirect Effects Methodology

5.1 Laws, Regulations, and Guidelines

Indirect effects for transportation projects are evaluated in accordance with the following key regulation and guidance: the 2002 National Cooperative Research Program Report 466, *Desk Reference for Estimating the Indirect Effects of Proposed Transportation Projects* and WisDOT's *Guidance for Conducting an Indirect Effects Analysis* (November 2007).

Indirect effects are caused by the action and are later in time or farther removed in distance, but are still reasonably foreseeable. Indirect effects may include growth inducing effects and other effects related to induced changes in the pattern of land use, population density or growth rate, and related effects on air and water and other natural systems, including ecosystems (40 CFR 1508.8).

5.2 General Methodology

The indirect effects analysis uses a systematic approach that identifies the area of potential effect for indirect effects; analyzes the study area's goals and notable features (land use/development trends, demographics, natural resources); identifies impact-causing activities (actions that change travel patterns or alter access); qualitatively analyzes potential impacts of the proposed transportation action; and assesses the consequences of the effects. The process includes outreach to the communities along the corridor to assess the study area's land use and development patterns, lend local insights into likely indirect effects and to confirm the results of the analysis.

5.3 Project-Specific Methodology

To analyze potential indirect effects, the study team will review local, regional, and state land use and transportation planning documents; inventory existing and planned future land uses and transportation facilities in the study area; and solicit input from local land use and development experts. For indirect effects related to this project, the area of potential effect includes the following counties: Milwaukee, Waukesha, Washington, Ozaukee, Dodge, Fond du Lac, Winnebago, Calumet, Outagamie, Brown, and Oconto. Racine and Kenosha Counties were not included because the project area is already an Interstate. While Milwaukee County south of the Zoo Interchange is also Interstate, north of the Zoo Interchange US 41 would be converted to an Interstate.

Experts will be selected based on their professional areas of expertise and the recommendations of cooperating agencies and WisDOT staff. Experts will include local, county, and regional land use and transportation planners, economic development experts, and elected officials. These experts will be asked to attend an expert panel meeting, prior to which each expert will receive an informational packet containing the following items:

- Fact Sheet: "What Are Indirect and Cumulative Effects?"
- Inventory of the study area, including maps of existing land use, future land use plans and agricultural and natural resources
- Descriptions of the proposed alternatives
- Internet links to local comprehensive plans
- Panel member questionnaire regarding potential land use and economic development impacts related to each project alternative

Panelists will be asked to review the informational packet materials and complete the detailed questionnaire in advance of the panel meeting. At the meeting, experts will participate in a facilitated discussion in which they will be asked to identify potential indirect effects for proposed project alternatives. The period for the indirect effects analysis is 25 years, consistent with local and county comprehensive plans that have similar periods of 20 to 25 years. At the end of the meeting, each panelist will submit their written questionnaire to the study team, the results of which, including the expert panel meeting results, will be integrated into the indirect effects analysis report.

6. Cumulative Effects Methodology

6.1 Laws, Regulations, and Guidelines

Cumulative effects are impacts on the environment that result from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (federal or nonfederal) or person undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over time (40 CFR 1508.7). Cumulative effects for transportation projects are evaluated in accordance with the following key regulations and guidance: WisDOT's *Guidance for Conducting a Cumulative Effects Analysis* (November 2007), the Council on Environmental Quality publication, *Considering Cumulative Effects under the National Environmental Policy Act* (January 1997), FHWA's position paper, and *Secondary and Cumulative Impact Assessment in the Highway Development Process* (April 1992).

6.2 General Methodology

The cumulative effects analysis uses a qualitative approach that considers the combined direct and indirect effects of the proposed action and other reasonably foreseeable public and private activities within the geographic area established for evaluating cumulative effects. The cumulative effects analysis is done in accordance with WisDOT's *Guidance for Conducting a Cumulative Effects Analysis* (November 2007) and with the Council on Environmental Quality guidelines, *Considering Cumulative Effects Under the National Environmental Policy Act* (January 1997). Steps in the cumulative effects analysis include identifying significant issues associated with proposed action, establishing the geographic area of influence, establishing the future time frame for analysis, identifying other actions affecting resources of concern, characterizing the resources in terms of response to change and stress, characterizing the stresses affecting the resources, defining a baseline condition for the resources, identifying important cause and effect relationships between human activities and the resources, determining the magnitude and significance of the cumulative effects, developing/modifying alternatives to avoid, minimize, or mitigate significant cumulative effects to the extent practicable, and monitoring cumulative effects of the selected alternative and adapting management measures.

6.3 Project-Specific Methodology

To prepare the cumulative effects analysis report, the study team will review local, regional, and state resource planning documents; inventory agricultural, natural, and cultural resources in the study area; and solicit input from experts with an understanding of natural, historical, archaeological, and cultural resources.

Experts will be selected based on their professional areas of expertise and the recommendations of cooperating agencies and WisDOT staff. Experts will include representatives from land trusts and conservation agencies, University of Wisconsin–Extension, Wisconsin DNR, and Wisconsin Department of Agriculture, Trade, and Consumer Protection. These experts will be asked to attend an expert panel meeting, prior to which each expert will receive an informational packet containing the following items:

- Fact Sheet: “What Are Indirect and Cumulative Effects?”
- Inventory of the study area, including maps existing land use, future land use plans and agricultural and natural resources
- Descriptions of the proposed alternatives
- Internet links to local comprehensive plans
- Detailed questionnaire regarding potential resource impacts related to each project alternative

Panelists will be asked to review the informational packet materials and to complete the detailed questionnaire in advance of the meeting. At the meeting, experts will participate in a facilitated discussion in which they will be asked to identify potential cumulative effects for proposed project alternatives. The period for the cumulative effects analysis is 25 years, consistent with local and county comprehensive plans that have similar periods of 20 to 25 years. At the end of the meeting, panelist will submit their written questionnaire to the study team, the results of which, including the expert panel meeting results, will be integrated into the cumulative effects analysis report.

7. Environmental Justice Impact Methodology

7.1 Laws, Regulations, and Guidelines

Environmental justice impacts for transportation projects are evaluated in accordance with the following key regulations and guidance: Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations (1994), the 1997 U.S. DOT Order on Environmental Justice (5680-1), the 1998 FHWA EJ Order on Environmental Justice (6640.23), and the 2011 FHWA Guidance on Environmental Justice and NEPA.

7.2 General Methodology

Data from the 2010 Census and the American Community Survey will be used to identify minority and low-income populations. Analysis will be completed to identify whether populations protected by Executive Order 12898 could be highly disproportionately or adversely affected by the project. No direct environmental justice impacts are expected, because only the impacts of installing interstate signs within WisDOT's right-of-way will be discussed in the ER. Indirect impacts will be analyzed using the project-specific methodology indicated in 5.3.

7.3 Project-Specific Methodology

There is no project-specific methodology for environmental justice impacts.

8. Historic Resources Impact Methodology

8.1 Laws, Regulations, and Guidelines

Historic resource impacts for transportation projects are evaluated in accordance with the following key regulations and guidance: Section 106 of the National Historic Preservation Act as amended (16 USC 470), FHWA's Technical Advisory 6640.8A, *Guidance for Preparing and Processing Environmental and Section 4(f) Documents*, 1987, and WisDOT's *Facilities Development Manual*, Chapter 26, Historical Preservation.

8.2 General Methodology

No impacts to historic structures are expected from the placement of interstate sign bridges, because of the lack of structures and past disturbance within WisDOT's right-of-way. If an eligible structure were affected, the methodology below would be followed.

Impact evaluation includes identification of historic resources in the transportation project's area of potential effect by qualified historians, evaluation of the resources to determine eligibility for inclusion on the National Register of Historic Places, assessment of effects to determine whether an adverse effect could occur, consultation with parties indicating an interest in the historic resources, and implementation of agreements reached to account for unavoidable adverse impacts.

8.3 Project-Specific Methodology

Historical investigations consist of a literature search by a qualified historian to identify previously recorded historic structures within the project's area of potential effect (APE). An APE has been established using a 2,000-foot-wide corridor centered on the US 41 centerline for the entire corridor. If there were an impact to a potentially eligible historic resource, a qualified historian would conduct field reconnaissance to identify potentially significant historic and architectural resources based solely on their integrity and potential significance based on context. If it is determined that a historic impact will occur within the project corridor, the General Methodology above will be followed.

9. Archaeological Resources Impact Methodology

9.1 Laws, Regulations, and Guidelines

Archaeological impacts for transportation projects are evaluated in accordance with the following key regulations and guidance: Section 106 of the National Historic Preservation Act as amended (16 USC 470), FHWA's Technical Advisory 6640.8A, *Guidance for Preparing and Processing Environmental and Section 4(f) Documents*, 1987, Wisconsin state statutes 44.40 and 157.70, and WisDOT's *Facilities Development Manual*, Chapter 26, Historical Preservation.

9.2 General Methodology

No impacts to archaeological resources are expected from the placement of interstate sign bridges, because of past disturbance within WisDOT's right-of-way. If archaeological resources were affected, the methodology below would be followed.

Impact evaluation includes identification of archaeological and/or human burial resources in the transportation project's area of potential effect by qualified archaeologists, evaluation of the resources to determine potential eligibility to the National Register of Historic Places, assessment of effects to determine whether an adverse effect will occur, consultation with parties indicating an interest in the archaeological resources, and implementation of agreements reached to account for unavoidable adverse impacts.

9.3 Project-Specific Methodology

Archaeological investigations will consist of archival research by a qualified archaeologist to identify previously recorded archaeological and/or human burial sites in the project's area of potential effect. If an interstate sign bridge had to be placed in an eligible, potential eligible (status not determined), archaeological and/or human burial site, then a qualified archaeologist would perform field reconnaissance to identify potential impacts. Archaeological resources and surveys, if needed, will be located based on information identified from the Wisconsin Historical Society archives and the literature search. Any additional archaeological investigations would be conducted during future NEPA studies.

10. Section 4(f), 6(f), and Other Unique Lands Impact Methodology

10.1 Laws, Regulations, and Guidelines

Public use land impacts (existing and planned public parks, recreation areas, wildlife and waterfowl refuges, other public-use lands and historic sites) for transportation projects are evaluated in accordance with the following key regulations and guidance: Section 4(f) of the U.S. DOT Act (23 USC 138; 49 USC 303), FHWA's Section 4(f) Policy Paper (2005), FHWA's Technical Advisory 6640.8A, *Guidance for Preparing and Processing Environmental and Section 4(f) Documents* (1987), Section 6(f) of the Land & Water Conservation Fund Act as amended (16 USC 4601), the Federal Aid in Sport Fish Restoration Act (Dingell-Johnson Act) as amended (16 USC 777), the Pittman-Robertson Wildlife Restoration Act (16 USC 669), WisDOT's *Facilities Development Manual*, Chapters 20, 21, and 26, and other public use land funding programs such as those administered by DNR.

Note that Section 4(f) of the U.S. DOT Act applies only to the actions of agencies within the U.S. DOT, including FHWA. Other agencies may have an interest in Section 4(f), but FHWA is responsible for applicability determinations, evaluations, findings, and overall compliance.

10.2 General Methodology

No impacts to Section 4(f)/6(f) resources are expected from the placement of interstate highway signs within WisDOT's right-of-way; however, if a Section 4(f)/6(f) resource were affected, the methodology below would be followed.

The evaluation of impacts to public use lands includes an inventory of such resources in the transportation project's area of potential effect, a description of the resources including existing and planned use, funding sources, and jurisdictional agencies. The transportation improvements are located and designed to avoid or minimize impacts to public use land to the extent practicable. Where such resources cannot be avoided, impacts would be analyzed in terms of the amount of land required from the resource and any constructive use impacts such as increased traffic noise, changes in the visual setting, or other impacts that would adversely affect the intended use and enjoyment of the resource. WisDOT would coordinate with the jurisdictional agencies to obtain information on resource use, funding and management, and to obtain input on potential effects and possible mitigation measures.

10.3 Project-Specific Methodology

Potential impacts to public use lands will be identified in the ER. If a Section 4(f) resource were affected by the installation of interstate highway signs, a Section 4(f) Evaluation would be prepared for unavoidable impacts. Potential impacts to Section 4(f) resources by other interstate improvements would be conducted as part of future NEPA documents.

11. Aesthetics Impact Methodology

11.1 Laws, Regulations, and Guidelines

Aesthetic (visual) impacts for transportation projects are evaluated in accordance with the following key regulations and guidance: FHWA's Technical Advisory 6640.8A, *Guidance for Preparing and Processing Environmental and Section 4(f) Documents* (1987), FHWA's *Visual Impact Assessment for Highway Projects* (DOT FHWA-HI-88-054), and WisDOT's *Facilities Development Manual*, Chapter 27, Section 10, Visual Impact Assessment.

11.2 General Methodology

The visual impact assessment includes identifying the visual character of the project corridor, characterizing the visual quality of the viewshed, identifying and quantifying viewer groups to the extent practicable (those with a view of the highway and those with a view from the highway), describing the visual change that will occur because of the proposed transportation improvements.

11.3 Project-Specific Methodology

There is no project-specific methodology to evaluate aesthetic impacts.

12. Agricultural Resources Impact Methodology

12.1 Laws, Regulations, and Guidelines

Agricultural impacts for transportation projects are evaluated in accordance with the following key regulations and guidance: The Farmland Protection Policy Act of 1981 (7 USC 4201-4209), FHWA's Technical Advisory 6640.8A, *Guidance for Preparing and Processing Environmental and Section 4(f) Documents* (1987), WisDOT's *Facilities Development Manual*, Chapter 24, Section 10, Agricultural Lands, and Chapter 32.035, Wisconsin Statutes (Agricultural Impact Statement).

12.2 General Methodology

No impacts to farmland/farm operations are expected as part of this study, because interstate signs would be placed within WisDOT's right-of-way.

12.3 Project-Specific Methodology

There is no project-specific methodology for impacts to farmland/farm operations. Project-specific impact methodology applicable to shippers of agricultural products is discussed in Section 3.

13. Wetlands Impact Methodology

13.1 Laws, Regulations, and Guidelines

Wetland impacts and mitigation for transportation projects are evaluated in accordance with the following key regulations and guidance: Section 404 of the Clean Water Act (33 USC 1251), Executive Order 11990, Protection of Wetlands (42 FR 26961), DOT Executive Order 5660.1A, Preservation of the Nation's Wetlands, Fish and Wildlife Coordination Act as amended (16 USC 661-667), FHWA's policy and procedures for evaluation and mitigation of adverse environmental impacts to wetland and natural habitat (23 CFR 777), FHWA's Technical Advisory 6640.8A, *Guidance for Preparing and Processing Environmental and Section 4(f) Documents* (1987), WisDOT's *Facilities Development Manual*, Chapter 24, Section 5, Aquatic Systems, the WisDOT Wetland Mitigation Banking Technical Guideline as amended, and the WisDOT/DNR Cooperative Agreement Amendment on Compensatory Mitigation for Unavoidable Wetland Losses Resulting from State Transportation Activities (2001).

13.2 General Methodology

No impacts to wetlands from the placement of interstate signs are expected, because of the lack of jurisdictional wetlands in WisDOT's right-of-way and the ability to move signs to avoid wetlands. If a wetland were affected, the methodology below would be followed.

Depending on the type of transportation improvements being proposed, the construction time period, and the extent of wetland resources in the project's area of potential effect, preliminary wetland boundaries are established using existing information such as the Wisconsin Wetland Inventory maps produced by the Wisconsin DNR, farmed wetland maps produced by the USDA Natural Resources Conservation Service, statewide, and regional or local GIS data. If more precise wetland boundaries are required, more detailed wetland boundary determinations or delineations would be conducted in accordance with the interagency *Federal Manual for Identifying and Delineating Jurisdictional Wetlands*.

Transportation improvement alternatives are developed to reduce wetland impacts to the extent practicable through a sequence of avoiding wetlands where possible, minimizing impacts to wetlands that cannot be avoided, and mitigating unavoidable wetland loss through various compensation measures as specified in WisDOT's *Wetland Mitigation Banking Technical Guideline*. Wetland compensation includes evaluation of onsite or near-site replacement wetlands, and use of an established wetland mitigation bank when onsite or near-site replacement wetlands are not feasible or practicable. Unavoidable loss of wetland would be fully compensated in terms of amount affected, type, and functional values.

13.3 Project-Specific Methodology

Preliminary wetland boundaries will be determined through existing information. If an interstate sign could not avoid a wetland then a field inspection in consultation with DNR would be conducted and a wetland determination performed as part of this study. Wetland mitigation will be addressed if there would be unavoidable wetland impacts caused by installing interstate signs.

14. Water Resources/Floodplains/Storm Water Impact Methodology

14.1 Laws, Regulations, and Guidelines

Water resource and floodplain impacts for transportation projects are evaluated in accordance with the following key regulations and guidance: The Clean Water Act (33 USC 1251) including Section 303(d), impaired waters, Executive Order 11988, Floodplain Management (42 FR 26951), DOT Executive Order 5650.2, Floodplain Management and Protection; Policies and Procedures (23 CFR 650), FHWA's Technical Advisory 6640.8A, *Guidance for Preparing and Processing Environmental and Section 4(f) Documents* (1987), WisDOT's *Facilities Development Manual*, Chapter 24, Land and Water Resources Impacts and *Facilities Development Manual* Chapter 10, Erosion Control, Wisconsin Administrative Code Chapter NR 116, Wisconsin's Floodplain Management Program, the WisDOT/DNR Cooperative

Agreement Amendment, Memorandum of Understanding on Erosion Control and Storm Water Management (1994), the Cooperative Agreement Amendment, Memorandum of Understanding on Erosion Control and Storm Water Management (1994), and Wisconsin Administrative Code Chapter TRANS 401, Construction Site Erosion Control and Storm Water Management Procedures for Department Actions.

14.2 General Methodology

No impacts to water resources or storm water impacts are expected from the placement of interstate signs, because signs would not be placed within rivers or streams and the small size of an interstate sign footing would not create enough impervious area to substantially increase runoff. Because of the extent of floodplains along the US 41 corridor it is assumed that some sign posts will be located in the 100-year floodplain. However, replacing a 4- x 6-inch wood sign post would have a low likelihood of significant impact to floodplain storage capacity or natural values. Therefore, no assessment of existing floodplain conditions or potential adverse impacts to floodplains will be conducted as part of this study.

14.3 Project-Specific Methodology

No additional project-specific methodology has been identified.

15. Upland Habitat Impact Methodology

15.1 Laws, Regulations, and Guidelines

Upland habitat impacts for transportation projects are evaluated in accordance with the following key regulations and guidance: The Fish and Wildlife Coordination Act as amended (16 USC 661-667), FHWA's Technical Advisory 6640.8A, *Guidance for Preparing and Processing Environmental and Section 4(f) Documents* (1987), WisDOT's *Facilities Development Manual*, Chapter 24, Land and Water Resource Impacts, and FHWA's *Guidelines for Consideration of Highway Project Impacts on Fish and Wildlife Resources* (October 1989).

15.2 General Methodology

Upland habitat includes non-wetland areas in the transportation project's area of potential effect that have vegetative cover suitable for supporting wildlife. Such areas include woodlands/shrub thickets, fallow fields, fence lines, and remnant prairies dominated by grasses and forbs. WisDOT coordinates with DNR, other agencies, and regional planning commissions as appropriate to obtain information on the quality and classification of wildlife habitat in the project's area of potential effect.

Although the placement of interstate signs in WisDOT's right-of-way is likely to affect uplands because of the quality of uplands adjacent to US 41, the impact evaluation will be limited to describing the size of the impact and the type of habitat affected. The assessment will not evaluate the affected area's connectivity to other resources, wildlife associations, fragmentation or severance of ecosystems, and consequential effects on wildlife permanently inhabiting or passing through the upland habitat areas. FHWA does not have a policy for mitigating upland habitat impacts. It is FHWA's position that normal practices, such as providing appropriate management of land within the highway right-of-way, using location, design and construction techniques to minimize habitat impacts, and possible acquisition of wider rights-of-way, will adequately mitigate the loss of upland wildlife habitat.

15.3 Project-Specific Methodology

No additional project-specific methodology has been identified for upland habitat impacts.

16. Threatened and Endangered Species Impact Methodology

16.1 Laws, Regulations, and Guidelines

Threatened and endangered species impacts for transportation projects are evaluated in accordance with the following key regulations and guidance: the Endangered Species Act of 1973 (7 USC 136; 16 USC 1531), the Migratory Bird Treaty Act (16 USC 661), FHWA's Technical Advisory 6640.8A, *Guidance for Preparing and Processing*

Environmental and Section 4(f) Documents (1987), FHWA's guidance memorandum, Management of the Endangered Species Act Environmental Analysis and Consultation Process (2002), Wisconsin Administrative Code Chapter NR 27, Endangered and Threatened Species (2005), the WisDOT/DNR Cooperative Agreement Amendment, Memorandum of Understanding on Endangered and Threatened Species Consultation (1998), and the WisDOT *Facilities Development Manual*, Chapter 24, Land and Water Resources.

16.2 General Methodology

No impacts to threatened and endangered species are anticipated with the placement of interstate signs because of the disturbed nature of the habitat within WisDOT's right-of-way. If a sign were located in habitat for a protected species, the methodology below would be followed.

The threatened and endangered species impact evaluation includes a determination of the presence or absence of any federal- or state-listed threatened or endangered species or their critical habitat in the transportation project's area of potential effect. The presence or absence determination is made in consultation with the DNR and the U.S. Fish and Wildlife Service and may include field inventories by qualified resource biologists.

If threatened and endangered species or their critical habitats are present and cannot be avoided by location and design refinements to the proposed transportation project, WisDOT would proceed with consultation steps under the Endangered Species Act for federal-listed species. For state-listed species, WisDOT would develop a conservation plan or lay the groundwork for an incidental take permit in consultation with DNR.

16.3 Project-Specific Methodology

No additional project-specific methodology has been identified for threatened and endangered species impacts.

17. Air Quality Impact Methodology

17.1 Laws, Regulations, and Guidelines

Air quality impacts for transportation projects are evaluated in accordance with the following key regulations and guidance: The Clean Air Act as amended (42 USC 7401), FHWA's Technical Advisory 6640.8A, *Guidance for Preparing and Processing Environmental and Section 4(f) Documents* (1987), FHWA air quality conformance guidance (23 CFR 450), FHWA guidance on analyzing Mobile Source Air Toxics (February 2006), Wisconsin's State Implementation Plan, and Wisconsin Administrative Code Chapter NR 411, Construction and Operation Permits for Indirect Sources.

17.2 General Methodology

The Environmental Protection Agency has set national air quality standards for six principal air pollutants (known as *criteria pollutants*): carbon monoxide, lead, nitrogen dioxide, ozone, particulate matter and sulfur dioxide.

Transportation contributes to carbon monoxide, nitrogen dioxide, ozone, and particulate matter. Air quality impacts for transportation projects are evaluated in view of the criteria pollutants using established air quality assessment techniques.

17.3 Project-Specific Methodology

No macro- or micro-level air quality modeling will be part of the study. The potential air quality consequences of shifting traffic patterns/volumes to or away from US 41 will be qualitatively discussed.

18. Traffic Noise Impact Methodology

18.1 Laws, Regulations, and Guidelines

Highway noise impacts are evaluated in accordance with the following key regulations and guidance: FHWA's Technical Advisory 6640.8A, *Guidance for Preparing and Processing Environmental and Section 4(f) Documents* (1987), FHWA's *Federal Aid Policy Guide, Procedures for Abatement of Highway Traffic Noise and Construction Noise*

(23 CFR 772), Wisconsin Administrative Code Chapter TRANS 405, Siting Noise Barriers, and WisDOT's *Facilities Development Manual*, Chapter 23.

18.2 General Methodology

Transportation projects are evaluated for traffic noise impacts and abatement measures to help protect the public health and welfare, to supply noise abatement criteria, and to provide information to local officials for land use planning near highways. The noise analysis also provides information on noise generated from typical construction equipment during the construction period.

Existing and design year traffic noise levels are modeled at residential, commercial, and other sensitive receptors along the project corridor using FHWA's Traffic Noise Prediction Model (TNM)[®] 2.5 computer program. The TNM includes traffic characteristics that regularly yield the greatest hourly traffic noise for existing conditions and the future design year. Noise impacts will be evaluated further to determine the reasonableness and feasibility of potential mitigation measures such as noise walls or berms. If noise mitigation is reasonable, additional public involvement related to noise mitigation will be initiated.

18.3 Project-Specific Methodology

The potential for shifting traffic patterns/volumes to or away from US 41 will be evaluated. That evaluation will determine whether the proposed action results in locations in the project corridor rising to the level of a Type I project requiring a noise analysis. A Type I project is defined as a project that involves construction of a roadway on new location or the physical alteration of an existing highway which substantially changes either the horizontal or vertical alignment or increases the number of through-traffic lanes. If it is determined that a Type I project will occur at locations in the project corridor, the general methodology above will be used.

19. Contaminated Sites Impact Methodology

19.1 Laws, Regulations, and Guidelines

Key regulations and guidance include the following:

- The Resource Conservation and Recovery Act of 1976 as amended (42 USC 6901)
- FHWA's Technical Advisory 6640.8A
- Guidance for Preparing and Processing Environmental and Section 4(f) Documents (1987)
- WisDOT's *Facilities Development Manual*, Chapter 21, Section 35, Contaminated Site Assessments and Remediation

19.2 General Methodology

Installing interstate signs is not expected to encounter hazardous materials because of the lack of historic contamination-generating activities within WisDOT's right-of-way.

The hazardous materials investigation will be limited to a records search to identify new sign locations that have a high likelihood of contamination. If a sign had to be installed at a site identified as having a high likelihood of contamination, a Phase 2 investigation, which includes subsurface testing, would be preformed. In addition, if a sign bridge had to be removed, it would be evaluated for the presence of asbestos.

19.3 Project-Specific Methodology

There is no project-specific methodology for contaminated sites impacts.

20. Construction Impact Methodology

20.1 Laws, Regulations, and Guidelines

Construction impacts will be evaluated in accordance with FHWA's Technical Advisory 6640.8A, *Guidance for Preparing and Processing Environmental and Section 4(f) Documents* (October 1987).

20.2 General Methodology

The project's construction impacts associated with installing interstate signs and the conceptual plan for maintaining traffic during construction are evaluated. The following construction impacts may be assessed and mitigation measures developed as required:

- Access to facilities and services
- Economic impacts
- Noise
- Water quality/erosion and sedimentation
- Construction solid and hazardous waste
- Vibration
- Air quality (emissions and fugitive dust)

FHWA's transportation management plan for work zones provides for systematic consideration and management of work zone impacts and safety in all project development phases. Preliminary information is developed in the planning phase with input from the public, local officials and other interests, and developed further in subsequent engineering design phases.

20.3 Project-Specific Methodology

No additional project-specific methodology has been identified for construction impacts.