

SAFETEA-LU 6002
IMPACT ANALYSIS METHODOLOGY Version 3

USH 41
Memorial Drive to CTH M (Lineville Road)
Brown County, WI
WisDOT Project I.D. 1133-10-01



U.S. Department of Transportation
Federal Highway Administration



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Section 1: Introduction

1.1 Purpose of Impact Analysis Methodology

Section 6002 of the *Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users* (SAFETEA-LU 6002) 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 located in the project study area is broken into 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 WisDOT transportation projects to define, identify, and determine potential impact(s) 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 Impact Statement for transportation improvements on USH 41 in Brown County, Wisconsin. The project provides for expansion of USH 41 between Memorial Drive and CTH M (Lineville Road), including improvements to the USH 41/Velp Avenue, STH 141 and I-43 interchanges. The project is being implemented to safely accommodate local and regional traffic and preserve the traffic carrying capacity of USH 41.

The project was originally addressed in 2003 in an Environmental Assessment/FONSI conducted as part of a planning study for a longer segment of the USH 41 corridor. An

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 those 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.

Environmental Assessment (EA) was also drafted in 2008 for the expansion of USH 41 between Memorial Drive and CTH M (Lineville Road), including reconstruction of the USH 41/I-43 interchange.

Since that time, reconstruction of the CTH M interchange was added to the scope of the project. In addition, detailed design refinements and an updated field review to determine wetland boundaries indicated that a significant amount of wetlands would be impacted by the proposed project. Initial estimated wetland impacts done for the Draft EA were based on preliminary road alignments and available wetland mapping. Because of these changes, it was determined that the project should now be analyzed in an Environmental Impact Statement (EIS). Analysis done as part of the Draft EA, including coordination with federal, state, and local agencies, helped define the design proposals that will be included in the EIS.

Because a Draft EA has already been prepared, initial coordination with state and federal review agencies, local officials and the public has already occurred.

The Environmental Impact Statement (EIS) is being prepared for USH 41 in accordance with National Environmental Policy Act (NEPA) procedures. The EIS is a full disclosure document that details how the project was developed. It includes project purpose and need, alternatives considered, description of the affected environment, environmental consequences of the proposed action, and the results of coordination with agencies and the public. The EIS also demonstrates compliance with other applicable environmental laws and regulations, and is made available for review by agencies and the public. The EIS process includes a Notice of Intent (NOI) to prepare the EIS, Draft EIS, Final EIS, and Record of Decision (ROD).

Section 2: General Economics 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)
- WisDOT's *Facilities Development Manual* Chapter 25, Socioeconomic Factors

2.2 General Methodology

Evaluation of economic impacts includes 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 presented as such in the EIS and other impacts will be discussed qualitatively.

2.3 Project Specific Methodology

No additional project specific methodology has been identified for the USH 41 Study. Data for the general economics impact assessment will be obtained primarily from the 2000 US Census of Population and Housing. Supplemental data will be obtained from Metropolitan Planning Organizations, local and regional land use plans, comprehensive plans, development plans, and discussion with local officials.

Section 3: Business Impact Methodology

3.1 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)
- FHWA's Technical Advisory 6640.8A, *Guidance for Preparing and Processing Environmental and Section 4(f) Documents* (1987)

3.2 General Methodology

Evaluation of business impacts includes an estimate of the number and types of businesses to be displaced, number of employees/jobs affected, any special characteristics, and availability of replacement business sites. Depending on the number and types of businesses displaced, a Conceptual Stage Relocation Plan may be prepared as part of the EIS. Impacts to businesses as a result of changes in access during and after construction will also be evaluated.

3.3 Project Specific Methodology

No additional project specific methodology has been identified for the USH 41 Study.

Section 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)
- WisDOT's *Facilities Development Manual* Chapter 25, Socioeconomic Factors

4.2 General Methodology

Evaluation of residential impacts includes an estimate of the number of homes to be displaced, including family characteristics; availability of comparable decent, safe, and sanitary housing in the area; any measures to be taken when replacement housing is insufficient; and identification of any special relocation needs. Depending on the number and types of homes displaced, a Conceptual Stage Relocation Plan may be prepared as part of the EIS. Impacts to homes as a result of changes in access during and after construction are also evaluated.

Evaluation of social impacts includes applicable changes in neighborhoods or community cohesion; changes in travel patterns and accessibility; impacts on community facilities; impacts on traffic safety/public safety; and impacts on any special groups such as elderly, handicapped, minority, and transit-dependent persons. Socioeconomic impacts that can be quantified based on available data will be presented as such in the EIS and other impacts will be discussed qualitatively.

4.3 Project Specific Methodology

No additional project specific methodology has been identified for the USH 41 Study.

Section 5: Indirect and Cumulative Effects Methodology

5.1 Laws, Regulations and Guidelines

Indirect and cumulative effects are evaluated in accordance with these key laws, regulations or guidelines:

- Council on Environmental Quality (CEQ) publication, *Considering Cumulative Effects under the National Environmental Policy Act*, 1997
- FHWA position paper, *Secondary and Cumulative Impact Assessment in the Highway Development Process*, 1992
- National Cooperative Research Program (NCHRP) Report 466, *Desk Reference for Estimating the Indirect Effects of Proposed Transportation Projects*, 2002
- 40 CFR 230.11(g)(h)
- 33 CFR 320.4(a)(1)

Indirect and cumulative effects are defined as follows:

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).

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 non-Federal) or person undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time (40 CFR 1508.7).

5.2 General Methodology

The indirect and cumulative effects methodology identifies areas potentially at risk for indirect and cumulative effects. Indirect effects are discovered through analyzing the study area's goals and important features such as land use/development trends, demographics, and natural resources. Next, impact-causing activities such as disruption to travel patterns or access are identified and qualitatively analyzed. This process is completed through community outreach in the study area. The general methodology should incorporate indirect and cumulative effects specific to the aquatic ecosystem.

The cumulative effects methodology qualitatively analyzes the direct and indirect effects of the proposed project. It is a resource-based evaluation. It looks at valuable resources within the project boundary and then evaluates how the transportation project, along with all the other influential factors, will affect it.

5.3 Project Specific Methodology

The indirect and cumulative effects analysis will include a series of meetings with local experts with knowledge in local land use planning, transportation issues, and environmental concerns. The expert panel is one of the forecasting tools described in NCHRP Report 466 and has been used in many environmental impact studies in Wisconsin. Using a series of smaller, face-to-face meetings is convenient for participants and will allow them to provide in-depth discussion and analysis of the specific geographic area of their expertise.

Section 6: Environmental Justice Impact Methodology

6.1 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
- U.S. DOT Order on Environmental Justice, DOT Order 5610.2, 1997
- FHWA Order 6640.23, *FHWA Actions to Address Environmental Justice in Minority Populations and Low-Income Populations*, 1998
- WisDOT FDM Chapter 21-15-1, *Format and Content of Environmental Documents* (includes Environmental Justice as one of the factors to be considered when evaluating resource impacts)

6.2 General Methodology

The proposed action and its alternatives are evaluated to determine whether there would be disproportionately high and adverse impacts on minority and low income populations with respect to human health and the environment. The analysis will be based on income and race information from the most recently available US Census. Additional information on race and income will be obtained from local agencies/organizations and through public involvement and community outreach activities. Potential impact categories include air, noise, or water pollution; increased vibration or traffic congestion; soil contamination; destruction of aesthetic value, disruption of community cohesion or economic vitality, disruption of cultural resources, changes in the availability of public and private facilities and services; adverse employment effects; and displacement of persons, businesses, farms, or nonprofit organizations.

6.3 Project Specific Methodology

No additional project specific methodology has been identified for the USH41 Study. The environmental justice analysis will be based on income and race information from the 2000 U.S. Census. Additional information on race and income will be obtained from local agencies/organizations, and through public involvement and community outreach activities.

Section 7: Historic Resources Impact Methodology

7.1 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
- WisDOT's *Facilities Development Manual*, Chapter 26, Historical Preservation

7.2 General Methodology

Impact evaluation includes identification of historic resources in the transportation project's area of potential effect by qualified archaeologists and historians, 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 historic resources, and implementation of agreements reached to account for unavoidable adverse impacts.

7.3 Project Specific Methodology

Historical investigations will consist of a literature search by a qualified historian to identify previously recorded historic structures in the project's area of potential effect. Similarly, a field reconnaissance will be conducted by a qualified historian to determine whether there are any structures or resources in the projects area of potential effect that would warrant further evaluation for potential eligibility to the National Register of Historic Places. Any additional investigations if needed would be conducted during a future engineering phase.

Section 8: Archaeological Resources Impact Methodology

8.1 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
- WisDOT's *Facilities Development Manual*, Chapter 26, Historical Preservation

8.2 General Methodology

Impact evaluation includes identification of archaeological resources in the transportation project's area of potential effect by qualified archaeologists and historians, 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.

8.3 Project Specific Methodology

Archaeological investigations will consist of a literature search by a qualified archaeologist to identify previously recorded archaeological sites in the project's area of potential effect. Archaeological resources and surveys will be located based on information identified from the Wisconsin Historical Society archives and the literature search. Similarly, a field reconnaissance will be conducted by a qualified archaeologist to determine whether there are any structures or resources in the projects area of potential effect that would warrant further evaluation for potential eligibility to the National Register of Historic Places. Any additional archaeological investigations needed would be conducted during a future engineering phase.

Section 9: Section 4(f), 6(f) and Other Unique Lands Impact Methodology

9.1 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)
- Federal Aid in Sport Fish Restoration Act (Dingell-Johnson Act) as amended (16 USC 777)
- Pittman-Robertson Wildlife Restoration Act (16 USC 669)
- WisDOT's *Facilities Development Manual*, Chapters 20, 21, and 26
- 23 CFR 774
- Other public use land funding programs such as those administered by DNR

It should be noted that Section 4(f) of the U.S. DOT Act applies only to the actions of agencies within the U.S. Department of Transportation, including FHWA. While other agencies may have an interest in Section 4(f), FHWA is responsible for applicability determinations, evaluations, findings, and overall compliance.

9.2 General Methodology

The public use land impact evaluation 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.

9.3 Project Specific Methodology

Potential impacts to public use lands will be identified in the EIS. A Section 4(f) Evaluation will be prepared for unavoidable impacts.

Section 10: Aesthetics Impact Methodology

10.1 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 publication on *Visual Impact Assessment for Highway Projects* (DOT FHWA-HI-88-054)
- WisDOT's *Facilities Development Manual*, Chapter 27, Section 10, Visual Impact Assessment

10.2 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, qualitatively characterizing the change (low, moderate, high), and developing measures to mitigate adverse visual effects where a sensitive visual impact has been identified. Mitigation measures could include landscaping and aesthetic treatments on roadway components such as retaining wall, bridge abutments, and sidewalks.

10.3 Project Specific Methodology

No additional project-specific methodology has been identified for this study.

Section 11: Agricultural Impact Methodology

11.1 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
- Chapter 32.035, Wisconsin Statutes (Agricultural Impact Statement)

11.2 General Methodology

To the extent practicable, the proposed transportation action and its alternatives are developed to minimize impacts on farmland and maximize compatibility with state and local farmland programs and policies. Agricultural impacts are quantified and reported to the Wisconsin Department of Agriculture, Trade and Consumer Protection (DATCP). Based on the extent of the impacts, DATCP will determine whether an Agricultural Impact Statement is required. If needed, a Farmland Conversion Impact Rating form (NRCS-CPA-106) would also be prepared and coordinated with the USDA Natural Resource Conservation Service (NRCS).

11.3 Project-Specific Methodology

The project's impacts on agricultural land will be coordinated with NRCS, DATCP, and the Brown County Land Conservation Department.

Section 12: Wetlands Impact Methodology

12.1 Laws, Regulations and Guidelines

Wetland impacts are evaluated in accordance with the following key laws, regulations or guidelines:

- Section 404 of the Clean Water Act (33 USC 1251)
- Section 404(b)(1) Guidelines for Specification of Disposal Sites for Dredged or Fill Material
- Executive Order 11990, *Protection of Wetlands* (42 FR 26961)
- Compensatory Mitigation for Losses of Aquatic Resources (33 CFR Part 332)
- DOT Executive Order 5660.1A, *Preservation of the Nation's Wetlands*
- Fish and Wildlife Coordination Act as amended (16 USC 661-667)
- FHWA policy and procedures for evaluation and mitigation of adverse environmental impacts to wetland and natural habitat (23 CFR 777)
- FHWA Technical Advisory 6640.8A, *Guidance for Preparing and Processing Environmental and Section 4(f) Documents*, 1987
- WisDOT FDM Chapter 24, Section 5, *Aquatic Systems*
- WisDOT *Wetland Mitigation Banking Technical Guideline* as amended
- WisDOT/DNR Cooperative Agreement Amendment, *Compensatory Mitigation for Unavoidable Wetland Losses Resulting from State Transportation Activities*, 2001
- Coastal Zone Management Act of 1972 as amended (16 USC 1451-1456)

12.2 General Methodology

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, regional or local GIS data, and field inspection. If more precise wetland boundaries are required, more detailed wetland boundary determinations or delineations would be conducted in accordance with the interagency *Corps of Engineers Wetland Delineation Manual (1987 Manual)*.

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 on-/near-site replacement wetlands and use of an established wetland mitigation bank when on-/near-site replacement wetlands are not feasible or practicable. All unavoidable wetland loss would be fully compensated in terms of amount affected, type, and functional values.

Methodology for evaluation of on-site or near-site compensatory mitigation may include site suitability assessments early in the planning phase. This may include identification of existing wetlands in and adjacent to the potential compensation sites and any potential effects the mitigation project may have on those wetlands. These effects may be included in the impact analysis and be part of the site suitability assessment.

12.3 Project Specific Methodology

Wetland boundaries will be determined through existing information and field inspection in consultation with DNR and USACE. Field determination and/or delineation of wetlands on the Preferred Alternative will identify wetlands by type, acreage, associated waterway, and function.

Section 13: Water Resources/Floodplains/Storm Water Impact Methodology

13.1 Laws, Regulations and Guidelines

Water Resource and floodplain impacts are evaluated in accordance with the following key laws, regulations or guidelines:

- 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 Technical Advisory 6640.8A, *Guidance for Preparing and Processing Environmental and Section 4(f) Documents*, 1987
- WisDOT FDM Chapter 24, *Land and Water Resources Impacts* and FDM Chapter 10, *Erosion Control*
- Wisconsin Administrative Code Chapter NR 116, *Wisconsin's Floodplain Management Program*
- WisDOT/DNR Cooperative Agreement Amendment, *Memorandum of Understanding on Erosion Control and Storm Water Management*, 1994
- Wisconsin Administrative Code Chapter TRANS 401, *Construction Site Erosion Control and Storm Water Management Procedures for Department Actions*
- Coastal Zone Management Act of 1972 as amended (16 USC 1451-1456)

13.2 General Methodology

Transportation improvement alternatives involving stream crossings and floodplains are developed to minimize impacts to water quality, floodplain values and stream hydraulics to the extent practicable through use of sound erosion control and storm water management practices, and by sizing new and replacement structures to minimize floodplain encroachment and increases in the height of the regional (100-year) floodplain elevation.

Impact evaluation includes assessment of existing conditions such as water quality, fishery resources, floodplain functions and values, potential adverse effects to these conditions, and proposed measures to minimize the adverse effects.

The extent to which erosion control and storm water management measures are proposed in the EIS depends on the type of transportation improvements being proposed, the construction time frame, and the extent of water and floodplain resources in the project's area of potential effect. A planning level project generally includes conceptual best management practices. Other projects may require more specific erosion control and storm water management commitments.

13.3 Project Specific Methodology

No additional project specific methodology has been identified for the USH 41 Study.

Section 14: Upland Habitat Impact Methodology

14.1 Laws, Regulations and Guidelines

Upland habitat/wildlife impacts are evaluated in accordance with the following key laws, regulations or guidelines:

- Fish and Wildlife Coordination Act as amended (16 USC 661-667)
- FHWA Technical Advisory 6640.8A, *Guidance for Preparing and Processing Environmental and Section 4(f) Documents*, 1987
- WisDOT FDM Chapter 24, *Land and Water Resource Impacts*
- FHWA *Guidelines for Consideration of Highway Project Impacts on Fish and Wildlife Resources*, 1989

14.2 General Methodology

Upland habitat includes nonwetland 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.

Impact evaluation includes an assessment of existing conditions (community type, connectivity to other resources, wildlife associations), amount and type of habitat affected by the proposed project, fragmentation or severance of ecosystems, and consequential effects on wildlife permanently inhabiting or passing through the upland habitat areas. At this time, 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.

14.3 Project Specific Methodology

No additional project-specific methodology has been identified for the USH 41 study.

Section 15: Threatened and Endangered Impact Methodology

15.1 Laws, Regulations and Guidelines

Threatened and endangered species impacts are evaluated in accordance with the following key laws, regulations or guidelines:

- Endangered Species Act of 1973 (7 USC 136; 16 USC 1531)
- Migratory Bird Treaty Act (16 USC 661)
- FHWA Technical Advisory 6640.8A, *Guidance for Preparing and Processing Environmental and Section 4(f) Documents*, 1987
- FHWA guidance memo, *Management of the Endangered Species Act Environmental Analysis and Consultation Process*, 2002
- Wisconsin Administrative Code Chapter NR 27, *Endangered and Threatened Species*, 2005
- WisDOT/DNR Cooperative Agreement Amendment, *Memorandum of Understanding on Endangered and Threatened Species Consultation*, 1998
- WisDOT FDM Chapter 24, *Land and Water Resources*

15.2 General Methodology

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

If federally threatened or endangered species or their critical habitat is present and cannot be avoided by location and design refinements to the proposed transportation project, WisDOT and FHWA would proceed with consultation steps under Section 7 of the Endangered Species Act.

For state listed species, WisDOT would develop a conservation plan or lay the groundwork for an incidental take permit in consultation with DNR.

WisDOT will also incorporate construction contract special provisions to eliminate or reduce impacts.

15.3 Project Specific Methodology

Additional project-specific methodology identified for the USH 41 study includes:

- A survey of the project area for nesting birds, particularly the common tern, black-crowned night heron, and cattle egret during the nesting season the year prior to construction to determine if a nesting date restriction will be necessary.
- A habitat assessment for wetland species as part of the wetland assessment (cover type) for the project area.

Section 16: Air Quality Impact Methodology

16.1 Laws, Regulations and Guidelines

Air Quality impacts are evaluated in accordance with the following key laws, regulations or guidelines:

- Clean Air Act as amended (42 USC 7401)
- FHWA 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 *Interim Guidance on Air Toxics Analysis in NEPA Documents*, 2006
- Wisconsin State Implementation Plan
- Wisconsin Administrative Code Chapter NR 411, *Construction and Operation Permits for Indirect Sources*

16.2 General Methodology

The Environmental Protection Agency (EPA) has set national air quality standards for six principal air pollutants (also referred to as criteria pollutants): carbon monoxide (CO), lead, nitrogen dioxide (NO₂), ozone, particulate matter and sulfur dioxide. Transportation contributes to CO, NO₂, ozone and particulate matter. Air quality impacts for transportation projects are evaluated in view of these criteria pollutants using established air quality assessment techniques.

Brown County has been proposed for designation as non-attainment for PM_{2.5}, but the final designation has not been made. If there is a final designation of non-attainment prior to approval of the ROD, the EIS will comply with the required methodology for evaluation of potential impacts, and potential mitigation measures, if any are required, will be included in the environmental document.

16.3 Project Specific Methodology

No additional project-specific methodology has been identified for the USH 41 study.

Section 17: Traffic Noise Impact Methodology

17.1 Laws, Regulations and Guidelines

Highway noise impacts are evaluated in accordance with the following key laws, regulations or guidelines:

- FHWA Technical Advisory 6640.8A, *Guidance for Preparing and Processing Environmental and Section 4(f) Documents*, 1987
- FHWA 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*

17.2 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 yield the greatest hourly traffic noise on a regular basis for existing conditions and the future design year. Under TRANS 405, 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 under TRANS 405 criteria, additional public involvement related to noise mitigation would be initiated.

17.3 Project Specific Methodology

No additional project specific methodology has been identified for the USH 41 Study.

Section 18: Contaminated Sites Impact Methodology

18.1 Laws, Regulations and Guidelines

The impacts of potential environmental contaminants are evaluated in accordance with the following key laws, regulations or guidelines:

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

18.3 General Methodology

The Phase 1 investigation for potentially contaminated sites uses field observations, interviews and records searches to identify sites that have a high likelihood for contamination. Phase 1 screening is performed for all alternatives carried forward in the environmental document. A Phase 2 investigation which includes subsurface testing, is performed on sites located within the area of effect for the preferred alternative. Further investigation is performed when necessary after a preferred alternative is selected. WisDOT also evaluates existing highway structures that need to be replaced or rehabilitated as part of a proposed transportation improvement to determine whether any asbestos materials were used in the construction, renovation or rehabilitation of the structures.

18.3 Project Specific Methodology

No additional project specific methodology has been identified for the USH 41 Study.

Section 19: Construction Impact Methodology

19.1 Laws, Regulations and Guidelines

Construction impacts are evaluated in accordance with the following key laws, regulations or guidelines:

- FHWA Technical Advisory 6640.8A, *Guidance for Preparing and Processing Environmental and Section 4(f) Documents*, 1987
- FHWA *Work Zone Safety and Mobility Rule* (69 FR 54562), 2004

19.2 General Methodology

During construction of the project, the following construction impacts may be assessed:

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

A conceptual discussion related to the possibility of borrow availability in the area of the proposed project will be included. A conceptual discussion related to the need for utility relocations and the possible site of such relocations will be included if applicable.

19.3 Transportation Management Plans

A transportation management plan (TMP) for work zones provides management strategies for work zone impacts and safety in all project development phases. Strategies include temporary traffic control measures and devices, public information and outreach; and operational strategies such as travel demand management, signal retiming and traffic incident management. Preliminary information is developed in the project's planning phase with input from the public, local officials and other interests, and developed further in subsequent environmental assessment and engineering design phases.

A TMP helps reduce traffic and mobility impacts, improves safety, and promotes coordination within and around the work zone. The TMP must be developed to best serve the specific community, project, road users, businesses, and highway workers.

The current *Work Zone and Mobility Rule* updates and broadens the former regulation (*Traffic Safety in Highway and Street Work Zones*, 23 CFR 630, Subpart J) to address more of the current issues affecting work zone safety and mobility by:

- Fostering systematic assessment of the work zone impacts of road projects and development and implementation of transportation management strategies that help manage these impacts.

- Expanding thinking beyond the project work zone itself to address corridor, network, and regional issues while planning and designing road projects.
- Expanding work zone impacts management beyond traffic safety and control to address mobility in addition to safety, and to address the broader concepts of transportation operations and public information.
- Advocating innovative thinking in work zone planning, design, and management so as to consider alternative/innovative design, construction, contracting, and transportation management strategies.

19.4 Project Specific Methodology

No additional project-specific methodology has been identified for the USH 41 study.