FHWA-WISC-EIS-07-01-F

PROJECT I.D. 1030-20-00
INTERSTATE I-94, I-43, I-894, AND STH 119 (AIRPORT SPUR)
I-94/USH 41 INTERCHANGE TO HOWARD AVENUE

KENOSHA, RACINE, AND MILWAUKEE COUNTIES,
WISCONSIN AND LAKE COUNTY, ILLINOIS

FINAL ENVIRONMENTAL IMPACT STATEMENT

and Section 4(f) and Section 6(f) Evaluation

Submitted Pursuant to 42 U.S.C. 4332(2)(c) and 49 U.S.C. 303
by the

U.S. Department of Transportation, Federal Highway Administration

and the

State of Wisconsin Department of Transportation

Cooperating Agency

U.S. Army Corps of Engineers (pursuant to 33 CFR 230)

APPROVALS

3/25/08 — For Federal Highway Administration
Date

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Date

CONTACTS FOR ADDITIONAL INFORMATION ABOUT THIS DOCUMENT

Allen Radliff
Federal Highway Administration
525 Junction Road, Suite 8000
Madison, WI 53717
Phone: (608) 829-7500

Jay Waldschmidt
WisDOT Bureau of Equity and Environmental Services
P.O. Box 7965
Madison, WI 53707-7965
Phone: (608) 267-9806

ABSTRACT

The Interstate 94 (I-94) north-south freeway corridor includes I-94 from Howard Avenue south to the I-94/USH 41 interchange just south of the Wisconsin/Illinois state border, I-894 from the Mitchell interchange west to 35th Street, and STH 119 (the Airport Spur). This freeway corridor has deteriorating pavement, safety issues, and design deficiencies including left-hand entrances and exits and sharp curves. As time passes and traffic increases, safety, pavement, and operations on this corridor will continue to deteriorate. Development growth in the communities along the I-94 corridor is expected, increasing traffic volumes 20 to 30 percent by 2035. The EIS evaluates the social, environmental, and economic impacts of the No-Build Alternative and a range of Build Alternatives as well as the extent to which these alternatives address project purpose and need.

Comments on this Final EIS are due by April 28, 2008 or 30 days after the Notice of Availability is published in the Federal Register, whichever is later, and should be sent to:

Roberto Gutierrez, Project Manager
Wisconsin Department of Transportation, Southeast Region
141 N.W. Barstow Street
Waukesha, WI 53187
roberto.gutierrez@dot.state.wi.us

National Environmental Policy Act Statement

The National Environmental Policy Act (NEPA) of 1969, as amended (42 U.S.C. 4332) requires that all federal agencies prepare a detailed Environmental Impact Statement (EIS) for major federal actions that will significantly affect the quality of the human environment. The Federal Highway Administration (FHWA) is therefore required to prepare an EIS for proposals funded under its authority if such proposals are determined to be major actions significantly affecting the quality of the human environment.

The EIS process is carried out in two stages. The **Draft EIS** is circulated for review by federal, state, and local agencies with jurisdiction by law or special expertise, and made available to the public. The Draft EIS must be made available to the public at least 15 days before the public hearing, and no later than the first public hearing notice. A minimum 45-day comment period is provided from the date the Draft EIS availability notice is published in the Federal Register. WisDOT must receive agency comments on or before the date listed on the front cover of the Draft EIS unless a time extension is requested and granted by WisDOT. After the Draft EIS comment period has elapsed, work may begin on the Final EIS.

The **Final EIS** includes the following:

1. Identification of the preferred course of action (alternative) and the basis for its selection.
2. Basic content of the Draft EIS along with any changes, updated information, or additional information as a result of agency and public review.
3. Summary and disposition of substantive comments on social, economic, environmental and engineering aspects resulting from the public hearing/public comment period and agency comments on the Draft EIS.
4. Resolution of environmental issues and documentation of compliance with applicable environmental laws and related requirements.

Final administrative action by FHWA (Record of Decision) cannot occur sooner than 90 days after filing the *Draft* EIS, or 30 days after filing the *Final* EIS with the U.S. Environmental Protection Agency (USEPA). Both the Draft and Final EIS are full-disclosure documents that provide descriptions of the proposed action, the affected environment, alternatives considered and an analysis of the expected beneficial or adverse environmental effects.

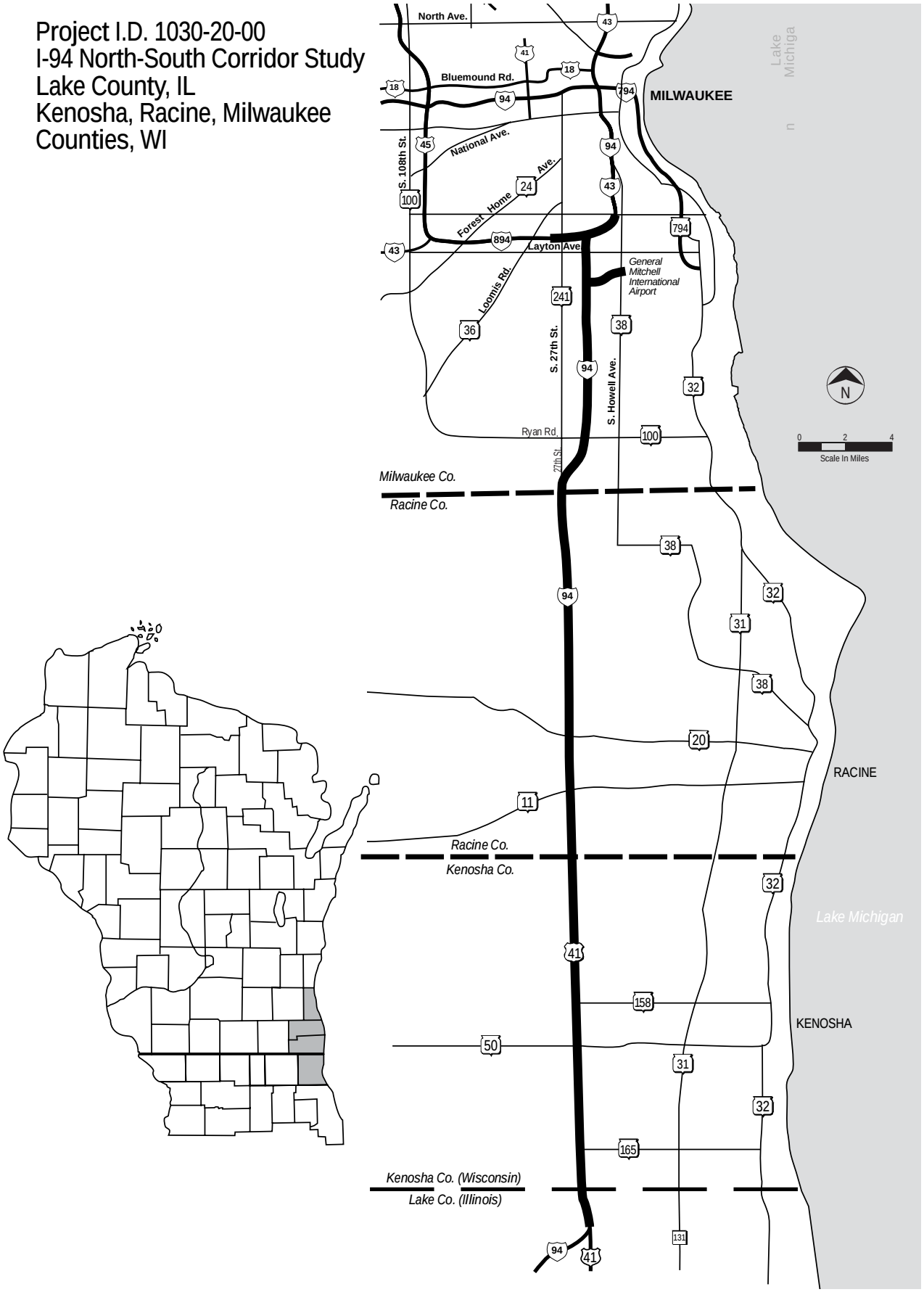
General Reviewer Information

Major topics are divided into sections, each with a separate page numbering sequence. Exhibits are on the page after they are referenced in the text. Electronic versions of this EIS have a link to each exhibit where it is referenced. Exhibits showing the Build Alternatives are located in the back of the document in the paper copies of the EIS. They are referenced in the text as Exhibits 2-2 and 2-3.

New material in the Final EIS is either highlighted with shading or noted with a vertical line in the margin. Parcel data included on exhibits in the EIS were obtained from Kenosha County, Racine County, and Milwaukee County Automated Mapping and Land Information System (MCAMLIS).

Project Location

Project I.D. 1030-20-00
I-94 North-South Corridor Study
Lake County, IL
Kenosha, Racine, Milwaukee
Counties, WI



Summary

Information about the Final EIS

This Final EIS includes information presented in the Draft EIS which was approved by the Federal Highway Administration (FHWA) on October 30, 2007, for distribution to agencies and the public. The Final EIS also responds to comments on the Draft EIS, summarizes input received as a result of the public hearing and availability of the Draft EIS for review, and identifies the preferred alternative and basis for selection. The following is a list of format changes, revisions, and additions between the Draft and Final EIS, based on comments and public hearing input Draft EIS. New material in the Final EIS is either highlighted with shading or noted with a vertical line in the right margin.

- **Summary—**Discussion of preferred alternative and additional information in the impact summary table.
- **Section 1—Purpose of and Need for Proposed Action.** Minor updates.
- **Section 2—Alternatives/Preferred Alternative.** Previously titled "Alternatives" in the Draft EIS. Discussion of preferred alternative for the Drexel Avenue interchange has been added.
- **Section 3—Affected Environment.** Several sections have been updated based on information from the DNR.
- **Section 4—Environmental Consequences.** Several sections have been updated based on information from the DNR and U.S. EPA. A new section "Wetlands—Only Practicable Alternative Finding has been added to Section 4.11.7.
- **Section 5—Draft Section 4(f) and Section 6(f) Evaluation.** The proposed action discussion has been updated to identify the Drexel Avenue interchange is now part of the preferred alternative. The coordination section has been updated to reflect coordination with Milwaukee County Parks System and Wisconsin DNR.
- **Section 6—Comments and Coordination during Draft EIS Preparation.** Previously titled "Comments and Coordination."
- **Section 7—Comments and Coordination Following Draft EIS Availability and Public Hearing.** New Final EIS Section.
- **Appendix C—Agency Correspondence during Draft EIS Preparation.** Previously titled "Agency Correspondence" in Draft EIS.
- **Appendix D—Agency Correspondence on Draft EIS and Preferred Alternative.** New appendix that contains local, state, and federal agency comments on the Draft EIS and the preferred alternative.
- **Appendix E—Agricultural Impact Statement.** New Final EIS appendix.

Description of the Proposed Action

The proposed action, or project, is to reconstruct the 38-mile study-area freeway system (the parts of I-94, I-43, I-894, and the Airport Spur in the study area) to provide eight general-purpose travel lanes. The study-area termini are Howard Avenue on the north, 35th Street (over I-894/43) on the west, Howell Avenue on the east (under the Airport Spur), and the north end of the I-94/USH 41 interchange in Lake County, Illinois, on the south (Exhibit 1-1).

The Wisconsin Department of Transportation (WisDOT) and the Federal Highway Administration (FHWA) are the lead state and federal agencies, respectively, for this project.

Purpose of the Project, and Need for the Project

The purpose of the project is to address the study-area freeway system's deteriorated condition and obsolete design of the roadway and bridges, high crash rate, and current and future capacity. The proposed improvements would:

- Improve safety and traffic operations
- Accommodate future traffic volumes at an acceptable level of service
- Maintain a key link within the state and regional transportation network
- Replace deteriorating pavement

The project would neither necessitate nor foreclose future transportation improvements within the study area. It is consistent with local and regional transportation and land use planning objectives. The project would provide a safe and efficient transportation system in the I-94 north-south corridor to serve existing and future traffic demand while minimizing disturbance to the natural and built environment.

The need for the transportation improvements in the I-94 north-south corridor is demonstrated through a combination of factors:

- Regional land use and transportation planning—The Southeastern Wisconsin Regional Planning Commission's 2003 *A Regional Freeway Reconstruction Plan for Southeastern Wisconsin* recommends reconstructing the southeast Wisconsin freeway system and adding an additional lane in each direction on most of the freeway system.

- System linkage and route importance—I-94 is a major east-west freeway link across the northern United States, connecting Detroit, Chicago, Milwaukee, Madison, St. Paul, and Minneapolis with I-90 in Billings, Montana. I-94 is the gateway to Wisconsin's Fox River Valley, Door County, and the Milwaukee area for tourists and freight from Illinois and points east and south.

- Existing and future traffic volumes—Existing traffic volumes on I-94 in the study area range from 78,000 vehicles per day (vpd) in Kenosha County to over 156,000 vpd in Milwaukee County (Exhibit 1-5). Traffic volumes would rise to approximately between 110,000 and 127,000 vpd on I-94 in Kenosha and Racine Counties by 2035 and 171,000 vpd in Milwaukee County by 2035.

- Safety—A total of 4,546 crashes (not including deer/other animal crashes) on the study-area freeway system from 2000 to 2004, or roughly 2.5 crashes per day.

- Existing freeway conditions and deficiencies—The study-area freeway system was originally constructed between the late 1950s and mid-1960s with the exception of the Airport Spur, which was constructed in 1978. Over the years, the original concrete pavement eventually began to wear and crack. WisDOT has resurfaced the study-area freeway system two or more times. This returns the roadway to a smooth riding surface, but does not address the cracks in the original pavement or possible voids in the gravel base under the pavement. The freeway system's design includes a combination of left-hand and right-hand entrances and exits that result in weaving traffic, closely spaced entrance and exit ramps, and curves that are too sharp for freeway traffic.
- Incorporating local government and public input—Local officials and the public were given opportunities to express their concerns about the existing freeway's design and condition and important elements to consider in developing alternatives for the freeway's reconstruction.
- Minimizing environmental impacts—The I-94 north-south corridor has numerous environmental resources including wetlands, streams, environmental corridors, plants, wildlife, parks, and farmland. Preserving these resources to the extent possible and practical is an important purpose and need factor that needs to be considered when developing and evaluating the transportation improvement alternatives.

Section 1 discusses these factors. The need for the proposed improvements sets the stage for developing and evaluating possible improvement alternatives.

Description of Other Projects in the Area

WisDOT and FHWA completed a study of all 13 service interchanges with I-94 in Kenosha and Racine Counties in 1996. As a result of the previous study, 12 of the 13 service interchanges with I-94 in Racine and Kenosha County are not included in this I-94 North-South Corridor Study. WisDOT is preparing construction plans for these interchanges and plans to begin reconstructing them over several years, beginning in 2009 in Kenosha County.

The Illinois State Toll Highway Authority and the Illinois Department of Transportation began reconstructing I-94 south of the study area in 2007. This project includes reconstruction and widening of the highway to eight lanes on the 32-mile section of the Tri-State Tollway (I-94, I-294) between Dempster Avenue and IL Route 173, and reconstruction of the less congested 1-mile section north of IL Route 173 to Russell Road. The section between Russell Road and the Illinois-Wisconsin state line will be resurfaced.

Alternatives Considered

WisDOT and FHWA developed and evaluated a wide range of alternatives. The alternatives were presented to the public and assessed to determine their environmental impacts and the extent to which they meet the purpose of the project. The initial range of alternatives considered:

- No-Build Alternative—No safety or capacity improvements would be made. The study-area freeway system would eventually be replaced as needed in its current configuration with six lanes, left-hand entrance and exit ramps.

- Transportation Demand Management—Attempts to reduce the number of auto trips through increased transit ridership. The public transit system element of the 2035 regional transportation system plan recommends several ways to increase bus service in Kenosha, Racine, and Milwaukee Counties including a rapid transit bus system operating on freeways to provide commute and reverse commute service, and an express bus system operating on a grid of higher speed, limited-stop arterials.
- Transportation System Management—Involves ways to maximize the efficiency of the highway system to help alleviate or postpone the need to expand capacity. Transportation System Management measures are designed to improve traffic flow and safety such as improving intersection capacity, widening shoulders, removing street parking or restricting parking to non-peak traffic periods, adding traffic signals, ramp metering, and providing access management including relocating or consolidating driveways where practicable.
- Build Alternatives
  - Spot Improvement—Replace the existing roadway and bridges and address those safety issues than can be fixed without acquiring any new right-of-way.
  - Safety and Design Improvements—Replace the existing roadway and bridges and address the safety issues described in Section 1, Purpose and Need for the Proposed Action.
  - Safety and Design Improvements with Added Capacity—This is the same as the Safety and Design Improvements Alternative, but also includes adding one new general purpose travel lane in each direction to address congestion issues as described in Section 1, Purpose and Need for the Proposed Action.
  - WisDOT and FHWA evaluated a new interchange with I-94 at Drexel Avenue and a "full" interchange with I-94 at 27th Street, replacing the existing "half" interchange.

Preferred Alternative

The Draft EIS identified WisDOT's preferred alternative as the Safety and Design Improvements Alternative with Added Capacity. The preferred alternative includes a full 27th Street interchange with I-94 at Elm Road and modifying the 27th Street interchange with I-894/43 to eliminate access from that interchange to I-94 southbound. FHWA concurs with the preferred alternative. WisDOT and FHWA have also included the Drexel Avenue interchange in the preferred alternative.

This alternative addresses the purpose of, and need for, the project. The alternatives considered and preferred alternative are described in detail in Section 2.

Environmental Impacts

The impacts of the Build Alternatives are greater than the No-Build Alternative and the other alternatives considered. The impacts of the Safety and Design Improvements Alternative and the Safety and Design Improvements Alternative with Added Capacity

Alternatives are summarized in Exhibit S-1 on the following page and evaluated in detail in Section 4. The impacts of both alternatives are similar because under both alternatives much of the reconstruction could be completed within the existing right-of-way. Narrow strips of new right-of-way, totaling about 57 to 68 acres over the 38-mile-long corridor, would need to be acquired. WisDOT would need to acquire between 4 and 6 residences to implement either of the Build Alternatives. Building a new interchange with I-94 at Drexel Avenue would require the acquisition of 2 acres from Milwaukee County's Falk Park. This project will not contribute to any violation of the National Ambient Air Quality Standards (NAAQS). Mobile source air toxics (MSAT) emissions will decrease under both Build Alternatives and carbon monoxide (CO) levels will not exceed air quality standards.

Economic Impacts

All construction costs presented in this document have been calculated to account for inflation between 2006 and the end of the multi-year construction that WisDOT has scheduled to begin in 2009. WisDOT and FHWA assumed a 3-percent annual inflation rate.

The short-term economic impact of the Build Alternatives would be an expenditure of $1.3 billion to $1.5 billion in year-of-construction dollars. Replacing the study-area freeway system in its current configuration would cost an estimated $1.1 billion in year-of-construction dollars. This cost estimate does not include the cost of reconstructing the eleven service interchanges with I-94 in Kenosha and Racine Counties, because those projects have been evaluated separately and therefore are not evaluated in this Environmental Impact Statement. **The total cost, including the Kenosha and Racine County service interchanges, is $1.7 (6-lane) to $1.9 billion (8-lane) in year-of-construction dollars.**

Public Involvement

WisDOT and FHWA implemented an extensive public involvement program for this study. Over 300 meetings have been held with neighborhood, community, environmental, business, minority and other stakeholder groups. Open house public information meetings were held in January/February 2006, May/June 2006, November/December 2006, and May 2007. Each round of public information meetings were held at four locations: one in Kenosha, Racine, Oak Creek and Milwaukee.

While there is support for the project, areas of controversy are modifying access to I-94 from the 27th Street interchange with I-894/43 and the issue of expanding the freeway system's capacity and its implications for air quality and development patterns in the study area.

WisDOT held public hearings on the Draft EIS and the preferred alternative in December 2007. Four hearings were held: one each in Kenosha, Sturtevant, Oak Creek, and Milwaukee. The comment period began on November 16, 2007, and ended on January 25, 2008. The comment period was extended from its original end date of December 31. In total, 405 people attended the four public hearings. Several hundred public comments were received during the public comment period. Those who support the preferred alternative noted the need to accommodate future traffic volumes. The primary concerns expressed by those opposed to the preferred alternative included (1) additional capacity is not needed; (2) transit investments

should occur before additional capacity is considered; (3) access to and from the I-894/27th Street interchange should not be modified, and (4) environmental impacts will occur.

Other Federal or State Actions Required

WisDOT and FHWA will apply to the U.S. Army Corps of Engineers for a permit to place fill in waters of the United States under Section 404 of the Clean Water Act. WisDOT will also request water quality certification from the Wisconsin Department of Natural Resources under Section 401 of the Clean Water Act.

Proposed Mitigation

WisDOT and FHWA will avoid and minimize impacts to the extent practicable. Unavoidable impacts will be mitigated to the extent practicable and allowable under state and federal law. Residential relocations would occur under federal law which requires just compensation for residences displaced by a transportation project. Where there is no practicable alternative to filling wetlands, state and federal regulations require compensatory wetland mitigation in accordance with the *WisDOT/DNR Cooperative Agreement on Compensatory Wetland Mitigation.* WisDOT will continue to work with Wisconsin DNR to determine appropriate mitigation measures, if any, for state threatened or endangered species impacts. WisDOT and FHWA will work with local officials and affected residents to determine the location of noise barriers in areas where the barriers are reasonable, feasible, and likely to be implemented.

Alternatives	Length, miles	Cost, in year-of-construction dollars			Real Estate						
		Design, Construction, Utilities, Contingency	Real Estate	Total	New Right-of-Way, acres	Farms Affected	Farmland, acres	Agricultural Impact Statement Required	Residential Displacements	Commercial Displacements	Other Buildings
No Build	37.6	$1.05 billion	$0	$1.05 billion	0	0	0	No	0	0	0
Safety and Design Improvements*	37.6	$1.35 billion	$16 million	$1.37 billion	68	44	40	Yes	6	0	8 detached garages
Safety and Design Improvements with Added Capacity *	37.6	$1.48 billion	$16 million	$1.50 billion	68	44	40	Yes	6	0	8 detached garages

Total cost, including service interchanges with I-94 in Racine and Kenosha Counties: **$1.7 billion (6-lane) to 1.9 billion (8-lane)**
(previously evaluated as separate projects)

Alternatives	Environmental Issues														
	100-year Floodplain Crossings (no new crossings)	Stream Crossings (no new crossings)	Wetland, acres	Threatened/ Endangered Species, Yes/No	Primary Env. Corridor, acres acquired	Primary Environmental Corridor Crossings (no new crossings)	Historic Sites Affected	Archaeological Sites Affected	Section 106 Memorandum of Agreement Required	4(f) / 6(f) Evaluation Required	Environmental Justice Issues, Yes/No	Air Quality Permit, Yes/No	Air Quality Impacts	Noise Receptors Impacted (Design Year 2035)	Potential Contaminated Sites, number
No Build	7	30	0	No	0	2	0	0	No	No	No	No	This project will not contribute to any violation of the National Ambient Air Quality Standards (NAAQS). Mobile source air toxics (MSAT) emissions will decrease under both Build Alternatives and carbon monoxide (CO) levels will not exceed air quality standards.	0	0
Safety & Design Improvements*	7	30	56	Yes**	1	2	0	0	No	Yes	No	No		831	32 sites warrant further investigation
Safety & Design Improvements With Added Capacity*	7	30	56	Yes**	1	2	0	0	No	Yes	No	No		881	32 sites warrant further investigation

* Includes impacts of the proposed new full interchange with I-94 at 27th Street, and the Drexel Avenue interchange

** Butler's garter snake (state threatened) and seaside crowfoot (state threatened), alkali bulrush (state endangered, Illinois), bluestem goldenrod (state endangered), reflexed trillium (state special concern), smooth black-haw (state special concern)

Contents

Appendixes

Exhibits

Tables

Abbreviations and Acronyms

AASHTO	American Association of State Highway and Transportation Officials
ADID	Advanced Identification Study
APE	area of potential effects
BEES	Bureau of Equity and Environment Services
BMP	best management practices
CDBG	Community Development Block Grant
CEQ	Council on Environmental Quality
CFR	Code of Federal Regulations
CMAP	Chicago Metropolitan Agency for Planning
CMP	Central Management Program
CO	carbon monoxide
Corps	United States Army Corps of Engineers
CSD	community-sensitive design
CSDAC	Community Sensitive Design Advisory Committee
CTH	county trunk highway
DATCP	Department of Agriculture, Trade, and Consumer Protection
dB	decibel
dBA	decibel A-weighted
DBE	disadvantaged business enterprise
DNR	Department of Natural Resources
DOA	Wisconsin Department of Administration
DPW	Department of Public Works
EB	eastbound
EIS	Environmental Impact Statement
FAA	Federal Aviation Administration
FHWA	Federal Highway Administration
FTA	Federal Transit Administration

FWS	United States Fish and Wildlife Service
GMIA	General Mitchell International Airport
HC	hydrocarbons
HOT	high-occupancy toll
HOV	high-occupancy vehicle
I-94	Interstate 94
KRM	Kenosha-Racine-Milwaukee
kv	kilovolt
LOS	level of service
LWCF	Land and Water Conservation Fund
MATC	Milwaukee Area Technical College
$\mu g/m^3$	micrograms per cubic meter
MCTS	Milwaukee County Transportation System
MMSD	Milwaukee Metropolitan Sewerage District
mph	miles per hour
MPO	Metropolitan Planning Organization
MPS	Milwaukee Public Schools
MLS	Multiple Listing Services
MSATs	mobile source air toxics
NAAQS	National Ambient Air Quality Standards
NAC	Noise Abatement Criteria
National Register	National Register of Historic Places
NB	northbound
NEPA	National Environmental Policy Act
NO_2	nitrogen dioxide
NOx	nitrogen oxide
NPS	National Park Service
NRCS	Natural Resources Conservation Service

O_3	ozone
Pb	lead
PIM	public information meeting
PM	particulate matter
ppm	parts per million
SAFETEA-LU	Safe, Accountable, and Flexible Efficient Transportation Equity Act—A Legacy for Users
SB	southbound
SEWRPC	Southeastern Wisconsin Regional Planning Commission
SHPO	State Historic Preservation Office
SO_2	sulfur dioxide
STH	State Trunk Highway
TAC	technical advisory committee
TDM	transportation demand management
TIP	Transportation Improvement Program
TNM	Traffic Noise Model®
TSM	Transportation System Management
TSP	total suspended particles
USDA	United States Department of Agriculture
USDOT	United States Department of Transportation
U.S. EPA	United States Environmental Protection Agency
USH	United States highway
VMT	vehicles miles of travel
vpd	vehicles per day
WB	westbound
WisDOT	Wisconsin Department of Transportation

Tables

Exhibits

SECTION 1

Purpose of and Need for the Proposed Action

The Wisconsin Department of Transportation (WisDOT) and the Federal Highway Administration (FHWA) are studying alternatives for improving safety and traffic flow, upgrading obsolete design, and replacing deteriorated pavement on I-94 in Kenosha, Racine, far northern Lake, and southern Milwaukee Counties.

Section 1 describes the purpose of the proposed action and the need for improvements being considered in the Interstate 94 (I-94) north-south corridor in Lake, Kenosha, Racine, and Milwaukee Counties. Purpose and need factors encompass improvements that are intended to correct existing problems, and problems that may occur later during the project's 30-year planning period. The development and evaluation of alternatives is conducted to determine the most appropriate solution to the identified problems. A preferred alternative would be selected, in part, based on how well it satisfies the project's purpose and need. The remainder of this section addresses these elements. Together the purpose of, and need for, improvements in the I-94 north-south corridor shape the range of alternatives developed and evaluated in Section 2.

1.1 Purpose of the Proposed Action

The purpose of the proposed action is to address the study-area freeway system's deteriorated condition and obsolete design of the roadway and bridges, high crash rate, and current and future capacity. The proposed improvements would provide the following:

- Improve safety and traffic operations
- Accommodate future traffic volumes at an acceptable level of service
- Maintain a key link within the state and regional transportation network
- Replace deteriorating pavement

The proposed action would neither necessitate nor foreclose future transportation improvements within the study area. It is consistent with local and regional transportation and land use planning objectives. The proposed action would provide a safe and efficient transportation system in the I-94 north-south corridor to serve existing and future traffic demand while minimizing disturbance to the natural and built environment.

1.2 Need for the Proposed Action

The need for the transportation improvements in the I-94 north-south corridor is demonstrated through a combination of factors, including regional land use and transportation planning, system linkage and route importance, existing and future traffic volumes, safety, existing freeway conditions and deficiencies, incorporating local government and public input, and minimizing environmental impacts to the extent possible and practicable. The remainder of Section 1 discusses these factors. The need for the proposed improvements sets the stage for developing and evaluating possible improvement alternatives.

1.2.1 Proposed Action

The proposed action is to reconstruct the study-area freeway system to provide either six or eight general-purpose travel lanes depending on the alternative selected. The study-area termini are Howard Avenue on the north, 35th Street (over I-894/43) on the west, Howell Avenue on the east (under the Airport Spur), and the north end of the I-94/United States Highway (USH) 41 interchange in Lake County, Illinois, on the south (Exhibit 1-1). WisDOT will not undertake any I-94 construction in Illinois.

Six service interchanges along I-94 and I-894/43 in Milwaukee County are included in this I-94 North-South Corridor Study: the 27th Street, Ryan Road, Rawson Avenue, College Avenue, and Layton Avenue interchanges with I-94,[1] and the 27th Street interchange with I-894/43. As part of this study, WisDOT and FHWA are evaluating a new interchange with I-94 at Drexel Avenue and the reconstruction of the 27th Street "half interchange" (access to and from the south only) with I-94 to a full interchange.

WisDOT and FHWA tentatively plan to begin reconstructing the study-area freeway system in 2009.

WisDOT and FHWA completed a study of all 13 service interchanges with I-94 in Kenosha and Racine Counties in 1996.[2] As a result of the previous study, 12 of the 13 service interchanges with I-94 in Racine and Kenosha County are not included in this I-94 North-South Corridor Study. The one exception is the 27th Street interchange with I-94 at the Racine County/Milwaukee County line. As noted, the I-94 North-South Corridor Study will evaluate converting this to a fully directional interchange. This was not evaluated as part of the 1996 study.

1.2.2 Land Use and Transportation Planning

Southeastern Wisconsin Regional Planning Commission (SEWRPC), created by State statute in 1960, is the official planning agency for the urbanized southeastern Wisconsin region, which includes Kenosha, Milwaukee, Ozaukee, Racine, Walworth, Washington, and Waukesha Counties. The commission has 21 members comprised of three members from each of the seven counties it represents.

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[1] The south half of the Howard Avenue interchange with I-94 (southbound exit and entrance ramps and northbound exit ramp) is included in this study, but not the north half of the interchange.

[2] The purpose of the study was to determine the best way to improve the interchanges to current design standards. FHWA approved an Environmental Assessment that documents the need for the proposed interchange upgrades, alternatives considered, and the impacts of the recommended alternative at each interchange. After a public comment period, a Finding of No Significant Impact was approved by FHWA in December 1996. The scope of the study included the frontage roads near the interchanges, interchange ramps and crossroads. The primary outcome of this study was a plan to separate the existing freeway ramps from the frontage roads, eliminating the "scissors" ramps. While the study did not address improvements to the mainline freeway, the recommended interchange improvements did not preclude the possibility of a future eight-lane freeway on I-94.

Eleven of the interchanges are in the design phase. No improvements are proposed for the STH 165 interchange with I-94 in Kenosha County. The 1996 EA/FONSI was re-evaluated in 2007 to determine 1) whether the alternatives, impacts, existing environment, and mitigation measures remain applicable, accurate, and valid; 2) whether there have been any significant changes in these factors or the regulations associated with them; and 3) whether design refinements might result in new impacts or require further study of environmental factors.

SEWRPC's principal responsibility is to prepare a comprehensive plan for the physical development of the region. The key element is a regional land use plan upon which all other plan elements, including transportation, are based. Regional planning is conducted under the guidance of various technical coordinating and advisory committees with representatives from state and federal agencies; local planning, transportation, and public works departments; transit providers and service groups; private utilities; and environmental organizations. Public input is sought through newsletters, public information meetings and hearings, and the distribution of informational materials.

SEWRPC prepares plans and studies for counties, municipalities, and state and federal government agencies. Plans and studies include land use, transportation, sewerage/water supply, parks and open space, air and water quality, and natural resource preservation. SEWRPC plans are advisory and are ultimately implemented by local, state, or federal governments based on more focused planning and programming activities, and engineering/environmental studies such as those conducted under the National and Wisconsin Environmental Policy Acts by WisDOT.

Following is a summary of adopted regional plans and studies relevant to the I-94 North-South Corridor Study.

2035 Regional Land Use Plan for Southeastern Wisconsin—SEWRPC Planning Report No. 48 (June 2006)

The first regional land use plan was adopted in 1966 with updates adopted in 1978, 1994, 1997, and 2006 (current plan). The land use plan is based on an extensive database/inventory of the region's physical characteristics that has been maintained and updated by SEWRPC for 40 years. Physical characteristics pertinent to transportation demand include existing and future land use, growth and development trends/locations, and housing and employment trends. The 2035 regional land use plan is based on an *intermediate growth scenario* that recommends the following:

- Seek a centralized regional settlement pattern that moderates the current trend toward decentralized land development.
- Stabilize and revitalize urban centers, particularly the Milwaukee, Racine, and Kenosha urbanized areas.
- Encourage new development as infill in existing urban centers with defined growth emanating outward from the existing urban centers.
- Plan new urban development at densities that can effectively support essential urban services including water, sewer, and public transit.
- Protect remaining primary environmental corridors from incompatible urban development, discourage urban development in secondary environmental corridors, and preserve prime agricultural lands.

Growth projections for Milwaukee, Racine, and Kenosha Counties, based on an intermediate growth scenario, are presented in Table 1-1.

Land use patterns in the study area have the potential to affect vehicle miles traveled (VMT). Land use characteristics such as density, mix of uses, urban form, urban design, activity scale,

and contiguousness of development play a meaningful role in determining the demand for vehicle travel as well as vehicle trip frequency, trip lengths, and mode choices. Decentralized development tends to increase VMT, while more compact, orderly development would be expected to reduce VMT. The regional plan envisions a 36 percent increase in VMT between 2001 and 2035 on an average weekday, approximately 1 percent increase per year.

TABLE 1-1
Growth Projections

Growth Factors	Percent Increase (2000–2035)		
	Milwaukee County	Racine County	Kenosha County
Population	7	13	40
Households	13	19	48
Employment	0	10	24
Urban Land Use	5	12	24
Vehicles Miles Traveled[a]	16	44	55

Source: A Regional Transportation System Plan for Southeastern Wisconsin (2006), Tables 51, 54, 55, 58, and 107.

[a]On arterials and highway system under "no-build" plan evaluated in the 2035 regional transportation system plan.

A Regional Transportation System Plan for Southeastern Wisconsin: 2035—SEWRPC Planning Report No. 49 (June 2006)

Like the land use plan, the first regional transportation system plan was adopted in 1966 with updates adopted in 1978, 1994, 1997, and 2006 (current plan). Based on population, household, employment growth, and other data from the regional land use plan, the transportation system plan forecasts traffic growth and transportation demand in the region and analyzes the ability of existing transportation facilities to address forecast traffic demand and air quality conformity. Future traffic demand is determined through SEWRPC's regional traffic model, which has been in place for 40 years and is updated regularly to reflect changing trends. Traffic forecasts reflect predicted growth patterns, number and types of trips made, routes taken, travel times, and other factors such as transit use. In its recommendations for providing additional highway capacity, the regional transportation plan assumes the following:

- An intermediate growth scenario for the region and community land use planning that promote compact development/redevelopment in areas that can use existing or expanded municipal sewer and water, and where higher density development can be served by transit, bicycle, and pedestrian facilities.
- A 100-percent increase in public transit (in terms of revenue transit vehicle-miles), including the development of rapid and express transit systems, and substantial expansion of local bus systems where development density is sufficient to generate ridership and the use of such services.
- Maximum investment in reducing auto travel and improving efficiency of existing facilities before commitments are made to increase highway capacity.

- Maximum investment in improving traffic flow and safety on highways and arterial streets through measures such as intersection improvements and access management before commitments are made to increase highway capacity.

The regional transportation system plan also recommends transportation improvements that should be carried out over time by governmental entities based on their estimation of priority needs and available funding. The plan recommends the number of traffic lanes needed on the transportation system to address future traffic demand.

The 2035 regional transportation system plan includes the following recommendations for the I-94 corridor in Milwaukee, Racine, and Kenosha Counties:

- Expand capacity of I-94 to eight travel lanes between the Mitchell Interchange and the Wisconsin-Illinois state line.
- Construct a new interchange with I-94 at Drexel Avenue.
- Replace the existing half interchange with a fully-directional interchange at I-94 and 27th Street.

The plan notes that the 19 miles of freeway recommended for widening in the City of Milwaukee, including I-94/43 between the Mitchell and Marquette Interchanges, will undergo an environmental study by WisDOT. At the conclusion of that study, a recommendation will be made as to how the freeway should be reconstructed.

A Land Use and Transportation System Development Plan for the I-94 South Freeway Corridor, Kenosha, Milwaukee, and Racine Counties—SEWRPC Community Assistance Planning Report No. 200 (December 1991)

This plan was prepared and adopted in response to rapidly changing economic development conditions in the I-94 corridor in Racine and Kenosha Counties. The plan's objectives were to establish acceptable locations for new commercial and industrial development to avoid unplanned strip development, upgrade the existing interchanges, and preserve land for the interchange improvements. To accomplish these objectives, SEWRPC recommended that WisDOT, in consultation with affected municipalities, conduct an engineering and environmental study to develop a recommended plan. WisDOT conducted an engineering and environmental study of the 13 service interchanges with I-94 in 1994–1996 (see Section 1.2.1, Proposed Action for additional information).

A Regional Freeway System Reconstruction Plan for Southeastern Wisconsin—SEWRPC Planning Report No. 47 (May 2003)

This planning study was conducted by SEWRPC at the request of WisDOT. Its purpose was to identify those segments of the freeway system that would require reconstruction over the next 30 years, and recommend whether certain freeway segments should be rebuilt as is, with minor redesign, with substantial redesign, or with additional traffic lanes. Implementing the plan's recommendations requires further consideration through preliminary engineering and the preparation of environmental documents for specific freeway improvement projects based on WisDOT's prioritization of need and other factors. The freeway system planning study was conducted in the context of the 2020 regional land use and transportation system plans. The 2020 Regional Transportation System Plan proposed modernization and limited expansion of the southeastern Wisconsin freeway

system. The recommendations in the 2003 freeway system plan are included in the 2035 regional transportation plan.

Based on the final committee meeting held on April 2, 2003, the Southeastern Wisconsin Regional Freeway System Advisory Committee made the following recommendations to SEWRPC for amending the adopted regional transportation system plan (adapted from Planning Report No. 47):

- Reconfigure the freeway-to-freeway system interchanges:
  - Eliminate left-hand on and off ramps
  - Minimize lane drops and provide route continuity
  - Improve freeway-to-freeway ramps to provide ramp speeds closer to freeway mainline speeds
  - Address closely spaced service interchanges with grade separations or collector distributor roadways
- Improve freeway service interchanges:
  - Increase length and width of ramps
  - Convert multi-point exits to single-point exits
  - Separate ramps from frontage roads in Kenosha and Racine Counties
  - Provide selected auxiliary lanes to address closely spaced interchanges
- Improve freeway mainline:
  - Improve horizontal and vertical curvature, grades, and vertical clearance to meet modern design standards
  - Provide full inside and outside shoulders
  - Provide additional lane capacity on 127 miles of freeway (Exhibit 1-2), including I-94 in Kenosha, Racine, and Milwaukee Counties, from the Wisconsin-Illinois State line to the Mitchell Interchange (from the current six lanes to eight lanes)

The extent to which comprehensive planning law (smart growth) land use practices and improved public transit could influence the need for additional freeway capacity was raised by the public and others during the preparation of the regional freeway system reconstruction plan. The plan includes the following information to address this issue:

- Regarding comprehensive land use planning (smart growth), the freeway system reconstruction study was conducted within the context of the adopted regional land use plan that recommends comprehensive planning (smart growth) at the regional and neighborhood levels to curtail urban sprawl.
- Regarding improved public transit, the freeway system reconstruction study was conducted within the context of the 2020 regional transportation system plan that, at that time, recommended a 75-percent increase in public transit (in terms of revenue transit vehicle miles) in the region by 2020 compared to 1995 levels, including the possibility of commuter rail between Kenosha, Racine, and Milwaukee as noted in the corridor transit study summarized that follows.

- The freeway reconstruction study was structured to consider freeway widening as a measure of last resort by identifying the freeway traffic volumes and congestion that would be expected even if regional land use and transportation plans are fully implemented, and even if light rail and commuter rail systems are implemented.

WisDOT was involved in developing the regional freeway system plan. WisDOT provided data to SEWRPC and also participated in the Freeway System Technical Subcommittee and the Freeway System Advisory Committee.

At the conclusion of the 2003 freeway system plan, WisDOT assessed the conclusions of the study and evaluated whether and how the study recommendations should be implemented. A WisDOT team that included Southeast Region staff and Central Office planning and environmental staff evaluated SEWRPC's cost estimates for southeast Wisconsin freeway reconstruction, assessed the pros and cons of rehabilitating versus reconstructing the freeway system, and ranked the freeway segments in terms of their priority for reconstruction. The outcome of this team's work was a decision by WisDOT to study reconstruction of the freeway system on a segment-by-segment basis, beginning with the I-94 north-south corridor.

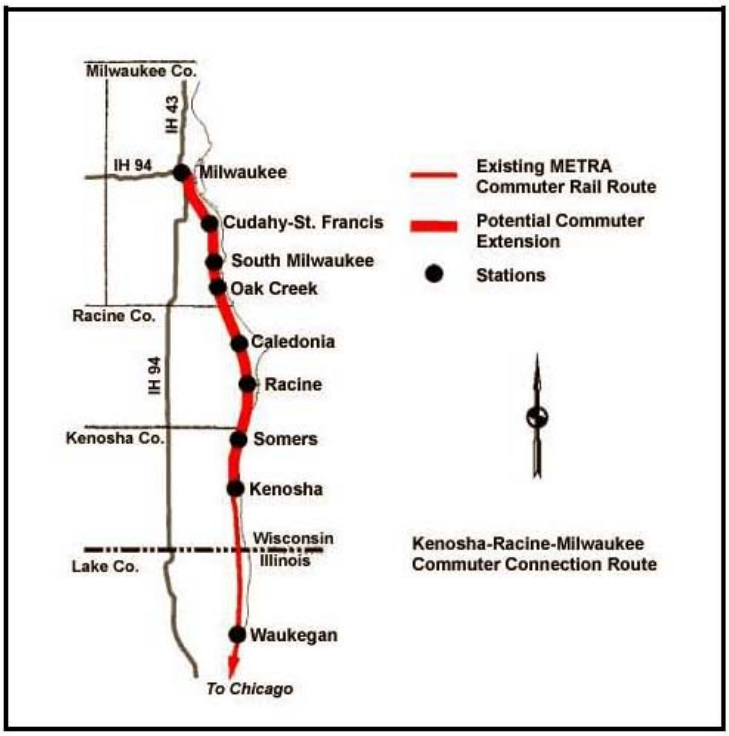
Kenosha-Racine-Milwaukee Corridor Transit Study Summary Report and Recommended Plan—SEWRPC Community Assistance Planning Report No. 276 (August 2003)

This report documents the recommendations for transit service improvements in the Kenosha-Racine-Milwaukee corridor requested by the cities and counties of Kenosha, Racine, and Milwaukee, and funded by these municipalities and WisDOT. The purpose of the study was to evaluate alternative commuter rail and bus service that would provide better connections between Kenosha, Racine, and Milwaukee and to northeastern Illinois. The transit study built on previous planning efforts for high-quality public transit improvements in the corridor, including the 2020 regional transportation system plan that recommended improved rapid commuter bus service and the consideration of a commuter rail service.

Based on the final committee meeting held on August 7, 2003, the Advisory Committee for the Kenosha-Racine-Milwaukee Corridor Transit Study reaffirmed their preliminary recommendation to implement the extension of commuter rail from Kenosha to Racine and Milwaukee at a medium level of service. Commuter rail extension was identified as the locally preferred alternative out of a range of alternatives that included commuter bus, commuter rail with a high or medium level of service, and combined commuter rail/bus with a high or medium level of service.

The next phase (Alternatives Analysis and Draft Environmental Impact Statement [EIS]) of the transit planning study is now underway. SEWRPC is conducting the EIS and project development phase on behalf of the cities and counties of Kenosha, Racine, and Milwaukee (intergovernmental partnership), WisDOT, and the Federal Transit Administration. The current study is evaluating bus rapid transit and commuter rail alternatives in the corridor shown in Exhibit 1-3 adapted from the February 2006 newsletter. Both alternatives would be coordinated with the existing Kenosha-Chicago Metra Service. Identifying a source of non-federal funding is the next step prior to concluding the study and requesting Federal Transit Administration review and approval to begin preliminary engineering.

EXHIBIT 1-3
Kenosha-Racine-Milwaukee Corridor Transit and Rail Alternatives



SEWRPC 2007–2010 Transportation Improvement Program for Southeastern Wisconsin (December 2006)

SEWRPC is the federally designated Metropolitan Planning Organization (MPO) for ensuring air quality conformance in the seven-county, southeastern Wisconsin region. The six-county Milwaukee Transportation Management Area (Milwaukee, Racine, Kenosha, Ozaukee, Waukesha, and Washington Counties) is designated as moderate non-attainment area under the 8-hour ozone National Ambient Air Quality Standards (NAAQS). Walworth County is a maintenance area under the 1-hour ozone NAAQS, and an attainment area under the 8-hour ozone NAAQS. In accordance with the 1990 Clean Air Act Amendments, proposed highway improvements must be included in an approved Transportation Improvement Program (TIP) and the adopted regional transportation system plan to be in conformance with the State Implementation Plan for air quality.

The State Implementation Plan (SIP) documents how Wisconsin Department of Natural Resources (DNR) meets its obligations to protect and enhance air quality. The SIP consists of many parts, each of which is approved by the U.S. Environmental Protection Agency (U.S. EPA), after allowing for public comment and a public hearing. Most parts of the SIP apply to all sources of air pollution in Wisconsin, while some "source-specific" parts of the SIP may apply to a single regulated entity.

FHWA and Federal Transit Administration (FTA) determined the 2035 regional transportation system plan and the 2005–2007 TIP are in conformance with the state's Air Quality Implementation Plan on June 21, 2006. Because the 2007-2010 TIP is consistent with, and implements, the 2035 regional transportation plan, the FHWA and FTA concurrence

applies to the 2007–2010 TIP (see Appendix C of *A Transportation Improvement Program for Southeastern Wisconsin: 2007–2010* [SEWRPC, 2006c]).

The I-94 north-south corridor reconstruction is included in the 2007–2010 TIP as Project Number 75 with the following description:

"Reconstruction with additional traffic lanes of IH-94 from the Illinois State Line to the Mitchell Interchange in Milwaukee County (32 1/2 miles)."

1.2.3 System Linkage and Route Importance

I-94 is a major east-west freeway link across the northern United States, connecting Detroit, Chicago, Milwaukee, Madison, St. Paul, and Minneapolis with I-90 in Billings, Montana. I-90 continues to Seattle. I-43 connects Milwaukee with Sheboygan, Manitowoc, and Green Bay to the north and Beloit to the south. I-43 also provides connections to I-90 and I-39 in Beloit. I-894/43 is a bypass around Milwaukee for through traffic and provides an important freeway connection for several Milwaukee County communities.

I-94 is the gateway to Wisconsin's Fox River Valley (Oshkosh, Appleton, and Green Bay), Door County, and the Milwaukee area for tourists and freight from Illinois and points east and south. I-94 at the Wisconsin-Illinois border is the most heavily used border crossing in the state. According to SEWRPC, almost none of the trips on I-94 in Kenosha and Racine Counties are local trips,[4] and the average trip length is over 80 miles (SEWRPC, 2003b). This indicates the importance of I-94 for interstate and regional trips.

In addition to serving through trips, the study-area freeway system (especially in Milwaukee County) is an important commuter route for a portion of the approximately 760,000 employees who work in Kenosha, Racine, and Milwaukee Counties.

I-94, I-43, I-894, and the Airport Spur (STH 119) are part of the National Highway System. The National Highway System is a priority system of highways that have been identified and designated to 1) ensure connectivity to the national defense highway network and other important regional transportation routes; and 2) provide a high level of safety, design, and operational standards. I-94 is also a designated federal/state "long truck route" allowing longer commercial vehicles to use the freeway.

As the major north-south route through Kenosha and Racine Counties, I-94 serves as the main stem for a network of east-west state, county, and local roads that carry traffic between Lake Michigan on the east and I-43 on the west (Table 1-2).

[4] Local is defined as beginning and ending within the same county.

TABLE 1-2
Interchanges in the Study-Area Freeway System

Connecting Highway	Functional Classification[a]	Other Designation	Average Daily Traffic	Regional Connections from I-94
27th Street (STH 241) with I-894/43	Arterial		40,000vpd in 2002	Links I-894/43 to Milwaukee's southside and Greenfield
Layton Avenue (CTH Y)	Arterial		35,000 vpd in 2002	Links I-94 to Cudahy, GMIA charter terminal, and Milwaukee's southside
College Avenue (CTH ZZ)	Arterial		30,000 vpd in 2003	Links I-94 to South Milwaukee, Greenfield, Oak Creek, and Franklin
Rawson Avenue (CTH BB)	Arterial		38,000 vpd in 2003	Links I-94 to South Milwaukee, Oak Creek, and Franklin
Ryan Road (STH 100)	Arterial	National Highway System; designated long truck route between I-94 and 27th Street	31,300 vpd in 2003	Links I-94 to Oak Creek, Franklin, STH 32, STH 38, STH 36, and USH 45
27th Street (STH 241) with I-94	Arterial		7,200 vpd in 2002	Connects I-94 to Franklin, and Oak Creek
7 Mile Road	Collector		3,700 vpd in 2002	Links I-94 to Caledonia, Raymond, STH 38, and USH 45
CTH G	Collector		2,700 vpd in 2002	Links I-94 to Caledonia, Raymond, STH 38, and USH 45
CTH K	Arterial	National Highway System between STH 31 and STH 164	6,300 vpd in 2002	Links I-94 to Caledonia, Raymond, USH 45, and STH 38
STH 20	Arterial	Designated long truck route	25,000 vpd in 2002	Links I-94 to Racine, Mt. Pleasant, Waterford, and I-43
STH 11	Arterial	National Highway System; designated long truck route	11,300 vpd in 1999	Links I-94 to Racine, Sturtevant, Burlington, Elkhorn, Yorkville and USH 45, and I-43
CTH KR	Collector		4,700 vpd in 2002	Links I-94 to Mt. Pleasant, Somers, Paris, and western Kenosha and Racine Counties

TABLE 1-2 (CONTINUED)
Interchanges in the Study-Area Freeway System

Connecting Highway	Functional Classification[a]	Other Designation	Average Daily Traffic	Regional Connections from I-94
CTH E	Collector		4,300 vpd in 2002	Links I-94 to Somers, and Paris
STH 142/ CTH S	Arterial		6,000 vpd in 2002	STH 142 links I-94 to USH 45, STH 75 and Burlington; CTH S links I-94 to STH 31, and Kenosha
STH 158	Arterial	National Highway System	13,000 vpd in 2002	Links I-94 to Kenosha, STH 31, and STH 32
STH 50	Arterial	National Highway System; designated long truck route	32,000 vpd in 2002	Links I-94 to Kenosha, Bristol, STH 32, STH 31, USH 45, STH 75, STH 83, USH 12, Lake Geneva, and I-43
CTH C	Arterial		6,700 vpd in 2002	Links I-94 to western Kenosha County, Pleasant Prairie, STH 31, STH 75, STH 83, and USH 45
STH 165/ CTH Q	Arterial (STH 165) Collector (CTH Q)		13,000 vpd in 2002	STH 165 links I-94 to Pleasant Prairie and STH 31, STH 32; CTH Q connects I-94 to USH 45 and western Kenosha County
Russell Road	Collector		1,900 vpd in 2004	Links I-94 to northern Lake County, Illinois 131, and Illinois 137

[a] Highways are classified according to the character of service they provide and their relationship to abutting land use. Classifications range from a high degree of travel mobility to land access functions. **Arterials** are intended to provide a high degree of travel mobility, serving through traffic between major urban areas. Access is a secondary function of some arterials, subordinate to the primary function of traffic movement. **Collectors** are intended to serve primarily as connections between the arterial system and local street system.

CTH = county trunk highway

STH = state trunk highway

vpd = vehicles per day

Improvements to I-94 in Illinois

The Illinois State Toll Highway Authority and the Illinois Department of Transportation began reconstructing I-94 south of the study area in 2007. This project includes reconstruction and widening of the highway to eight lanes (four lanes in each direction) on the 32-mile section of the Tri-State Tollway (I-94, I-294) between Dempster Avenue and IL Route 173, and reconstruction of the less congested 1-mile section north of IL Route 173 to Russell Road. The section between Russell Road and the Illinois-Wisconsin state line will be resurfaced. This work is part of the Tollway's Congestion Relief Program to reduce travel times.

The TIP for northeast Illinois, which includes Lake County, includes adding lanes to I-94 from IL Route 173 to Russell Road (CMAP, 2006a). The 2030 Regional Transportation Plan for Northeastern Illinois prepared by the Chicago Metropolitan Agency for Planning (formed by the merger of the Northeast Illinois Planning Commission and the Chicago Area Transportation Study) recommends widening I-94 by one lane in each direction up to the Wisconsin–Illinois border (CMAP, 2006b). The construction time frame for these improvements has not been established.

Enhance Intermodal Connections

The study-area freeway system provides an important connection to air, rail, inter-city bus, and water transportation in southeastern Wisconsin. General Mitchell International Airport (GMIA) is located in the northern portion of the study area. An Amtrak station is located at the airport. Milwaukee's main Amtrak station is located approximately 6 miles north of the study area and Sturtevant's Amtrak station is located 2 1/2 miles east of I-94 near STH 11. The Port of Milwaukee is approximately 3 miles north of the study area.

Airport Access. Over 3.6 million passengers enplaned at Milwaukee's GMIA in 2005 (GMIA, 2006). Enplanements are forecasted to grow to 6.4 million in 2021 (GMIA, 2003). I-94 and the Airport Spur are the primary access routes for passengers arriving and departing from the airport, by either car or bus.

Inter-city Bus Access. Badger Bus, Coach USA, and Greyhound utilize the study-area freeway system to provide inter-city bus service. Coach USA operates 14 trips per day between the downtown Milwaukee, GMIA, and O'Hare International Airport in Chicago via I-94 and the Airport Spur, with stops at STH 20 and STH 50. Greyhound offers 10 daily bus trips from downtown Milwaukee to Chicago via I-94. Badger Bus offers six daily bus trips between Madison, downtown Milwaukee, and GMIA via I-94 and the Airport Spur.

Passenger Train Access. I-94 and the Airport Spur provide access to the Amtrak station at GMIA. The station is located just west of South 6th Street immediately south of the Airport Spur. Amtrak offers six daily trips to Chicago from the airport station including stops at the Sturtevant Amtrak station.

Port of Milwaukee Access. The Port of Milwaukee is a regional transportation and distribution center with a primary market that includes Wisconsin, northern and western Illinois, and Minnesota. The port handled 3.8 million tons of cargo in 2006 (Milwaukee Journal Sentinel, 2007). Lake Express provides passenger and vehicle ferry service from the Port of Milwaukee to Muskegon, Michigan. The study-area freeway system provides access to and from the port and northern Illinois.

1.2.4 Existing and Future Traffic Volumes

This section describes the existing traffic volumes on the study-area freeway system and the projected future traffic volumes. Roadways are typically designed to accommodate traffic volumes projected to occur 20 to 25 years into the future. For this study, 2035 is used as the "design year."

Traffic volume is not the only factor that indicates how congested a roadway is, especially during heavy travel periods. Therefore, in addition to traffic volume, the term "level of service" is used in this section. Level of service is the measure of a roadway's congestion using rankings ranging from A to F.[5] Freeway level of service is based on the number of cars per hour per lane mile, with level of service A exhibiting free-flow traffic and level of service F exhibiting severe congestion that approaches gridlock (Exhibit 1-4). FHWA guidance calls for freeways to provide level of service C with level of service D acceptable in isolated locations in urban areas. Annual average traffic volumes in the study area range from 78,000 vpd in Kenosha County to nearly 156,000 vpd in Milwaukee County (Exhibit 1-5). In general, traffic volumes increase on I-94 from the state line to the Mitchell Interchange. Crossroad traffic volumes are included in Table 1-2.

Lake, Kenosha, and Racine Counties

Existing Traffic Volumes. Traffic volumes on I-94 in Kenosha and Racine Counties and the 1-mile segment of I-94 in Lake County have increased 18 to 19 percent between 1995 and 2004, or roughly 2 percent annually. In Kenosha and Racine Counties, the highest traffic volumes on I-94 occur on weekends. Although traffic volumes have increased substantially in the last 10 years, I-94 has adequate capacity for efficiently handling existing traffic volumes in Kenosha and Racine Counties.

During the heaviest traffic periods, the existing level of service on I-94 in Kenosha County is generally level of service C with a few segments operating at level of service A. The existing level of service on I-94 in Racine County is also generally level of service C.

Future Traffic Volumes. Traffic volumes on I-94 in Kenosha County are expected to continue to increase just under 1.5 percent annually between 2004 and 2035, slower than the 2 percent annual increase between 1995 and 2004. Traffic volumes would rise to approximately between 110,000 and 127,000 vpd on I-94 in Kenosha County by 2035, as noted in Exhibit 1-5.

Traffic volumes on I-94 in Racine County are expected to increase 38 percent between 2004 and 2035, or just over 1 percent per year. Traffic volumes would rise to approximately 121,000 vpd on I-94 in Racine County by 2035.

Based on the forecasted traffic volumes, peak-hour traffic on I-94 in Kenosha County would experience level of service D and E, and Racine County would experience level of service D in the design year 2035. As noted in the introduction to this section, FHWA guidance calls for level of service C or better on freeways in non-urbanized areas, such as I-94 in Kenosha and Racine Counties.

[5] Level of Service is calculated using the 30th highest traffic volume hour (over a 1-year period) for rural areas and the 200th highest traffic volume hour for urban areas. In this study, Kenosha and Racine Counties are rural areas and Milwaukee County is an urban area.

Milwaukee County

I-94 north of Rawson Avenue exhibits urban freeway conditions. Peak traffic volumes are during the morning and evening weekday commute. Traffic volumes and level of service vary to a greater extent than in Kenosha and Racine Counties because interchanges are more closely spaced and crossroads carry higher traffic volumes.

Existing Traffic Volumes. Traffic volumes on I-94 in Milwaukee County range from 87,000 vpd near the Racine/Milwaukee County line to 156,000 vpd at Grange Avenue (between the Airport Spur and Mitchell Interchange). Traffic volumes on I-94 in Milwaukee County are higher than in Kenosha and Racine County but are increasing at a slower rate. Traffic volumes on I-94 at Grange Avenue increased 9 percent between 1995 and 2004, and traffic volumes on I-94 at the Plainfield Curve increased 4 percent over the same period.

Exhibit 1-6 illustrates the morning peak hour level of service on I-94 between Ryan Road and Howard Avenue in 2004 and design year 2035. Exhibit 1-7 illustrates the evening peak hour level of service on I-94 between Ryan Road and Howard Avenue in 2004 and design year 2035.

In general, level of service decreases from south to north as peak hour traffic volumes increase. Northbound (NB) I-94 level of service during the morning peak is D north of College Avenue and E north of the Mitchell Interchange. I-894/43 eastbound (EB) between 27th Street and the Mitchell Interchange operates at level of service D during the morning peak. Northbound traffic volumes are much heavier than southbound (SB) traffic volumes during the morning peak.

In the evening peak, when SB traffic volumes are much higher than NB volumes, level of service on SB I-94/43 near the Plainfield Curve drops to level of service F. Level of service on I-894/43 westbound (WB) drops to E between the Mitchell Interchange and the 27th Street Interchange. EB I-894/43 has level of service E during the evening peak hour. Between the Airport Spur and College Avenue SB I-94 provides level of service D during the evening peak hour.

Forecast Traffic Volumes. By the design year 2035, traffic volumes are expected to increase between 10 and 22 percent on I-94. The increased traffic volumes will cause some of the problem areas noted above to operate at a lower level of service. It will also cause several segments that are currently operating at an acceptable level of service to drop to level of service E and F, including several areas between Rawson Avenue and the Mitchell Interchange in both the morning and evening peak hours (Exhibits 1-6 and 1-7).

As noted in the introduction to this section, FHWA and American Association of State Highway and Transportation Officials (AASHTO) guidance calls for level of service D or better in urban areas like I-94 in Milwaukee County and level of service C or better in rural areas like Kenosha and Racine Counties. For the I-94 corridor to operate under acceptable conditions, additional roadway capacity and/or extensive reductions in travel growth need to occur. The latter is unlikely given the traffic forecasts used for this study already assume a dramatic increase in transit service in the region and a lower rate of traffic growth in the future compared to 1990–2004 growth rates.

1.2.5 Safety

Highway safety is measured by the frequency and severity of crashes. WisDOT maintains a database of crashes that occur annually on the state highway system. That information is used to develop statewide average crash rates for urban and rural highways. These statewide average crash rates were used as the basis to evaluate the safety of the freeway system in the study area. Crash rates are calculated as crashes per 100 million vehicle miles traveled.

Mainline Crashes

Table 1-3 shows a total of 4,546 crashes (not including deer/other animal crashes) on the study-area freeway system from 2000 to 2004, or roughly 2.5 crashes per day. Property damage crashes accounted for 69 percent of the total, and injury or fatal crashes accounted for 31 percent.

In the north-south corridor, truck[6] crashes accounted for over 30 percent of the total crashes in 2000-2004. The statewide average for truck crashes as a percent of crashes is just over 6 percent.

TABLE 1-3
Total North-South Corridor Crashes

	Crash Severity			
Year	**Property Damage**	**Personal Injury**	**Fatality**	**Totals**
2000	632	288	3	923
2001	548	273	4	825
2002	675	282	1	958
2003	562	258	2	822
2004	687	311	1	999
Totals	**3,104**	**1,412**	**11**	**4,527**

Kenosha County Crashes

A total of 714 crashes occurred on the I-94 mainline in Kenosha County between 2000 and 2004. Crashes involving property damage accounted for 67 percent of the total, and crashes resulting in an injury or fatality accounted for 33 percent. The majority of the crashes in Kenosha County involved off-road crashes (58 percent), which involve vehicles that leave the travel lanes and encroach onto the shoulder and beyond and hit one or more of any number of natural or artificial objects, followed by sideswipe crashes (21 percent), and rear-end crashes (14 percent). In general, crash rates in Kenosha County are below the statewide rural average.

Exhibit 1-8 shows the crash rates in the I-94 corridor in Kenosha County for the years 2002–2004 compared to the statewide rural freeway crash rate of 73 per 100 VMD. The highest crash rates (100–200 percent of the statewide rural average) on I-94 in Kenosha County occur in the four areas listed in Table 1-4.

TABLE 1-4
Kenosha County—High Crash Rate Locations

Crash Rate	Applicable Area
150–200% of the Rural Average Crash Rate (Yellow Segment on Exhibit 1-8)	SB I-94 at STH 142
100–150% of the Rural Average Crash Rate (Green Segments on Exhibit 1-8)	SB I-94 at STH 158 SB I-94 near CTH C SB I-94 south and north of 142

[6] Includes all vehicles requiring a Commercial Drivers License, that is, trucks that weigh more than 26,000 pounds (medium-duty trucks, heavy-duty trucks, and tractor-trailers) and passenger buses with 16 or more seats (including the driver).

Racine County Crashes

A total of 825 crashes occurred on the I-94 mainline in Racine County between 2000 and 2004. Crashes involving property damage accounted for 64 percent of the total, and crashes resulting in an injury or fatality accounted for 36 percent. The majority of the crashes in Racine County involved off-road crashes (50 percent), followed by sideswipe crashes (22 percent), and rear-end crashes (21 percent). In general, crash rates in Racine County are below the statewide rural average.

Exhibit 1-8 shows the crash rates in the I-94 corridor in Racine County between 2002 and 2004 compared to the 2004 statewide rural freeway crash rate of 73 per 100 MVM. The highest crash rates (100 to 150 percent of the statewide rural crash rate) on I-94 in Racine County occur in the two areas listed in Table 1-5.

TABLE 1-5
Racine County—Higher Crash Rate Locations

Crash Rate	Applicable Area
100–150% Higher than the Urban Average Crash Rate (Green Segments on Exhibit 1-8)	SB I-94 near CTH K
	NB and SB I-94 near STH 20 Interchange

Milwaukee County Crashes

A total of 2,988 crashes occurred in the Milwaukee County study area between 2000 and 2004. Crashes involving property damage accounted for 70 percent of the total, and crashes resulting in an injury or fatality accounted for 30 percent. The highest percentage of the north-south corridor crashes in Milwaukee County were off-road crashes (39 percent), followed by rear-end crashes (33 percent), and sideswipe crashes (20 percent). In general, off-road crashes are usually indicative of tight curves, and inadequate banking on curves. This is reflected in the high crash rates on tight curves in the Plainfield Curve, Mitchell Interchange, and Airport Spur Interchange. Rear-end and sideswipe crashes indicate congestion as well as inadequate acceleration/deceleration lanes, weaving, and substandard ramp spacing.

Exhibit 1-9 shows the crash rates in the study area in Milwaukee County between 2002 and 2004 compared to the statewide urban freeway crash rate. The segments with the highest crash rate (over 200 percent of the urban crash rate of 99 percent) in the Milwaukee County study area occur at the Plainfield curve, the Mitchell Interchange, the area just west of the Mitchell Interchange on I-894/43, and the Airport Spur (Table 1-6).

TABLE 1-6
Milwaukee County—High Crash Rate Locations

Crash Rate	Applicable Area
200–300% higher than the Urban Average Crash Rate	I-94/43 SB through Plainfield Curve
	I-94/43 NB through Plainfield Curve
	I-894/43 WB between Mitchell Interchange to 27th Street
	I-894/43 EB between 27th Street Ramp to the Mitchell Interchange
	Airport Spur EB near Howell Avenue
	Airport Spur WB near Howell Avenue
413% higher than the Urban Average Crash Rate	I-94 NB from north of Grange to the Mitchell Interchange
446% higher than the Urban Average Crash Rate	Ramp from SB I-94 to EB Airport Spur
726% higher than the Urban Average Crash Rate	Ramp from I-94 NB to I-894/43 WB in Mitchell Interchange
825% higher than the Urban Average Crash Rate	Ramp from I-894/43 EB to I-94 SB in Mitchell Interchange

Service Interchange Crashes

Exhibit 1-10 shows the total number of crashes for service interchange entrance and exit ramps having over 20 crashes between 2000 and 2004. The ramps with the most crashes are at the College Avenue (from I-94 SB) and Ryan Road interchanges (from I-94 SB). The number of crashes on these ramps is comparable to other freeway ramps in Milwaukee County.

1.2.6 Existing Freeway Conditions and Deficiencies

The study-area freeway system consists of six travel lanes with a narrow, barrier-separated median. The 1-mile segment of I-94 between the Racine/Milwaukee County line and Oakwood Road has a wide median. Auxiliary lanes are present between Rawson Avenue and the Airport Spur and between the Airport Spur and the Mitchell Interchange.

Nineteen service interchanges (not including Howard Avenue) and two system interchanges (Mitchell Interchange and the Airport Spur Interchange) are located on the study-area freeway system. Several local and county trunk highways cross over or under the study-area freeway system, but do not interchange with it. Railroad tracks pass under I-94 just north of the Mitchell Interchange and at STH 11 and under the Airport Spur.

A continuous frontage road system is parallel to I-94 in Kenosha and Racine Counties. The frontage roads are two-way roads, and are located on both sides of I-94. There is no frontage road system in Milwaukee County.

Pavement Condition

The study-area freeway system was originally constructed between the late 1950s and mid-1960s with the exception of the Airport Spur, which was constructed in 1978. Over the years, the original concrete pavement eventually began to wear and crack. As water enters into the pavement, it rusts the steel bars that hold the slabs of concrete together (Exhibit 1-11). Water also runs through the cracks to the gravel base under the pavement and can wash out the finer gravel material. This leaves a void under the pavement, which provides a less stable base for the pavement. Heavy trucks and hot and cold temperature extremes add to the stresses on the pavement.

WisDOT resurfaced I-94 with a layer of asphalt pavement in Kenosha and Racine Counties in the mid-1970s and in Milwaukee County in the mid-1980s. This returned the roadway to a smooth riding surface, but did not address the cracks in the original pavement or possible voids in the gravel base under the pavement.

Since then, WisDOT has resurfaced I-94 in Kenosha and Racine Counties two more times (Exhibit 1-12). In Milwaukee County, WisDOT resurfaced I-94 south of College Avenue for a second time in 1999 and north of College Avenue for a third time in 1999. The portion of I-894/43 in the study area (between 35th Street and the Mitchell Interchange) has been resurfaced four times. The Airport Spur has not been resurfaced since its construction[7]. Each resurfacing has a shorter and shorter life span because the original pavement, still in place after more than 45 years, provides a less effective base as it continues to crack and deteriorate (Exhibit 1-13). Faulting is occurring in the joints that cross the roadway. This results in the slabs of concrete being at slightly different elevations. The asphalt overlay shows signs of chipping away in the joints between the lanes, resulting in a V-shaped depression in the roadway.

WisDOT pavement evaluation methodology permits a projection of pavement life expectancy. SEWRPC projected the remaining pavement life of southeast Wisconsin freeways as part of *A Regional Freeway System Reconstruction Plan for Southeastern Wisconsin* (2003b). The analysis estimated that the I-94 pavement in the Kenosha County and Milwaukee County portions of the study area reached the end of its useful life between 2001 and 2005 and the I-94 pavement in Racine County would reach the end of its useful life between 2006 and 2010.

Bridge Condition

The bridges on the study-area freeway system are generally in fair or good condition as measured by the FHWA's National Bridge Inventory. One exception is the deck of the College Avenue bridge over I-94, which has a rating of 4 on a scale of 0 to 9. A rating of 4 is defined as "meets minimum tolerable limits to be left in place as is."

Those bridges rated as fair condition have a rating of 5 and those in "good" condition have a rating of 6. Over the next 10 years, several of these bridges would likely decline to a 4 rating based on WisDOT's experience with bridge deterioration.

Freeway Design Deficiencies

Lane and Route Continuity. Continuity implies that drivers following a particular route need not change lanes or exit to remain on the route. This is generally accomplished by adding and dropping lanes only on the right, and through special system interchange designs. At a minimum, two through lanes should be provided along an interstate route through an interchange. Additional lanes may be necessary depending on the traffic volume the route carries.

Lane and route continuity was assessed throughout the study-area freeway system. I-94 SB lacks lane continuity because one through lane is dropped at the Airport Spur. I-43 WB lacks lane continuity because one lane is dropped at the 27th Street interchange. I-43 EB does not have lane continuity because only one lane is carried through the Mitchell Interchange.

I-94 NB does not have route continuity through the Mitchell Interchange because drivers that wish to remain on I-94 must change lanes to the right to stay on I-94.

[7] WisDOT resurfaced the Airport Spur in 2007.

Freeway/Frontage Road Separation. The distance between the frontage roads and I-94 varies from 60 to 100 feet, and is generally about 75 feet (measured from edge of travel lane). WisDOT design standards call for a minimum 85-foot separation between arterials and frontage roads.

Interchange Configuration and Spacing. System interchanges, like the Mitchell Interchange, are interchanges that connect freeways. Service interchanges connect freeways with surface streets and cross roads. The system interchanges and service interchanges with I-94 have numerous ramps that do not meet design criteria or standards. As noted on page 1-2, 12 service interchanges with I-94 in Kenosha and Racine Counties were the subject of an earlier engineering and environmental study and are not included in this study.

Left-hand Entrances and Exits. The Mitchell Interchange was designed with several left-hand exits and entrances. National design guidelines call for all freeway exits and entrances to be on the right side (AASHTO, 2004a). The left-hand ramps in the Mitchell Interchange, combined with closely spaced interchanges at Layton Avenue, 27th Street, Howard Avenue, and the Airport Spur, create unsafe situations where drivers must weave across two or three lanes of traffic in a short distance to reach their exit. An example is drivers entering I-894/43 EB at 27th Street who would like to enter I-94/43 NB. The distance between the 27th Street entrance ramp and the ramp to I-94/43 NB is approximately 1,650 feet, or just under 1/3 mile. I-94 NB traffic that enters I-894/43 WB on the left and want to exit to 27th Street have 1,940 feet to cross over to the right-hand exit to 27th Street. Eastbound drivers on I-894/43 that enter I-94 SB on the left must cross over two lanes in 3/4 mile to reach the Airport Spur exit. A similar situation exists for drivers entering I-94 NB from the Airport Spur that would like to travel WB on I-894/43 (1 mile).

Ramp Spacing. WisDOT and AASHTO guidelines call for a 2,000-foot spacing between entrance and exit ramps on freeways to provide adequate weaving distance and adequate space for signing (AASHTO, 2004a). There are four locations on the study-area freeway system where the minimum spacing between ramps is not provided. All are in Milwaukee County (Table 1-7).

TABLE 1-7
Locations Where Minimum Spacing Between Ramps Is Not Provided

Location	Existing Spacing Between Ramps (feet)	Minimum Spacing Required (feet)
SB entrance ramp from College Avenue to SB exit to Rawson Avenue	1,748	2,000
NB entrance ramp from College Avenue to NB exit ramp to Airport Spur	1,234	2,000
EB 27th entrance ramp to Mitchell Interchange	1,656	2,000
Mitchell Interchange to 27th Street WB exit ramp	1,940	2,000

Half Interchange at South 27th Street Interchange. The 27th Street (STH 241) interchange with I-94 at the Racine/Milwaukee County line is a half interchange that provides access to and from the south. Southbound drivers on I-94 cannot exit to 27th Street and drivers on 27th Street cannot

access I-94 NB. AASHTO guidance calls for all service interchanges on interstate routes to provide access in all directions (AASHTO, 2005). That is, all interchanges should serve all traffic movements (full interchanges). Drivers, especially those unfamiliar with the area, expect to be able to re-enter the freeway at the same location they exit. AASHTO guidance states, "To prevent wrong-way movements, all freeway interchanges with non-access-controlled highways should provide ramps to serve all basic directions." South 27th Street is a non-access-controlled highway.

Ramp Taper Rate. Adequate merging distance is often measured by a ramp's taper rate, which should be 50:1 for a freeway entrance ramp (the merge lane becomes 1 foot narrower every 50 feet) based on AASHTO standards. The Howard Avenue SB entrance ramp has a 30:1 taper rate. The 27th Street NB entrance to I-894/43 WB has a 30:1 taper rate.

Acceleration and Deceleration Lanes. Ramp design includes careful consideration for adequate deceleration lanes on exit ramps and acceleration lanes on entrance ramps. The required length of the acceleration/deceleration lanes varies, depending on the tightness of curves on the ramp. An entrance ramp that has a gradual curve allows drivers to accelerate on the ramp, and therefore, the length of the acceleration lane need not be as long as an entrance ramp that has tighter curves.

The entrance and exit ramps listed in Table 1-8 have inadequate acceleration and deceleration lengths based on AASHTO freeway design guidelines.

TABLE 1-8
Inadequate Acceleration and Deceleration Ramps

Location	Acceleration/Deceleration Lane Length (feet)	Minimum Length of Lane Needed (feet)
I-94 NB exit ramp to Ryan Road	0[a]	350
I-94 SB exit ramp to Ryan Road	0[a]	350
I-94 NB entrance ramp from Ryan Road	550	1,230
I-94 SB entrance from Ryan Road	460	550
I-94 SB exit ramp to Rawson Avenue	395	1,350
I-94 NB exit ramp to College Avenue	0[a]	285
I-94 SB exit ramp to College Avenue	0[a]	285
Airport Spur SB entrance ramp to I-94	398	420
I-94 NB exit ramp to EB Layton Avenue	237	350
I-94 SB exit ramp to Layton Avenue	304	430
I-94 NB entrance ramp from WB Layton Avenue	306	1,020
I-94 SB entrance ramp from Layton Avenue	196	420
I-894/43 WB entrance ramp from SB 27th Street	700	910
I-894/43 WB entrance ramp from NB 27th Street	490	800
I-94 SB exit to Howard Avenue	143	430
I-94 NB exit ramp to Howard Avenue	100	460
I-94 SB entrance ramp from Howard Avenue	226	800

[a] An auxiliary lane is provided but auxiliary lanes are not intended to act as deceleration lanes. A deceleration lane should be provided between the auxiliary lane and the exit ramp.

1.2.7 Geometric Design Features

The design guidelines in AASHTO's 2004 *A Policy on Geometric Design of Highways and Streets* and WisDOT's *Facilities Development Manual* are the basis for evaluating the freeway alignment, cross-section, and sight distances. Most of the substandard geometric design features are located in the Milwaukee County portion of the study area (Exhibit 1-14).

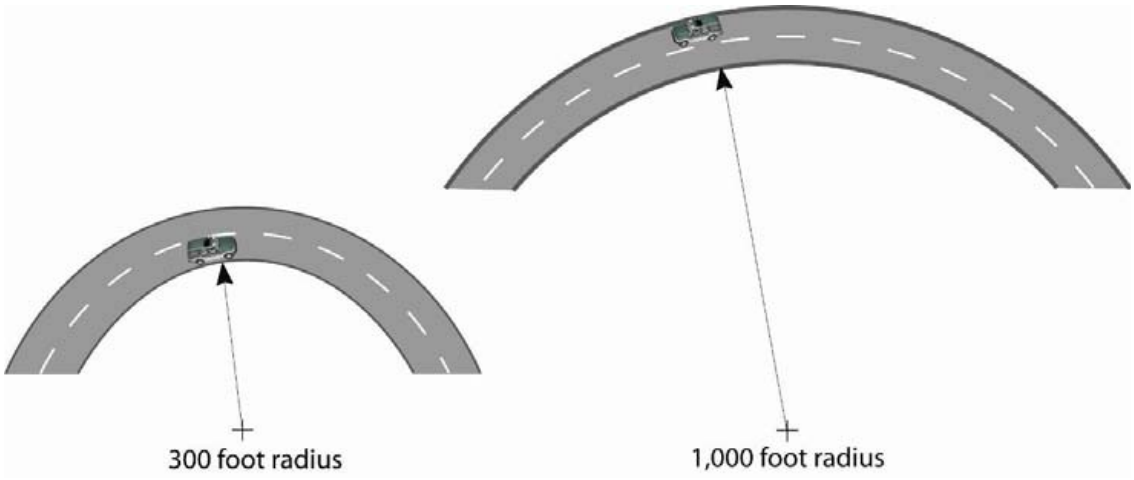
Horizontal Alignment

Horizontal alignment refers to the curvature of the road at a given design speed. Design speed is the maximum safe speed that can be maintained over a specific section of highway. It is affected by factors such as highway type, topography, adjacent land use, and driver expectations. To account for a wide range of actual vehicle running speeds, the design speed is generally 5 miles per hour (mph) greater than the posted speed (Table 1-9).

TABLE 1-9
Study-Area Design Speeds

Location	Recommended Design Speed (mph)
I-94 South of Rawson Avenue	70
I-94 North of Rawson Avenue; I-894/43	60
Mitchell Interchange ramps	55–60
Airport Spur Interchange ramps	45; 30 for loop ramp
Service Interchange ramps	30–60

On freeways, curves should be designed to allow the driver to negotiate the curves safely without reducing speed. The longer the radius of a curve, the more gradual and safe it is, providing that the curve has the appropriate superelevation. Superelevation is the rate at which the roadway is banked to offset the tendency of vehicles to slide outward or overturn on a curve. WisDOT's policy is that freeway curves have a maximum superelevation of 6 percent, due to frequent rain and snow conditions. A curve with a 6 percent superelevation and a radius shorter than 2,050 feet results in a design speed less than the minimum design speed standard of 70 mph south of Rawson Avenue. A curve with a 6 percent superelevation and a radius shorter than 1,340 feet results in a design speed less than the minimum design speed standard of 60 mph north of Rawson Avenue.



The Plainfield Curve just south of Howard Avenue has an 881-foot radius curve, well under the 1,340-foot radius that is required. Even with an 8.8 percent superelevation of the curve, this is a high crash location. The curve gets tighter for NB drivers as they travel through the Plainfield Curve (see Section 1.2.5, Safety). As a result of the tight curve, the equivalent design speed through the Plainfield Curve is 45 mph, or 15 mph lower than the recommended design speed of 60 mph.

The I-894/43 EB to I-94/43 NB ramp has a radius of 881 feet, with a substandard superelevation of 7 percent. The radius does not meet the minimum of 1,340 feet and the combination of the radius and superelevation results in an equivalent design speed of 40 mph, 20 mph lower than the required design speed of 60 mph for mainline freeway.

Several other curves through the Mitchell Interchange are substandard due to the combination of the radius and superelevation (Table 1-10). I-94/43 SB to I-894/43 WB has a 1,909-foot radius meeting the 1,340-foot design criteria. The superelevation is 4.2 percent, below the 6 percent maximum criteria. Although the curve appears to be sufficient, the equivalent design speed of the radius with the lower superelevation is only 45 mph, much lower than the recommended design speed of 60 mph.

TABLE 1-10
Horizontal Alignment—Substandard Mitchell Interchange Ramps

Location	Minimum Design Speed (mph)	Existing Design Speed (mph)
I-94 NB to I-894/43 WB	55	40
I-94 SB	60	50
I-94 SB to I-894/43 WB	60	45
I-894/43 EB to I-94/43 NB	60	45
I-894/43 EB to I-94 SB	55	40
I-94 NB	60	25–55

I-94 SB through the Mitchell Interchange has a 1,432-foot radius with a substandard superelevation of 7 percent. The equivalent design speed is 50 mph, below the recommended design speed of 60 mph.

I-94 NB adjacent to the Layton Avenue entrance ramp has a 764-foot radius, much tighter than the 1,340-foot radius recommended. Even with a 6 percent superelevation, the equivalent design speed is 45 mph, or 15 mph lower than the recommended design speed of 60 mph. Safely navigating this curve at full speed is challenging.

System interchange ramps that connect one freeway to another are typically designed to safely allow 50 mph speeds; however, AASHTO allows 45 mph design speeds on system ramps in urban settings. The curve radius needs to be at least 660 feet to provide a 45 mph design speed. Despite the fact that the two system ramps in the Mitchell Interchange, I-94 NB ramp to I-894/43 WB, and the I-894/43 EB ramp to I-94 SB, exceed the 660-foot radius, they have substandard superelevation of 7.0 percent and 6.9 percent respectively, resulting in insufficient equivalent design speeds of 40 mph. The driver needs to slow down in order to safely maneuver through the curve.

System interchanges that connect minor freeways, such as the Airport Spur, and interstate highways should have a 45 mph design speed, except loop ramps are designed for a 30 mph design speed. Two Airport Spur Interchange ramps have substandard curve radii resulting in design speeds that vary between 30 and 35 mph. All four ramps have an 8 percent superelevation, which exceed WisDOT's standard of 6 percent maximum superelevation.

A curve on I-94 just north of the Racine/Milwaukee County line has a substandard design speed (60 mph) because the curve does not have enough superelevation for its radius.

Vertical Alignment

Vertical alignment refers to the grade, or steepness, of a roadway. The study-area freeway system does not have any steep grades.

In general, the flatter the road, the safer it is to drive on. However, WisDOT and AASHTO guidelines recommend a slight grade on freeways to ensure that water properly drains off the roadway. Water tends to pond on a completely flat road, increasing the risk that vehicles will hydroplane. There are several locations where there is not enough of a grade to meet minimum vertical grade guidelines for drainage (Table 1-11).

TABLE 1-11
Substandard Vertical Alignment

Location	Existing Grade (percent)	Minimum Grade Required (percent)
1,700 foot section of I-94 between CTH C and STH 50	0.20	0.30
1,500 foot section between CTH E and CTH KR	0.20	0.30
2,500 foot section between STH 11 and STH 20	0.23	0.30
2,200 foot section between STH 11 and STH 20	0.18	0.30
I-94 just north of Root River	0.25	0.30
Airport Spur on ramp to NB I-94	0.20	0.30

Cross Slope

In addition to the longitudinal grade of the roadway discussed above, the roadway should have a crown in it to allow water to drain off to the side of the road. Freeways are typically designed with a minimum 2 percent crown, or cross-slope, to help water drain off the pavement. There are 11 locations on I-94 in Kenosha and Racine Counties where the cross-slope is 1.50 percent instead of the minimum standard 2 percent. Each of the locations occurs where I-94 crosses over a crossroad.

Stopping Sight Distance

Stopping sight distance is the minimum distance required by a driver traveling at a given speed to bring a vehicle to a stop after sighting an object in its path[8]. Minimum stopping sight distance is based on the design speed of a roadway. On hill crests (or crest curve), sight is

[8] Stopping sight distance differs from vertical alignment or grade. Stopping sight distance can be inadequate even if the vertical alignment is adequate and vice versa. Stopping sight distance is affected by median barriers interfering with the driver's line of sight around a curve, or due to a crest in the road. Vertical grade measures how steep the roadway is. A gradual transition to a steep grade may not affect the driver's line of sight.

obstructed by the roadway between the driver and an object. At the bottom of a hill (or sag curve), sight is restricted at night because headlights do not fully illuminate the roadway ahead. The minimum stopping sight distance is 730 feet for the study-area freeway system south of Rawson Avenue and 570 feet north of Rawson Avenue, based on design speeds of 70 mph and 60 mph, respectively. The minimum stopping sight distance on the Mitchell Interchange ramps is 495 feet, based on a 55 mph design speed for system ramps.

Numerous locations on the study-area freeway system do not meet the minimum guidelines for stopping sight distance (Table 1-12).

TABLE 1-12
Substandard Stopping Sight Distance

Location	Available Stopping Sight Distance (feet)	Minimum Required Stopping Sight Distance (feet)
Crest on I-94 NB/SB at the CTH C Interchange	575	730
Crest on I-94 NB/SB at the STH 50 Interchange	575	730
Crest on I-94 NB/SB at the STH 158 Interchange	675	730
Crest on I-94 NB/SB at the STH 142 Interchange	590	730
Crest on I-94 NB/SB at the CTH E Interchange	600	730
Crest on I-94 NB/SB at the CTH KR Interchange	640	730
Crest on I-94 NB/SB at the STH 11 Interchange	650	730
Sag on I-94 between STH 11 and STH 20	450	730
Crest on I-94 NB/SB at the STH 20 Interchange	590	730
Crest on I-94 NB over Oakwood Road	705	730
Crest on I-94 SB over Oakwood Road	640	730
Sag on I-94 under Ryan Road	570	730
Crest on I-94 NB just north of Ryan Road	487	730
Sag on I-94 NB/SB just north of Ryan Road	570	730
Crest on I-94 SB just north of Peutz Road	487	730
Sag on I-94 NB/SB just south of Drexel Avenue	570	730
Crest on I-94 NB/SB just south of Rawson Avenue	487	730
Sag on I-94 NB just north of Rawson Avenue	487	570
Crest on I-94 between Rawson and College	487	570
Crest on I-94 at Ramsey Avenue	487	570
Crest on I-94 SB exit ramp to EB Airport Spur	200	425
Crest on I-94 NB/SB just south of Edgerton Avenue	487	360
Sag on I-94 NB under Layton Avenue	360	570
Crest on I-94 SB just east of 13th Street	415	570
Sag on I-94 NB/SB just east of 13th Street	305	570
Crest on I-94 NB just east of 13th Street	415	570
Crest on I-894 EB/WB just east of 27th Street	487	570
Sag on I-94 SB through the Mitchell Interchange	305	495

Cross-section Elements

Evaluation of the cross-section of the roadway includes lane width, and inside and outside shoulder widths. WisDOT and AASHTO policy calls for 12-foot inside and outside shoulders on roadways with three or more lanes.

Most of the study-area freeway system is substandard since the majority of the shoulders along the freeway are only 10 feet. Additionally, there is no inside shoulder on I-94 between the Airport Spur and the Mitchell Interchange. The concrete median barrier is approximately 2 feet from the edge of the inside travel lane. The lack of an inside shoulder results in distressed drivers having to cross over three lanes of traffic to reach the outside shoulder. Inside shoulders also provide an area for drivers to avoid crashes and provide space for snow storage and emergency vehicle access.

Shoulders on two-lane system ramps should be 10 to 12 feet wide, left and right of the travel lanes. Shoulders on one-lane system ramps should be 6 feet and 10 feet, left and right, respectively. Outside shoulder widths on all of the Mitchell Interchange ramps vary from 0 to 10 feet.

Other locations with substandard shoulders include the following:

- The inside I-94 shoulder near the STH 158 interchange is 7 feet
- The inside I-94 shoulder near the STH 11 interchange is 5 feet
- The inside shoulder on I-94/43 between the Mitchell Interchange and Howard Avenue is 9 feet
- The inside shoulder on I-894/43 from 35th Street to the Mitchell Interchange is 9 feet and the outside shoulder varies from 8 to 10 feet
- There is no outside shoulder on the Rawson Avenue WB entrance ramp to I-94 NB
- There is no shoulder on the I-894/43 WB exit ramp to 27th Street
- There is no shoulder on the Howard Avenue NB exit ramp from I-94

Vertical Clearance

Vertical clearance is the height between the roadway and the bridge located above it. Adequate vertical clearance is required to avoid tall trucks hitting overpasses. Minimum vertical clearance requirements differ based on the type of roadway. Interstates have a minimum 16-foot clearance requirement because they are part of the National Defense Highway System and may need to accommodate over-sized vehicles as a result. WisDOT and AASHTO guidelines call for a 16-foot 4-inch clearance to allow for a 3- to 4-inch asphalt overlay in the future. The sections of the study area that do not meet the minimum vertical clearance criteria are listed in Table 1-13.

TABLE 1-13
Structures Not Meeting the Minimum Vertical Clearance Criteria

Structure Location	Existing Vertical Clearance	Minimum Vertical Clearance Criteria
Kenosha County		
I-94 over CTH C[a]	14’ 8”	15’ 3” (collector)
I-94 over STH 50[a]	15’	16’ 4” (arterial)
I-94 over STH 158[a]	14’ 6”	16’ 4” (arterial)
I-94 over CTH N	14’ 7”	14’ 9” (minor collector)

TABLE 1-13 (CONTINUED)
Structures Not Meeting the Minimum Vertical Clearance Criteria

Structure Location	Existing Vertical Clearance	Minimum Vertical Clearance Criteria
I-94 over STH 142[a]	15' 2"	16' 4" (arterial)
I-94 over CTH E[a]	14' 9"	15' 3" (collector)
I-94 over CTH A	14' 5"	14' 9" (minor collector)
I-94 over CTH KR[a]	14' 2"	15' 3" (collector)
Racine County		
I-94 over CP Railway	22' 8"	23' 0" (railroad)
I-94 over Brown Street (58th Road)	14' 4"	14' 9" (local road)
I-94 over STH 20[a]	14' 9"	16' 4" (arterial)
I-94 over Golf Road	14' 8"	14' 9" (minor collector)
I-94 over CTH K[a]	14' 1"	16' 3" (arterial)
I-94 over 7 Mile Road[a]	14' 6"	15' 3" (collector)
I-94 over 27th Street/STH 241	14' 6"	16' 4" (arterial)
Milwaukee County		
Grange over I-94	15' 6" (NB)	16' 4" (freeway)
Grange over I-94	16' (SB)	16' 4" (freeway)
Layton Avenue over I-94	16' 1" (NB)	16' 4" (freeway)
I-894 EB over I-94 SB	15' 3"	16' 4" (freeway)
I-894 WB over I-94 SB	14' 7"	16' 4" (freeway)
I-94 NB to I-894 WB Ramp over I-94 SB	15' 10"	16' 4" (freeway)
20th Street over I-894 EB	16' 2"	16' 4" (freeway)
35th Street over I-894	16' WB	16' 4" (freeway)
Howard Avenue over I-94	15' (NB)	16' 4" (freeway)
Howard Avenue over I-94	15' 2" (SB)	16' 4" (freeway)
Airport Spur over CP Railway	22' 1"	23' 0" (railroad)

[a]Will be readdressed by separate project

1.3 Local Government and Public Input

The Technical Advisory Committee, composed of local and county engineering and planning staff, provided input on the purpose and need for the proposed improvements at a May 3, 2006, meeting. The committee members agreed with the elements of the project's purpose and need.

The public was provided an opportunity to comment on the purpose and need for the project at a series of four open house public information meetings in late May and early June 2006. Many attendees cited increasing traffic volumes in the study area and the high number of crashes in Milwaukee County. None of the attendees questioned any elements of the purpose and need for the proposed action.

1.4 Environmental Aspects

The I-94 north-south corridor has numerous environmental resources including wetlands, streams, environmental corridors, parks, and farmland. Preserving these resources to the extent possible and practicable is an important purpose and need factor that needs to be considered when developing and evaluating the transportation improvement alternatives.

For projects affecting resources protected under the Clean Water Act, the project's purpose and need and reasonable alternatives must consider the *Section 404(b)(1) Guidelines for Specification of Disposal Sites for Dredged or Fill Material* administered by U.S. EPA and the U.S. Army Corps of Engineers (Corps) (1977). The guidelines state that dredged or fill material should not be discharged into aquatic ecosystems, including wetlands, unless it can be demonstrated that there are no practicable alternatives, that such discharge will not have unacceptable adverse impacts, and that all practical measures to minimize adverse effects are undertaken.

Currently, there are environmental deficiencies along the study-area freeway system. The management of stormwater runoff does not meet current water quality regulations in all areas. Some existing pipes and culverts under I-94 inhibit aquatic passage under the freeway. For instance, a perched culvert near the STH 158 interchange in Kenosha County inhibits aquatic organism passage under the freeway.

Exhibits

SECTION 2

Alternatives/Preferred Alternative

Section 2 describes the range of alternatives developed to address the purpose and need factors identified in Section 1. The focus of Section 2 is to present the initial broad range of alternatives considered, the evaluation process for narrowing the initial range of alternatives, "reasonable alternatives" retained for detailed study, reasons other alternatives were eliminated from further consideration, and identify WisDOT's preferred alternative.

2.1 Development of Initial Range of Alternatives

The Council on Environmental Quality (CEQ), in its regulations for implementing the National Environmental Policy Act, recognizes that many alternatives may exist for implementing a particular action. CEQ regulations state that only reasonable alternatives should be carried forward for detailed evaluation and comparison. Reasonable alternatives are those that are practical and feasible for addressing project purpose and need; those for which overall social, environmental, and economic impacts can be avoided, minimized, or mitigated to the extent practicable; and those that are consistent with both regional and local planning goals and objectives.

The remainder of Section 2 provides the basis for selecting the reasonable alternatives for future transportation improvements to the I-94 north-south corridor.

2.1.1 No-Build or Replace-in-Kind Alternative

Under the No-Build Alternative, no safety or capacity improvements would be made. This alternative serves as a baseline for comparison to the Build Alternatives. Improvements would consist of maintenance and minor improvements. The study-area freeway system would eventually be replaced as needed in its current configuration with six lanes, left-hand entrance and exit ramps, and no change in vertical or horizontal alignment of the freeway or interchanges.

2.1.2 Transportation Demand Management Alternative

Transportation Demand Management (TDM) attempts to reduce the number of auto trips through increased transit ridership. The public transit system element of *A Regional Transportation System Plan for Southeastern Wisconsin: 2035* recommends several ways to increase bus service in Kenosha, Racine, and Milwaukee Counties (SEWRPC, 2006b). Options (to be studied by others) include the development of a rapid transit bus system operating on freeways to provide commute and reverse commute service, an express bus system operating on a grid of higher speed, limited-stop arterials largely in Milwaukee County, and a local bus system that would operate on arterial and collector streets and have frequent stops. Milwaukee County Transit System, Belle Urban System, and Kenosha Area Transit currently provide transit service in the study area. The Wisconsin Department of Transportation also has implemented a RIDESHARE program that offers a phone or Web

service to match potential carpoolers based on route and personal preferences. Other TDM measures include ridesharing, telecommuting, and flexible work schedules.

2.1.3 Transportation System Management Alternative

Transportation System Management (TSM) involves ways to maximize the efficiency and use of the highway system to help alleviate or postpone the need to expand capacity. The TSM element of *A Regional Transportation System Plan for Southeastern Wisconsin: 2035* recommends such measures as freeway traffic management (ramp meters, bus, and high-occupancy vehicle [HOV] lanes on ramps) and intelligent transportation systems (advanced traveler information for transit and highway travel conditions). TSM measures are designed to improve traffic flow and safety such as improving intersection capacity, widening shoulders, adding traffic signals, and providing access management including relocating or consolidating driveways where practicable.

Examples of recent TSM measures in the I-94 north-south corridor include ramp metering, HOV lanes on on-ramps, freeway monitoring with variable message signs warning travelers of delays, closed-circuit television cameras posting images and traffic conditions to the internet and to local newscasts, crash investigation sites, and Milwaukee County enhanced freeway patrols and Racine and Kenosha County Gateway patrols, which help to quickly remove disabled vehicles from traffic along I-94.

2.1.4 Build Alternatives

The preliminary range of Build Alternatives was developed in the context of regional transportation plans, various forms of community involvement (including public information meetings; meetings with local officials, citizens, and interest groups; input from the Community Advisory Committee and Technical Advisory Committee; coordination with state and federal review agencies and Native American interests) through consideration of socioeconomic factors and environmental constraints such as archaeological and historic resources, wetlands, stream crossings, threatened and endangered species, farmland, and adjacent development.

The three Build Alternatives initially considered were as follows:

- Spot Improvements: Replacing the existing roadway and bridges and addressing those safety issues than can be fixed without acquiring any new right-of-way.
- Safety and Design Improvements: Replacing the existing roadway and bridges and addressing the safety issues described in Section 1, Purpose and Need for the Proposed Action.
- Safety and Design Improvements with Added Capacity: This is the same as the Safety and Design Improvements alternative, but also includes adding one new general purpose travel lane in each direction to address congestion issues as described in Section 1, Purpose and Need for the Proposed Action.

As part of the Build Alternatives, WisDOT and FHWA evaluated a new service interchange with I-94 at Drexel Avenue in Milwaukee County. This new interchange could be implemented with any of the three Build Alternatives. WisDOT and FHWA also evaluated the conversion of the existing "half interchange" (access to and from the south only) on I-94

at 27th Street (at the Milwaukee/Racine County line) to a full interchange that would also provide access to and from the north. The Build Alternatives also include reconstruction of the Airport Spur and existing service interchanges in the Milwaukee County portion of the study area (27th Street interchange with I-894/43, Layton Avenue with I-94, Airport Spur with I-94, College Avenue with I-94, Rawson Avenue with I-94, and Ryan Road with I-94).

2.2 Alternatives Screening

Section 1.1, Purpose of the Proposed Action, describes the reasons WisDOT and FHWA propose to reconstruct the study-area freeway system. The alternatives described above were assessed based on their ability to meet the project's purpose and need.

The remainder of Section 2.2 describes each alternative in more detail. Each was assessed against the following purpose and need factors:

- Improve safety by decreasing crashes. This is measured by the extent to which the alternative meets current design standards (see Section 1.2.5).
- Improve traffic operations and accommodate future volumes on the study-area freeway system and service interchanges. This is usually measured by level of service, a rating of congestion from A to F as described in Section 1.2.4.
- Replace deteriorating pavement (see Section 1.2.6).
- Minimize impacts to the environment. Acquisition of new right-of-way, relocations, wetland and farmland impacts are key impacts.
- Support from local governments and the public. Public input has been obtained at public information meetings and through more than 350 small group meetings WisDOT and FHWA have held with neighborhood, environmental, community, minority, and business groups.

2.2.1 No-Build/Replace-in-Kind Alternative

While the No-Build Alternative would include pavement maintenance and minor safety improvements over time, such improvements would not address the purpose of, and need for, the project with respect to future traffic demand, existing highway deficiencies, and safety concerns. Further, it would not be consistent with regional transportation system plans that document the importance of I-94 as an interstate route for the movement of people, goods, and services and a regional transportation system designed to meet the travel needs of southeastern Wisconsin.

The No-Build Alternative is not considered a reasonable course of action, but it is retained as a basis for comparison to the Build Alternatives.

While it would have minimal environmental impacts and cost less than the Build Alternatives, the No-Build Alternative would not address the following project purpose and need factors:

- Improve safety by decreasing crashes: This alternative would not address substandard design elements that contribute to crashes.

- Improve traffic operations and accommodate future volumes on the study-area freeway system and service interchanges: This alternative would not improve traffic operations or accommodate future traffic volumes.
- Replace deteriorating pavement: Existing pavement would continue to deteriorate, requiring more frequent and extensive maintenance.
- Minimize impacts to the environment and construction cost: No construction costs and minimal environmental impacts would be incurred under this alternative.
- Support from local governments and the public: No local governments or members of the public have advocated for this alternative.

2.2.2 Transportation Demand Management Alternative

As noted in Section 1, *A Regional Transportation System Plan for Southeastern Wisconsin: 2035* assumes a 100 percent increase in public transit (in terms of revenue vehicle-miles of service) including rapid and express transit systems and substantial expansion of local bus systems where development density is sufficient to generate ridership and the use of such systems. One of these recommended transit systems is the Kenosha-Racine-Milwaukee (KRM) commuter rail project. This KRM commuter rail project is currently under study and may result in the approval to build several commuter rail stations to support the extension of the commuter rail line from Chicago's Metra service area beyond its northernmost stop at Kenosha, north through Racine, and terminating at Milwaukee's downtown Amtrak station. The proposed KRM commuter rail project would operate on existing rail lines.

Another recommended transit system consists of a potential light rail/bus guideway from the vicinity of Rawson Avenue in Oak Creek to downtown Milwaukee on an exclusive guideway route. The plan recommends on-street bus service on this route initially, with consideration for an ultimate upgrade to bus guideway or light rail for express transit service.

Even with these increases in public transit, the number of vehicles in the I-94 north-south corridor is expected to increase between 10 and 22 percent by 2035. Transportation demand management will be evaluated by others for implementation but based on these year 2035-projected traffic numbers, the Transportation Demand Management Alternative will not, by itself, address future traffic demand, geometric deficiencies, or safety concerns.

While it would minimize environmental impacts and cost less than the Build Alternatives, the Transportation Demand Management Alternative would not, by itself, fully address the following elements of the project's purpose and need:

- Improve safety by decreasing crashes: This alternative would not address substandard design elements.
- Improve traffic operations and accommodate future volumes on the study-area freeway system and service interchanges: This alternative would not improve traffic operations or accommodate future traffic volumes. SEWRPC's regional transportation plan recommends adding capacity even with implementing several measures to reduce demand, most notably an increase in transit service.

- Replace deteriorating pavement: Existing pavement would continue to deteriorate, requiring more frequent and extensive maintenance.
- Minimize impacts to the environment and construction cost: No construction costs and minimal environmental impacts would be directly incurred under this alternative.
- Support from local governments and the public: No local governments or members of the public have advocated for this as a stand-alone alternative.

2.2.3 Transportation System Management Alternative

As noted, *A Regional Transportation System Plan for Southeastern Wisconsin: 2035* includes several TSM recommendations to maximize the efficiency and use of the highway system to help alleviate or postpone the need for expanding highway capacity in the region. Examples of existing TSM measures in the I-94 north-south corridor include ramp metering, gating ramps, HOV lanes on on-ramps, variable message signs warning travelers of delays, closed-circuit television cameras posting images and traffic conditions to the internet and local newscasts, crash investigation sites, Milwaukee County enhanced freeway patrols, and Racine and Kenosha County Gateway patrols.

A 2005 study estimated that ramp metering reduced freeway delay a total of 5 percent in 24 urban areas. Freeway patrols that clear incidents, combined with closed-circuit television cameras that detect incidents, reduced freeway delay a total of 7 percent in the 60 urban areas that had one or both systems (Texas Transportation Institute, 2005). A 2002 study of variable message signs found no obvious travel time reduction although it concluded that the signs are an effective routing tool (University of Minnesota, 2002). Even with these TSM measures already in place, the 2035 regional transportation plan documents the need for additional capacity on several highways, including the study-area freeway system. The preferred alternative may include TSM elements, but TSM will not, by itself, meet the purpose and need for the project, especially safety concerns.

The Transportation System Management Alternative would not, by itself, fully address any elements of the project's purpose and need:

- Improve safety by decreasing crashes: This alternative would not address substandard design elements.
- Improve traffic operations and accommodate future volumes on the study-area freeway system and service interchanges: Though many elements of this alternative are already in place, Section 1.2.4 documents the need to improve traffic operations.
- Replace deteriorating pavement: Existing pavement would continue to deteriorate, requiring more frequent and extensive maintenance.
- Minimize impacts to the environment and construction cost: Relatively minor construction costs and minimal environmental impacts would be incurred under this alternative.
- Support from local governments and the public: No local governments have advocated for this as a stand-alone alternative. Some public comments received suggest increased speed limit enforcement could address some of the high crash locations.

2.2.4 Build Alternatives

Spot Improvements

The Spot Improvements Alternative is designed to replace the existing roadway and bridges while addressing the safety issues that can be fixed without acquiring any new right-of-way as illustrated in Exhibit 2-1. South of College Avenue, this alternative is the same as the Safety and Design Improvements Alternative illustrated in Exhibit 2-2, at the back of the document. This alternative includes a 55-mph design speed curve at the Plainfield Curve, re-striping selected lanes through the Mitchell Interchange, lengthening on-ramps, reconfiguring access to improve intersection spacing, adding some auxiliary lanes, and smoothing curves on selected ramps.

The Spot Improvements Alternative would not address the following:

- Congestion
- Left-side entrances/exits
- Weave (several locations)
- Narrow left shoulders on I-94

No right-of-way acquisitions or relocations would occur under this alternative. Some wetlands on existing WisDOT right-of-way would be filled. There is little public support for this alternative. All local units of government support the need for reconstruction of the north-south corridor and addressing all safety issues as discussed in Section 1, Purpose and Need for the Proposed Action. Because this alternative would only address a few of the safety concerns, this alternative has been eliminated from consideration.

The Spot Improvements Alternative would meet some elements of the project's purpose and need:

- Improve safety by decreasing crashes: This alternative would not address all substandard design elements.
- Improve traffic operations and accommodate future volumes on the study-area freeway system and service interchanges: While this alternative may improve traffic operations by addressing some substandard design issues, it would not accommodate future traffic volumes.
- Replace deteriorating pavement: Existing pavement would be replaced under this alternative.
- Minimize impacts to the environment and construction cost: This alternative would cost the least of the Build Alternatives and incur the least amount of environmental impacts.
- Support from local governments and the public: No local governments or members of the public have advocated for this alternative.

Safety and Design Improvements

Under this alternative, I-94 would be reconstructed as a six-lane freeway and the design-related deficiencies documented in Section 1.2.6 would be eliminated. This alternative is illustrated in Exhibit 2-2. Key features of this alternative include the following:

- All bridges carrying I-94 over or under crossroads, including interchanges, would be reconstructed. The alternatives under consideration for the interchanges with I-94 in the Milwaukee County portion of the study area are discussed later in Section 2.2.4. As noted in Section 1.2.1, the interchanges with I-94 in Racine and Kenosha Counties have been addressed in a previous WisDOT study.
- In Kenosha and Racine Counties, I-94 would generally shift 6 feet east or west of its current alignment. Near STH 158, I-94 would shift about 20 feet west.
- Near CTH C in southern Kenosha County and Seven Mile Road in Racine County, I-94 would be raised up to an additional 9 feet and 4 feet, respectively, to rise out of the 100-year floodplain.
- Just north of the Racine-Milwaukee County line, the extra-wide median would be eliminated and replaced by a narrow median that is more typical of the rest of the corridor.
- Auxiliary lanes would be provided near the Mitchell Interchange, as described below:
  - An auxiliary lane between Rawson Avenue and the Airport Spur Interchange, both NB and SB. In the northbound direction, I-94 would split into two lanes continuing on I-94 and two lanes exiting to I-894/43 just north of the Airport Spur.
  - An auxiliary lane would be provided between the Mitchell Interchange and Howard Avenue both NB and SB. This would accommodate speed changes, weaving, and maneuvering of traffic in this high crash area.
  - On I-894/43, an auxiliary lane would be provided between the 35th Street overpass and the Mitchell Interchange both EB and WB. This would accommodate speed changes, weaving, and maneuvering of traffic in this high-crash area.
- Collector-distributor roads between College Avenue and the Mitchell Interchange would be provided both NB and SB. This would minimize weaving which would likely reduce the number of crashes between the Airport Spur and Mitchell Interchange.
- Several design changes in the Mitchell Interchange would be implemented to eliminate left-hand exits and entrances and improve the spacing between ramps (Section 1.2.6 documents the locations of the left-hand exits and entrances and inadequate spacing between ramps). Most notably, the NB-to-WB ramp (I-94 to I-894/43) would exit I-94 on the right. EB I-894/43 traffic would enter I-94 NB or SB on the right as well. This would

What is a collector-distributor road?

A collector-distributor road, or C-D road, is similar to a frontage road for a freeway, only it does not provide access to adjacent property. Rather, its purpose is to eliminate weaving on the mainline freeway and reduce the number of exit and entrance points on the freeway. A good example of a C-D road is on northbound I-94 between Holt and Howard Avenues just north of the study area.

provide lane and route continuity and likely reduce the number of crashes, as explained in Section 1. Drivers would not have to change lanes to stay on I-94 or I-43.

- Several sharp curves in the Mitchell Interchange would be reconstructed to make them more gradual. All curves in the Mitchell Interchange would meet applicable freeway design standards (that is, 60 mph design speed for I-94, 55 mph design speed for Mitchell Interchange ramps) and all ramps in the Mitchell Interchange would have two lanes. This would reduce the high crash rates on the NB I-94 to WB I-894/43 curve and the I-894/43 EB to I-94 SB curve.
- The Plainfield Curve would be reconstructed with a 60 mph design speed that would provide a more gradual and uniform curve. WisDOT considered and dismissed a 65 mph design speed curve (see Section 2.2.5).
- The frontage roads adjacent to I-94 in Kenosha and Racine Counties would be reconstructed up to 60 feet further away from its existing location. The increased width between I-94 and the frontage roads would exceed minimum WisDOT design standards for separation between a freeway and frontage road and provide space to collect and partially treat storm water run-off from I-94 and the frontage roads. A strip acquisition would be required from property owners adjacent to the frontage roads. In select locations, the frontage roads would stay on their existing alignment to avoid residential or business relocations or sensitive environmental features such as primary environmental corridor.

A key feature under consideration for this alternative is access to and from I-94 and the 27th Street interchange with I-894/43, just west of the Mitchell Interchange. The 27th Street interchange is very close to the Mitchell Interchange, resulting in dangerous weaving between the two interchanges. WisDOT and FHWA developed two options to address this issue.

- Under the first option, vehicles entering EB I-894/43 at the 27th Street interchange would not be able to access I-94 SB. Conversely, NB I-94 traffic would not be able to exit I-894/43 at 27th Street. Under this option, drivers on 27th Street who want to go south on I-94 could access I-94 at the Layton Avenue interchange about seven blocks east of 27th Street or at Howard Avenue or College Avenue. Conversely, drivers on I-94 NB who want to go to 27th Street could exit at Layton, Howard, or College Avenues and proceed west to 27th Street.
- The second option is to build special ramps at the 27th Street interchange that would carry vehicles entering I-94, either NB or SB, without ever entering I-894/43 (Exhibit 2-2a). Similarly, I-94 NB traffic that exits to 27th Street would have a dedicated exit ramp in the Mitchell Interchange to access 27th Street without entering I-894/43. This option has been eliminated from consideration because of safety concerns, there are other interchanges nearby, and additional right-of-way acquisition would be required. Also, the second option would cost an estimated $40 to $50 million more than the first option; require an additional 26 residential relocations; require a more congested single-point interchange; and require the 27th Street bridge over I-894/43 to be closed for approximately 1 year while the interchange is reconstructed.

WisDOT and FHWA considered closing the Edgerton Avenue underpass at I-94 under the Safety and Design Improvements and Safety and Design Improvements with Added Capacity Alternatives. The advantage of closing the Edgerton Avenue underpass is that it would remove the only vertical constraint to lowering I-94 between the Airport Spur and the Mitchell Interchange. Lowering the freeway would result in lower noise walls between I-94 and the adjacent residential neighborhoods. The height of the noise walls was a concern expressed by adjacent residents. Closing Edgerton Avenue is also a concern to some area residents who use it regularly. At initial public meetings, roughly half supported and half opposed this option. More recently, a majority of area residents favor keeping Edgerton Avenue open. As a result, this option was eliminated from consideration.

Roughly 47 acres of new right-of-way and four residential relocations would be required under this alternative, excluding the Drexel Avenue and I-94/27th Street interchange alternatives. Approximately eight detached garages at an apartment complex in the southwest quadrant of the Mitchell Interchange will need to be removed to allow construction to occur. These garages can be replaced at a different location on the property or at their current location after construction. About 52 acres of wetlands would be filled. One acre of primary environmental corridor would be acquired by WisDOT for new right-of-way.

There is public support for this alternative. All local units of government support the safety improvements included in this alternative, however, the City of Milwaukee is concerned with residential relocations and the associated loss of tax base.

The Safety and Design Improvements Alternative would meet most elements of the project's purpose and need as follows:

- Improve safety by decreasing crashes: This alternative would address all substandard design elements.
- Improve traffic operations and accommodate future volumes on the study-area freeway system and service interchanges: While this alternative would improve traffic operations by providing lane and route continuity and adequate design speed, this alternative would not adequately accommodate future traffic volumes.
- Replace deteriorating pavement: Existing pavement would be replaced under this alternative.
- Minimize impacts to the environment and construction cost: This alternative would cost more than the Spot Improvements Alternative and less than the Safety and Design Improvements with Added Capacity Alternative. Impacts would be comparable to the Safety and Design Improvements with Added Capacity Alternative.
- Support from local governments and the public: Several local governments and Kenosha and Racine Counties have indicated their support for capacity expansion rather than this alternative. The City of Milwaukee supports this alternative and has indicated its general opposition to freeway capacity expansion in the City of Milwaukee.

Safety and Design Improvements with Added Capacity

This alternative includes all the elements of the Safety and Design Improvements Alternative described above. In addition to those elements, it also includes one additional

general-purpose lane in each direction on I-94 from the Mitchell Interchange to the south project limit. The ramp from NB I-94 to WB I-894/43 would have three lanes compared to two lanes under the Safety and Design Improvement Alternative. Similarly, the ramp from I-894/43 EB to I-94 SB would have three lanes (Exhibit 2-3 at the back of the document).

Similar to the Safety and Design Improvements Alternative, the frontage roads adjacent to I-94 in Kenosha and Racine Counties would be reconstructed up to 60 feet further away from their existing locations. The increased width between I-94 and the frontage roads would accommodate the additional lane in each direction meet minimum WisDOT design standard for separation between a frontage road and freeway and provide space to collect and partially treat storm water run-off from I-94 and the frontage roads. Strip acquisition would be required from property owners adjacent to the frontage roads. In select locations, the frontage roads would stay on their existing alignment to avoid residential or business relocations or sensitive environmental features such as primary environmental corridor.

The impacts are similar to the Safety and Design Improvements Alternative. Roughly 47 acres of new right-of-way and four residential relocations would be required under this alternative, excluding the Drexel Avenue and I-94/27th Street interchange alternatives. Approximately eight detached garages at an apartment complex in the southwest quadrant of the Mitchell Interchange will need to be removed to allow construction to occur. These garages can be replaced at a different location on the property or at their current location after construction. About 52 acres of wetlands would be filled. One acre of primary environmental corridor would be acquired by WisDOT for new right-of-way.

While there is general public support for this alternative, there has been some opposition from individual residents and a local group opposed to expanding capacity on Milwaukee-area freeways. A civil rights advocacy group and a minority health advocacy group have expressed concern over freeway capacity expansion. Most local units of government have indicated support for capacity expansion. The City of Milwaukee noted its opposition to capacity expansion because of residential relocations and the associated loss of tax base (see June 8, 2006, letter from the City of Milwaukee**,** Appendix C, page C-26; Section 7; and Appendix D). Despite the City of Milwaukee's position at the beginning of the study, WisDOT evaluated a wide range of alternatives including adding capacity to the study-area freeway system to fully assess the benefits and costs. WisDOT worked closely with the City of Milwaukee throughout the study. More recently the City of Milwaukee reiterated its general opposition to freeway capacity expansion in the City of Milwaukee (see August 21, 2007, letter from the City of Milwaukee, Appendix C, page C-28; Section 7; and Appendix D).

The Safety and Design Improvements with Added Capacity Alternative would meet all elements of the project's purpose and need as follows:

- Improve safety by decreasing crashes: This alternative would address all substandard design elements.
- Improve traffic operations and accommodate future volumes on the study-area freeway system and service interchanges: This alternative would improve traffic operations by providing lane and route continuity and adequate design speed and would adequately accommodate future traffic volumes.

- Replace deteriorating pavement: Existing pavement would be replaced under this alternative.
- Minimize impacts to the environment and construction cost: This alternative would cost the most of the alternatives considered. Impacts would be comparable to the Safety and Design Improvements Alternative.
- Support from local governments and the public: Several local governments have indicated their support for this alternative. The City of Milwaukee has indicated its general opposition to freeway capacity expansion. This alternative has public support. There is opposition to this alternative as well.

This is WisDOT's preferred alternative. See Section 2.4.

Airport Spur Alternatives (including interchange with I-94)

Freeway Alternative. This alternative is similar to the existing airport spur with limited access and a concrete median barrier with median lighting. This alternative does not have support from GMIA and little public support. This alternative has been eliminated from consideration.

Boulevard Alternative. This alternative for the airport spur would provide an aesthetically pleasing gateway to the airport for those arriving in Milwaukee as well as for those departing the city. Under the Boulevard Alternative, the speed limit would be reduced to 45 mph on the Airport Spur. Two airport spur boulevard designs are depicted in Exhibit 2-4. The first includes a concrete median with curb and gutter and an outer 6-inch sloping face curb and a berm with a gradual slope, allowing for trees. The second boulevard design has an inner median with curb and gutter that could include trees and an outer area for lighting and an ornamental rail with fencing. The WB on-ramp to the spur from Grange Avenue would be eliminated with both spur boulevard alternatives and replaced by a WB entrance from Howell Avenue. This alternative has support from GMIA and the public. **This is WisDOT's preferred alternative for the Airport Spur.**

Interchange with I-94

- **Flyover Ramp Alternative**. This interchange alternative includes a flyover ramp from I-94 SB to the Airport Spur, meaning it is elevated over I-94 and the spur, allowing for higher speeds on the ramp. This alternative would require right-of-way acquisition from Garland Elementary School. This alternative has been eliminated from consideration because of its right-of-way impacts and because its higher design speed is not compatible with the boulevard alternative; it would be more compatible with the freeway alternative for the Airport Spur.
- **Loop Ramp Alternative**. This alternative is similar to the existing Airport Spur loop ramp with a slight change to the loop curve to allow space for a SB collector-distributor road along the west side of I-94. This ramp type is compatible with the boulevard alternative for the spur. **This is WisDOT's preferred alternative for this interchange.**
- **Rotary Alternative**. This circle ramp would eliminate the existing loop ramp resulting in an overall smaller right-of-way "footprint" of the interchange. The green areas in Exhibit 2-5 indicate the areas currently occupied by the interchange ramps that could be

used for some other purpose under this alternative. However, new right-of-way would need to be acquired northeast and southwest of the existing interchange. Also, this alternative would introduce conflict points and a short weave where traffic would have to cross over when changing lanes in order to exit. As a result, this alternative has been eliminated from consideration.

Service Interchange Alternatives

27th Street/I-894 Interchange Alternatives. Several interchange configuration alternatives were considered for the 27th Street interchange with I-894/43 adjacent to the Mitchell Interchange (Exhibit 2-6). Two key issues related to this interchange are 1) high traffic volumes on 27th Street (40,000 vpd in 2002) make it important to assess whether the interchange can adequately handle expected traffic volumes without disrupting traffic on I-894/43 or 27th Street, and 2) the 27th Street interchange's proximity to the Mitchell Interchange makes it important to design the 27th Street interchange to eliminate the dangerous weaving that exists in the short distance between 27th Street and the Mitchell Interchange.

What is a single-point urban interchange?

Single-point urban interchanges have one intersection with the crossroad rather than the typical two intersections. They generally require less right-of-way, cost more to build, and have a greater capacity than conventional interchanges. They are primarily suited to urban areas where space is limited. Right turns are typically free flow and only the left-turning vehicles pass through a signalized intersection. The primary advantage is that left-turning vehicles pass to the left of each other rather than the right, so their paths do not intersect.

- **Single-Point Urban Interchange Alternative.** This alternative would feature a single intersection on 27th Street for all vehicles turning left as they enter or exit the freeway. Single point urban interchanges are effective when traffic volumes on the local road are high and have high left-turn volumes. This alternative was eliminated from consideration because the intersection where the ramps intersect 27th Street would operate at level of service E in 2035. This alternative would also require a longer closure of 27th Street during construction than the "U-ramps" alternative.

- **Diamond Interchange with "U-ramps" Alternative**. This configuration would eliminate the need for left turns from 27th Street to I-894/43 in either direction, thereby improving traffic flow on 27th Street. All vehicles on NB 27th Street that plan to enter I-894/43 would turn right onto the same ramp. That ramp would then split into two ramps: one for I-894/43 EB traffic and one for I-894/43 WB traffic. Similarly, all 27th Street SB traffic that enters I-894/43 would also turn right onto a single ramp that would then split into two ramps, one for I-894/43 EB and one for I-894/43 WB. The intersection where the ramps intersect 27th Street would operate at level of service B in 2035. Lane closures on 27th Street during construction would be minimized under this alternative. Roughly 3 acres of new right-of-way would be required under this alternative. **This is WisDOT's preferred alternative for this interchange.**

- **Diamond Interchange Alternative**. A standard diamond interchange was considered but eliminated from consideration because of high traffic volumes on 27th Street. WisDOT's traffic analysis of this interchange configuration indicates that the intersection where the ramps intersect 27th Street would operate at level of service F in 2035. As a result, this alternative has been eliminated from consideration.

- **Diamond Interchange with WB Entrance Loop Ramp Alternative (Existing Interchange Configuration)**. The existing configuration of the 27th Street interchange features a diamond interchange plus a loop ramp in the northeast quadrant for NB 27th Street vehicles to enter WB I-894/43. A disadvantage of this alternative is that the WB loop ramp is a very tight curve. However, all entrance ramps would be lengthened, compared to the existing interchange, to meet current design standards. Like the diamond interchange alternative, WisDOT's traffic analysis of this interchange configuration indicates that the intersection where the ramps intersect 27th Street would operate at level of service F in 2035. As a result, this alternative has been eliminated from consideration.

- **Diamond Interchange with Two Loop Ramps Alternative**. This alternative includes a loop ramp in the southeast quadrant of the interchange for vehicles exiting EB I-894/43 to go NB on 27th Street. A loop ramp eliminates the need for exiting traffic to turn left onto 27th Street. Eight acres of new right-of-way would be acquired and two businesses in the southeast quadrant would be relocated under this alternative. This alternative was eliminated from consideration because of right-of-way acquisition and relocation impacts.

Layton Avenue Interchange Alternatives. WisDOT developed several alternatives for the Layton Avenue Interchange (Exhibit 2-7). Like the 27th Street interchange with I-894/43, the Layton Avenue interchange is very close to the Mitchell Interchange. The Layton Avenue interchange must be designed to allow vehicles to safely and efficiently enter and exit I-94 while maintaining safety and operations in the Mitchell Interchange.

- **No Access at Layton Avenue Interchange Alternative**. Under this alternative, the Layton Avenue interchange would be removed completely. Vehicles that enter and exit at this interchange would use the 27th Street interchange with I-894/43,[1] Howard Avenue interchange, or the Airport Spur. Traffic analysis indicates that Layton Avenue and 27th Street would operate at an acceptable level of service under this alternative, with some minor improvements to the intersection of 27th Street and Layton Avenue, and I-94 would operate at the same level of service with or without a Layton Avenue interchange. Business owners on Layton Avenue near I-94 oppose this alternative, as does the leadership of a mosque and school on Layton Avenue near I-94. The City of Milwaukee opposes removing the interchange (see Appendix C, page C-27). Because there is no benefit to freeway operations and because of local opposition, this alternative has been eliminated from consideration.

- **Partial Access (access to and from the south only) Alternative**. Under this alternative, vehicles on Layton Avenue could enter I-94 SB but not I-94 NB. Vehicles on I-94 NB could exit at Layton Avenue, but there would be no exit to Layton Avenue from I-94 SB. Access to and from the north would be provided at Howard Avenue, 27th Street, or the Airport Spur. The advantage of this alternative is that the ramps to and from the north would not need to be constructed among all the Mitchell Interchange system ramps, which would improve ramp spacing. Providing a half interchange is not consistent with FHWA and AASHTO freeway design guidelines. Businesses in the area have expressed concerns over this alternative, as it would eliminate an access point to and from Layton Avenue and Milwaukee's central business district. As a result, this alternative was eliminated from consideration.

[1] This alternative would not be implemented if the option to limit access from the 27th Street interchange to I-94 were implemented.

- **Full Access Alternative**. This alternative is a typical diamond interchange. It would eliminate the existing loop ramps at this interchange and would result in a much smaller "footprint" of the interchange. The green areas in Exhibit 2-7 indicate the areas currently occupied by the interchange ramps that could be used for some other purpose. This alternative has been designed so that three of the four ramps connect to the planned collector-distributor road between the Airport Spur and the Mitchell Interchange rather than directly to I-94. **This is WisDOT's preferred alternative for this interchange.**

College Avenue/I-94 Interchange Alternatives

- **Diamond Interchange Alternative**. The interchange ramps would be closer to the freeway than the existing interchange resulting in a smaller "footprint" for the interchange. The green areas in Exhibit 2-8 indicate the areas currently occupied by the interchange ramps that could be used for some other purpose and the grey areas indicate the replacement of the park-and-ride lots. This alternative improves the intersection spacing on College Avenue and the operation of the adjacent 13th and 20th Street intersections with College Avenue. **This is WisDOT's preferred alternative for this interchange.**

- **Diamond Ramp Interchange with Two Loop Ramps**. This ramp configuration includes two loops on the southern half of the interchange and a diamond configuration on the northern half of the interchange as shown in Exhibit 2-8. This configuration would not reduce the interchange's "footprint" as with the diamond and single point interchange alternatives. The loop ramps in the southern half of the interchange would not allow for the replacement of the existing park-and-ride lot in the southwest quadrant. There is no improvement in traffic operations compared to the diamond interchange alternative and it does not provide adequate intersection spacing between the ramp terminals and the adjacent local road intersections (13th and 20th Streets). For these reasons, this alternative has been eliminated from consideration.

- **Single-Point Urban Interchange**. This single point interchange configuration includes ramps that are pulled in closer to the freeway than the existing interchange, as shown in Exhibit 2-8. As with the tighter diamond ramp interchange, this alternative would eliminate the existing diamond ramp resulting in a much smaller "footprint" of the interchange. However, this interchange alternative costs more than the diamond interchange without operational benefits. This alternative was eliminated from consideration because it is more expensive than the diamond interchange alternative with no operational benefits and similar impacts.

Rawson Avenue/I-94 Interchange Alternatives

- **Diamond Interchange Alternative**. This diamond ramp configuration is closer to the freeway than the existing interchange resulting in a smaller "footprint" of the interchange. The green areas in Exhibit 2-9 indicate the areas currently occupied by the interchange ramps that could be used for some other purpose. This alternative improves the intersection spacing on Rawson Avenue and the operation of the adjacent 13th and 20th Street intersections with Rawson Avenue. **This is WisDOT's preferred alternative for this interchange.**

- **Diamond Interchange with Two Loop Ramps Alternative**. This ramp configuration includes two loops on the southern half of the interchange and a diamond configuration on the northern half of the interchange as shown in Exhibit 2-9. This configuration would not reduce the interchange's "footprint" as with the diamond and single point interchange alternatives. There is no improvement in traffic operations compared to the diamond interchange alternative and it does not provide adequate intersection spacing between the ramp terminals and the adjacent 13th Street and 20th Street intersections. For these reasons, this alternative has been eliminated from consideration.

- **Single-Point Urban Interchange Alternative**. This diamond ramp configuration is closer to the existing interchange resulting in a much smaller "footprint" of the interchange. However, this interchange alternative costs more than a diamond interchange without operational benefits. This alternative was eliminated from consideration because it is more expensive than the diamond interchange alternative with no operational benefits and similar impacts.

Drexel Avenue Interchange Alternatives. WisDOT and FHWA are considering constructing an interchange with I-94 at Drexel Avenue in Milwaukee County as part of the I-94 reconstruction. Five alternatives for the interchange were initially developed (see Exhibit 2-10):

- **No-Build Alternative**. Under this alternative, the Drexel Avenue bridge over I-94 would be reconstructed[2] but no interchange would be constructed. Under this alternative, an additional EB left turn lane from Ryan Road to the NB on ramp to I-94 would be implemented rather than a new interchange at Drexel Avenue. The Ryan Road and Rawson Avenue interchanges would operate at a slightly lower level of service under this alternative. Average speeds on I-94 in the afternoon peak hour in the vicinity of Drexel Avenue would be 37 mph compared to 41 mph if a Drexel Avenue interchange is built. This alternative is no longer under consideration.

- **Diamond Interchange Alternative**. This alternative involves a diamond interchange with two ramp terminal intersections at Drexel Avenue, one on either side of I-94. The entrance and exit ramps would intersect Drexel Avenue close to the freeway in order to minimize impact to adjacent residences and Milwaukee County's Falk Park on the west side of I-94 and a church on the east side. Two residences would be relocated under this alternative and roughly 7 acres of new right-of-way would be acquired, including 2 acres of the 216-acre Falk Park. The acquisition would be from an undeveloped portion of the park. Milwaukee County and the Cities of Oak Creek and Franklin support this alternative. **This is the preferred alternative for this interchange as agreed to by both FHWA and WisDOT**.

- **Single-Point Urban Interchange Alternative**. Under this alternative, the two entrance and exit ramps would share a single intersection with Drexel Avenue over I-94. Two residences would be relocated and roughly 6 acres of new right-of-way, including about 2 acres of Falk Park, would be acquired under this alternative. This alternative was eliminated from consideration because it is more expensive than the diamond interchange alternative with no operational benefits and similar impacts.

[2] The City of Oak Creek is planning to widen Drexel Avenue to four lanes. The Drexel Avenue bridge over I-94 would be widened to accommodate widened Drexel Avenue as part of the I-94 reconstruction.

- **Loop Ramp in Northeast Quadrant Alternative**. This alternative was initially developed in order to limit right-of-way acquisition from a church in the southeast quadrant. The NB exit ramp would be a loop ramp in the northeast quadrant. This alternative was eliminated from consideration because it would require more right-of-way than the diamond interchange alternative (12 acres compared to 7 acres) and because the diamond interchange alternative can be constructed without affecting the church or its parking lot.
- **Falk Park Avoidance Alternative**. This alternative was developed to avoid Falk Park. Six residences would be relocated from the west side of I-94 under this alternative, and 16 acres of right-of-way would be acquired compared to two residential relocations and 7 acres of right-of-way acquisition under the diamond interchange. The City of Oak Creek opposes this alternative. This alternative was eliminated from consideration because of the higher number of residential relocations and right-of-way acquisition compared to the diamond interchange alternative, and because of local opposition.
- **Ryan Road Interchange Improvements to Avoid Need for Drexel Avenue Interchange**. See the No-Build Alternative. This alternative is no longer under consideration.

Ryan Road/I-94 Interchange Alternatives

- **Diamond Interchange Alternative**. This diamond ramp configuration is closer to the freeway resulting in a smaller "footprint" of the interchange. The green areas in Exhibit 2-11 indicate the areas currently occupied by the interchange ramps that could be used for some other purpose and the grey area indicates the allowance made for the replacement of the park-and-ride lot in the northeast quadrant with this alternative. **This is WisDOT's preferred alternative for this interchange.**
- **Single-Point Urban Interchange Alternative**. This diamond ramp configuration is closer to the mainline than the existing interchange resulting in a smaller "footprint" of the interchange. This alternative was eliminated from consideration because it is more expensive than the diamond interchange alternative with no operational benefits and similar impacts.
- **Diamond Interchange with Two Loop Ramps Alternative**. This ramp configuration includes two loops on the southern half of the interchange and a diamond configuration on the northern half of the interchange. This configuration would not reduce the interchange's "footprint" as with the diamond and single point interchange alternatives. There is no improvement in traffic operations compared to the diamond interchange alternative and it does not provide adequate intersection spacing between the ramp terminals and the adjacent 13th Street and 20th Street intersections. For these reasons, this alternative has been eliminated from consideration.

27th Street/I-94 Interchange Alternatives. WisDOT and FHWA are considering converting the existing half interchange with I-94 at 27th Street (not to be confused with the 27th Street interchange with I-894/43 adjacent to the Mitchell Interchange) to a full interchange. As noted in Section 1.2.6, the existing half interchange only provides access to and from the south, which is not consistent with FHWA policy and AASHTO freeway access guidance. Four alternatives were initially considered (see Exhibit 2-12). The City of Oak Creek supports a full interchange at this location.

- **Keep Existing Half Interchange Alternative**. This alternative was dismissed from consideration because it is not consistent with FHWA policy and AASHTO freeway design guidelines. It remains part of the No-Build Alternative but will not be considered under the Build Alternatives.
- **Full Interchange at Existing Half Interchange Location Alternative**. This configuration was dismissed from consideration because of impacts to the Root River corridor. An interchange at this location would essentially be directly over the Root River and associated floodplain, wetland, and wildlife habitat. Impacts of this alternative would include filling wetlands and floodplain.
- **Elm Road Interchange Alternative**. Under this alternative, a full interchange would be constructed roughly 1/2 mile north of the existing half interchange to avoid impacts to the Root River corridor. A four-lane road would provide an east-west connection between the interchange and 27th Street to the west. About 10 acres of new right-of-way would be required under this alternative. **This is WisDOT's preferred alternative for this interchange.** WisDOT will not provide a connection east to 13th Street from this interchange. The City of Oak Creek may construct a local road from the interchange east to 13th Street in the future (see Section 4.2.1, Indirect Impacts).

Russell Road Interchange Alternatives. The Russell Road interchange is in Lake County, Illinois. It represents the south terminus of the study area. There is no SB entrance ramp at this interchange because of Russell Road's proximity to the I-94/USH 41 interchange. There is a SB entrance ramp to I-94 located about 3/4 mile south of Russell Road. The only alternative developed for this interchange is to reconstruct it in its current alignment, with minor improvements to meet current design standards (Exhibit 2-2). More extensive improvements to this interchange, such as adding a SB entrance ramp, must account for the close proximity of the I-94/USH 41 interchange that is outside the study area and beyond the scope of this study.

2.2.5 Other Alternatives Considered

Several other alternatives have been considered and dismissed for various reasons.

Level of Service C Alternative

As noted in Section 1, FHWA and AASHTO freeway design guidance state that level of service C is the desirable level of service in urban areas, although level of service D "may be appropriate in heavily developed sections of metropolitan areas" (AASHTO, 2004a). Based on this guidance, WisDOT and FHWA developed an alternative that would provide level of service C on the urban portion of the study-area freeway system (I-94 north of Ryan Road). This alternative would have roughly the same configuration as the Safety and Design Improvements with Added Capacity Alternative but with even more added capacity. I-94 would be widened to five lanes north of Ryan Road. I-94 would have three lanes NB and SB through the Mitchell Interchange, compared to two lanes under the other Build Alternatives. The ramps connecting I-894/43 and I-94 to and from the south would have four lanes compared to two or three lanes under the other Build Alternatives. The right-of-way and relocation impacts of this alternative are much greater than the other Build Alternatives that remain under consideration. Roughly 30 single-family residences and three 8-unit apartment buildings would be relocated, for a total of approximately 54 residential relocations. Four businesses and the office/pool building of an

apartment complex would be relocated. Based on the residential and business relocation impacts, this alternative was eliminated from consideration.

High-Occupancy Vehicle/High-Occupancy Toll Lanes

WisDOT and FHWA considered adding lanes for the exclusive use of vehicles carrying two or more passengers (HOV lanes). In some cities, single-occupant vehicles that pay a toll are allowed to use HOV lanes. These lanes are referred to as high-occupancy toll (HOT) lanes. HOV/HOT lanes are typically separated from general-purpose lanes by either pavement marking or a concrete barrier. Barrier-separated lanes are more effective at stopping the misuse of HOV/HOT lanes. It is also safer to have a barrier between vehicles traveling at different speeds—a high-speed vehicle in the HOV/HOT lane crashing into lower speed vehicles in the general-purpose lanes could exacerbate the severity of the crash. A low-speed vehicle in the general-purpose lanes that pulls into the HOV/HOT lanes to avoid a slowed or stopped vehicle could trigger a severe crash with a high-speed vehicle in the HOV/HOT lanes. Also, a barrier allows HOV/HOT lanes to continue to operate if there is a crash on the general-purpose lanes, and vice versa.

Including a barrier between general-purpose lanes and HOV/HOT lanes would make the freeway wider because the HOV/HOT lanes would need their own shoulder in addition to the shoulder on the general-purpose lanes. Exhibit 2-13 illustrates the width of a freeway under different combinations of general purpose and HOV/HOT lanes. Three general-purpose lanes and one HOV/HOT lane in each direction would add about 60 feet to the width of I-94 compared to three general-purpose lanes. Three general-purpose lanes and one HOV/HOT lane in each direction would add 30 to 35 feet to the width of I-94 compared to four general-purpose lanes.

The increased width of I-94 with HOV/HOT lanes would dramatically increase the number of residential relocations in Milwaukee County compared to the other Build Alternatives. At least 60 residential relocations would be required in Milwaukee County under this alternative based on WisDOT's cursory analysis, compared to 4 residential relocations under the Safety and Design Improvements with Added Capacity alternative.

Studies on the effectiveness of HOV lanes at reducing congestion in Seattle and San Francisco and practical experience in Washington, DC and other locations have reached different conclusions (Kwon and Varaiya, 2005). AASHTO guidance on HOV lanes suggests that they are appropriate when, among other factors, average speeds on the freeway are "less than 30 mph for a distance of about 5 miles or more." (AASHTO, 1992). That condition does not occur on the study-area freeway system nor is it forecast to occur by the design year. More recent AASHTO guidance also references the 30 mph threshold (AASHTO, 2004b).

SEWRPC considered barrier-separated HOV or HOT lanes while developing *A Regional Freeway System Reconstruction Plan for Southeastern Wisconsin* (SEWRPC, 2003b) and determined that the right-of-way and relocation impacts were too great. SEWRPC's *A Regional Freeway System Reconstruction Plan for Southeastern Wisconsin* does not recommend implementing HOV/HOT lanes. WisDOT and FHWA were involved in preparation of *A Regional Freeway System Reconstruction Plan for Southeastern Wisconsin* and concur in its methodology and recommendations with respect to HOV lanes (see Section 1.2.2 for more information). This alternative was eliminated from consideration.

Reversible Lanes

WisDOT and FHWA considered reversible lanes as a way to provide the functionality of HOV/HOT lanes with less right-of-way impact. Reversible lanes are freeway traffic lanes designated for use by the direction of traffic having the highest volume. A gate is typically used to control which direction of traffic is granted use of the lane. Reversible lanes are effective where there is a large directional split in the morning and evening rush hour traffic. In the I-94 corridor, there is not enough of a directional split to make reversible lanes effective. This alternative was eliminated from consideration.

Exclusive Truck Lanes

At the public information meetings, some attendees asked about the possibility of exclusive lanes for large trucks (three or more axles) on I-94 as a way to increase safety and decrease congestion. Some suggested reserving the outside, or right lane for trucks while others suggested reserving the inside, or left lane, for trucks. Under either scenario, cars would be restricted from using the truck-only lanes. A 2001 California Department of Transportation study found that truck-only lanes are plausible when three factors exist: 1) large trucks make up over 30 percent of the vehicle mix; 2) peak hour volumes exceed 1,800 vehicles per hour per lane; and 3) off-peak volumes exceed 1,200 vehicles per hour per lane (Caltrans, 2001). In the I-94 north-south corridor, trucks make up no more than 18 percent of the vehicle mix.

This alternative was eliminated from consideration because truck volumes in the study area do not warrant their own lane. In addition, restricting trucks to the inside lane would result in trucks weaving over two or three lanes when they enter or exit the freeway. Restricting trucks to the outside lane would force cars to weave across the truck-only lane when entering or exiting the freeway.

Plainfield Curve 65 mph Design Speed Option

WisDOT and FHWA developed an option for the Plainfield Curve that featured a curve with a 65 mph design speed. In other words, vehicles could safely travel through the curve at 65 mph even under adverse weather conditions. This alternative was eliminated from consideration after the first public information meeting because 1) an additional six residential relocations would be required compared to the 60 mph design speed curve, and there would be minimal operational improvement; 2) there would be no substantial safety benefit by raising freeway design speed greater than 60 mph—several other locations in the Mitchell Interchange would still have 60 mph design speed under the Build Alternatives; and 3) a 60 mph design speed meets urban freeway standards. Currently, the posted speed limit for the Plainfield Curve is 50 mph.

27th Street Direct Access from NB I-94

During the Draft EIS public comment period an alternative was suggested that provided direct access to the 27th Street interchange from NB I-94. Under this scenario, a vehicle would exit I-94 NB south of the Mitchell Interchange, and a ramp would allow the vehicle to travel through the Mitchell Interchange and merge with the WB I-894/43 exit ramp to 27th Street. However, under this alternative, no direct access would be provided from the 27th Street interchange to SB I-94. This is similar to the alternative illustrated in Exhibit 2-2a. This alternative was eliminated from consideration because FHWA and WisDOT object to the practice of providing partial access at an interchange and not providing for all movements. Additionally, several residential relocations would be required as a result of this alternative.

January 2006 Workshop Ideas

In January 2006, WisDOT held a series of four workshops in the I-94 north-south corridor to solicit input from the public. At the time, WisDOT had not developed any alternatives. Attendees were encouraged to write their comments or draw their ideas on maps of the study area. Several suggestions and comments were incorporated into the alternatives. Suggestions that were ultimately not adopted include the following:

Off-Alignment Through the Mitchell Interchange Alternative. Moving the location of the Mitchell Interchange about 1/2 mile east of its current location. This would eliminate the existing sharp curves in the Mitchell Interchange and the Plainfield Curve. Residences and businesses currently occupy the area of the proposed interchange. This alternative was eliminated from consideration because of the large number of residential and business relocations that would be required (likely more than 100).

Consider Chevrons on Plainfield Curve. WisDOT placed special pavement markings in the Plainfield Curve in 2006. Chevrons were not used because they are sometimes more slippery than pavement in the rain.

Police Enforcement at Plainfield Curve. This idea may be implemented at some point by the Milwaukee County Sheriff's Department and WisDOT, but this would not, by itself, address the substandard design speed of the existing curve.

Puetz Road Interchange. WisDOT and FHWA evaluated a new interchange at Puetz Road as an alternative to a new interchange at Drexel Avenue. Currently, Puetz Road crosses over I-94 but does not have an interchange. An interchange at Puetz Road would result in five to seven residential relocations, compared to two at Drexel Avenue. Overall right-of-way acquisition would be comparable. SEWRPC's *A Regional Transportation System Plan for Southeastern Wisconsin: 2035* and Oak Creek and Franklin land use plans include an interchange at Drexel Avenue rather than Puetz Road. Based on the higher number of residential relocations and lack of consistency with local and regional plans, this alternative has been eliminated from consideration.

2.3 Alternatives Retained for Detailed Study

The alternatives retained for detailed study in this EIS were determined based on the screening process discussed earlier; consideration of public comments; input from the Community Advisory Committee, Technical Advisory Committee, and other local interests; comments from state and federal review agencies; and further engineering and environmental evaluation. The alternatives retained for detailed study are summarized as follows.

2.3.1 Build Alternatives

The Safety and Design Improvements Alternative was retained for detailed study. This alternative would reconstruct I-94 as a six-lane freeway with safety improvements in Lake, Kenosha, Racine, and Milwaukee Counties. This alternative meets most of the elements of the purpose and need for the project. It does not meet the purpose and need element of providing adequate capacity for future traffic volumes. Benefits of this alternative are a safer freeway and new pavement that will last much longer and provide a smoother ride than the existing pavement.

The Safety and Design Improvement with Added Capacity Alternative was retained for detailed study. This alternative would reconstruct I-94 as an eight-lane freeway with safety improvements in Lake, Kenosha, Racine, and Milwaukee Counties. It meets all elements of the project's purpose and need. Benefits of this alternative are a safer freeway, new pavement that will last much longer and provide a smoother ride than the existing pavement, and accommodation of future traffic volumes.

Closing Edgerton Avenue under I-94 was eliminated from consideration.

Eliminating direct access from the 27th Street/I-894 interchange to SB I-94, and from NB I-94 to the 27th Street/I-894 interchange was considered and ultimately included in the preferred alternative.

This EIS evaluates and compares overall alternatives, but based on public or agency input and funding availability, WisDOT and FHWA may implement a combination of these alternatives and reconstruct the study-area freeway system to add capacity in certain areas and reconstruct as a six-lane freeway in other areas (see Appendix C, page C-5).

2.3.2 Interchange Alternatives

The following interchange design alternatives remain under consideration and could be implemented as part of the Safety and Design Improvements Alternative or the Safety and Design Improvements with Added Capacity Alternative. These alternatives were described in Section 2.2, Alternatives Screening.

The Airport Spur Boulevard Alternative remains under consideration, with a loop ramp interchange similar to the existing configuration connecting to I-94.

The service interchanges in the Milwaukee County portion of the study area have the following design alternatives remaining under consideration:

- 27th Street/I-894-43 Interchange
  - Diamond interchange with U-ramps
- Layton Avenue Interchange
  - Diamond interchange
- College Avenue Interchange
  - Diamond interchange
- Rawson Avenue Interchange
  - Diamond interchange
- Drexel Avenue Interchange
  - Diamond interchange
- Ryan Road Interchange
  - Diamond interchange
- 27th Street/I-94 Interchange
  - Elm Road interchange alternative

2.4 Selection of Preferred Alternative

Based on input received during the study from the public and state and federal resource agencies, engineering evaluation, and assessment of impacts to the natural and built environment, FHWA and WisDOT have identified a preferred alternative.

FHWA and WisDOT's preferred alternative is the Safety and Design Improvements with Added Capacity Alternative. The preferred alternative includes no direct access from the 27th Street interchange with I-894/43 to I-94 southbound; and no direct access from I-94 northbound to the 27th Street interchange with I-894/43.

At the time the Draft EIS was circulated for review, the Drexel Avenue interchange alternative was under consideration but was not identified as part of the preferred alternative. Based on input received from FHWA and the Cities of Oak Creek and Franklin (see Appendixes C and D), the Drexel Avenue interchange with I-94 is now part of the preferred alternative. The Drexel Avenue interchange would improve freeway ramp and local street intersection traffic operations at the adjacent Ryan Road and Rawson Avenue interchanges to acceptable levels of service. In addition, the Drexel Avenue interchange would improve the operation of I-94 near the Rawson Avenue interchange. The Drexel Avenue interchange is included in SEWRPC's 2003 *A Regional Freeway Reconstruction Plan for Southeastern Wisconsin*, the 2035 regional transportation plan, and Oak Creek and Franklin land use plans.

The preferred alternative was selected based on engineering and environmental factors and input from citizens, state and federal resource agencies, and local officials. The preferred alternative meets all elements of the project's purpose and need and strikes a balance between providing a safe and efficient study-area freeway system, and minimizing impacts to the natural and built environment in the I-94 north-south corridor to the extent possible and practicable.

Impacts of both Build Alternatives are shown in Exhibit S-1, Impact Summary Table, and documented in Section 4, Environmental Consequences. The difference in impacts between the two Build Alternatives is relatively small as shown in the Impact Summary Table. This was a key factor in WisDOT's decision to designate the Safety and Design Improvements with Added Capacity as its preferred alternative.

The preferred alternative was the subject of a public hearing and public comment period. This Final EIS summarizes input received during the public comment period, and responds to agency comments received during the comment period. Following the Final EIS, the FHWA will issue a Record of Decision. Only after the Record of Decision is issued does the selection of an alternative become final.

Selection of a recommended alternative, identified in the Record of Decision, will also be performed in accordance with the Clean Water Act's Section 404(b)(1) Guidelines for Specification of Disposal Sites for Dredged or Fill Material (40 CFR Part 230), administered by U.S. EPA and Corps. The guidelines state that dredged or fill material should not be discharged into aquatic ecosystems (including wetlands), unless it can be demonstrated that there are no practicable alternatives to such discharge, that such discharge will not have unacceptable adverse impacts, and that all practicable measures to minimize adverse effects are undertaken.

Tables

Exhibits

SECTION 3

Affected Environment

Section 3 provides background information on regional and local planning, the built environment, the human environment with respect to socioeconomic characteristics and trends, and the natural environment in the I-94 north-south corridor. Information is also provided for aesthetics, archaeological and historical resources, and public use land. The focus of Section 3 is to establish the context for proposed improvements and their potential impacts.

3.1 Land Use and Related Characteristics

3.1.1 Geographic Setting

The I-94 north-south corridor is located in Lake County, Illinois and Kenosha, Racine, and Milwaukee Counties in Wisconsin. Communities adjacent to the corridor are the Village of Wadsworth in Lake County; Village of Pleasant Prairie, City of Kenosha, Town of Bristol, Town of Paris, and Town of Somers in Kenosha County; Village of Mount Pleasant, Village of Caledonia, Town of Yorkville and Town of Raymond in Racine County; City of Franklin, City of Oak Creek, City of Greenfield, and City of Milwaukee in Milwaukee County (see Exhibit 1-1).

Geologically, the project corridor is located in an area known as the Eastern Ridges and Lowlands. The easternmost lowland from the southern border of Wisconsin to Green Bay includes the project corridor and is called the Rock River-Lake Winnebago-Green Bay Lowland. In addition to the influence of weathering and flowing water, the landscapes of southeastern Wisconsin were greatly influenced by several periods of glaciation. During that time, areas were alternately scoured by the advancing movement of glaciers and covered by layers of till left behind when the glaciers retreated (Wisconline, 1995–2002). Soils that formed over the glacial till within the project corridor consist of soils that are somewhat poorly drained to very poorly drained and were derived from glacial deposits, silt deposition, and the decomposition of wetland vegetation.

Topography along the I-94 north-south corridor is generally flat with some gentle slopes typical of southeast Wisconsin. Elevation ranges from approximately 660 feet above sea level along I-94/43 between 6th and 13th Streets in Milwaukee County to approximately 790 feet above sea level along I-94 near CTH G in Racine County.

3.1.2 Land Use and Land Use Planning

Land Use Planning

Regional planning is provided by SEWRPC on an advisory basis. A summary of key regional land use plans that were not previously summarized in Section 1.2.2 follows:

A Regional Natural Areas and Critical Species Habitat Protection and Management Plan for Southeastern Wisconsin—SEWRPC Planning Report Number 42 (September 1997). In 1997, SEWRPC completed a regional natural areas and critical species habitat protection and management plan. The plan

was developed recognizing that urbanization in the region, combined with agricultural activity, has greatly diminished the remaining undisturbed ecological resources. The plan identified the high-quality natural areas, critical species habitats, wetlands, environmental corridors, and significant geological and archaeological sites located in southeastern Wisconsin and formulated a recommended plan for the protection, wise use, and proper management of those resources. The plan promotes sound rural and urban development and avoidance of unnecessary and costly conflicts between development proposals and the need for resource protection.

A Regional Bicycle and Pedestrian Facilities System Plan for Southeastern Wisconsin: 2010—SEWRPC Planning Report Number 43 (1994) (Amendment to the Regional Bicycle and Pedestrian Facilities System Plan for Southeastern Wisconsin: 2020—SEWRPC Amendment to Planning Report Number 43 [2001]). This system plan provides planning information on the development of bicycle and pedestrian facilities as part of a comprehensive transportation system for southeastern Wisconsin.

A Comprehensive Plan for the Root River Watershed—SEWRPC Planning Report Number 9 (1966). This outdated plan was not reviewed.

A Comprehensive Plan for the Des Plaines River Watershed—SEWRPC Planning Report Number 44 (2003). This report developed recommendations to counter the serious and costly flooding, water pollution, and related problems of the Des Plaines River watershed and produced a comprehensive plan designed to manage, in a cost-effective and environmentally sound manner, the water resources in this watershed. This report presents a summary of the factual findings of the planning and engineering inventories conducted under the watershed study; identifies and quantifies the water resource-related problems of the watershed; presents pertinent forecasts of anticipated growth and change within the watershed; sets forth recommended watershed development objectives, principles, and standards; presents a comparative evaluation of alternative flood land and storm water management, water quality management, fisheries management, and related land use plan elements; and presents a recommended comprehensive plan for the development of the watershed. This report also specifically identifies the actions that must be taken by various units and agencies of government concerned in carrying out the recommended plan over time.

The plan suggests that raising the elevation of I-94 "could be considered to allow these roads to meet their applicable overtopping standards" during 50- and 100-year floods. The plan also notes that increasing the hydraulic capacity of the I-94 bridge over the Des Plaines River would have little impact on flood stages (Appendix G, Table G-1, footnote f). The plan also recommends very low storm water discharge rates for new development and redevelopment in the watershed. The storm water discharge rates from I-94 in the Des Plaines River watershed will likely exceed the plan's recommended rates. However, the project will meet all applicable regulatory storm water requirements.

A Park and Open Space Plan for Racine County (2nd Edition)—SEWRPC Community Assistance Planning Report Number 134 (2001). This plan was designed to guide the acquisition and development of lands and facilities needed to satisfy Racine County's existing and future (2020) outdoor recreation needs and to protect existing natural resources. Implementation of the recommended plan would ensure the protection and preservation of important natural resources within environmental corridors and isolated natural areas in the County.

A Park and Open Space Plan for Kenosha County—SEWRPC Community Assistance Planning Report Number 131 (1987). SEWRPC produced a regional park and open space plan for southeastern Wisconsin in 1977 and this was adopted by the Kenosha County Board in 1978 to serve as a

guide to the acquisition and development of park and open space sites and facilities in the County. In 1987, a new park and open space plan was produced for Kenosha County, providing updates to the 1977 plan and incorporating new data. The new plan discusses the implementation status of the major recommendations from the 1977 plan, presents a revised recommended park and open space plan for the County, and identifies actions needed to be taken by the DNR and Kenosha County to implement the plan.

A Farmland Preservation Plan for Racine County—SEWRPC Community Assistance Planning Report Number 46 (1981) and A Farmland Preservation Plan for Kenosha County—SEWRPC Community Assistance Planning Report Number 45 (1981). These outdated plans were not reviewed.

Municipalities, towns, and counties control land use and development in the I-94 north-south corridor. These local governments in the corridor have land use plans that vary in age and thoroughness. WisDOT has reviewed the applicable regional and local land use, development, and conservation plans as part of this study. Several of the regional and local plans applicable to the I-94 north-south corridor were discussed in detail in Section 1.2.2. Additionally, the I-94 North-South Corridor Study Indirect and Cumulative Effects Report provides an overview of all relevant regional and local land use plans that are located within or near the study area. Table 3-1 provides a list of relevant regional and local land use plans in place along the I-94 north-south corridor.

TABLE 3-1
Land Use and Development Plans in the I-94 North-South Corridor

SEWRPC Plans
2035 Regional Land Use Plan for Southeastern Wisconsin (2006)
A Regional Transportation System Plan for Southeastern Wisconsin: 2035 (2006)
A Land Use and Transportation System Development Plan for the I-94 South Freeway Corridor (1991)
A Regional Freeway System Reconstruction Plan for Southeastern Wisconsin (2003)
Kenosha-Racine-Milwaukee Corridor Transit Study Summary Report and Recommended Plan (2003)
A Transportation Improvement Program for Southeastern Wisconsin: 2007-2010 (2006)
A Regional Natural Areas and Critical Species Habitat Protection and Management Plan for Southeastern Wisconsin (1997)
A Regional Bicycle and Pedestrian Facilities System Plan for Southeastern Wisconsin: 2010 (1994), Amendment to the Regional Bicycle and Facilities System Plan for Southeastern Wisconsin: 2020 (2001)
A Comprehensive Plan for the Des Plaines River Watershed (2003)
A Comprehensive Plan for the Oak Creek Watershed (1986)
A Comprehensive Plan for the Kinnickinnic River Watershed (1978)
A Comprehensive Plan for the Root River Watershed (1966)
A Park and Open Space Plan for Kenosha County (1987)
A Farmland Preservation Plan for Kenosha County (1981)
A Park and Open Space Plan for Racine County (2001)
A Farmland Preservation Plan for Racine County (1981)
A Land Use Plan for the Village of Union Grove and the Town of Yorkville: 2020 (2003)
A Land Use Plan Implementation Strategy for the Rural (R-1) Area of the Town of Caledonia (2004)
A Park and Open Space Plan for Milwaukee County (In Progress)

TABLE 3-1 (CONTINUED)
Land Use and Development Plans in the I-94 North-South Corridor

Milwaukee County
Milwaukee County
General Mitchell International Airport Master Plan (Ongoing)
City of Milwaukee
Southeast Side Area Plan (Ongoing)
City of Franklin
City of Franklin Comprehensive Master Plan (1992)
27th Street Corridor Plan (2005)
Project Plan for the Creation of Tax Incremental District No. 3
City of Oak Creek
2020 Vision: A Comprehensive Plan for the City of Oak Creek (2000)
27th Street Corridor Plan (2005)
South 27th Street Sub-Area Vision Plan (2005)
City of Greenfield
City of Greenfield Comprehensive Master Plan (1992)
Racine County
Village of Caledonia
Town of Caledonia Land Use Plan (1996, amended 1999)
CTH K/I-94 (W-2) Neighborhood Plan (2005)
Town of Caledonia 7 Mile Road Development Concept (2005)
Village of Mount Pleasant
Mount Pleasant Master Plan for Land Use and Transportation – 2030 (2003)
Mount Pleasant I-94 Area Plan (2006)
Kenosha County
Kenosha County
Kenosha County General Zoning and Shoreland/Floodplain Zoning Ordinance
City of Kenosha
Bristol Neighborhood Plan (2004)
Corridor Land Use Plan (1992, amended 2005)
The City of Kenosha and Town of Bristol Land Use Plan (1999)
Town of Bristol
Town of Bristol Land Use Plan: 2035 (2006)
The City of Kenosha and Town of Bristol Land Use Plan (1999)
IH-94/Wis 50 Planning Area Land Use Plan (2002)
Village of Pleasant Prairie
Pleasant Prairie 2010 Comprehensive Land Use Plan
Comprehensive Plan of Redevelopment for the I-94/Wis 165/County Q Redevelopment Plan Project Area (2003)
Pleasant Prairie-Bristol Cooperative Plan Land Use Map (2005)

Existing Land Use

Existing land use in the corridor ranges from undeveloped and agricultural land to high-density urban development. Section 3.1.6 Residential Development and Section 3.1.7 Commercial and Industrial Development provide details regarding existing land uses along the I-94 north-south corridor. Existing land use is illustrated in Exhibits 3-1 through 3-3.

Lake County. Existing land use in the Lake County portion of the I-94 north-south corridor is mainly commercial use with some small industrial activities.

Kenosha County. In Kenosha County, existing development along the I-94 north-south corridor is focused around the STH 50 interchange. Smaller pockets of development also exist near STH 142, CTH C, and CTH Q/STH 165. A large primary environmental corridor on the east side of I-94 in the Village of Pleasant Prairie, which includes Prairie Springs Park, is a major constraint for development in this area of the corridor.

Kenosha County is expected to see growth and development over the next 20 years fueled by the spin off of regional growth in northeastern Illinois and the availability of jobs in the county (DOA, 2004). People from Illinois continue to move to Kenosha County to seek more affordable housing options within close proximity to jobs in Illinois. According to local planners, about 18,000 residents in Kenosha County commute to northern Illinois every day.

Much of the projected growth over the next 10 to 20 years in Kenosha County is expected to occur in the Village of Pleasant Prairie. The City of Kenosha is also expected to experience strong growth during this time period through lands that have been annexed or could be annexed in the future to the west of I-94.

The Town of Bristol is primarily a rural community; however, the town is planning for growth in targeted areas over the next 20 years. The Town of Paris intends to remain rural in character and has no sewer and water services available. Development in the Town of Somers to this point has primarily taken place on the eastern side of the community outside of the I-94 corridor.

Racine County. In Racine County, existing development along the I-94 north-south corridor is focused around the STH 20 interchange with additional pockets of development at the STH 11 and CTH K interchanges. Land use at these interchanges consists of commercial and industrial. A small residential area is located on the west side of I-94 just north of CTH C while other residences are scattered throughout the corridor.

Both Mount Pleasant and Caledonia developed land use plans that call for a mixture of land uses along the I-94 corridor including residential, commercial and industrial development, parks, and government services. This development is dependant upon sewer and water services extended to the area.

Milwaukee County. The I-94 corridor within Milwaukee County has the most dense development patterns within the study area. The densities are highest at the northern end of the study area in the City of Milwaukee and the City of Greenfield. Densities in Milwaukee County taper off further south in the cities of Franklin and Oak Creek where large areas of undeveloped land still exist.

The cities of Oak Creek and Franklin experienced double-digit growth over the past decade (U.S. Census Bureau, 2000). This trend is expected to continue for the next 10 to 20 years until land in the two cities is fully developed. In addition, both communities have substantial residential and commercial development planned along the I-94 north-south corridor.

3.1.3 Zoning

All communities adjacent to the I-94 north-south corridor have zoning regulations in place. While WisDOT actions are not required to follow local zoning, WisDOT reviews zoning information.

Areas zoned for conservancy or a related zoning classification are noteworthy. Conservancy zoning exists along the Des Plaines River corridor and east of I-94 along the Kilbourn Road Ditch near the Kenosha Regional Airport in Kenosha County. Conservancy zoning is intended to prevent destruction of valuable natural or manmade resources and to protect water courses and marshes, including the shore lands of navigable waters and areas that are not naturally drained, subject to periodic flooding, where development would result in hazards to health or safety or deplete or destroy natural resources, or be otherwise incompatible with public welfare. Conservancy zoning is also intended to preserve, protect, enhance, and restore all significant woodlands, areas of rough topography and related scenic areas. Regulation of these areas will serve to control erosion and sedimentation and will promote and maintain the natural beauty of the area. Conservancy zoning areas in Kenosha County are also designated as environmental corridors.

3.1.4 Transportation Service

Mass Transit

Both intra-city and inter-city bus service and passenger rail service is available along the I-94 north-south corridor, providing transportation services to those traveling in and around the corridor.

Intra-city Bus. Kenosha Transit serves the City of Kenosha and eastern Kenosha County from a hub at the Kenosha Transit Center in downtown Kenosha. Route 31 is the only route that crosses the I-94 north-south corridor. This route operates from 6:45 A.M. through 6:30 P.M., Monday through Friday and from 8:45 A.M. to 5:30 P.M. on Saturdays. The route runs along STH 50 from just west of I-94 east to STH 31. The Kenosha County Care-A-Van program, run through the Kenosha County Department of Aging, provides paratransit services to the elderly and persons with disabilities.

The Belle Urban System provides public transit service primarily in the City of Racine. Services operate 7 days a week, from 6 A.M. to midnight weekdays, and limited service on weekends. The Belle Urban System also provides service to the Grandview Business Park and Highway 20 park-and-ride in the Town of Yorkville along the I-94 north-south corridor via STH 20. The City of Racine also operates a taxi service called the Belle Urban Cab. The Belle Urban Cab operates 24 hours per day, 7 days per week and provides services for passengers with two taxi sedans and one minivan. Taxi service is provided throughout the City of Racine and takes passenger trips originating as far west as Ives Grove. The Belle Urban System also operates paratransit services within the City of Racine, while the Racine County Human Services Department provides paratransit service to the elderly and persons with disabilities in Racine County.

The Milwaukee County Transit System (MCTS) is the largest local transit operator in Wisconsin. MCTS provides transit services for all of Milwaukee County and paratransit services (Transit Plus) for the elderly, persons with disabilities, and those with conditions that prevent them from using MCTS's buses. Freeway Flyer express service is available along the I-94 north-south corridor and special services provide routes to special events such as Summerfest, other lakefront festivals, Wisconsin State Fair, and Milwaukee Brewers games.

There are park-and-ride lots at two Milwaukee County interchanges located along I-94 in the study area and several bus routes that parallel or cross the I-94 north-south corridor (Exhibit 3-4). MCTS Route 40, the Holt/College Freeway Flyer, uses I-94 within the study area. Park-and-ride lots are located at the Ryan Road and College Avenue interchanges. This route operates during weekday morning and evening rush hours and provides service from these park-and-ride lots to downtown Milwaukee. Route 40U utilizes the College Avenue park-and-ride lot in the southwest quadrant of the interchange and provides express service along I-94 to the University of Wisconsin-Milwaukee campus. Freeway Flyer Routes 43 and 46, the Whitnall Flyer and Loomis Southridge Flyer, do not utilize any of the park-and-ride lots within the I-94 north-south corridor, but do utilize I-894/43 and I-94/43 within the study area to access downtown. The South 27th Street Flyer route makes several stops along College Avenue west of I-94 and South 27th Street prior to entering I-94 at Layton Avenue and heading to downtown Milwaukee.

An additional Saturday-only route utilizes I-94 from Ryan Road to the north. This route provides a link from the Milwaukee County House of Corrections, located in Franklin, to downtown Milwaukee.

Only one MCTS route crosses I-94. This route crosses I-94 along Layton Avenue and has a western terminus at the Southridge Mall in Greendale and an eastern terminus at Warnimont Park, located along Lake Michigan in Cudahy. Several MCTS routes parallel the I-94 north-south corridor. These routes utilize 27th Street and 20th Street to the west of the corridor and 13th Street, 6th Street, and Howell Avenue to the east of the corridor.

Inter-city Bus. Coach USA (formerly known as Wisconsin Coach Lines) provides several commuter bus routes that utilize the study-area freeway system. These routes include the following:

- Fourteen daily trips from Waukesha/Milwaukee to O'Hare Airport and Midway Airport in Chicago on its Airport Express route. Scheduled stops within the corridor are at the following locations:
  - STH 50 in Kenosha County (three blocks west of I-94)
  - STH 20 in Racine County (truck stop in the southwest quadrant of the interchange)
  - GMIA
  - Coach USA bus terminal (13th Street, south of Layton Avenue)—This is a private park-and-ride facility
- Eight daily weekday trips and four daily weekend trips from downtown Milwaukee to downtown Racine and downtown Kenosha, via I-94 from downtown Milwaukee to GMIA, then traveling south on Howell Avenue, east on Ryan Road and utilizing STH 32 through Racine and Kenosha.

- A route provides service from Milwaukee to the Dairyland Greyhound Park located on STH 158 just east of I-94 in Kenosha County. Service for matinee races is provided on Wednesday, Saturday, and Sunday, and services for evening races are provided on Wednesday through Saturday.
- Three daily weekday trips from Milwaukee to Mukwonago that traverses the study area along I-43 from the west to the north with no stops in the study area.
- The Megabus offers service to destinations throughout the Midwest. Five trips per day both to and from Milwaukee utilize the I-94 north-south corridor. A Megabus stop is located at the College Avenue park-and-ride.

Other inter-city bus routes that utilize the I-94 north-south corridor include Greyhound Bus Lines which operates ten daily trips from Milwaukee to Chicago via I-94 with a stop in Kenosha. The Badger Bus operates six daily trips from Madison to Milwaukee and GMIA via I-94 and the Airport Spur.

Rail Service

Both passenger and freight rail service are provided in and near the I-94 north-south corridor.

Passenger Rail Service. Amtrak provides seven daily trips (six on Sundays) between downtown Milwaukee, GMIA, Sturtevant, Glenview, Illinois, and Chicago, via the Hiawatha Service. The Empire Builder route also provides one daily train between Milwaukee and Chicago. From Milwaukee, travel time to Chicago is approximately 90 minutes. Amtrak operates this service on tracks owned by the Canadian Pacific Railway. The tracks cross under I-94 just north of the Mitchell Interchange near 13th Street and under the Airport Spur.

METRA provides commuter rail service from Kenosha to downtown Chicago utilizing Union Pacific tracks. The METRA line is several miles east of the I-94 north-south corridor. As noted in Section 1.2.2, SEWRPC is studying the extension of commuter rail service from Kenosha to Racine and Milwaukee.

Freight Rail Service. The Union Pacific Railroad and Canadian Pacific Railway service the study area. Canadian Pacific Railway's main line between western Canada and Chicago crosses under I-94 at the two locations noted in the previous paragraph. A little-used Canadian Pacific Railway branch line from Sturtevant to Union Grove crosses under I-94 on the north side of STH 11. Union Pacific maintains two north-south tracks several miles east of the I-94 north-south corridor.

Air Service

GMIA is located in Milwaukee on Howell Avenue, east of I-94. The primary ground access to the airport is the Airport Spur via I-94. GMIA is the largest airport providing commercial air passenger service in Wisconsin and the only commercial airport in the study area.

GMIA is owned and operated by Milwaukee County. As noted in Section 1.2.3, over 3.6 million passengers enplaned at GMIA in 2005 (GMIA, 2006). Enplanements are forecasted to grow to 6.4 million in 2021 (GMIA, 2003). The 2003 Master Plan concludes that a parallel east-west runway will be required by 2021. The new 7,000-foot runway, if built, would lie south of the existing east-west runway and would not directly affect the Airport Spur or I-94. The existing east-west runway is 1 mile east of I-94.

Kenosha Regional Airport, in Kenosha County, and John H. Batten Airport, in Racine County, are transport/corporate airports. They serve corporate jets, small passenger, and cargo jet aircraft used by regional service, and small airplanes (piston or turboprop). Batten Airport is several miles east of I-94. Kenosha Regional Airport is located on the east side of I-94 at STH 158. In 2006, there were 65,722 takeoffs and landings at Kenosha Regional Airport.

Sylvania Airport is located on the west side of I-94 just north of STH 11. It is a basic utility airport serving small non-jet aircraft. The airport has parallel runways of asphalt and turf, each 2,360 feet long. The runways are oriented west to east and are nearly perpendicular to the I-94 frontage road. Other small private airstrips are located within a few miles of I-94 in Kenosha and Racine Counties, but none are adjacent to I-94.

Highways

I-94 is the major north-south roadway in the corridor (Exhibit 1-1). Other state and U.S. highways near the corridor parallel to I-94 include USH 45, STH 241, STH 32, STH 31, and STH 38. East-west state highways are STH 165, STH 50, STH 158, STH 142, STH 11, STH 20, and STH 100. Other crossroads that intersect I-94 are listed in Table 1-2.

3.1.5 Utilities

Underground and overhead utilities are located throughout the I-94 north-south corridor. The utilities noted in this section are "major" utilities, including electrical and gas transmission lines, and large water (over 8-inch) and sewer (over 36-inch) lines.

Electrical

Major overhead electrical transmission lines cross I-94 at the following locations:

- A 345 kilovolt (kv) double circuit line and 138 kv line located 1/4 mile north of CTH ML in Kenosha County
- A 138 kv line located in northern Kenosha County, 1/2 mile south of CTH E
- A 345 kv double circuit line and 230 kv double circuit line 1/4 mile south of 7 Mile Road in Racine County
- A 230 kv double circuit line 1/2 mile north of 7 Mile Road in Racine County
- A 138 kv double circuit line 1/4 mile north of the Racine/Milwaukee County line
- A 138 kv double circuit line following the previously discussed Canadian Pacific Railway mainline, crossing I-43/94 between 6th and 13th Streets
- Dual 138 kv double circuit lines cross east-west through the Mitchell Interchange and lie on the north side of I-894/43 between 20th Street and the western study limits at 35th Street
- Dual 138 kv double circuit lines 1/4 mile south of the Howard Avenue interchange

Gas

Gas mains, large pipes to transport natural gas through communities parallel the corridor and generally cross the I-94 north-south corridor at existing interchanges. Two high-pressure natural gas mains are located south of CTH E in Kenosha County.

Communication

A private telecommunications firm also has a large fiber optic communication line in the I-94 north-south corridor right-of-way along the west edge of the corridor from the southern project limit to the Mitchell Interchange. This fiber optic line remains in the corridor right-of-way as it turns west from the Mitchell Interchange along I-43/894 to the west project limit at 35th Street.

Water

The Cities of Milwaukee and Oak Creek provide water service to the Milwaukee County portion of the study area. Municipalities in Kenosha and Racine Counties provide water service to some but not all areas adjacent to I-94. There are several municipal water crossings in the study corridor.

Sewer

The Cities of Milwaukee and Oak Creek and the Milwaukee Metropolitan Sewerage District (MMSD) provide sanitary sewer service for the Milwaukee County portion of the corridor. Several interceptor sewers cross the corridor. The Cities of Milwaukee and Oak Creek maintain sanitary sewers that feed into MMSD's collector sewers. The City of Milwaukee has several large 48-, 54-, and 60-inch storm sewers that cross I-94. A proposed sanitary district along the corridor in Caledonia would include lift stations, force mains, and sanitary sewers. The City of Kenosha maintains a sanitary sewer line near STH 50 that crosses I-94 in a casing.

WisDOT Utilities

WisDOT has several communication lines and storm sewers along the corridor and located within the existing roadway.

3.1.6 Residential Development

In Lake County, there are no residences adjacent to I-94 in the study area, and only a handful of scattered rural residences within 1/4 mile of I-94.

Scattered residential development is adjacent to I-94 in Kenosha and Racine Counties and more concentrated in Milwaukee County. Roughly 40 residences have driveways onto the I-94 frontage roads in Kenosha County and another 60 in Racine County, a distance of 24 miles. In the 5 miles from the Racine/Milwaukee County border to Rawson Avenue, roughly 30 homes and two apartment complexes (both near Ryan Road) share a property line with I-94. North of Rawson Avenue, which is almost completely within the City of Milwaukee, the land use adjacent to I-94 is almost completely high-density residential development on 40- to 70-foot-wide lots. For example, 56 single-family residences and 2 apartment complexes border the west side of I-94 in the 1 mile between Rawson and College Avenues, over half the total of Racine and Kenosha Counties combined. Table 3-2 provides information regarding the number of residences that directly border the I-94 north-south corridor in Milwaukee County.

TABLE 3-2
Residences Directly Bordering I-94 in Milwaukee County

Location		West of I-94 N-S Corridor	East of I-94 N-S Corridor	Total
Rawson Avenue to Milwaukee/Racine County Line	Houses	5	25	30
	Apartments/Condo Buildings	3	0	3
Mitchell Interchange to Rawson Avenue	Houses	150	85	235
	Apartments/Condo Buildings	10	3	13

Note: All numbers are approximations.

In addition to the two previously mentioned apartment complexes, several smaller groupings of apartment buildings are also located near I-94, north of Rawson Avenue. Condominiums are located on the east side of I-94 at Edgerton Avenue and on the west side of I-94 south of Layton Avenue. Five apartment complexes are located along the south side of I-894/43 between 35th Street and the Mitchell Interchange. The easternmost of the five complexes (Wilson Gardens) has 150 units in 13 buildings in the southwest corner of the Mitchell Interchange. It extends west to 20th Street. One, two, and three bedroom units are available. According to the owner, the three-bedroom units attract families with small children (see Section 3.2.1, Population Levels and Trends). A 321-unit apartment complex (Timber Ridge) offering studio, one-bedroom, and two-bedroom apartments is located in the northwest quadrant of the Rawson Road interchange. A mobile home park is located on the north side of I-94 on the west side of 6th Street. It contains roughly 200 mobile homes.

In addition to those residences that are directly adjacent to I-94, many more lie close to the corridor. In Kenosha and Racine Counties, the following three subdivisions are within 1/4 mile of I-94: about 20 single-family residences located in a subdivision on the west side of I-94 just north of CTH C in Racine County, approximately 120 mobile homes on the east side of I-94 just south of CTH KR, and roughly 27 mobile homes on the east side of I-94 just south of CTH K in Kenosha County. Other residences, including farmhouses and scattered rural residences are within 1/4 mile of I-94, usually on crossroads that pass over or under I-94.

According to 2000 U.S. Census data and the SEWRPC Regional Land Use Inventory 2000 report, there are 15,335 people living within 1/4 mile of the I-94 north-south corridor in Milwaukee County in an estimated 6,600 households. In Racine County, there are 413 people living within 1/4 mile of I-94 while 474 people live within 1/4 mile of I-94 in Kenosha County.

The neighborhoods adjacent to I-94 in the City of Milwaukee were generally built after World War II. A majority of the residences in the I-94 north-south corridor located north of College Avenue were constructed from the 1960s to early 1970s. An exception occurs in the Plainfield Curve area. To the east of the curve, residences abutting I-94 were constructed between 1915 and 1953. On the west side of the curve, some residences were built as early as 1898 with the most recent residence constructed in 1969.

3.1.7 Commercial and Industrial Development

Commercial and industrial development is scattered throughout the I-94 north-south corridor but tends to be concentrated near interchanges.

Lake County

In the Lake County, Illinois portion of the study area, there are several service businesses, including gas stations, restaurants, convenience stores, and services for large trucks. There are also smaller manufacturing businesses in the area and a recreational vehicle dealership.

Kenosha County

In Kenosha County, existing commercial development along the I-94 north-south corridor is concentrated around the STH 50 interchange with additional commercial and industrial development near STH 142, CTH C, and CTH Q/STH 165. Large clusters of commercial development are located in all quadrants of the STH 50 interchange and in the southeast quadrant of the STH 165/CTH Q interchange.

The Lakeview Corporate Park located in Pleasant Prairie is a major economic center in Kenosha County. According to local planners, the business park contains approximately 9,000 jobs. This number is likely to increase as the remaining 550 acres are built out. Additionally, a large pharmaceutical company recently announced plans to locate a new campus in Kenosha County. The campus would be located between CTH Q and C on the west side of the I-94 in the Village of Pleasant Prairie's growth area. The campus is planned to be built out in three phases over the next 10 to 15 years. Approximately 1.8 million square feet of research and development space is planned along with a 200-room hotel and conference center and 200,000 square feet of retail space.

Additionally, the Dairyland Greyhound Park dog-racing track is located 1/2 mile east of I-94 on STH 158. This site is the location of a casino proposed by the Menominee Indian Tribe of Wisconsin. The tribe's application to designate the site as tribal land and operate a casino is under review by the U.S. Bureau of Indian Affairs. The State of Wisconsin must also approve the plan before it can be implemented. The Bureau of Indian Affairs prepared a Draft EIS for this project in 2005 and can be viewed at: http://reports.analyticalcorp.net/kenosha/deis/default.htm. Also, the Bristol Renaissance Fair is located on the east side of I-94 at CTH ML, near the Wisconsin/Illinois border.

Racine County

There is less existing commercial development along the I-94 corridor in Racine County. The lack of sewer and water services along the I-94 corridor in Racine County has hindered development. Some pockets of development exist at the CTH K, STH 20, and STH 11 interchanges. A flea market located on the west side of I-94 at 7 Mile Road attracts thousands of patrons on weekends. A large automobile auction facility is also located near the 7 Mile Road interchange. An orchard/farm with visitor amenities located on the west side of I-94 at CTH KR attracted approximately 250,000 visitors in 2003.

The Towns of Raymond and Yorkville, west of I-94, are primarily rural communities and intend to remain rural. However, the Town of Yorkville is open to non-residential

development near I-94. A pocket of industrial and commercial development, called Grandview, already exists in Yorkville at the STH 20 interchange.

The majority of growth in Caledonia has occurred east of STH 31, several miles from the I-94 corridor. Growth on the west side of Caledonia is limited by lack of sewer and water services. If services become available, Caledonia has a mix of land uses planned along I-94 with major nodes planned at 7 Mile Road and CTH K. Local officials expect to obtain sewer and water services near I-94 within the next 5 to 10 years.

A large portion of Racine County's growth over the next 10 to 20 years is expected to occur in Mount Pleasant. Sewer was recently extended west along STH 20 to I-94. Mount Pleasant's I-94 Area Plan sets a new direction for a 2,300-acre undeveloped area of Mount Pleasant, between CTH C on the north and CTH KR on the south, and a larger, surrounding area, totaling 8,000 acres. The plan proposes a business park along I-94, a mixed-use, active Town Center that will serve as a commercial and social center, neighborhoods oriented towards schools and parks, and a large interconnected greenway system. The I-94 Area Plan outlines a vision for Mount Pleasant that includes new business and office buildings along I-94 between STH 11 and CTH C in a business park setting. Commercial uses and denser housing would be concentrated in the new Town Center.

Milwaukee County

The 27th Street corridor, which parallels I-94 to the west, is a well-established commercial corridor in Milwaukee, Oak Creek, and Franklin. All three communities are taking actions to increase business opportunities along this corridor. In Milwaukee, a 27th Street Business Association recently formed to promote redevelopment opportunities and to attract new businesses. The Cities of Oak Creek and Franklin developed a plan for 27th Street that calls for high-quality retail and office uses with some opportunities for higher density residential development.

The area surrounding GMIA contains several trucking and air freight businesses as well as several hotels and other hospitality supporting businesses on Layton Avenue, Howell Avenue, 13th Street, and 6th Street. Several businesses are located on 6th and 13th Streets adjacent to I-94, including a concrete manufacturing plant on 13th Street and a steel and wire manufacturing facility on 6th Street.

Other employment generators near the I-94 corridor in Milwaukee County include the City of Oak Creek's north and south branch industrial parks and the City of Franklin's Business Park near 60th Street. In Oak Creek, a large manufacturing facility is located on the east side of 13th Street in the vicinity of the proposed full interchange with I-94 at 27th Street.

3.1.8 Agricultural Resources

The majority of the land located along the I-94 north-south corridor is well-suited for farming and agriculture. Farmland is the most common land use in the Kenosha and Racine County portion of the I-94 north-south corridor. In Milwaukee County, farmland is adjacent to I-94 in the one-mile segment between the Milwaukee/Racine County line and Oakwood Road. A few scattered farm fields are adjacent to I-94 between Oakwood Road and Drexel Avenue. There are no farm fields adjacent to I-94 in the Lake County portion of the study area.

The 2006 issue of Wisconsin Agricultural Statistics (USDA, 2006) provides data regarding Wisconsin's crop, livestock, and dairy production. The report provides statewide data as well as countywide data. The three counties, Milwaukee, Racine, and Kenosha, in the I-94 north-south corridor have less agricultural activity than other counties in the state. These counties were not in the top five for production or yield of any crop in the State of Wisconsin in 2005. Additionally, the three counties contain some of the lowest numbers of livestock in the state.

Agricultural land in the three Wisconsin counties continues to convert to other uses. As a result, land values are increasing in these three counties compared to the rest of the state. Table 3-3 identifies the amount of agricultural land in Kenosha, Racine, and Milwaukee Counties that was converted to other uses in 2005.

TABLE 3-3
Agricultural Land Converted to Other Uses (2005)

Location	Number of Transactions	Acres Sold	Dollars Per Acre
Milwaukee	2	85	23,240
Racine	14	869	16,123
Kenosha	11	700	30,808
Statewide	637	33,808	10,128

Note: This data is not available for Lake County.

Source: Agricultural Land Sales, USDA National Agricultural Statistics Service (Obtained from County Level Data Quick Stats), July 2006

Kenosha County

According to the 2002 Census of Agriculture (USDA National Agriculture Statistical Services), in 2002, there were 466 farms located in Kenosha County containing a total of 88,708 acres, an average of 190 acres per farm. In 2002, nearly 51 percent of the total land area in Kenosha was considered land in farming. Kenosha County ranked 56 out of Wisconsin's 72 counties for the total value of agricultural products sold. Current aerial photos show that approximately one-third of the land bordering I-94 in Kenosha County is farmland.

The counties in this study area, like many other counties across the country, have experienced a loss in farmland as development occurs. In 1970, Kenosha County had 740 farms with 120,000 acres of land in farms. Land in farms made up approximately 69 percent of the total land area in Kenosha County in 1970. Between 1970 and 2002, Kenosha County lost 31,292 acres of farmland, a decrease of 26 percent, while the total number of farms decreased from 740 in 1970 to 466 in 2002, a decrease of 37 percent.

Racine County

The 2002 Census of Agriculture stated that Racine County contained 631 farms in 2002 and a total of 124,201 acres of land in farms, an average of 197 acres per farm. Over 58 percent of the total land area in Racine County was considered land in farms. The 2002 Census of Agriculture also showed that Racine County was ranked near the middle (35th out of 72 counties) for total

value of agricultural products sold in the state. Current aerial photos show that approximately one-quarter of the land bordering I-94 in Racine County is farmland.

In 1970, Racine County had a total of 1,020 farms with 151,000 acres of land in farms. Land in farms made up over 70 percent of the total land area in Racine County in 1970. Between 1970 and 2002, Racine County lost 26,799 acres of farmland, a decrease of 18 percent, while the total number of farms decreased from 1,020 in 1970 to 631 in 2002, a decrease of 38 percent.

Milwaukee County

Milwaukee County is Wisconsin's most urban county, thus farming is less common in Milwaukee County than elsewhere in the state. Land in farming accounted for 5,579 acres (4 percent) in 2002 according to the 2002 Census of Agriculture. There were 78 farms in Milwaukee County in 2002 with an average of 72 acres of land per farm. In 2002, Milwaukee County was ranked 65th out of Wisconsin's 72 counties in terms of the total value of agricultural products sold.

In 1970, Milwaukee County had a total of 210 farms with 18,000 acres of land in farms. Land in farms made up nearly 12 percent of the total land area in Milwaukee County in 1970. Between 1970 and 2002, Milwaukee County lost 12,421 acres of farmland, a decrease of 69 percent, while the total number of farms decreased from 210 in 1970 to 78 in 2002, a decrease of 63 percent.

3.1.9 Institutional and Public Services

Fire, Ambulance, and Police Protection

Lake County. Police protection in the Lake County portion of the I-94 north-south corridor is provided by the Lake County Sheriff's Office, and fire service protection is provided by the Newport Township Fire Protection District and Winthrop Harbor Fire Department.

Kenosha County. The City of Kenosha Police Department provides police protection within the City of Kenosha. The Kenosha Fire Department provides fire fighting and emergency medical technicians from seven fire stations.

The Village of Pleasant Prairie Police Department provides police services to Pleasant Prairie. The Pleasant Prairie fire department consists of full-time firefighters, EMTs and paramedics, and paid-on-call firefighters and EMTs, providing services from two fire stations.

The Town of Paris receives police protection services from the Kenosha County Sheriff's Office. Fire protection and EMT service is provided by the Town of Paris Fire and Rescue. The Town of Bristol also receives police protection from the Kenosha County Sheriff and has a volunteer fire department that provides fire fighting and EMT services.

Racine County. The Village of Caledonia is served by the Caledonia Police Department and a volunteer fire department consisting of both volunteer firefighters and EMTs. The fire department has three fire stations. Police protection in the Village of Mount Pleasant is provided by the Mount Pleasant Police Department, while fire protection and emergency services are provided by the Mount Pleasant Fire Department.

The Town of Raymond receives police protection services from the Racine County Sheriff's office and has a volunteer fire department with EMT services. The Town of Yorkville contracts for police protection services with the Racine County Sheriff's Office and has a

Town Constable. The Yorkville-Union Grove Fire Department is a volunteer department providing fire protection and EMT services to the area.

The Racine County Sheriff's Office provides law enforcement services throughout the entire county. A Racine County Sheriff's Patrol Station is located on STH 20 just west of I-94 in Ives Grove.

Milwaukee County. The Milwaukee Fire Department has a Fire Station near 13th Street and Layton Avenue, housing Engine Company 17 (Engine 17) and Paramedic Unit 17 (MED 17). Engine 17 and MED 17 utilize the Layton Avenue interchange to access incidents located along I-94. I-94 is also used as a route to reach incidents that are located adjacent to the interstate. Edgerton Avenue is a key east/west route utilized by Engine 17. Edgerton Avenue allows Engine 17 to cross I-94 without having to cross the congested areas around the Layton Avenue interchange, according to the fire department. The Milwaukee Fire Department also has a fire station on South 13th Street, north of College Avenue (Exhibit 3-5). This station houses Engine Company 14 as well as Ladder Truck 8. This engine company utilizes the College Avenue interchange to access I-94.

The City of Oak Creek Fire Department has three fire stations providing fire and EMT/ambulance services to the City of Oak Creek. Station 3, located on 6th Street north of Rawson Avenue, is the closest to I-94. The Oak Creek Fire Department utilizes I-94 when responding to mutual aid calls to cities to the north. Ambulances also use I-94 to reach hospitals in the City of Milwaukee. For calls within the community, emergency service vehicles rarely use I-94. To access calls in the west side of the city west of I-94, emergency vehicles use Rawson Avenue, Puetz Road, and Ryan Road. College Avenue will also be used if necessary.

The Milwaukee County Sheriff's Office provides law enforcement and traffic enforcement within Milwaukee County.

Schools

The Milwaukee, Greenfield, and Oak Creek-Franklin public school districts serve Milwaukee County; Racine, Raymond, and Yorkville public school districts and the Union Grove Unified High School District serve Racine County; the Kenosha, Paris, and Bristol school districts and Central/Westosha Unified High School District serve Kenosha County; and Gurnee Elementary District #56 and Warren Township High School District #121 serve Lake County.

Two elementary schools and a middle school are located next to the study-area freeway system (Exhibit 3-5). Lowell Elementary is located on the north side of the Mitchell Interchange. A small tot lot (see Section 3.6.1) is located between the school and the freeway. According to the school principal, the school's 2006–2007 enrollment was 266 kindergarten through fifth grade students. Garland Elementary is located on the east side of I-94 at the Airport Spur Interchange. According to the principal, the school's 2006–2007 enrollment was 302 kindergarten through fifth grade students. Oak Creek West Middle School is located on the east side of I-94 south of Drexel Avenue. The school's enrollment in 2005–2006 was 599 students in sixth, seventh, and eighth grade (Wisconsin's Information Network for Successful Schools, 2007).

Several other schools are located close to the study-area freeway system in Milwaukee County. St. Roman's Church and School, offering kindergarten through eighth grade classes, is located one block north of Lowell Elementary on Bolivar Avenue. Greenfield Middle School is located on Barnard Avenue, west of 27th Street and approximately 1/3 mile south of I-894/43, with an enrollment of 719 sixth through eighth graders during the 2005–2006 school year. The Salam School is based at the Islamic Center, located in the southwest quadrant of the 13th Street and Layton Avenue intersection in Milwaukee. The Salam School offers kindergarten though eighth grade classes and had a total enrollment of 387 students during the 2006–2007 school year (Salam School, 2008). Three Milwaukee Public School District schools are located in the Sholes Education Complex on 20th Street south of Layton Avenue, approximately 1/4 mile west of I-94 and 1/2 mile south of I-894/43. Professional Learning Institute (150 ninth through twelfth grade students in 2005–2006), IDEAL (189 kindergarten through eighth grade students in 2005–2006) and Ronald Wilson Reagan College Prep High School (303 ninth through eleventh grade students in 2005–2006) are located in the same building. Cooper School is located just south of Sholes Education Complex, 1/4 mile west of I-94. The school had 356 kindergarten through eighth grade students enrolled in 2005–2006. Victory School is located on Ramsey Avenue, 1/3 mile west of I-94. The school had 496 kindergarten through eight grade students enrolled in 2006-2007. Cedar Hills Elementary School, part of the Oak Creek-Franklin Joint School District, is located between Rawson Avenue and College Avenue approximately 1/4 mile west of I-94. For the 2005–2006 school year, 273 students were enrolled in kindergarten through fifth grade (Wisconsin's Information Network for Successful Schools, 2007).

Student transportation services are offered in all of the school districts in the corridor. No school districts within the study corridor use I-94 for established bus routes, however, the districts do use I-94 occasionally to transport students on field trips. I-94 is a boundary for school districts in Racine and Kenosha Counties. Bus routes in these districts do not use I-94 or cross I-94 but do utilize the frontage roads to pick up and drop off students.

The Milwaukee Area Technical College Oak Creek campus is located on Howell Avenue near College Avenue, 1 mile east of I-94. The Oak Creek campus offers 19 associate degree programs, 13 diploma programs, and 24 certificate programs (MATC, 2007).

Places of Worship

There are three places of worship adjacent to I-94 (Exhibit 3-5). A fourth is planned on the east side of I-94 at Oakwood Avenue. The Islamic Society of Milwaukee is based at the Islamic Center, in the southwest quadrant of the 13th Street and Layton Avenue intersection in Milwaukee. The Islamic Center provides a kindergarten through eighth grade school and offers regular worship services for the area's Islamic community. St. Mary and St. Antonious Coptic Church are located on the east side of I-94 on Drexel Avenue between I-94 and 13th Street. St. Mary and St. Antonious Church is the only Coptic Church in Wisconsin.

Oak Creek Assembly of God is located on the east side of I-94 south of Rawson Avenue. St. Stephens Catholic Church is currently located on Howell Avenue near GMIA. However, St. Stephens has purchased land on Oakwood Road on the east side of I-94 and plans to build a church at this location.

Several additional places of worship are located within 1/4 mile of the I-94 north-south corridor in Milwaukee County.

3.2 Socioeconomic Characteristics

3.2.1 Population Levels and Trends

Population in Kenosha and Racine Counties grew 21 percent and 9 percent, respectively, between 1980 and 2000 (Table 3-4). Milwaukee County's population fell 3 percent over the same period. Population density in the Milwaukee County portion of the study area is much higher than Racine and Kenosha Counties. Within Milwaukee County, population density is much higher north of Rawson Avenue than south of Rawson Avenue (see Exhibit 3-6). Wisconsin Department of Administration population estimates prepared in 2005 estimate a 2 to 6 percent increase in the three counties' population between 2000 and 2005.

TABLE 3-4
Population Levels in Kenosha, Racine, and Milwaukee Counties

Year	Kenosha County	Racine County	Milwaukee County
1980	123,137	173,132	964,988
1990	128,181	175,034	959,279
2000	149,577	188,831	940,164
2005 estimate	158,219	193,329	956,478

Source: 1980, 1990, and 2000 population: U.S. Bureau of the Census, 2005 population projections: Wisconsin Department of Administration.

Most communities that lie in the study area experienced double-digit population growth between 1990 and 2000 (Table 3-5).

Population projections prepared by the Wisconsin Department of Administration indicate population growth in all the communities in the study area, including the City of Milwaukee (Table 3-6). The communities at the south end (Kenosha, Pleasant Prairie) and north end (Franklin, Oak Creek) are expected to continue their recent high population growth.

TABLE 3-5
Past Population Trends

Community	1990 Population	2000 Population	Increase (Decrease)	Percent Change
Village of Pleasant Prairie	11,961	16,136	4,175	35
Town of Bristol	3,968	4,538	570	14
Town of Somers	7,861	9,059	1,198	15
Town of Paris	1,482	1,473	(9)	-1
City of Kenosha	80,352	90,352	10,000	12
Village of Mount Pleasant	20,084	23,142	3,058	15
Town of Yorkville	2,901	3,291	390	13
Village of Caledonia	20,999	23,614	2,615	13
Town of Raymond	3,243	3,516	273	8
City of Oak Creek	19,513	28,456	8,943	46
City of Franklin	21,855	29,494	7,639	35
City of Milwaukee	628,088	596,974	(31,114)	-5

Source: Census of Population and Housing, 1990 and 2000, U.S. Bureau of the Census

TABLE 3-6
Future Population Projections

Community	2000 Population	2025 Population Projection	Increase	Percent Change
Village of Pleasant Prairie	16,136	21,283	5,147	32
Town of Bristol	4,538	5,748	1,210	27
Town of Somers	9,059	10,819	1,760	19
Town of Paris	1,473	1,539	66	5
City of Kenosha	90,352	111,191	20,839	23
Village of Mount Pleasant	23,142	29,589	6,447	28
Town of Yorkville	3,291	3,759	468	14
Village of Caledonia	23,614	29,693	6,079	26
Town of Raymond	3,516	4,311	795	21
City of Oak Creek	28,456	44,094	15,638	55
City of Franklin	29,494	45,636	16,142	55
City of Milwaukee	596,974	622,738	25,764	4

Source: Wisconsin Department of Administration

In the study area, the population growth has been more robust. Population was assessed in a 1-mile radius around the entire study-area freeway system and a 3-mile radius around the potential new interchanges at Drexel Avenue and 27th Street near the Milwaukee-Racine County line (this boundary was developed as part of the indirect and cumulative effects analysis completed for this project [see Section 4.2]). The population in this area grew 14 percent between 1990 and 2000, including a 56 percent population increase in the Kenosha County portion of the study area (1-mile radius).

The percentage of minorities living in the study area is generally lower than that of the surrounding communities as a whole, based on 2000 Census data (Exhibit 3-7). In the Milwaukee County portion of the study area, 16 percent of the population within 1/4 mile of I-94 is minority, compared with 39 percent of Milwaukee County's overall population. In Racine County, 4 percent of the population within 1/4 mile is minority compared to 20 percent of Racine County's population. In Kenosha County, 4 percent of the population within 1/4 mile is minority compared to 15 percent of Kenosha County's population.

In the City of Milwaukee portion of the study area, 15 percent of the population within 1 mile of I-94 is minority and 17 percent of the population within 1/4 mile is minority, compared with 55 percent of the City of Milwaukee's overall population (Exhibit 3-8).

In addition to using 2000 Census data, WisDOT public involvement efforts for this study, which included door-to-door canvassing in neighborhoods near the Mitchell Interchange (see Section 6.1) help determine the presence of minorities who live near I-94. The Wilson Garden apartment complex in the southwest corner of the Mitchell Interchange has several minority residents. According to the owner, the majority of the 700 to 800 residents are minority. Residents are Hispanic, African American, Pakistani, and Indian. This apartment complex is bordered by 20th Street on the west, I-894/43 on the north, and I-94 on the east. Exhibit 3-9

illustrates that the population in the area bordered by Layton Avenue and I-894/43 between I-94 and 35th Street is closer to the Milwaukee County average of 38 percent minority.

On the east side of I-94, the neighborhoods between I-94 and 13th Street have a minority percentage that is higher than the rest of the study area but still comparable, in terms of percentage, to the Milwaukee County average. This continues along the east side of I-94 between the freeway and 13th Street down to Rawson Avenue (Exhibit 3-9). Census data from 2000 does not indicate a single ethnicity or race making up a large percentage of the minority population in this area, although persons born in the Middle East and North Africa are present in a higher-than-average percentage than in Milwaukee County overall. WisDOT's public involvement program supplements the 7-year-old Census data. Based on neighborhood meetings and door-to-door outreach in this area, the minority groups living in the northern part of this area include several middle-eastern nationalities, some of whom worship or attend school at the Islamic Center on 13th and Layton. This is especially true of the area just south of Layton Avenue between 13th and 15th Streets. Hispanic residents also live in this area.

3.2.2 Households

The number of households in the region has increased at a higher rate than the population growth and is expected to continue. It is expected that the average household size in the region will continue its historic decline, with the rate of decline being somewhat moderated in the coming decades (SEWRPC, 2004b). The number of households has a large influence in the number of trips made in the region. The number of households in Milwaukee County is expected to increase 13 percent between 2000 and 2035 (see Table 1-1). The number of households in Racine and Kenosha Counties are forecasted to increase 19 and 48 percent, respectively.

3.2.3 Income

Based on 2000 Census data, mean income in the corridor is average to above average compared to southeastern Wisconsin. Near the Mitchell Interchange, two areas are below the region's average mean income. One area is on the south side of I-894/43 from 20th to 27th Streets. The other is just west of the Plainfield curve, on the north side of I-94/43.

Following the Office of Management and Budget's Statistical Policy Directive 14, the Census Bureau uses a set of money income thresholds that vary by family size and composition to determine who is in poverty. If a family's total income is less than the family's threshold, then that family and every individual in it is considered in poverty. The official poverty thresholds do not vary geographically, but they are updated for inflation using Consumer Price Index. For example, in 2004, a family of four with two children under the age of 18 would be considered in poverty if the family's total income was under $19,157.

The number of families living in poverty is lower within 1 mile and 1/4 mile of I-94 than it is in the three-county area (Exhibit 3-10). Roughly 4 percent of the families living within 1 mile of the study-area freeway system and 4.5 percent of families within 1/4 mile of the study-area freeway system, are in poverty compared to 10 percent of families in the 3-county area.

In Milwaukee County, 5 percent of families with 1/4 mile of the study-area freeway system live in poverty compared to 12 percent in Milwaukee County and 17 percent in the City of Milwaukee. Two areas, one near the Mitchell Interchange and one along the Airport Spur, are close to the Milwaukee County average of 12 percent of families living in poverty (Exhibit 3-11).

3.2.4 School Demographics

Students attending six Milwaukee Public Schools located near I-94 display race and income characteristics that differ from the surrounding neighborhoods.

The two schools closest to the study-area freeway system are Lowell Elementary and Garland Elementary. Thirty-eight percent of Lowell Elementary School students are Hispanic, 36 percent white, and 12 percent African American. At Garland Elementary, 70 percent of the students are white, 15 percent are Hispanic, and 5 percent are African American. Between 60 and 70 percent of students at the schools are eligible for subsidized lunches. Eligibility is based on a student's household income.

Farther from I-94, the three schools in the Sholes Education Complex on 20th Street (two high schools and a K-8 school) have a higher minority enrollment than Lowell and Garland. Minority students make up 50 to 64 percent of the three schools' enrollment. About two-thirds of students are eligible for subsidized lunches. Cooper School's students are 62 percent white, 19 percent Hispanic, and 13 percent African American. Forty-nine percent of Cooper School students are eligible for subsidized lunches. Victory School's students are 43 percent white, 30 percent Hispanic, and 22 percent African American in the 2006–2007 school year. Seventy-four percent of Victory School students are eligible for subsidized lunches.

3.2.5 Non-English Speaking

The vast majority of residents adjacent to the study-area freeway system speak English as their primary language. Less than one percent of residents within 1 mile of I-94 in Racine and Kenosha Counties do not speak English well or at all. In Milwaukee County, 1.4 percent of residents within 1 mile of the study-area freeway system and 1.5 percent of residents within 1/4 mile of the study-area freeway system do not speak English well or at all.

Although virtually all residents speak English, 12 percent of Milwaukee County residents in the corridor primarily speak a language other than English at home, compared to 13 percent in Milwaukee County overall. In some neighborhoods near I-94, between the Mitchell Interchange and the Airport Spur Interchange, the percentage of those who do not speak English at home is higher than the Milwaukee County average.

3.2.6 Employment

Table 3-7 shows the historic and projected employment for Kenosha, Racine, and Milwaukee Counties based on SEWRPC data. The table compares employment growth between 1970 and 2000, and potential growth between 2000 and 2035. Overall, the projected employment outlook for the three counties along the corridor is expected to slow. For example, total employment outlook for the three counties along the corridor increased by 24 percent between 1970 and 2000. However, the projected employment for the three counties is expected to increase by only 3 percent between 2000 and 2035.

Kenosha County is expected to add 16,300 jobs between 2000 and 2035, the largest increase of the three counties. Racine and Milwaukee Counties are expected to add 9,600 and 300 jobs, respectively. Even though Kenosha County is expected to add the largest number of jobs between 2000 and 2035, it would still have the smallest workforce of the three

counties. Milwaukee County's employment is expected to remain steady; however, it will continue as southeast Wisconsin's employment hub.

TABLE 3-7
Historic and Projected Employment

Year	Kenosha County	Racine County	Milwaukee County	Total
1970	42,100	64,613	525,142	633,835
2000	68,700	94,400	624,600	787,700
2035	85,000	104,000	624,900	813,900
Difference 1970–2000	26,590	29,787	99,458	153,865
Difference 2000–2035	16,300	9,600	300	26,200
Percent Change 1970–2000	63	46	19	24
Percent Change 2000–2035	24	10	0	3

Source: The Economy of Southeastern Wisconsin, Technical Report No. 10, 4th Edition; SEWRPC; 2004; intermediate projection for employment.

Tables 3-8 through 3-10 show the distribution of jobs between various sectors of the economy, and the change between 1990 and 2000. In Kenosha County, service sector jobs increased the most, while retail jobs declined as a percentage of overall jobs between 1990 and 2000. In Racine County, the growth occurred primarily in the service sector while the manufacturing and agricultural sectors lost jobs. In Milwaukee County, job loss in the manufacturing, wholesale, and retail trade has been offset by an increase in service sector employment, for a modest overall increase in the number of jobs between 1990 and 2000.

TABLE 3-8
Employment by Sector 1990–2000—Kenosha County

	Kenosha County				
	1990		2000		
Industry Sector	Number	Percent of Total	Number	Percent of Total	Percent Change 1990–2000
Agriculture	742	1	583	1	-21
Construction	2,841	5	4,048	6	42
Manufacturing	10,382	20	12,801	19	23
Transportation, Communication, and Utilities	1,809	3	2,651	4	47
Wholesale Trade	1,496	3	3,267	5	118
Retail Trade	11,776	23	13,349	19	13
Finance, Insurance, and Real Estate	2,846	5	3,726	5	31
Services	13,269	25	18,706	27	41
Government and Government Enterprises	6,589	13	5,834	8	-11
Other	480	1	989	1	106
Total Employment	52,230	100	68,654	100	31

Source: SEWRPC—The Economy of Southeastern Wisconsin, Technical Report No. 10, 4th Edition, July 2004.

TABLE 3-9
Employment by Sector 1990–2000—Racine County

Industry Sector	Racine County				
	1990		2000		
	Number	Percent of Total	Number	Percent of Total	Percent Change 1990–2000
Agriculture	1,186	1	1,011	1	-15
Construction	3,944	4	4,493	5	14
Manufacturing	26,988	30	24,385	26	-10
Transportation, Communication, and Utilities	2,927	3	2,859	3	-2
Wholesale Trade	2,931	3	3,831	4	31
Retail Trade	17,085	19	16,317	17	-4
Finance, Insurance, and Real Estate	4,263	5	4,104	4	-4
Services	21,645	24	27,268	29	26
Government and Government Enterprises	7,923	9	9,146	10	15
Other	666	1	1,033	1	55
Total Employment	89,558	100	94,447	100	5

Source: SEWRPC—The Economy of Southeastern Wisconsin, Technical Report No. 10, 4th Edition, July 2004.

TABLE 3-10
Employment by Sector 1990–2000—Milwaukee County

Industry Sector	Milwaukee County				
	1990		2000		
	Number	Percent of Total	Number	Percent of Total	Percent Change 1990–2000
Agriculture	266	<1	128	<1	-52
Construction	18,859	3	17,813	3	-6
Manufacturing	110,768	18	90,010	14	-19
Transportation, Communication, and Utilities	29,467	5	34,299	5	16
Wholesale Trade	30,405	5	27,912	4	-8
Retail Trade	103,307	17	92,746	15	-10
Finance, Insurance, and Real Estate	54,337	9	52,627	8	-3
Services	196,657	32	242,826	39	23
Government and Government Enterprises	63,452	10	63,291	10	0
Other	2,269	<1	2,987	<1	32
Total Employment	609,787	100	624,639	100	2

Source: SEWRPC—The Economy of Southeastern Wisconsin, Technical Report No. 10, 4th Edition, July 2004.

3.2.7 Transportation

Table 3-11 shows the number of residents in the I-94 north-south corridor who use public transportation to ride to work. People who live in the I-94 north-south corridor are less likely to use mass transit than their respective county as a whole.

TABLE 3-11
Public Transportation Use by County

	Entire County		1-mile Corridor		1/4-mile Corridor	
	Population Using Public Transportation to Commute	Percent of Population Using Public Transportation to Commute	Population Using Public Transportation to Commute	Percent of Population Using Public Transportation to Commute	Population Using Public Transportation to Commute	Percent of Population Using Public Transportation to Commute
Milwaukee	29,454	6.9	1,002	3.4	325	3.9
Racine	1,425	1.6	2	0.2	0	0.1
Kenosha	879	1.2	29	1.2	2	0.6

Source: 2000 U.S. Census.

Table 3-12 shows the percentage of people in each county and in the I-94 north-south corridor who do not have access to a vehicle. Residents in the I-94 north-south corridor are more likely to have access to a vehicle than in the rest of the three county area.

TABLE 3-12
No Vehicle Access

	Entire County		1-mile Corridor		1/4-mile Corridor	
	Population with No Vehicle Available	Percent of Population with No Vehicle Available	Population with No Vehicle Available	Percent of Population with No Vehicle Available	Population with No Vehicle Available	Percent of Population with No Vehicle Available
Milwaukee	61,631	16.3	2,195	9.0	668	9.5
Racine	5,759	8.1	27	3.5	6	3.7
Kenosha	3,824	6.8	46	2.8	6	2.1

Source: 2000 U.S. Census

3.2.8 Health Condition

Some groups have raised concerns about the potential health-related impacts to residents living near freeways and other high-volume roads, primarily from airborne pollutants emitted from motor vehicle engines and other sources. Data on community health is typically aggregated at the county level; it is difficult to find any data below the county level.

Motor vehicles emit several pollutants. Carbon monoxide may reduce the amount of oxygen distributed throughout the body by the blood stream. Nitrogen oxides are one of the main precursors in the formation of ground-level ozone and may affect the delicate structure of

lung tissue. Fine particulate matter can penetrate the sensitive respiratory tract and affect health. Sensitive individuals may be affected by low-level pollutant exposure.

WisDOT and FHWA investigated asthma rates because asthma is related to air quality. Asthma rates for Milwaukee County are higher than that of the State of Wisconsin. In 2002, Milwaukee County had the highest rate of emergency room visits and hospitalization related to asthma. Milwaukee County's mortality rate for asthma is 18th highest of Wisconsin's 72 counties. Racine and Kenosha Counties rank fourth and fifth in terms of emergency room visits and hospitalization related to asthma (Wisconsin Asthma Coalition, 2003).

3.2.9 Age

The median age for both Kenosha and Milwaukee Counties is less than the Wisconsin statewide median age while the median age in Racine County is higher than the statewide median. According to 2000 Census figures, the statewide median age in Wisconsin is 36.0. The median age in Kenosha and Milwaukee Counties are 34.8 and 33.7, respectively, while the median age in Racine County is 36.1. Additionally, the Wisconsin statewide percentage of population that is age 18 and over is 74.5 percent while the population age 65 and over is 13.1 percent. All three Wisconsin counties included in the I-94 north-south study have percentages of population age 18 and over and age 65 and over that is less than the statewide figures.

The median age in Lake County, Illinois is less than the Illinois statewide median age while the percentage of population in Lake County that is age 18 and over and age 65 and over is less than the Illinois statewide figures. According to the 2000 Census, the Illinois statewide median age is 34.7 and the percentage of population age 18 and over is 73.9 percent while the percentage of population age 65 and older is 12.1 percent. The median age in Lake County is 33.8 while the percentage of population age 18 and older is 70.6 percent and the percentage of population age 65 and older is 8.5 percent.

Based on public outreach during the study, there does not appear to be a large elderly population in the I-94 north-south study corridor.

3.2.10 Disability

Based on 2000 Census data, persons with a disability are located within the study corridor at about the same rate as compared to the three-county area as a whole. In both Kenosha and Racine Counties, persons with a disability are located within 1 mile and 1/4 mile of I-94 at the same rate a the rest of the county. In Milwaukee County, persons with a disability are less likely to be located within 1 mile and 1/4 mile of I-94 when compared to the county as a whole.

3.3 Visual Character/Aesthetics

In general, the topography of the corridor is level to gently rolling, with low-lying areas associated with the perennial stream valleys or wetland areas. In Racine, Kenosha, and Lake Counties, the views from I-94 are more rural. The southern portion of Milwaukee County maintains this rural viewshed, transitioning to an urban environment at the north end of the study corridor. The views in Racine and Kenosha County are similar, with viewsheds consisting of rolling terrain of farmland and fields, pockets of commercial activity at interchanges, residences dotted throughout the area, other smaller scale development and

large billboards along the edges of the interstate. There are also two river corridors, Des Plaines River and Root River, which enhance the typical rural view.

The southern portion of Milwaukee County has the same viewshed characteristics as Racine, Kenosha, and Lake Counties. North of Ryan Road, the landscape becomes more suburban with neighborhoods and businesses visible from I-94. North of Rawson Avenue, urban land uses dominate the landscape. Noise walls along I-94, north of Rawson Avenue, restrict the view of those traveling along the interstate.

Viewers of the I-94 corridor in Racine, Kenosha, and Lake Counties will notice that the roadway and some of the land uses associated with an interstate interrupt the view of rolling farmlands. Large billboards along the corridor also clutter the visual landscape.

3.4 Environmental and Related Resources

3.4.1 Surface Water and Fishery

Major waterway crossings in the I-94 north-south corridor are summarized in Table 3-13 and shown in Exhibit 3-12. Exhibit 3-12 also shows all streams and drainageways crossed by I-94. See Table 4-13 for a listing of all these crossings. The Kinnickinnic River, Oak Creek, and Root River watersheds are within the Lake Michigan watershed. The Des Plaines River is part of the Mississippi River watershed.

TABLE 3-13
Major Waterway Crossings in the I-94 North-South Corridor

Waterway	Location of Crossing
Des Plaines River	0.7 mile north of CTH C (Kenosha County)
Root River	Racine/Milwaukee County Line
Oak Creek	Ryan Road interchange
North Branch Oak Creek	Airport Spur interchange
Wilson Park Creek	300 feet east of 13th Street underpass

Des Plaines River Watershed

The Des Plaines River watershed, part of the Southeast Fox River Basin, consists of 69 miles of streams with a drainage area of 133 square miles. The I-94 north-south corridor in Lake and Kenosha Counties is located in the Des Plaines River Watershed along with a portion of the corridor in southern Racine County. I-94 crosses the Des Plaines River between the STH 50 and CTH C interchanges, and several tributaries to the Des Plaines River in southern Kenosha County. The Kilbourn Road Ditch, a tributary to the Des Plaines River parallels the east side of the I-94 north-south corridor in the extreme southern portion of Racine County and the northern half of Kenosha County. The majority of the land cover in the watershed is agricultural (62 percent), with grasslands (11 percent), forests (10 percent), and wetlands (8 percent) making up the rest of the rural land uses. Urban uses cover approximately 2 percent of the land area in the watershed.

No streams in the Des Plaines River watershed are listed as impaired waters under section 303(d) of the federal Clean Water Act. Impaired waters are those that do not meet federal water quality standards. Heavy agricultural land use, increased nutrient loads, increased sediment loads, drain tile impacts, and historic ditching has affected some stream reaches in this basin. Since pre-settlement times, many of the wetland areas have been filled or tiled to provide more farmland. The main threats to stream water quality in the Des Plaines River watershed are agricultural and urban runoff and excess nutrients. Some areas of this basin still contain pirate perch (a state special concern species), which are relatively rare in the state and historically found in this watershed. Other popular fish species in the Des Plaines River watershed include the bluntnose minnow, green sunfish, spotfin shiner, white sucker, bluegill, Johnny darter, horneyhead chub, central stoneroller, and black bullhead.

Root River Watershed

The Root River watershed, part of the Root-Pike River Basin, drains 197 square miles in Waukesha, Milwaukee, and Racine Counties. A total of 117 miles of rivers and streams in the watershed and nine sub-watersheds contribute to its flow. Rivers and streams of the Root River watershed cross the I-94 north-south corridor in two locations. The Root River crosses I-94 at the Milwaukee/Racine county line and Hood's Creek crosses I-94 between STH 20 and STH 11. Several unnamed tributaries to the Root River and the East Branch of the Root River also cross I-94 in Racine County. A majority of the study area in Racine County, with the exception of the area south of STH 11, is located within the Root River watershed. A portion of the study area in southern Milwaukee County and west of I-94 in Oak Creek and Franklin is also located in the watershed.

According to the DNR's 2002 report, *The State of the Root-Pike River Basin*, the water resources of the Root-Pike River Basin are some of the most degraded in Wisconsin as decades of urban and rural development have left their mark. The majority of wetlands originally present have been drained. Stream modifications including channel manipulation, relocation, and in some cases, enclosures have affected most of the streams in the basin. The combined effects of these modifications have led to degraded water and habitat quality throughout the Root River watershed. Existing general threats to stream water quality in the Root River watershed include the previously mentioned stream and wetland modification and hydrological modification, along with urban runoff, stream bank erosion, and point source pollution.

The water quality of the 117 miles of rivers and streams in the Root River Watershed ranges from severely degraded to good. Twenty-eight miles of streams in the Root River watershed are listed as impaired waters under Section 303(d) of the Clean Water Act.

According to the DNR, the fish species found in the Root River watershed reflect the range of water quality in the watershed. Seasonal runs of stocked Chinook salmon, Coho salmon, brown trout, and rainbow trout (steelhead) present a quality fishery. Other sport fish include northern pike and largemouth bass. The forage fish population includes the common shiner, blackside darter, bluntnose minnow, black bullhead, brook stickleback, and Johnny darter. Pollution-tolerant fish species like the common carp, fathead minnow, central mudminnow, creek chub, white sucker, and green sunfish are also present.

An unnamed tributary to the Root River passes under I-94 just north of CTH G in Racine County. DNR fish sampling in this tributary in 2006 noted the Iowa Darter, which is not a protected species in Wisconsin, but its presence is usually associated with high-quality fish habitat.

Oak Creek Watershed

The Oak Creek watershed consists of 21 miles of streams and drains 26 square miles in Milwaukee County. A majority of the I-94 north-south corridor in Milwaukee County is located in the Oak Creek Watershed. I-94 crosses over Oak Creek at the southern end of the Ryan Road interchange and the North Branch of Oak Creek at the southern end of the Airport Spur interchange. I-94 also crosses several unnamed tributaries to Oak Creek in Milwaukee County. Principal land cover in the watershed is a mix of urban uses and grassland with a majority of the flow contributed by urban runoff.

As previously mentioned, the water resources of the Root-Pike River Basin are some of the most degraded in Wisconsin due to decades of urban and rural development. The historic impacts of channelization, toxics, and hydrological modification have combined with urban runoff and stream bank erosion to degrade the water and habitat quality of Oak Creek.

Approximately 13 miles (61 percent) of the creek are listed as impaired waters under Section 303(d) of the Clean Water Act. Fish species found in the Oak Creek watershed include the white sucker, black bullhead, brook stickleback, and largemouth bass. Due to Lake Michigan stocking efforts, rainbow (steelhead) trout, brown trout, Chinook salmon, Coho salmon, and brook trout are present in a portion of the watershed. Pollution-tolerant fish species found in the watershed include the creek chub, fathead minnow, central mud minnow, golden shiner, and green sunfish.

Kinnickinnic River Watershed

The Kinnickinnic River watershed drains the northern most segment of the I-94 north-south corridor. The study-area freeway system crosses over three tributaries of the Kinnickinnic River: Holmes Creek, between the Airport Spur and Layton Avenue interchanges, Wilson Park Creek near 13th Street, and Villa Mann Creek west of 27th Street. The Kinnickinnic River watershed is the most urban of all the Milwaukee River Basin watersheds and contains 25 miles of perennial streams in a drainage area of 33 square miles. Nearly 3 miles of perennial streams (11 percent) are listed as impaired waters under Section 303(d) of the Clean Water Act. Land cover in this watershed is mostly urban (78 percent), with grasslands (16 percent) and forests (4 percent) creating open spaces. Wetlands comprise only 0.3 percent of the land area. Past attempts to manage flooding in the watershed have eliminated fish habitats within the waterway.

Most of the streams within this watershed have been extensively modified through straightening, enclosure, or concrete lining. Runoff from General Mitchell International Airport drains to Wilson Park Creek. The airport has implemented management measures over the last few years to reduce the amount of airplane deicing fluid (glycol) reaching the storm sewers and the tributary draining over 2,000 acres of airport lands. A monitoring effort with the U.S. Geological Survey is currently underway to document the changes in water quality in Wilson Park Creek as a result of glycol management practices at the airport. Mitchell Interchange runoff also drains to Wilson Park Creek. Urban runoff, industrial point

source pollution, contaminated sediment, and construction site erosion are additional threats to stream water quality in the Kinnickinnic River watershed.

Storm Water Collection

In Racine, Kenosha, and Lake Counties, runoff from I-94 is collected in ditches that run along both sides of the freeway. In Racine and Kenosha Counties, inlets in the median collect water that runs off the inside lane and inside shoulder. Water that enters these inlets is piped under the freeway and discharges to the ditches next to the freeway. The ditches empty into nearby drainage ditches, small streams, and rivers. For instance, runoff that is collected from I-94 from 1/2 mile south of the Root River drains into the Root River.

In Milwaukee County, a storm sewer trunk line is located under I-94 from Ryan Road to the north. This storm sewer, like most in urban areas, empties directly into streams. North of College Avenue, there are no ditches next to I-94. All the rainwater that falls on I-94 is collected in inlets either in the median or on the outside shoulder. All the inlets drain to the trunk line storm sewer under I-94. In some locations, the storm sewer empties in a City of Milwaukee storm sewer before discharging to nearby streams. The Mitchell Interchange runoff is collected in field inlets and discharges to Wilson Park Creek, a tributary of the Kinnickinnic River.

3.4.2 Environmental Corridors and Natural Areas

As defined by SEWRPC, environmental corridors are areas in the landscape containing especially high value natural, scenic, historic, scientific, and recreational features. In southeastern Wisconsin, they generally lie along major stream valleys, around major lakes, and in the Kettle Moraine area. These features occur in an essentially linear pattern of relatively narrow, elongated areas.

Primary environmental corridors include a variety of important natural resource and resource-related elements and are at least 400 acres in size, 2 miles long, and 200 feet wide. Secondary environmental corridors contain substantial, but smaller, concentrations of natural resources and generally connect with the primary environmental corridors. Secondary environmental corridors are at least 100 acres in size and 1 mile long. In addition, smaller concentrations of natural resource base elements that are separated physically from the environmental corridors by intensive urban or agricultural land uses have also been identified. These areas, which are at least 5 acres in size and 200 feet wide, have been termed isolated natural areas.

The I-94 north-south corridor crosses two primary environmental corridors: the Root River and the Des Plaines River (see Exhibits 2-2 and 2-3, sheets 21 and 15, at the back of this document). A primary environmental corridor also follows the Kilbourn Road Ditch, located in Kenosha County, along the east side of I-94. Secondary environmental corridors are also located within the study area. I-94 crosses secondary environmental corridors in southern Racine County approximate 1/4 mile south of Braun Road and in Milwaukee County along the Oak Creek at the southern end of the Ryan Road interchange. An additional secondary environmental corridor is located near Falk Park in Milwaukee County. Several isolated natural areas are located within the I-94 north-south corridor in Caledonia. There are also isolated natural areas located in the area of the Des Plaines River in Kenosha County.

Natural areas include tracts of land or water so minimally modified by human activities that they are believed to represent examples of pre-settlement landscape. There are several natural areas located in close proximity according to SEWRPC's *A Regional Natural Areas and Critical Species Habitat Protection and Management Plan for Southeastern Wisconsin*. In Kenosha County, there are three natural area sites of local significance located along or near the Des Plaines River corridor. The Des Plaines River Wetlands is a 66-acre area along a 1-mile segment of the Des Plaines River west of I-94. This wetland area includes sedge meadows, shallow marsh, and lowland hardwoods. The Lake Russo Prairie Remnant is a small, 6-acre, moderate to good quality wet-mesic prairie remnant located 1/4 mile east of I-94, south of STH 50. The Des Plaines River Lowlands is a 411-acre area owned by the Village of Pleasant Prairie and private landowners. This is an extensive wetland and upland complex along the Des Plaines River, located east of I-94 between CTH C and CTH Q, significant because of its open space and wildlife habitat (see Exhibits 2-2 and 2-3, sheets 3 and 4). The area contains xeric oak woods, mesic and wet-mesic prairie, fresh (wet) meadow, and riverine forest. The federal-designated endangered prairie white-fringed orchid (*Platanthera leucophaes*) has been found here.

In Racine County, there are four known natural areas located near the I-94 north-south corridor. The County Line Riverine Woods area, a natural area of countywide or regional significance, is an integral part of the Root River environmental corridor. This 141-acre site, owned by Racine County and private landowners, is located west of I-94, just south of the Milwaukee County line, and consists of good-quality riverine lowland hardwood forests along the Root River. A smaller upland area to the northwest contains mesic hardwoods with a rich ground flora.

The other three known natural areas near the I-94 north-south corridor in Racine County are considered natural area sites of local significance. Kimmel Woods is a privately owned 40-acre site located approximately 1/4 mile west of I-94 near 7 Mile Road. This area consists of moderate quality southern dry-mesic woods and lowland hardwoods bordering a small stream. It also contains good, representative ground flora. Ives Grove Woods is a site owned by Racine County and private landowners that borders the west Frontage Road, north of the STH 20/CTH C intersection. This 164-acre area is a relatively large upland wooded island, consisting of dry-mesic woods to the south and xeric woods to the north, bisected by a small stream. Much of the south woods are part of a Racine County park and the ground flora is rich and diverse. The Sylvania Railroad Prairie is located 1 mile east of I-94 near STH 11 along the railway right-of-way. This privately owned 7-acre site is a mesic prairie remnant of moderate quality.

There are two known natural areas located near the I-94 north-south corridor in Milwaukee County. Falk Park Woods is a natural area site of countywide or regional significance. This 77-acre site is on the west side of I-94 and south of Rawson Avenue and is owned by Milwaukee County and private landowners. Falk Park Woods is a diverse, relatively large north-south stand of woods. It consists mostly of good quality dry-mesic uplands, with mesic stands of beech and sugar maple at the north end and low areas of ephemeral ponds, wet-mesic hardwoods, and a stream interspersed throughout. Past disturbances appear to be minimal. The Esch-Honadel Woods, a natural area of local significance, is adjacent to the west side of I-94, approximately 1/4 mile south of Drexel Avenue (Exhibits 2-2 and 2-3, sheet 24). This 72-acre privately owned area consists of a patchy mix of low woods, second-growth upland forest, and relatively undisturbed beech woods.

Kenosha, Racine and Milwaukee Counties are designated as Coastal Areas by Wisconsin's Coastal Zone Management Program.

3.4.3 Floodplains and Hydraulics

The study-area freeway system crosses floodplain at several locations in the study area. The floodplain is made up of the floodway and flood fringe. The floodway is considered the channel of a river or stream. The portions of the floodplain adjoining the channel are required to carry the regional flood discharge, (NR 116.03 (22)) while the flood fringe is the portion of the floodplain outside of the floodway, which is covered by flood water during the regional flood. The term flood fringe is generally associated with standing water rather than flowing water (NR 116.03 (14)).

Floodplain provides flood and storm water attenuation by decreasing water velocities and temporarily storing flood water thus also removing nutrients and providing erosion control. Floodplain also carries regional flood discharges, provides wildlife habitat, and corridors for wildlife movement. These functions vary among locations depending upon vegetative cover, waterway hydrology, and distance from the waterway. Table 3-14 describes the locations of these 100-year floodplain crossings.

TABLE 3-14
Mainline 100-year Floodplain Crossings

County	Location	Source
Lake	Immediately north of Russell Road overpass	Localized wetland
Kenosha	Approximately 0.5-mile stretch of floodplain south from CTH C overpass	Des Plaines River
Kenosha	Approximately 0.7 mile north of CTH C overpass	Des Plaines River
Milwaukee/Racine	Milwaukee/Racine County Line	Root River
Milwaukee	Southern end of Ryan Road interchange	Oak Creek
Milwaukee	Approximately 0.3 mile south of Drexel Road overpass	Unnamed tributary to Oak Creek
Milwaukee	Approximately 0.1 mile south of Drexel Road overpass	Unnamed tributary to Oak Creek
Milwaukee	Approximately 300 feet east of the 13th Street underpass	Wilson Park Creek

Source: National Flood Insurance Program Flood Insurance Rate Map

There are also several locations in the study area where a 100-year floodplain does not cross mainline I-94, but does border the frontage roads. In southern Kenosha County, the Des Plaines River floodplain abuts the east frontage road at various locations between STH 165 and STH 50 and along the west frontage road north of CTH C. In northern Kenosha County, floodplain associated with the Kilbourn Road Ditch borders the east frontage road at various locations. In Racine County, floodplain that follows a tributary to the Kilbourn Road Ditch ends at the east frontage road approximately 0.4 mile south of Braun Road. In northern Racine County, a floodplain following an unnamed tributary to the Root River terminates at the west frontage road, approximately 600 feet south of 7 Mile Road.

3.4.4 Groundwater and Water Supply

Groundwater sustains lake levels and provides the base flows of the streams in the region and comprises a major source of water supply for domestic, municipal, and industrial users. Like surface water, groundwater is susceptible to depletion in quantity and to deterioration in quality.

Three major aquifers underlie the I-94 north-south corridor. From the land surface downward, the three aquifers are the sand and gravel deposits of glacial origin; the shallow dolomite strata of the underlying bedrock; and the deeper sandstone, dolomite, and siltstone complex. These aquifers yield water to wells, springs, lakes, and streams. Because of their relative proximity to the land surface and their hydraulic interconnection, the first two aquifers are commonly referred to collectively as the "shallow aquifer," while the latter is commonly referred to as the "deep aquifer." The shallow and deep aquifers underlying the corridor are separated by the Maquoketa shale, which forms a relatively impermeable barrier between the two aquifer systems.

The quality of groundwater in the study area is generally good for most purposes. Groundwater is harder, more mineralized, and contains more iron than surface water, but it contains few, if any, organic substances. Water in the sandstone aquifer is generally good but hard. Softening, and in places, aeration, reduces the iron or hydrogen sulfide, making the water suitable for domestic and most industrial uses.

Within the study area, the water supply is provided via wells and public utilities. For the portion of the study area within Milwaukee County, Lake Michigan is the source for the drinking water. The water in the City of Milwaukee, Greenfield, and the northwest corner of Franklin is delivered by the Milwaukee Water Works, the drinking water utility owned by the City of Milwaukee. In Oak Creek and the majority of Franklin, the Oak Creek Water and Sewer Utility provides water services.

Racine Water Utilities provides water services along the STH 20 corridor to the Grandview Business Park, west of I-94, while the Kenosha Water Utility provides water services to the I-94/STH 50 interchange. Lake Michigan is the water source for both of these utilities. Water service in the remainder of the corridor is provided through municipal or private wells.

According to the U.S. EPA list of Designated Sole-Source Aquifers, there are no sole-source aquifers in Wisconsin as defined by Section 11424(e) of the Safe Drinking Water Act (U.S. EPA, 2004a).

Road salt (sodium chloride) is applied to the study area freeway system during winter weather conditions. WisDOT contracts with the counties to clear the study-area freeway system of snow and ice. WisDOT sets guidelines on when and how much salt is applied to roads in winter. Each county submits records indicating the type and amount of deicer used for each application. Salt storage sites must have an impermeable base and cover, as well as a holding basin to contain runoff. These requirements help minimize the impact to groundwater from storage facilities.

3.4.5 Wetlands

The Corps' Wetland Delineation Manual (1987) defines wetlands as "areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to

support, and under normal circumstances, do support a prevalence of vegetation typically adapted for life in saturated soil conditions." According to the 1987 Manual, in order to be considered a jurisdictional wetland, three criteria must be met, including (1) a prevalence of hydrophytic vegetation, (2) the presence of hydric soils, and (3) wetland hydrology.

WisDOT made a preliminary determination of wetland boundaries in December 2005, January 2006, and summer 2006. Wetland determinations and boundaries were estimated based on vegetation and obvious wetland hydrology field indicators. Once identified, the wetlands were then grouped by wetland classification. Preliminary investigations of the project corridor identified a total of 169 wetlands. Wetlands are illustrated on Exhibits 2-2 and 2-3.

Of the 169 wetlands identified, ten are in Lake County, Illinois. These wetlands are hydraulically connected to wetlands on the Wisconsin side of the border and have formed as a result of ditching to provide roadway drainage. Kenosha County contains 57 of the wetlands identified, most of which have also formed in roadside ditches. However, 19 of the 57 wetlands located in Kenosha County are within a primary environmental corridor and are associated with the Des Plaines River, unnamed tributaries to the river, and the Kilbourn Road Ditch. Racine County contains 29 wetlands within the project corridor that consist primarily of roadside ditches or disturbed, isolated wetlands. None of the Racine County wetlands are within a primary environmental corridor. Milwaukee County contains 73 wetlands, the majority of which are wetlands that have formed in roadside ditches or other depressional areas. One of the Milwaukee County wetlands was identified as lying within a primary environmental corridor due to its location within the Root River floodplain.

The U.S. EPA in cooperation with the Corps, has implemented an Advanced Identification Program (ADID) to identify wetlands and other waters that are generally suitable or not suitable for discharge of dredged or fill material. In southeastern Wisconsin, advanced identification of such wetlands was undertaken in consultation with SEWRPC and DNR to support objectives of the area-wide water quality management plan that seeks to preserve high value aquatic areas by redirecting development outside primary environmental corridors. Discharging dredged or fill material into wetlands and other waters located in primary environmental corridors is generally considered not in conformance with the Clean Water Act's Section 404(b)(1) guidelines.

Only 3 of the 169 wetlands (two in Racine County and one in Milwaukee County) in the project corridor were described as non-degraded. The remainder of the project corridor wetlands is characterized as degraded due to the presence of non-native species or some other prior disturbance that resulted in diminished wetland functions and/or values. However, degraded wetlands do provide wildlife habitat. None of the non-degraded wetland types is located within the primary environmental corridor, nor are they considered rare wetland types within the region.

Wetland Classifications

The *Wisconsin Department of Transportation Wetland Mitigation Banking Technical Guideline* (WisDOT, 2002) was used to classify wetlands in the I-94 north-south corridor. Classifications of wetlands identified within the project corridor include aquatic bed (AB), shallow marsh (SM), wet meadow (M), riparian wetland–emergent (RPE), riparian wetland–forested (RPF), shrub swamp (SS), and wooded swamp (WS). Many of the wetlands

identified include more than one wetland classification, with multiple wetland types interspersed within a complex of wetlands. The descriptions of each classification for wetlands that would potentially be impacted within the project corridor are as follows:

Aquatic Bed (AB)
Plant communities that develop in shallow, open water generally consist of submergent, floating and floating-leaved aquatic vegetation.

Shallow Marsh (SM)
Shallow marshes form in saturated or inundated soils and are characterized by seasonal standing water. Soils in shallow marshes are usually saturated during the growing season and often inundated with 6 inches or more of water. Shallow marshes in Wisconsin are typically found in shallow lake basins or sloughs, on the border of deep marshes on the landward side, in seep areas near irrigated lands, and in areas where water collects due to drainage off roadways, ditches, and other depressional areas.

Wet Meadow (M)
Wet meadows commonly occur in poorly drained areas such as shallow lake basins and the land between shallow marshes and upland areas. These wetlands often occur in areas where farming is prevalent, leading historically to their draining and filling for agricultural uses.

Wet meadows are typically drier than other Wisconsin wetland types except during periods of seasonal high water. For most of the year, they do not contain standing water, though the high water table allows the soil to remain saturated.

Riparian Wetland (RPE and RPF)
Riparian land refers to terrain adjacent to rivers and streams that is subject to periodic or occasional flooding. Riparian wetlands are typically narrow, wet areas that are adjacent to streams. They are periodically saturated or inundated because both surface and subsurface water flows toward them. The plant species that grow in riparian areas are adapted to tolerate wide fluctuations in hydrology.

Emergent riparian wetlands (RPE) typically consist of riparian wet and sedge meadows, bars and mud flats. Vegetation within these areas is similar to that found in similar wetland communities not associated with stream or riverine systems. Vegetation within riparian forests (RPF) typically includes tree species such as green ash, silver maple, and American elm.

Riparian vegetation plays a role in many physical processes within stream and riverine systems. Shading provided by riparian vegetation helps to moderate water temperatures, keeping waters cool in the summer and providing an insulating effect in the winter. Emergent vegetation in riparian systems (RPE) acts as a filter for sediment, fertilizers, pesticides, herbicides, and road-related runoff such as petrochemicals generated on adjacent lands. Riparian vegetation also promotes bank stability and contributes organic matter and large woody debris to some stream systems, which is an important component of in-stream habitat.

Shrub Swamp (SS)
Shrub swamps, are similar to forested swamps. Shrub swamps are found along slow moving streams and in floodplains. Forested and shrub swamps are often found adjacent to one another, reflecting the change in topography, hydrology, and past disturbances including timber removal. Soils in shrub swamps are often saturated throughout much of the year, and sometimes inundated by as much as a few feet of water.

Wooded Swamp (WS)

Forested swamps are often inundated with floodwater from nearby rivers and streams. Sometimes, they are covered by several feet of very slowly moving or standing water. In very dry years, they may represent the only shallow water for miles and their presence is critical to the survival of wetland-dependent species.

Some of the primary functions of wooded swamps include storm water and floodwater retention, as well as wildlife habitat for a variety of upland and wetland-dependent species.

Wetland Functions

Wetlands provide functions and values depending on their position in the landscape and proximity to other plant communities, wildlife and their habitats, and the built environment. A variety of wetland functions and values are typically assessed in accepted methodologies including the procedures described in the Highway Methodology Workbook supplement (Corps, 1999) and the Rapid Assessment Methodology forms (Wisconsin DNR, 2004). Wetland functions identified by these methods include floral diversity, wildlife habitat, fishery habitat, flood/storm water attenuation, water quality protection, shoreline protection, groundwater, and aesthetics/recreation/education.

Estimating the significance of wetland functions and values is subjective and can rank from low to exceptional based on the ability of the wetland to provide the function and/or value being assessed. The majority of the wetlands within the project corridor were characterized as degraded. This indicates that while they still fulfill a wetland function or value, they may not be fulfilling this function/value to the extent possible due to some other factor such as prior disturbance, presence of non-native species, or proximity to some external factor (roads, railroad tracks, etc.) that prohibits the wetland to function at an optimal level. The preliminary wetland investigation indicated a wide distribution of non-native species and the prevalence of many of those species along plant community edges or disturbed areas. Although the functions and values of wetlands within the project corridor were not assessed on an individual basis as part of the preliminary investigation, their position in the landscape and proximity to the existing roadway corridor suggests that they improve water quality by removing sediment and nutrients and provide flood attenuation by storing water and slowing runoff velocity.

3.4.6 Upland Habitat and Woodland

Upland habitat occurs in environmental corridors**,** isolated natural areas, and other tracts of land that have forested or grassland cover. Although most of the land adjacent to I-94 is agricultural or developed, upland habitat and wooded areas are scattered throughout the project area. For the most part, the remaining woodland resources along the I-94 north-south corridor are widely scattered, although concentrations do occur within the Oak Creek and Des Plaines River watersheds. Woodlands have important direct values as wildlife habitat and outdoor recreation. Woodlands also have indirect values for the reduction of soil erosion and stream sedimentation, reduction of runoff, maintenance of water tables, streams, and lake levels, and promotion of groundwater recharge.

One of the largest undeveloped upland areas adjacent to I-94 is in the Des Plaines River corridor in Kenosha County. Interspersed with the large wetland complex in this corridor is undeveloped upland area. The Root River corridor also provides upland forest habitat. Both

areas are primary environmental corridor. Poisl Woods at CTH KR is designated as an isolated natural area by SEWRPC. This wooded area is approximately 1/2 mile west of I-94. A roughly 12-acre wooded area that borders the I-94 east frontage road near CTH G is enrolled in the DNR's Managed Forest Lands program. In Milwaukee County, Falk Park provides wooded and open upland habitat. Open fields and fencerows in farm fields also provide wildlife habitat.

3.4.7 Wildlife

Wetland and upland communities in the study area provide habitat for a variety of mammals, songbirds, waterfowl, raptors, amphibians, and reptiles. Common mammals found in upland habitats include white-tailed deer, opossum, shrews, gray and red squirrels, red fox, raccoon, striped skunk, cottontail rabbit, coyote, woodchucks, mice, gophers, chipmunks, voles, and weasels. Common bird species include red-tailed hawk, American goldfinch, wild turkey, sparrows, owls, wrens, thrushes, warblers, hawks, woodpeckers, and vireos. Common reptiles include brown snake, garter snake, eastern milk snake, fox snake, and turtles.

In southeastern Wisconsin, wildlife is composed primarily of small upland game, such as rabbit and squirrel, some predators such as fox and raccoon, game birds including waterfowl, and pan and game fish. Common mammals found primarily in wetland habitats include muskrat, mink, and beaver. Common bird species include red-winged blackbird, long-billed marsh wren, swamp sparrow, sandpipers, wood ducks, herons, egrets, teals, shovelers, wigeons, scaup, bitterns, geese, plovers, terns, mergansers, hawks, and owls. Common reptiles and amphibians include the American toad, leopard frog, green frog, painted turtle, and snapping turtle.

3.4.8 Threatened and Endangered Species

State Listed Species

The DNR Bureau of Endangered Resources indicates the following threatened and endangered species are likely to be present in the project corridor[1] (see DNR letters dated February 13 and February 16, 2006 in Appendix C, pages C-2 and C-3):

- Endangered plants:
  purple milkweed (*Asclepias purpurascens*)
  prairie white-fringed orchid (*Platanhera leucophaea*)
  ravenfoot sedge (*Carex crus-corvi*)
  false hop sedge (*Carex lupuliformis*)
  heart-leaved plantain (*Plantago cordata*)
  bluestem goldenrod (*Solidago caesia*)

- Threatened plants:
  American fever-few, a.k.a., wild quinine (*Parthenium integrifolium*)
  handsome sedge *(Carex formosa)*
  prairie milkweed *(Asclepias sullivantii)*
  prairie Indian plantain *(Cacalia tuberosa)*

[1] The exact locations of threatened and endangered species located in the I-94 corridor during this study or previous surveys are not disclosed in this document at DNR's request.

pale-purple coneflower *(Echinacea pallida)*
yellow gentian *(Gentiana alba)*
seaside crowfoot *(Ranunculus cymbalaria)*

- Endangered animals:
  eastern massasauga rattlesnake *(Sistrurus catenatus)*
- Threatened animals:
  - Blanding's turtle (*Emydoidea blandingii*)
  - Butler's garter snake *(Thamnophis butleri)*

WisDOT's 2006 field survey of the I-94 north-south corridor found the Butler's garter snake, two threatened plant species, one endangered plant species, and two special concern plant species:

- Threatened:
  - prairie Indian plantain *(Cacalia tuberosa)*—located near CTH C in southern Kenosha County
  - American fever-few, a.k.a. wild quinine *(Parthenium integrfolium)*—located near STH 11 in Racine County
  - seaside crowfoot *(Ranunculus cymbalaria)*—located near CTH C in southern Kenosha County
- Endangered:
  - bluestem goldenrod *(Solidago caesia*)—located in southern Milwaukee County
- Special Concern:
  - reflexed trillium *(Trillium recurvatum*)—located near CTH G and 7 Mile Road in Racine County and in southern Milwaukee County
  - smooth black-haw *(Viburnum prunifolium)*—located in southern Milwaukee County

WisDOT's 2006 field survey found no Blanding's turtles or eastern massasauga rattlesnakes, but some suitable habitat for these two species is located in the I-94 corridor in Racine, and especially Kenosha Counties.

In Lake County, the Illinois Department of Natural Resources' Natural Heritage Database indicated the presence of the Iowa darter, a protected fish species, in the vicinity of the project location (see Coordination with Illinois DNR in Appendix C). Additionally, a recent field survey in Lake County noted the presence of the alkali bulrush (*Scirpus paludosus*) an Illinois state endangered plant species, located in the I-94 right-of-way near Russell Road. The alkali bulrush is not currently listed in the Illinois Department of Natural Resources database as being present in Lake County, but it has been located in the study area during field surveys.

Evolving Status of the Butler's Garter snake

DNR has categorized the Butler's garter snake habitat in southeast Wisconsin into three tiers. Tier 3 habitat is the best for the snakes and DNR requires mitigation in the same habitat patch for any encroachment onto Tier 3 habitat. DNR also continues genetic testing

of garter snakes in southeast Wisconsin to determine which are Butler's garter snakes (and therefore protected) and which are hybrids of different garter snake subspecies (and therefore, not protected). As of February 2008, DNR considers garter snakes south of Drexel Avenue to be hybridized; not Butler's garter snakes. DNR plans to further refine the hybridization line later in 2008 based on genetic testing in the vicinity of Drexel Avenue.

There are only two areas of Tier 3 habitat in the I-94 corridor north of Drexel Avenue. Both sites are located between Drexel Avenue and Rawson Avenue with one site east of I-94 and one site west of I-94.

Federally Listed Species

The U.S. Fish and Wildlife Service (FWS) provided information on federally listed threatened or endangered species (Appendix C, page C-17 and C-19). The eastern prairie fringed orchid, a threatened species, occurs in Kenosha County, Wisconsin and Lake County, Illinois based on FWS records. However, the eastern prairie fringed orchid was not observed in the I-94 north-south corridor during WisDOT's 2006 field survey.

Other Protected Species

The Migratory Bird Treaty Act of 1918 states that unless permitted by regulation, it is unlawful to kill or capture migratory birds or destroy their eggs and nests. This law protects barn swallows that commonly nest under bridges. No barn swallow nests have been identified during bridge and culvert inspections completed to date.

3.4.9 Noise

Sound is a form of vibration that causes pressure variations in elastic media such as air and water. Noise is defined as unwanted and disruptive sound. The ear is sensitive to this pressure variation and perceives it as sound. The intensity of these pressure variations causes the ear to discern different levels of loudness. These pressure differences are most commonly measured in decibels.

The decibel (dB) is the unit of measurement for sound. The decibel scale audible to humans spans approximately 140 dB. A level of zero decibels corresponds to the lower limit of audibility, while 140 dB produces a sensation more like pain than sound. The decibel scale is a logarithmic representation of the actual sound pressure variations. Therefore, a 26 percent change in the energy level only changes the sound level 1 dB. The human ear would not detect this change except in a controlled environment. Doubling the energy level would result in a 3-dB increase, which would be barely perceptible in the natural environment. Tripling the energy sound level would result in a clearly noticeable change of 5 dB in the sound level. A change of 10 times the energy level would result in a 10-dB change in the sound level. This would be perceived as a doubling (or halving) of the apparent loudness.

The human ear has a non-linear sensitivity to noise. To account for this in noise measurements, electronic weighting scales are used to define the relative loudness of different frequencies. The "A" weighting scale is widely used in environmental work because it closely resembles the non-linearity of human hearing. Therefore, the unit of measurement for a decibel A-weighted sound level is dBA.

Traffic noise is not constant. It varies as each vehicle passes a point. The time-varying characteristics of environmental noise are analyzed statistically to determine the duration and intensity of noise exposure. In an urban environment, noise is made up of two distinct parts. One is ambient or background noise. Wind noise and distant traffic noise make up the acoustical environment surrounding the project. These sounds are not readily recognized, but combine to produce a non-irritating ambient sound level. This background sound level varies throughout the day, being lowest at night and highest during the day. The other component of urban noise is intermittent and louder than the background noise. Transportation noise and local industrial noise are examples of this type of noise. It is for these reasons that environmental noise is analyzed statistically.

The statistical descriptor used for traffic noise is L_{eq}. L_{eq} is the constant, average sound level, which over a period of time contains the same amount of sound energy as the varying levels of the traffic noise. The L_{eq} correlates reasonably well the effects of noise on people. It is also easily measurable with integrating sound level meters. The time period for traffic noise is 1 hour. Therefore, the unit of measure for traffic noise is L_{eq}(1h) dBA.

Highway noise sources have been divided into 5 types of vehicles; automobiles, medium trucks, heavy trucks, buses, and motorcycles. Each vehicle type is defined as follows:

- Automobiles—All vehicles with 2 axles and 4 tires, includes passenger vehicles and light trucks, less than 10,000 pounds.
- Medium trucks—All vehicles having 2 axles and 6 tires, vehicle weight between 10,000 and 26,000 pounds.
- Heavy trucks—All vehicles having 3 or more axles, vehicle weight greater than 26,000 pounds.
- Buses—All vehicles designed to carry more than 9 passengers.
- Motorcycles—All vehicles with 2 or 3 tires and an open-air driver/passenger compartment.

Sound levels produced by highway vehicles can be attributed to 3 major categories:

- Running gear and accessories (tires, drive train, fan, and other auxiliary equipment)
- Engine (intake and exhaust noise, radiation from engine casing)
- Aerodynamic and body noise

Tires are the dominant noise source at speeds greater than 50 mph for trucks and automobiles. Tire sound levels increase with vehicle speed but also depend upon road surface, vehicle weight, tread design and wear. Change in any of these can vary sound levels. At lower speeds, especially in trucks and buses, the dominant noise source is the engine and related accessories.

Sound Level Measurements

Existing sound level measurements were conducted on November 21, 2006, at 13 representative residential areas adjacent to the study-area freeway system. The measurements were made in accordance with FHWA guidelines using an integrating sound level analyzer meeting American National Standards Institute and International Electrical Commission Type 1 specifications.

Noise measurements were conducted for a period of 20 minutes at each site. Traffic counts were taken at each site, concurrent with the noise measurements when traffic was visible from the site. The data collected at the 13 sites are presented in Table 3-15. The location of the field sites are shown Exhibits 2-2 and 2-3.

Comparison of Field Data Versus Modeled Noise Levels

The FHWA Traffic Noise Model® (TNM) Version 2.5 was used to model the field measurements, using traffic data for the study-area freeway system. WisDOT compared the field measurements to the output from TNM to assess the applicability of the model to the specific conditions in the study area.

Comparing the modeled sound levels to the field-measured sound levels confirms the applicability of the computer model to this project. Traffic counts concurrent with the noise measurements were taken at 10 of the 13 measurement sites. The traffic data from these 10 sites was used in the model. The modeled traffic counts at all of the 13 sites compared within ±3 dB of the measured levels. This represents reasonable correlation since the human ear can barely distinguish a 3-dB change in the L_{eq}(1h) sound level in the urban environment. The site-by-site comparison is presented in Table 3-16.

TABLE 3-15
Measured Existing Sound Levels

Field Site	Site Description and Distance From Road	Sound Level dBA L_{eq} (h)
1	Residence/motel, north of 122nd Street bridge over I-94, 63 feet west of frontage road	74
2	Mobile home development, 570 east of I-94, south of CTH KR	66
3	Residence, 105 feet west of I-94, north of Racine CTH C 180	71
4	Residence, 125 feet west of I-94, north edge of 2 Mile Road	64
5	Residence, 180 feet east of I-94, north edge of Bell Road	71
6	Residence, Settlers Way, 185 feet east of I-94	71
7	Apartment building, Meyer Lane, 166 feet west of I-94	72
8	Residence backyard, Wynona Drive, at right-of-way fence	77
9	Southeast quadrant at Drexel Avenue, 35 feet east of 20th Street	59
10	Timber Ridge apartments, Oak Creek, 260 feet west of I-94	65
11	Residence, Clayton Crest Avenue, 108 feet west of I-94	61
12	Residence, Armour Avenue, 178 feet east of I-94/43	61
13	Mobile home, 126 feet north of I-94/43	71

TABLE 3-16
Comparison of Measured and Modeled Sound Levels

Field Site	Sound Level, dBA L_{eq}		Difference in Sound Level, dBA L_{eq} (Modeled Sound Level Minus Measured Sound Level)
	Measured	Modeled	
1	74	77	3
2	66	63	-3
3	71	74	3
4	64	66	2
5	71	72	1
6	71	74	3
7	72	75	3
8	77	78	1
9	59	59	0
10	65	67	2
11	61	62	1
12	61	61	0
13	71	69	-2

3.4.10 Air Quality

The Clean Air Act of 1970 established NAAQS. These were established to protect public health, safety, and welfare from known or anticipated effects of air pollutants. The most recent amendments to the NAAQS contain criteria for sulfur dioxide (SO_2), particulate matter (PM_{10}, 10-micron and smaller along with $PM_{2.5}$, 2.5 micron), carbon monoxide (CO), nitrogen dioxide (NO_2), ozone (O_3), and lead (Pb). The National and Wisconsin Ambient Air Quality Standards are presented in Table 3-17.

Congress directed that the standards should be reviewed at least every 5 years by U.S. EPA to keep up with current science, and that proposals to revise them should be based solely upon the best current scientific opinion on public health effects, not economic impacts. Since initially setting standards in the early 1970s, U.S. EPA has changed the standards only twice: in 1979 and in 1987. Under its most recent review in 1997, U.S. EPA concluded that the current primary standards for ozone and particulate matter were not adequate to protect the public from adverse health effects.

The Clean Air Act Amendments of 1977 and 1990 required all states to submit a list to U.S. EPA identifying those air quality regions, or portions thereof, which meet or exceed the NAAQS or cannot be classified because of insufficient data. Portions of air quality control regions that exceed the NAAQS for any criteria pollutant are designated as "non-attainment" areas for that pollutant. The Clean Air Act Amendments also established time schedules for the states to attain the NAAQS.

In the past few years, U.S. EPA developed a new 8-hour ozone standard of 0.08 ppm, which is designed to protect against longer exposure periods. U.S. EPA defines the new standard as a

"concentration-based" form, specifically, the 3-year average of the annual fourth highest daily maximum 8-hour ozone concentrations. The previous 1-hour primary standard was revoked on June 15, 2005. The previous secondary ozone standard (to protect the environment, including agricultural crops, national parks, and forests) has been replaced with a standard identical to the new primary standard.

TABLE 3-17
National and Wisconsin Ambient Air Quality Standards

Pollutant	Averaging Time	Primary Standard[a]	Secondary Standard[b]
Sulfur Dioxides (SO_2)	Annual (Arithmetic Mean)	0.03 ppm (80 µg/m^3)	
	24 hours[c]	0.14 ppm (365 µg/m^3)	
	3 hours[c]		0.5 ppm (1300 µg/m^3)
Particulate Matter (TSP) WI[d]	24 hours[c]	None	150 µg/$m^{3(c)}$
Particulate Matter ($PM_{2.5}$)	Annual[e] (Arithmetic Mean)	15 µg/m^3	Same as primary
	24 hours[f]	35 µg/m^3	
Particulate Matter (PM_{10})	Annual[g] (Arithmetic Mean)	Revoked[g]	
	24 hours[h]	150 µg/m^3	
Carbon Monoxide (CO)	8 hours[c]	9 ppm (10 mg/m^3)	None
	1 hour[c]	35 ppm (40 mg/m^3)	None
Ozone (O_3) WI	1 hour	0.12 ppm (235 µg/m^3)	Same as primary
Ozone (O_3)	8 hours[j]	0.08 ppm (157 µg/m^3)	Same as Primary
Nitrogen Dioxide (NO_2)	Annual (Arithmetic Mean)	0.053 ppm (100 µg/m^3)	Same as Primary
Lead (Pb)	Quarterly Average	1.5 µg/m^3	Same as Primary

[a] "Primary air standard" means the level of air quality, which provides protection for public health with an adequate margin of safety.

[b] "Secondary air standard" means the level of air quality, which may be necessary to protect welfare from unknown or anticipated adverse effects.

[c] Not to be exceeded more than once per year.

[d] PM_{10} standards were adopted and most total suspended particulate matter (TSP) standards were deleted when the Wisconsin Administrative Code was revised in 1989. The 24-hour secondary TSP standard was retained. The TSP secondary standard is specific to Wisconsin and should not be confused with the National Ambient Air Quality Standards, which are developed by the U.S. EPA.

[e] To attain this standard, the 3 year average of the weighted annual mean $PM_{2.5}$ concentrations from single or multiple community-oriented monitors must not exceed 15.0 µg/m^3.

[f] To attain this standard, the 3 year average of the 98th percentile of 24-hour concentrations at each population-oriented monitor within an area must not exceed 35 µg/m^3 (effective December 17, 2006).

[g] Due to a lack of evidence linking health problems to long-term exposure to coarse particle pollution, the agency revoked the annual PM_{10} standard in 2006 (effective December 17, 2006).

[h] Not to be exceeded more than once per year on average over 3 years.

[i] As of June 15, 2005, U.S. EPA revoked the 1 hour ozone standard in all areas except the fourteen 8-hour ozone non-attainment Early Action Compact Areas. Wisconsin is not an Early Action Compact Area.

[j] To attain this standard, the 3-year average of the fourth-highest daily maximum 8-hour average ozone concentrations measured at each monitor within an area over each year must not exceed 0.08 ppm.

Source: http://www.epa.gov/air/criteria.html, last updated March 2, 2007 and Wisconsin Administrative Code, Chapter NR 404, May, 2005.

The Clean Air Act Amendments of 1977and 1990 require all states to submit a list to U.S. EPA that identifies air quality regions, or portions thereof, that meet or exceed the NAAQS for any criteria pollutant and are therefore designated as "non-attainment" areas for that pollutant. The Clean Air Act Amendments also set time schedules for the states to attain the NAAQS.

Congress directed U.S. EPA to review the NAAQS, at minimum, every 5 years to keep the standards current. Proposals to revise NAAQS are to be based upon the best current scientific opinion on public health effects.

A threshold for human health exposure to ozone has not been established. Exposure to ozone has been linked to both acute and chronic adverse health effects, including heart and lung disease. When inhaled into the lungs, ozone can aggravate existing lung diseases, exacerbate asthma attacks and bronchitis, and may shorten life span.

The current 8-hour ozone standard of 0.08 ppm (which U.S. EPA administers as 85 ppb), is designed to protect against exposure periods of several hours. U.S. EPA defines this standard as a "concentration-based" form, specifically, the 3-year average of the annual fourth highest daily maximum 8-hour ozone concentrations. The previous 1-hour primary standard was revoked on June 15, 2005. The previous secondary ozone standard (to protect the environment, including agricultural crops, national parks, and forests) has been replaced with a secondary standard identical to the new primary standard.

In June 2007, U.S. EPA began to revise the current standards for ground level ozone. U.S. EPA proposed to set the primary (health) standard to a level within the range of 0.070 to 0.075 ppm (70–75 ppb). U.S. EPA has requested comments on alternative levels of the 8-hour primary ozone standard, within a range from 0.060 ppm up to and including the retention of the current standard (0.085 ppm). U.S. EPA is under court order to revise the ozone standards during 2008. U.S. EPA expects non-attainment designations based on 2007–2009 air quality data to take affect in 2010.

U.S. EPA has also established an annual $PM_{2.5}$ standard of 15 micrograms per cubic meter ($\mu g/m^3$) and a 24-hour $PM_{2.5}$ standard of 35 $\mu g/m^3$. U.S. EPA has revoked the previous annual PM_{10} standard of 50 $\mu g/m^3$ while retaining the PM_{10} 24-hour standard of 150 $\mu g/m^3$. PM_{10} particulates are coarse particles, such as windblown dust from fields and unpaved roads. $PM_{2.5}$ particulates are fine particles generally emitted from activities such as industrial and residential combustion and from vehicle exhaust.

The PM secondary (welfare-based) standards have been revised to make them identical to the primary standards. U.S. EPA believes that the $PM_{2.5}$ and PM_{10} standards, combined with the Clean Air Act-required regional haze program, will provide protection against the major PM-related welfare effects, including visibility impairment, soiling and materials damage.

A threshold for human health exposure to $PM_{2.5}$ has not been established. Both acute and chronic exposures to $PM_{2.5}$ have been linked to heart and lung disease. When inhaled into the lungs, fine particles can aggravate existing heart and lung diseases and cause cardiovascular symptoms, arrhythmias, heart attacks, chronic obstructive pulmonary disease, asthma attacks, and bronchitis.

The study area in Wisconsin is currently designated as in attainment for $PM_{2.5}$. Some Wisconsin counties face possible designation as non-attainment for $PM_{2.5}$. U.S. EPA's final

determination on the attainment designation is expected near the end of 2008. If the designation changes from attainment to non-attainment, the state of Wisconsin will develop measures to control $PM_{2.5}$ emissions in accordance with U.S. EPA guidelines so that the region will be in attainment by 2015.

The primary pollutants from motor vehicles are unburned hydrocarbons, NOx, and CO. Volatile Organic Compounds (VOC) and Nitrogen oxides (NOx) can combine in a complex series of reactions catalyzed by sunlight to produce photochemical oxidants such as ozone and NO_2. Because these reactions take place over a period of several hours, maximum concentrations of photochemical oxidants are often found far downwind of the precursor sources. These pollutants are regional problems. The modeling procedures for ozone and NO_2 require long-term meteorological data and detailed area wide emission rates for all potential sources. CO is a colorless and odorless gas that is the by-product of incomplete combustion and is a pollutant of concern from gasoline-fueled motor vehicles. At elevated concentrations, CO is related to cardio-pulmonary problems and shortened life span. CO is also considered a minor, ground-level ozone precursor pollutant. CO emissions are greatest from vehicles operating at low speeds and the first 8 minutes of operation during engine warm up. Congested urban roads tend to be the principal problem areas for CO.

In addition to the criteria air pollutants for which there are NAAQS, U.S. EPA also regulates air toxics. Most air toxics originate from human-made sources, including on-road mobile sources, non-road mobile sources (e.g., airplanes), area sources (e.g., dry cleaners), and stationary sources (e.g., factories or refineries).

In April 2007, under authority of the Clean Air Act CAA Section 202(l), U.S. EPA signed a final rule, Control of Hazardous Air Pollutants from Mobile Sources, which sets standards to control mobile source air toxics (MSATs). Under this rule, U.S. EPA set standards on fuel composition, vehicle exhaust emissions, and evaporative losses from portable containers. Beginning in 2011, refineries will be required to limit the annual benzene content of gasoline to an annual average refinery average of 0.62 percent. The rule also sets a new vehicle exhaust emission standard for non-methane hydrocarbon including MSAT compounds, to be phased in between 2010 and 2013 for lighter vehicles and 2012 and 2015 for heavier vehicles.

Table 3-17 lists the allowable exceedances for the U.S. EPA criteria pollutants.

The study-area freeway system is located within the Southeastern Wisconsin Intrastate Air Quality Control Region #239 and Metropolitan Chicago Interstate Air Quality Control Region #67. Milwaukee, Kenosha, and Racine Counties are currently in attainment status for 6 of the 7 criteria pollutants, and have been classified as being in moderate non-attainment for the 8-hour ozone standard. In addition, the study area has current $PM_{2.5}$ concentrations that would not meet the proposed standards shown in Table 3-17. In June 2007, DNR submitted a request to the U.S. EPA to re-designate eight counties in Eastern Wisconsin as attainment for ozone. Kenosha, Racine, Milwaukee, Waukesha, Washington, Ozaukee, Manitowoc, and Kewaunee Counties are included in the state's request because these counties have met clean air standards for 2004, 2005, and 2006. Lake County, Illinois is currently in attainment status for 5 of the 7 criteria pollutants, and has been classified as being in non-attainment for $PM_{2.5}$ and moderate non-attainment for the 8-hour ozone standard.

According to the U.S. DOT, greenhouse gases are trace gases that trap heat in the earth's atmosphere. Some greenhouse gases occur naturally and are emitted into the atmosphere through natural processes and human activities. Naturally occurring greenhouse gases include water vapor, carbon dioxide, methane, nitrous oxide, and ozone. Other greenhouse gases such as chlorofluorocarbons (CFCs), hydrofluorocarbons (HFCs), and perfluorocarbons (PFCs) are created and emitted solely through human activities. Certain human activities can also add to the levels of most of the naturally occurring gases. The principal greenhouse gases that enter the atmosphere because of human activities are carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), and fluorinated gases.

As a sector, transportation is a significant source of greenhouse gases. In 1998, transportation sources accounted for approximately one quarter of the total greenhouse gas emissions in the U.S. Transportation contributes to global warming through the burning of gasoline and diesel fuel. Any process that burns fossil fuels, such as gasoline and diesel fuel, releases CO_2 into the air. CO_2 from fossil fuel combustion is responsible for almost all greenhouse gas emissions from mobile sources, which include both transportation sources and non-transportation equipment, such as agricultural and construction equipment. CH_4 and N_2O emissions also result from fuel combustion, while HFC emissions are associated with motor vehicle air conditioners.

In contrast with trends in other air emissions, greenhouse gas emissions from transportation continue to rise, in large part because travel growth has outpaced improvements in vehicle energy efficiency. Transportation sector emissions have grown at an average rate of about 2.0 percent annually since 1990. The sector's emissions have grown considerably faster than those of other sectors, which averaged about 0.8 percent annually during the same period (U.S. DOT Center for Climate Change and Environmental Forecasting, 2008).

Globally, approximately 283 billion tons of CO_2 have been added to the atmosphere since 1751, mainly from the combustion of fossil fuels (U.S. EPA, 2004b). Emissions of greenhouse gases in the U.S. in 2002 totaled 6,826.0 million metric tons CO_2 equivalent, 0.5 percent more than in 2001 (DOE, 2002). During 2002, 82.8 percent of the total U.S. greenhouse gas emissions consisted of CO_2 emissions from the combustion of fossil fuel. The combustion of fossil fuels to produce energy is a major source of greenhouse gas emissions in Wisconsin and the U.S., accounting for 80 to 90 percent of emissions. Total Wisconsin greenhouse gas emissions were about 130 million tons in 2000 (DNR, 2004b).

3.4.11 Hazardous Materials

Based on the initial record search (database search, aerial photographs, topographic maps, historical as-builts, Sanborn maps, personal interviews, etc.) and windshield survey, 190 potential hazardous materials sites and/or parcels were identified in the study-area freeway system. Sources reviewed for information include regulatory agency (U.S. EPA and DNR) listings, and past or present land use that would indicate the potential for the use or management of hazardous materials or the generation of hazardous waste. If such information was found, the parcel was noted as a potential hazardous material site/parcel.

A summary of the initial findings include the following:

- Additional Hazardous Materials Assessment: Based on the proposed right-of-way acquisition and project excavation requirements, 32 sites and/or parcels are recommended for additional hazardous materials assessment (record search investigation).
- Possible Contaminated Soils or Underground Storage Tanks: Sixteen sites that include former gas stations, greenhouses, and fill areas were identified in the corridor. Potentially contaminated soils and/or possibly underground storage tanks may be encountered if utilities and/or storm sewers (locations yet to be determined) are proposed at these sites in the future.
- Contaminated Sediment: Sediment in stream bottoms may be contaminated from upstream dumping of waste.
- Asbestos-Containing Materials: Bridges on the study-area freeway system may contain asbestos-containing materials.
- Lead-Based Paint: Bridges on the study-area freeway system may contain lead-based paint.

3.4.12 Soil and Mineral Resources

Soils located in the I-94 north-south corridor were formed mainly in material that was laid down through glaciation and have a high content of clay. This section describes the soil associations located in Milwaukee, Racine, and Kenosha Counties. Soil associations provide a general idea of the soils located within an area and consist of a landscape that has a distinctive proportional pattern of soils.

Racine, Kenosha, and Lake Counties Soils

The I-94 north-south corridor in Racine, Kenosha, and Lake Counties contains three distinct soil associations. The most prominent soil association is the Varna-Elliott-Ashkum association. This soil association consists of well drained to poorly drained soils that have a silty clay or silty clay loam subsoil; formed in thin loess and the underlying clay loam or silty clay loam glacial till on ridges and knobs. The soils are nearly level and gently sloping and occur on low, very broad ridges and knobs that are dissected by drainageways and depressions. The soils of this association are well suited to crops and residential developments.

The Morley-Beecher-Ashkum soil association is located in the I-94 north-south corridor from just south of the Milwaukee/Racine county line to approximately the CTH K interchange. This soil association consists of well drained to poorly drained soils that have a silty clay or silty clay loam subsoil, formed in thin loess and the underlying clay loam or silty clay loam glacial till on ridges and knobs.

The Hebron-Montgomery-Aztalan soil association is located where the Des Plaines River crosses under I-94 in Kenosha County and at an area immediately south of the Milwaukee/Racine county line. This soil association consists of well drained to poorly drained soils that have a loam to silty clay subsoil; underlain by clayey to loamy lacustrine and outwash material on hills, knobs, and lake plains.

Milwaukee County Soils

The soil association present through the majority of the Milwaukee County section of the I-94 north-south corridor is the Ozaukee-Morley Mequon association. The U.S. Department

of Agriculture Soil Conservation Service Soil Survey states that this soil association consists of well drained to somewhat poorly drained soils that have a subsoil of silty clay loam and silty clay, formed in thin loess and silty clay loam glacial till, on moraines. The land in this soil association consists of intermittent "clay" bluffs and of gently sloping to rolling ridges that roughly parallel the Lake Michigan shoreline. Most of this soil association is well-suited to farming, but erosion control is needed on the sloping soils, and drainage and protection from flooding are needed for the soils in the low areas.

The only section of the I-94 north-south corridor in Milwaukee County that is not part of the Ozaukee-Morley Mequon soil association is in extreme southern Milwaukee County where the Root River passes under I-94. This swath of land is part of the Montgomery-Martinton-Hebron-Saylesville association. This soil association consists of poorly drained to well-drained soils that have a subsoil of clay loam, formed in silty clay or silty clay loam sediments, in old lakebeds.

Mineral Resources

A sand/gravel pit is located on the west side of I-94 in Kenosha County, between the CTH E and STH 142 interchanges. Other sand and gravel deposits are located near the corridor but are not currently being mined.

3.5 Cultural Resources

3.5.1 Cemeteries

Four cemeteries are located near the I-94 north-south corridor. The Sylvania Cemetery is located on the west side of I-94 and south of STH 11 in Racine County. An unnamed cemetery is next to I-94 at the southern terminus of the study area in Lake County, Illinois. The Oak Creek Community Cemetery located at 13th Avenue and Drexel Avenue in Milwaukee County, east of I-94, and an unnamed cemetery is located west of I-94 at 27th Street and Oakwood Avenue in Milwaukee County.

3.5.2 Archaeological

WisDOT coordinated archaeological investigations along the I-94 north-south corridor in accordance with the Guidelines for Public Archaeology in Wisconsin, as revised. The archaeological investigations were designed to partially fulfill responsibilities for identifying, recording, and managing cultural resources as stipulated under Section 106 of the National Historic Preservation Act of 1966. The Phase 1 investigation (identification) included an extensive literature search of published reports, site forms, and reports on previously recorded sites on file at regional libraries, historical societies, the Wisconsin Historical Society, and the Illinois State Museum. The Phase 1 investigation also included visual inspection, pedestrian field survey, surface collection, and shovel tests as needed to verify the presence or absence of archaeological material along the entire project corridor. The area of potential effects (APE) for the archaeological study is the existing and proposed right-of-way and any temporary and permanent easements that may be required to construct the proposed improvements.

The archaeological fieldwork conducted in 2006 led to the discovery of 4 new archaeological sites (all located within Milwaukee County) and revisiting several previously identified archaeological sites. The following sites are in or near the APE for the I-94 north-south corridor.

Lake County

In Lake County, archaeological field investigations were limited to the existing Illinois DOT/Illinois Tollway Authority right-of-way along existing I-94 because no new right-of-way would be required under either Build Alternative. The right-of-way has been leveled, filled, landscaped, bermed, and/or ditched. No archaeological materials and/or sites were encountered during the field investigations.

Kenosha County

- The Kellogg's Corners site, a circa 1837 Euro-American schoolhouse, is located south of CTH KR, and east of the frontage road which runs along westbound I-94. A structure existed until 1995, when it burned. No further archaeological testing was recommended for this site.
- The Flatland site is a previously reported campsite/village of unknown prehistoric affiliation located north of STH 142 and west of I-94 along a creek that once flowed in an east-west direction at the approximate location where a hotel now stands along the frontage road. It is believed plowing and a type of soil prone to erosion destroyed this site. No further archaeological testing was recommended.
- The William Matthews site is a reported campsite/village of unknown prehistoric affiliation. A 1992 investigation of the William Matthews site determined it was not eligible for the National Register due to the lack of intact deposits present at the site. To confirm this conclusion, in 2006, the site was visually inspected and surface collected, and no artifacts were recovered so it was evident the site was destroyed.
- The Reis site is a historic Euro-American foundation/depression located on the east side of I-94 north of CTH ML. No evidence of this site was located during 2006 investigations and no further archaeological testing was recommended.

Racine County

- The Wisconsin Electric Power Company SW site is a reported campsite/village of unknown prehistoric affiliation located south of CTH G, west of I-94. It was determined the site was destroyed, if it ever existed, and no further archaeological testing was recommended for the site.
- The Knoll site is a reported cemetery/burial of unknown cultural affiliation. A pedestrian survey found no cultural material present and it was determined the site is located outside the project right-of-way, thus no further archaeological testing was required.
- The Gillett Homestead site is a reported historic farmstead located south of STH 20, and west of I-94 along Sylvania Avenue. Based on previous reports and current land development, it appears this historic farmstead has been completely destroyed. There is no evidence to suggest that this site was eligible for the National Register of Historic Places (National Register) or that any portion of the site remains intact.

- An unnamed cemetery/burial site of probable historic Euro-American affiliation located in the northwest quadrant at the intersection of 58th Street/Old Hwy 11 and Sylvania Avenue/I-94. The area where the site is supposedly located is within what is currently being used as an agricultural field, and there is no evidence apparent from the orthophoto plan maps, nor was any surface evidence for the site present at the reported location. This site does not appear to exist; however, a site update will be filed by the Wisconsin Historical Society recommending additional archival and literature search.

Milwaukee County (Previously Known Sites)

- A cemetery/burial site of an unknown prehistoric affiliation located in an area that is broadly defined as being north of present-day Layton Avenue between 13th and 20th Streets. Stone implements were once recovered from a burial in a gravel pit in the area. The area where the site is reported to have been located was heavily disturbed by the construction of the Mitchell Interchange. This site has most likely been destroyed through urban development and road construction and no further archaeological testing was recommended for the site.
- The Hauerwas (landowner) field site defined by one point and two flakes found north of Drexel Avenue and west of I-94. The site was probably the location of a camp or camps and assigned to the Middle Woodland period based on point typology. Shovel testing found a single lithic flake from this site outside of the project area. As a result, no further archaeological testing was recommended for the site.
- The Frieseke site is north of Ryan Road and west of I-94. Chips were reported in 1959 and the site is of an unknown prehistoric affiliation. It appears highly likely that this site was destroyed during the construction of the Ryan Road interchange and no further archaeological testing was recommended for the site.
- The Siegel site, located south of Ryan Road and west of I-94 defines a campsite/village of an unknown prehistoric affiliation with a single "blade" reported in 1959. Based on field investigations, this site does not exist within the WisDOT right-of-way. Shovel tests and visual inspection confirmed that the site was destroyed prior to I-94 construction and no further archaeological testing was recommended for the site.
- A multi-component campsite/village with Middle Archaic, Early Woodland, and Late Woodland stage components was reported south of Oak Creek, partially extending into the existing I-94 right-of-way. Side-notched, stemmed, corner notched, triangular points, bifacial blades, and a celt were once collected from the site. The site appears to have been completely destroyed by prior I-94 construction along with the commercial development of the area.
- A metal spoon handle fragment and crockery fragments were once recovered from the top of a rise north of the Root River. Investigations in 2006 determined this is a secondary deposit site with poorly defined boundaries and of modern origin. This site is not significant under any of the criterion for placement on the National Register and is therefore not eligible for inclusion on the National Register.
- An unknown site type of an indeterminate prehistoric affiliation is located west of 13th Street along the north side of the Root River. Investigations conducted in 2006 noted that

the site contains a light scatter of artifacts that has continued to erode through the years and is no longer a viable archaeological site. There is no evidence to suggest that the site meets any of the criteria for significance for inclusion on the National Register.

- An unknown site type that likely dates to the Late Archaic/Early Woodland period is located north of the Root River west of its intersection with 13th Street. Previous reports document a total of six Galena chert waste flakes along with an unidentifiable fragment of bird bone. A 2006 investigation found that the low artifact density, the lack of artifacts that might suggest intact subsurface deposits (bone, ceramics), and the location of the site outside of the proposed project area suggest that this site is not eligible for inclusion on the National Register, and therefore, no further archaeological testing was recommended.
- A site defined by a point base fragment recovered from a field south of the Root River, outside of the I-94 right-of-way. During shovel testing and an intense surface collection effort, no cultural materials were encountered within this site.

Milwaukee County (New Sites Identified)

- The Weissgerber I site located on a rise in an agricultural field between 27th Street and I-94. The site consists of an isolated find of a single waste flake of Silurian chert. In a 2006 investigation, no additional materials were recovered and it was determined that this site is not significant under any of the criteria for the National Register and is therefore not eligible for inclusion on the National Register.
- The Weissgerber II site is located in the northwestern corner of the proposed 27th Street interchange and is barely within the proposed construction area. The site is clearly of modern Euro American origin and has been heavily damaged by earth moving equipment. It was determined that this site is not significant under any of the criteria for inclusion on the National Register and therefore it is not eligible for inclusion on the National Register.
- The Terrace site is located on a low terrace overlooking the Root River. A total of 19 artifacts were recovered from the Terrace site, including 18 pieces of lithic waste and one piece of fire-cracked rock. The presence of fire-cracked rock indicates this site may have been used as a campsite. The site is outside the proposed footprint of construction for the 27th Street interchange, however, should the proposed plans change, the site should undergo a Determination of Eligibility.
- The Interstate Isolate site is located south of Puetz Road and east of I-94. The site consists of a single positive shovel test containing a single lithic waste flake. Based on landscape setting and the shovel test profiles, it is believed that the flake was derived from a fill context. This site represents an isolated find of an unknown prehistoric affiliation, derived from a secondary context, and does not meet the criteria for listing on the National Register.

3.5.3 Historic Sites

WisDOT investigated historic properties to identify possible historically significant structures within the APE of improvements to the I-94 north-south corridor. The APE for this review included buildings and structures adjacent to I-94 or its frontage roads (in

Racine and Kenosha Counties) and a 1/2-mile radius around I-94 interchanges in Milwaukee, including the potential new interchange at Drexel Road and the potential full interchange at 27th Street in southern Milwaukee County. Structures are historically significant if listed on the National Register or meet criteria for eligibility to the National Register. Eligibility criteria for structures are summarized as follows:

- Criterion A—Structures associated with events that have made a significant contribution to broad patterns of our history.
- Criterion B—Structures associated with the lives of persons significant in our past.
- Criterion C—Structures that embody the distinctive characteristics of a type, period, or method of construction, or that represents the work of a master, or that possesses high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction.

No National Register-listed or eligible buildings or structures are located within the I-94 north-south corridor (See Appendix C, page C-7 and page C-10).

3.6 Recreational Resources / Public Use Lands

The City of Milwaukee, City of Oak Creek, City of Greenfield, Milwaukee County, Racine County, and the Lake County Forest Preserve own parks and other public use areas adjacent to the study-area freeway system.

The locations of publicly owned parks in the study area are shown in Exhibits 3-13 and 3-14 and discussion follows.

3.6.1 Publicly-owned Parks

Van Patten Woods

Van Patten Woods Forest Preserve is located 1/4 mile east of I-94 at Russell Road in Lake County. The Lake County Forest Preserves District owns the 991-acre preserve. Key features include a 74-acre lake, the Des Plaines River, 5 miles of crushed gravel trails, a youth campground, horseback riding, and model aircraft flying area. Picnic facilities and sports fields are also provided.

According to the Lake County Forest Preserves District, future plans may include acquiring land west of the current forest preserve boundaries, although this is not documented in a plan (Davis, 2006).

Prairie Springs Park

Prairie Springs Park and Lake Andrea is located in Kenosha County east of I-94 and north of STH 165. The park officially opened in August of 1995 and was paid for with a $1.7 million private contribution. This 425-acre public park and 110-acre spring fed lake offer a beach with a designated swimming area, two children's tot lots, softball fields, picnic areas, volleyball pits, nature trails, and a 2 1/3-mile paved walking/jogging trail around the lake. Portions of Prairie Springs Park have been developed with state stewardship and federal sport fish restoration grants.

Ives Grove Golf Course

Racine County owns this golf course, which lies 1/4 mile west of I-94 near STH 20. The golf course was developed with federal open space grants and State Outdoor Recreation Action Program Metro Aids grants.

Root River Parkway

The Root River Parkway is owned by Milwaukee County and located on the east side of I-94 between Oakwood Road and the Milwaukee/Racine County line. This area is one segment of a roughly 26-mile-long corridor of Milwaukee County Park System land in the Root River corridor. The area on the west side of I-94 is not part of the County-owned land. The entire Root River Parkway consists of 3,831 acres of Milwaukee County-owned land, although it is not contiguous. The portion of the Parkway that abuts the I-94 corridor is part of a roughly 3-mile-long contiguous area along the Root River. This includes a 10.5-acre parcel adjacent to I-94 that was purchased by the Wisconsin Highway Commission, declared excess right-of-way, and sold to Milwaukee County in 1965. No facilities are currently located in the portion of the Root River Parkway adjacent to I-94.

The Land and Water Conservation Fund (LWCF) program provides matching grants to States and local governments for the acquisition and development of public outdoor recreation areas and facilities. No LWCF funds were used to purchase the land near I-94. However, LWCF was used to purchase parts of the Root River Parkway. According to the DNR, Milwaukee County acquired 56 acres in a 1973 LWCF grant. The County has also used state grant funds to acquire several properties and develop trails in the Parkway. Wisconsin DNR, acting as the state administrator of the LWCF under authority delegated from the National Park Service (NPS), maintains that the entire parkway is subject to LWCF even though some areas were not acquired or improved with LWCF grants. WisDOT and FHWA disagree with this interpretation of LWCF requirements but acknowledge that DNR and NPS have the responsibility to determine LWCF applicability.

Milwaukee County plans to construct a multi-use trail through the Root River Parkway including a crossing under I-94. This is included in SEWRPC's Community Assistance Planning Report 132, *A Park and Open Space Plan for Milwaukee County* (1991b). A portion of this off-road multi-use trail approximately 1 1/2 miles east of I-94 was completed in 2005 (from STH 38 to the east). This trail would become part of the County's Oak Leaf Trail. West of I-94 it would be routed on County Line Road or along private property according to the Milwaukee County Park Department.

Falk Park

Falk Park, a 216-acre park owned by Milwaukee County, is located on the west side of I-94 between Rawson Avenue and Drexel Avenue. The park and the freeway right-of-way share a property line. The park is undeveloped except for a park office/pavilion and small parking area located off Rawson Avenue and unpaved trails in the north half of the park. The pavilion is available for rent. School groups and nature groups use the northern half of the park. The County has no visitor data for Falk Park.

Much of the northern half of the park consists of a wet beech-maple forest. A roughly 13-acre dry oak-hickory forest is located in the southern half of the park. Much of the remaining southern half of the park is conservation area. Some of the conservation area is enrolled in the Natural Resource Conservation Service (NRCS) Conservation Reserve Program. Under the County's agreement with NRCS, this land is being converted to grassland.

Most of Falk Park was acquired with Land and Water Conservation Act funds. Like the Root River Parkway, DNR maintains that Falk Park is subject to LWCF. WisDOT and FHWA disagree with this interpretation of LWCF requirements but acknowledge that DNR and NPS have the responsibility to determine LWCF applicability. For information regarding Falk Park's 6(f) status, please refer to Section 5, Section 4(f)/6(f) Evaluation.

Jewell Playfield

Jewell Playfield is located one block west of I-94 approximately 1/2 mile south of College Avenue. The playfield is separated from the freeway by a row of houses and a noise wall. The playfield is approximately 5 acres and contains 2 tennis courts, 1 basketball court, a ball field, playground equipment, paved walking trails, restrooms, and a grassy open area.

The playfield is owned by the City of Milwaukee and maintained by Milwaukee Public Schools (MPS). A real estate company donated the land for Jewell Playfield to the City. Improvements were funded through the City's capital budget. The City of Milwaukee and MPS have not indicated any plans to expand or improve the playfield.

Maitland Park

Maitland Park is a 27-acre park located on the east side of I-94 between the Airport Spur and College Avenue. It shares a property line with the I-94 right-of-way. The park is undeveloped except for a playground, sledding hill, and paved walking trails including a bridge over the north branch of Oak Creek.

Maitland Park is owned by Milwaukee County. No LWCF funds or other special funds were used to acquire or develop Maitland Park. Milwaukee County has no plans for capital improvements or other changes to Maitland Park.

Copernicus Park

Copernicus Park is a 21-acre park located on the west side of South 20th Street one block (approximately 350 feet) west of the Airport Spur interchange and about 1/4 mile west of the I-94 mainline. The park contains a basketball court, a backstop for a ball field (but no ball field), playground, and walking trails. The north branch of Oak Creek also flows through a wooded area in the park.

Copernicus Park is owned by Milwaukee County. No LWCF funds, or other special federal funds were used to acquire land and construct improvements to the park. Milwaukee County Park System does not have any plans to develop new facilities in the park or change its management.

16th and Edgerton Play Lot

The 16th and Edgerton Play Lot is located on the east side of I-94 at Edgerton Avenue. The play lot is approximately 1.1 acres and contains a basketball court, 2 tennis courts, and

playground equipment. No parking is provided at the play lot. The play lot and I-94 share a property line. A noise wall separates the freeway and park lot.

The play lot is owned and maintained by the City of Milwaukee. The land for this play lot was acquired by the City of Milwaukee through a quitclaim deed from the state in 1970. Additional land adjacent to the freeway was acquired from the state in 1981. Improvements were funded by the city's capital budget. The City of Milwaukee Department of Public Works (DPW) did not indicate any plans to change this play lot.

Lowell Elementary Tot Lot

The Lowell Elementary Tot Lot is approximately 2 acres and has playground equipment in a 40-by-40-foot fenced area, benches, a portable toilet and 28 parking spaces. The tot lot is located on the north side of the Mitchell Interchange with the tot lot and the freeway right-of-way sharing a property line. The tot lot is adjacent to Lowell Elementary School but has a separate parking area and driveway entrance.

This land was acquired through private donations according to City of Milwaukee DPW. Improvements to the land were funded through the City's capital budget. A sign at the playground indicates it is owned by MPS but according to both the school staff and the City of Milwaukee, it is owned by the City of Milwaukee and maintained by MPS. DPW indicates that MPS has jurisdiction over the tot lot and the adjacent elementary school playground. Lowell Elementary officials and DPW did not indicate any plans to change this tot lot.

3.6.2 Managed Forest Lands

Managed forest lands are parcels of property that consist of at least 10 contiguous acres of land in one municipality in which 80 percent of the parcel is producing or capable of producing a minimum of 20 cubic feet of merchantable timber per acre per year. The DNR manages these lands through easement or lease rights and landowners must follow a forest management plan in return for lower property taxes on the land. Within 1 mile of I-94, 3 parcels are enrolled in the program. Two of the parcels (1 at 7 Mile Road and 1 at CTH KR) are 1/4 mile from I-94. The third parcel is located in the northeast quadrant of the I-94/CTH G interchange in Racine County. The parcel abuts the east I-94 frontage road.

3.6.3 State Stewardship Projects

State Stewardship funds were used to develop 3 recreational trails in the Milwaukee County portion of the study area and Prairie Springs Park in Kenosha County. However, none of the trails developed with state Stewardship funds cross the study-area freeway system. A segment of the Oak Leaf Trail on Drexel Avenue 1 mile east of I-94 was developed with Stewardship funds. The Oak Leaf Trail crosses over I-94 on Drexel Avenue; however, this segment was not built with Stewardship funds.

The Kenosha/Racine Land Trust has submitted a stewardship grant application to DNR to purchase a privately owned property on the south bank of the Des Plaines River. The property abuts the west frontage along I-94. As of February 2008, the application is pending.

Three state-funded snowmobile crossings are located in the corridor along with the CTH G bridge over I-94, STH 11 under I-94, and a crossing under I-94 between Golf Road and 2 Mile Road.

3.6.4 Conservation Easements

The NRCS Conservation Reserve Program provides technical and financial assistance to eligible farmers to address soil, water, and related natural resource concerns on their lands in an environmentally beneficial and cost-effective manner. The Conservation Reserve Program reduces soil erosion, sedimentation in streams and lakes, improves water quality, establishes wildlife habitat, and enhances forest and wetland resources by encouraging farmers to convert highly erodible cropland or other environmentally sensitive acreage to vegetative cover. Milwaukee County Parks System has enrolled land in Falk Park and Root River Parkway in the Conservation Reserve Program. Land adjacent to I-94 near CTH G in Racine County is also in the Conservation Reserve Program. No other conservation easements are located in the corridor.

Exhibits

Tables

SECTION 4

Environmental Consequences

This section describes the beneficial and adverse social, economic, and environmental consequences of the No-Build Alternative and the two Build Alternatives that underwent detailed evaluation and comparison (Safety and Design Improvements; Safety and Design Improvements with Added Capacity).

Discussions are arranged by impact category in roughly the same order as they are discussed in Section 3, Affected Environment. For each impact category, the No-Build Alternative, the two Build Alternatives, the Drexel Avenue Interchange Alternative, and the 27th Street Interchange Alternative are discussed. In some cases the impacts of the two Build Alternatives are the same; in other cases the impacts vary between the two. The Drexel Avenue and 27th Street interchange alternatives are discussed separately from the Build Alternatives because they could be implemented with either alternative. The alternatives are described in detail in Section 2, Alternatives/Preferred Alternative.

The direct impacts of the two Build Alternatives are similar in terms of the amount of land that would need to be acquired, relocations, wetland and farmland impacts, threatened and endangered species impacts, floodplain, and upland habitat impacts. There are two key reasons for this:

- The frontage roads adjacent to I-94 in Racine and Kenosha Counties would be reconstructed further away from I-94 under both Build Alternatives in order to adequately manage storm water that runs off I-94 and the frontage roads and to meet current design standards for spacing between freeways and adjacent local roads. The location of the frontage roads would be the same under both Build Alternatives. Under the Safety and Design Improvements with Added Capacity Alternative, the spacing between the freeway and frontage road would meet the minimum WisDOT standard. Under the Safety and Design Improvements Alternative, the spacing would exceed the minimum but still be less than the desirable distance. Meeting the desirable spacing would require residential and business relocations, additional right-of-way acquisition, and additional wetland impacts.
- Addressing substandard design issues near the Mitchell Interchange will require widening shoulders, providing auxiliary lanes, and making some ramps two lanes instead of one. Regardless of whether additional through capacity is added, some of these safety improvements will require acquisition of right-of-way and residential relocations.

As noted in Section 1.2.1, WisDOT and FHWA evaluated the interchanges with I-94 in Kenosha and Racine Counties as a separate project. The impacts of reconstructing these interchanges were documented in an Environmental Assessment/Finding of No Significant Impact in 1996. WisDOT and FHWA reevaluated the Finding of No Significant Impact in 2007. As a result, those impacts are not documented in this EIS.

4.1 Land Use and Land Use Planning

4.1.1 Direct Land Use Changes

The direct land use impact of the project will be the conversion of 47 to 68 acres of land to highway right-of-way. Most of the right-of-way to be acquired would be strips of land adjacent to the existing right-of-way.

No-Build Alternative

Under the No-Build Alternative no land use changes would occur.

Build Alternatives

Under both Build Alternatives approximately 47 acres of land would be converted to highway right-of-way. Most of the land to be acquired (39 acres) is in Racine and Kenosha Counties to accommodate reconstruction of the frontage roads. The majority of land to be acquired in Racine and Kenosha Counties is farmland or undeveloped land. Land use on the remaining parcels of land adjacent to the freeway in Racine and Kenosha Counties would likely not change because no relocations or changes in access are anticipated in Racine or Kenosha Counties as a result of the proposed action (see Section 4.2.1, Indirect Effects). No right-of-way would be acquired in Lake County because an additional lane in each direction can be added within the existing right-of-way.

In Milwaukee County, 8 acres of land would be converted to highway right-of-way under the Build Alternatives. Almost all of the 8 acres would be from residential properties adjacent to I-94. Four residences would be relocated, which would change the land use of those residential lots (see Section 4.5.2, Relocations).

Approximately 100 acres of land currently used as highway right-of-way adjacent to Milwaukee County service interchanges may no longer be needed for right-of-way. WisDOT may declare this land excess right-of-way in the future if either Build Alternative is implemented. The largest of these areas is in the southwest quadrant of the Layton Avenue interchange. This 11-acre parcel could be converted to a different land use if this alternative is implemented. The future use of this parcel depends on whether WisDOT declares it excess right-of-way and sells it, and the City of Milwaukee's zoning and land development process. The potential sale of this parcel is not part of this proposed action and is discussed in more detail in Section 4.2.1, Indirect Effects and Section 4.5.6, Economic Impacts. The other land currently used as highway right-of-way is located in other quadrants of the Layton Avenue interchange and at the College Avenue, Rawson Avenue, and Ryan Road interchanges with I-94. These parcels are irregularly shaped and in some cases would be difficult to access.

Drexel Avenue Interchange Alternative

A new interchange with I-94 at Drexel Avenue would require 11 acres of new highway right-of-way and two residential relocations, which would change the land use in the immediate vicinity of Drexel Avenue and I-94 (see Section 4.2.1, Indirect Effects).

27th Street Interchange Alternative

Approximately 10 acres of farmland would be converted to highway right-of-way if the existing half interchange is converted to a full interchange as described in Section 2. All of

the land that would be acquired is currently farmland, although it is planned for development (see Section 4.2.1, Indirect Effects).

4.1.2 Conformity with Local and Regional Plans

WisDOT coordinated with all local and county governments in the study area and the proposed action conforms to relevant local and regional land use plans.

Sections 1.2.2 and 3.1.2 summarize relevant local and regional plans prepared by SEWRPC and municipalities in the study area. SEWRPC's 2035 regional transportation plan recommends adding capacity to the study-area freeway system. The Chicago Metropolitan Agency for Planning recommends adding capacity to I-94 in Lake County.

No-Build Alternative

This alternative does not conform to SEWRPC's *A Regional Transportation System Plan for Southeastern Wisconsin: 2035*, which calls for modernization and capacity expansion of the study-area freeway system and construction of a new interchange at Drexel Avenue and a full interchange with I-94 at 27th Street.

Build Alternatives

Local plans do not address the issue of capacity on I-94, but several local plans mention the importance of I-94 to their community and plan for development in the I-94 corridor. Both Build Alternatives could be considered to generally conform to local plans. The Safety and Design Improvements Alternative would modernize the study-area freeway system, conforming to the 2035 regional transportation system plan but it does not include added capacity, which does not conform to the plan.

The Safety and Design Improvements with Added Capacity Alternative conforms to the 2035 regional transportation system plan.

The City of Milwaukee is preparing a Southeast Side Area Plan. The city expects to complete this plan in fall 2008. One component of the plan is to develop a strategy to reinvigorate the Howell Avenue and Layton Avenue corridors. Retaining the Layton Avenue interchange is a key component of that strategy, according to the city's Department of City Development.

Drexel Avenue Interchange Alternative

A new interchange at Drexel Avenue conforms to SEWRPC's regional transportation system plan and Oak Creek and Franklin plans.

27th Street/I-94 Interchange Alternative

A full interchange at I-94 and 27th Street conforms to SEWRPC's regional transportation system plan and Oak Creek and Franklin plans.

4.2 Indirect and Cumulative Effects

WisDOT and FHWA assessed the project's potential indirect and cumulative effects in *I-94 North-South Corridor Study, Indirect and Cumulative Effects* (WisDOT and FHWA, 2007). The Code of Federal Regulations (CFR) Title 40 defines indirect and cumulative effects as:

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 the 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 the impacts on the environment, which result from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency 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).

4.2.1 Indirect Effects

Identifying indirect effects included the following steps:

1. Identifying the area of potential effects (APE)
2. Analyzing the study area's goals and notable features (review land use/development trends, demographics, public policy, market demand, natural resources, historic sites)
3. Identifying impact causing activities (actions that change travel patterns or alter access)
4. Analyzing potential impacts of the proposed transportation actions (qualitatively)
5. Assessing the consequences of the effects

The process included outreach to the communities along the corridor to assess the study area's land use and development patterns and to confirm the results of the analysis. At the beginning of the I-94 North-South Corridor Study, eight stakeholder meetings were conducted with public officials from communities along the corridor. Phone calls were made to additional communities abutting the corridor to obtain information. Also, WisDOT organized a focus group that included representatives from both the public and private sectors such as local planners, economic development representatives, regional planning commission staff, developers and lenders. This meeting was used to verify land use and development trends, assumptions regarding potential indirect effects and potential consequences of those effects.

The APE for indirect effects is defined as the area where there is potential for induced development as a result of the transportation project. Based on a review of the project area conditions, interviews with local officials and study team determination, the APE for indirect effects includes a 1-mile radius around the entire project corridor and a 3-mile radius around the proposed new Drexel Avenue interchange and the proposed new full interchange at 27th Street in Milwaukee County. The APE for the indirect effects analysis is different than that used for other analyses.

The APE was used to determine the data collection and analysis area for indirect effects. However, data was also collected beyond the APE to fully understand the regional growth and development patterns of the 3-county area in Wisconsin and Lake County in Illinois.

Impact Causing Activities

WisDOT reviewed each alternative to identify which activities have the potential to cause indirect effects. WisDOT determined the following elements, that are part of both Build Alternatives, should be reviewed for potential indirect effects:

- Construction of a new interchange at Drexel Avenue would increase access to land in this area.
- Construction of a full interchange at 27th Street (currently a half interchange) would improve access to land in this area.
- The existing interchanges in Milwaukee County would be reconstructed. These modifications were reviewed for potential induced change that may result from changes in accessibility and localized land use changes.
- Modifications to frontage roads in Kenosha and Racine Counties were reviewed for potential impact causing activities and changes in access.

The Safety and Design Improvements with Added Capacity Alternative includes a fifth element that was reviewed for its potential indirect effect:

- An increase in highway capacity from 6 to 8 lanes. An increase in capacity has the potential to create induced change by improving travel times throughout the corridor.

Likelihood of Indirect Effects

The growth and development of communities is caused by a range of factors. As a result, a range of factors were evaluated to determine the likelihood of indirect effects within the APE. The indicators include: improved access, improved travel time, change in property values, forecasted growth, land supply versus demand, water and sewer availability, market for development, and public policy (for example, local regulations and plans). The improved access and improved travel time factors are the only factors that consider the proposed transportation alternatives. The evaluation of the other factors was based on existing trends within the corridor.

Improved access to the transportation system has a potential to induce development. However, if other factors are absent from the equation, such as market demand and the availability of sewer and water services, then the increased access alone is not likely to spur development. On the other hand, if an area has strong market potential and the community is aggressively pursuing planned development, there is a great likelihood that an increase in accessibility would spur new development. Tables 4-1, 4-2, and 4-3 summarize the likelihood of induced land use change in Kenosha, Racine, and Milwaukee Counties.

TABLE 4-1
Likelihood of Induced Land Use Change—Kenosha County

Rating	Improved Access	Improved Travel Time	Change in Property Values	Forecasted Growth	Land Supply vs. Land Demand	Water & Sewer Availability	Market for Development	Public Policy
Strong	New transportation infrastructure constructed	Travel time savings > 10 minutes	> 50% increase	> 3% annual population growth	< 10-year supply of land	Current services exist	Extremely high potential	Pro-growth
■								
■								
■						X	X	X
■			X	X				
■	X	X			X			
Weak	Modifications to existing transportation infrastructure	Travel time savings < 10 minutes	No Change	< 1% annual population growth	> 20-year supply of land	No plans for future service	Extremely low potential	Anti-growth

TABLE 4-2
Likelihood of Land Use Change—Racine County

Rating	Improved Access	Improved Travel Time	Change in Property Values	Forecasted Growth	Land Supply vs. Land Demand	Water and Sewer Availability	Market for Development	Public Policy
Strong	New transportation infrastructure constructed	Travel time savings > 10 minutes	> 50% increase	> 3% annual population growth	< 10-year supply of land	Current services exist	Extremely high potential	Pro-growth
■								
■								
■								X
■			X			X	X	
■	X	X		X	X			
Weak	Modifications to existing transportation infrastructure	Travel time savings < 10 minutes	No Change	< 1% annual population growth	> 20-year supply of land	No plans for future service	Extremely low potential	Anti-growth

TABLE 4-3
Likelihood of Land Use Change—Milwaukee County

Rating	Improved Access	Improved Travel Time	Change in Property Values	Forecasted Growth	Land Supply vs. Land Demand	Water and Sewer Availability	Market for Development	Public Policy
Strong	New transportation infrastructure constructed	Travel time savings > 10 minutes	> 50% increase	> 3% annual population growth	< 10-year supply of land	Current services exist	Extremely high potential	Pro-growth
■						X		
■	X	X			X		X	X
■			X	X				
■								
■								
Weak	Modifications to existing transportation infrastructure	Travel time savings < 10 minutes	No Change	< 1% annual population growth	> 20-year supply of land	No plans for future service	Extremely low potential	Anti-growth

The tables show the area of potential effect in Kenosha County was given an overall low to medium rating. Racine County was given a low rating and Milwaukee County was given an overall medium rating. In Racine and Kenosha Counties the transportation improvements are not expected to be the driving force behind land use changes. Factors such as market demand, availability of sewer and water services, and the local communities' policy towards land use and development are expected to be the main drivers of development. Kenosha County received a slightly higher rating than Racine County because its proximity to northern Illinois increases the market demand for residential and commercial development in this area. Also, a larger area in Kenosha County near I-94 is served by sewer and water compared to communities along I-94 in Racine County.

The area of potential effect in Milwaukee County was given a higher rating than Kenosha and Racine Counties because it is the most urbanized area of the corridor, public policy is favorable for development and it has a strong market for development given its location in the metropolitan area. Also, sewer and water services are generally available along the I-94 north-south corridor or could be easily extended. Furthermore, transportation improvements such as the proposed new interchanges at Drexel Avenue and 27th Street in Milwaukee County will increase access to land near the corridor, making it more desirable for development in the future.

Anticipated Indirect Effects

Kenosha and Racine Counties. Two elements of the project have the potential to cause indirect effects in Kenosha and Racine Counties: reconstruction of the frontage roads and adding capacity to I-94. Reconstructing the frontage roads close to their existing alignment (ranging from a few feet to 60 feet from their existing alignment) will result in the frontage roads remaining adjacent to I-94. WisDOT plans to retain or regain jurisdiction over the

frontage roads and control access to them. As a result the frontage roads' reconstruction is expected to have minimal impact on land use and development in the area, particularly because access already exists.

Based on coordination with a variety of local and county planning staff, private sector lenders, developers, and real estate professionals, adding capacity to I-94 in Kenosha and Racine Counties is not expected to have a substantial effect on land use development because the I-94 is an existing corridor that already carries a high level of traffic. Recent development in Kenosha County, in particular, has demonstrated that it is an attractive area for development even without capacity expansion (Exhibit 4-1). Continued development is consistent with most communities' development objectives.

Milwaukee County. Four elements of the project have the potential to cause indirect effects in Milwaukee County:

- Construction of a new interchange with I-94 at Drexel Avenue
- Construction of a new full interchange with I-94 at 27th Street
- Reconstruction of the other existing service interchanges on Milwaukee County
- An increase in capacity from 6 to 8 lanes

Drexel Avenue Interchange. A new interchange at Drexel Avenue has a high potential to induce new development in Oak Creek and Franklin. This area is either already served by sewer and water services or sewer and water can be extended relatively easily. In addition, the area has strong market potential given its close proximity to existing developed areas. Also, the cities of Oak Creek and Franklin are pursuing planned development near the proposed interchange and along 27th Street. Both communities include an interchange with Drexel Avenue in their land use plans.

If an interchange is constructed at Drexel Avenue, the pace and intensity of development along Drexel Avenue and the 27th Street corridor would likely increase. The interchange may also redirect development from other areas within southern Milwaukee County to this area.

The area immediately surrounding the interchange currently has vacant land to the northeast, residences and Falk Park to the northwest, a church to the southeast and residential and open space to the southwest. If the interchange is constructed, there would likely be an increased demand for highway-oriented development within the immediate area. The City of Oak Creek's *27th Street Sub-Area Plan* calls for office uses on the northeast, northwest and southwest sides of the proposed interchange. This type, pace and scale of development may not occur without an interchange. However, the market demand for office uses in this area would ultimately determine the viability of this planned development.

27th Street Interchange. Construction of a full interchange with a connecting road to 27th Street would increase access to the area and help facilitate planned development along 27th Street. If the City of Oak Creek chooses to extend an access road east to 13th Street in the future, that would also facilitate planned development.

According to Oak Creek's *27th Street Corridor Plan*, the City of Franklin is planning for campus-like office development west of 27th Street in this area. The City of Oak Creek is planning for mixed commercial and office development east of 27th Street. East of I-94, Oak Creek is planning for additional industrial development.

A full-access interchange would make these areas more desirable for denser suburban development. However, market demand and local planning efforts would play a larger role in the development of this area. The construction of a large healthcare center, underway north of Oakwood Avenue, is evidence that a market for development already exists in this location.

Some attributes of the area may hinder the community's planned development, which in turn could reduce the potential for indirect effects. This includes the large amount of undeveloped land owned by one company to the east of I-94 that, according to local officials, currently provides the company with a buffer from other uses. Also, the market demand for land in this area may be slightly less in comparison to land near Drexel Avenue because its location at the southern end of the county is further from existing densely populated areas.

Reconstruction of Existing Service Interchanges. As noted in Section 2, reconstruction of the service interchanges in Milwaukee County would result in some land currently used as highway right-of-way no longer being needed. Table 4-4 summarizes the land that may no longer be required for highway use.

TABLE 4-4
Potential Change in Land Use at Service Interchanges

Interchange	Quadrant	Potential Area No Longer Needed for the Interchange (acres)
Ryan Road	NW	6.6
	SW	8.7
	SE	11.6
Rawson Avenue	NW	8.6
	SW	7.8
	SE	7.7
	NE	8.1
College Avenue	NW	7.3
	SE	8.0
Layton Avenue	SW	11.1
	SE	4.2
	NE	6.4
TOTAL		**100**

WisDOT may retain ownership of these parcels, in which case they would remain undeveloped. The potential exists for some remnant parcels of land to become available for development. Of all the parcels, the southwest quadrant of the Layton Avenue interchange has the highest potential for development because of its size, shape, and availability of access from 20th Street or Layton Avenue. However, there are many unknowns at this point in time that may prevent development on these parcels including:

- The final alignment and design of the interchanges must be determined.
- WisDOT must determine the lands are no longer needed for transportation purposes.

- Access to the parcels may or may not be achievable.
- Local communities and zoning regulations must permit the development to occur.
- There may be environmental features such as wetlands that hinder development.

Increased Capacity. In Milwaukee County, increasing highway capacity would have a minimal effect on land use and development as this is an existing corridor that already carries a high level of daily traffic. Some improvements to travel time in Milwaukee County may be realized during peak travel time. Therefore, it may make it easier for people to travel longer distances, which may affect where future development is located within the APE in Milwaukee County or northern Racine County. On the other hand, if congestion continues to get worse in Milwaukee County it may direct development away from existing urban areas in Milwaukee County (Exhibit 4-2).

4.2.2 Cumulative Effects

Based on the anticipated direct and indirect project effects, the following resources were reviewed for potential cumulative effects within the project corridor:

- Wetlands and floodplain
- Threatened/endangered species
- Farmland
- Surface water quality
- Air quality
- Neighborhoods

The baseline condition of each resource and their capacity to withstand stress in relation to regulatory thresholds were considered. Also, the cumulative effects analysis examines the cause and effect relationship between human activities and affected resources, the magnitude and significance of cumulative effects and modification of alternatives to avoid, minimize or mitigate the effects. WisDOT has prepared a detailed analysis of cumulative effects in its indirect and cumulative effects report (WisDOT and FHWA, 2007). The findings of the analysis are summarized in the sections that follow.

Wetlands and Floodplain

Historically, wetlands in southeastern Wisconsin have been drained and filled by farming practices and urban development. The loss of wetlands in the region has led to the removal of native plants and animals, degradation of water quality, increased flooding and a reduction in ground water recharge. Since a large percentage of wetlands in the 4-county area have already been lost, any remaining wetlands are important to the region's hydrology and to the flora and fauna dependent on the habitat provided by the wetlands.

In addition to the 53 to 56 acres of anticipated direct wetland impacts of the Build Alternatives, remaining adjacent wetlands could be exposed to further degradation. Degradation can occur from stormwater runoff and increased vulnerability to aggressive, non-native species repopulating degraded wetlands. This degradation contributes to poor floristic quality of disturbed wetlands and reduced functional value.

It is likely there will be the potential for additional wetland loss and degradation associated with planned developments and development that is potentially included from new interchange access in Milwaukee County or improved mobility in the study area. However, state and federal laws strictly regulated wetland filling and dredging activities, and local zoning regulations also include wetland protection measures. Thus, further wetland loss or degradation from present and future developments could be avoided, minimized, or mitigated.

The Environmental Assessment prepared for the interchange reconstruction project in Kenosha and Racine Counties estimated a loss of 26 acres of wetlands. In addition, other planned WisSOT projects in and near the study area will affect wetland. Table 4-5 lists the I-94 interchange projects and other upcoming WisDOT projects. These wetland impacts will be mitiagated according to Wisconsin Department of Transportation Wetland Mitigation Banking Technical Guideline (1993).

TABLE 4-5
Wetland Impacts of Other WisDOT Projects in the Study Area

County	Description	Wetland Impact Type	Wetland Impact (acres)
Racine	Lathrop Avenue bridge over Sorenson Creek	Riparian Wetland – Wooded (RPF)	0.03
Milwaukee and Racine	STH 38 resurfacing CTH K to Oakwood Road	Riparian Wetland – Wooded (RPF)	0.210
		Riparian Wetland – Emergent (RPE)	0.250
		Shallow Marsh (SM)	0.010
Kenosha	STH 50: I-94 to City of Kenosha	Emergent	0.25
Milwaukee and Racine	STH 38 widening CTH K to Oakwood Road	Wet Meadow (M)	8.5
		Riparian Wetland – Wooded (RPF)	(3.0 ADID)
Kenosha	CTH C interchange with I-94		
	SW quadrant	Wet meadow (M), Shallow Marsh (SM), Wooded Swamp (WS), Shrub Scrub (SS), Aquatic Bed (AB)	1.2
	SE quadrant	Shallow Marsh (SM), Shrub Scrub (SS), Riparian Wetland – Emergent (RPE), Wet Meadow (M)	4.5 (ADID)
	NW quadrant	Riparian Wetland – Wooded (RPF), Shrub Scrub (SS), Shallow Marsh (SM), Deep Marsh (DM)	2.1
	NE quadrant	Riparian Wetland – Wooded (RPF), Shallow Marsh (SM), Shrub Scrub (SS), Wooded Swamp (WS)	0.6
Kenosha	STH 50 interchange with I-94		3.4 (ADID)
Kenosha	STH 158 interchange with I-94		
	SW quadrant	Shrub Scrub (SS), Riparian Wetland – Wooded (RPF), Wet Meadow (M)	0.7
	SE quadrant	Riparian Wetland – Wooded (RPF)	0.3
	NW quadrant	Shallow Marsh (SM), Wet Meadow (M)	0.4
Kenosha	STH 142 interchange with I-94		
	SE quadrant	Wet Meadow (M), Shallow Marsh (SM), Riparian Wetland – Wooded (RPF)	0.6
Kenosha	CTH E interchange with I-94		0.2
	SW quadrant	Wet Meadow (M), Riparian Wetland – Emergent (RPE)	3.2
	NE quadrant	Wet Meadow (M), Shrub Scrub (SS), (excavated) Aquatic Bed (AB)	

TABLE 4-5 (CONTINUED)
Wetland Impacts of Other WisDOT Projects in the Study Area

County	Description	Wetland Impact Type	Wetland Impact (acres)
Kenosha and Racine	CTH KR interchange with I-94		
	SW quadrant	Wet meadow (M), Wooded Swamp (WS)	0.5
	SE quadrant	Wet meadow (M), Wooded Swamp (WS), Shrub Scrub (SS), and open water	0.4
	NW quadrant	Wet Meadow (M), Southern Sedge Meadow (M), Shrub Scrub (SS), Wooded Swamp (WS)	0.9
	NE quadrant	Wet Meadow (M), Wooded Swamp (WS), Shrub Scrub (SS)	0.6
Racine	STH 11 interchange with I-94		0.8
	SW quadrant	Wet Meadow (M), Shrub Scrub (SS), Shallow Marsh (SM)	0.1
	SE quadrant	Shallow Marsh (SM)	
Racine	STH 20 interchange with I-94 SW quadrant	Wet Meadow (M), Shallow Marsh (SM), Shrub Scrub (SS), Wooded Swamp (WS)	0.1
Racine	CTH K interchange with I-94		
	SW quadrant	Wet Meadow (M)	0.2
	SE quadrant	Shallow Marsh (SM)	0.2
	NW quadrant	Shallow Marsh (SM), Wet Meadow (M)	0.3
	NE quadrant	Wet Meadow (M), Wooded Swamp (WS)	0.4
Racine	CTH G interchange with I-94		
	SW quadrant	Shrub Scrub (SS), Wooded Swamp (WS)	0.2
	SE quadrant	Wet Meadow (M), Wooded Swamp (WS)	1.8
	NW quadrant	Wet Meadow (M), Shallow Marsh (SM), Shrub Scrub (SS)	2.4
	NE quadrant	Wooded Swamp (WS)	0.9
Racine	7 Mile Road	Riparian Wetland – Wooded (RPF), Shallow Marsh/Shrub Scrub/Wet Meadow (SM/SS/M)	3.2
		Wet Meadow/Shallow Marsh (M/SM)	1.1
		Riparian Wetland – Wooded/Riparian Wetland – Emergent (RPF/RPE)	0.6
		Shrub Scrub (SS)	0.3
Milwaukee	27th Street, Oakwood Road to College Avenue		TBD
Kenosha	STH 165, I-94 to STH 31		0.04
		TOTAL	**42 acres**

Mitigation for impacts to wetlands along the I-94 corridor will occur at either a new mitigation site within the watershed or at an established wetland mitigation bank outside of the watershed. In summary, cumulative impacts to wetlands have occurred and will continue to occur in the study area as a result of a wide range of development. The Build Alternatives will incrementally contribute 53 to 56 acres of wetland impacts.

Substantial planned development such as the planned construction of a 1.8-million square foot pharmaceutical company campus in Kenosha County, the 2,300-acre I-94 Area Plan in Mount Pleasant and the 27th Street Corridor in Oak Creek and Franklin can directly affect wetland resources, as would any possible spin-off development in the surrounding community. Tracts of wetlands and SEWRPC environmental corridors are present in southern Milwaukee County/northern Racine County along the Root River, and along the Des Plaines River in Kenosha County. Both these wetland areas are in close proximity to planned development and some portions of these wetlands are located within planned sewer service areas.

Historic and ongoing urban development in floodplains has reduced flood storage capacity. Furthermore, filling has reduced the ability of floodplains to provide beneficial functions such as water quality, flood control, wildlife habitat, and aesthetic appeal.

Floodplains are present throughout the study area—most notably in southern Milwaukee County/northern Racine County along the Root River and along the Des Plaines River in Kenosha County. About 17 acres of floodplain fringe area would be filled by either of the Build Alternatives. The potential for cumulative floodplain filling, associated with planned developments that are potentially induced from new interchange access in Milwaukee County or improved mobility in the study area, is likely. For example, the Environmental Assessment prepared for the interchange reconstruction projects in Kenosha and Racine Counties estimated a loss of more than 30 acres of floodplains. In addition to the loss of flood control functions, the cumulative impact of floodplain filling from the I-94 north-south corridor and secondary development results in reduced natural habitat available to wildlife in the area. The reduced habitat also removes some of the natural filtering functions that floodplain habitats provide to maintain water quality in local streams.

Floodplains are in close proximity to planned development, as well as being located within planned sewer service areas. Thus, some floodplain and associated habitat impact could also occur with planned developments in Kenosha County, the I-94 area plan in Mount Pleasant, and the 27th Street corridor in Oak Creek and Franklin.

State laws regulate floodplain filling activities of all development projects with the goal of maintaining floodplain functions. The cumulative effect of development in floodplains is managed through enforcement of local zoning regulations. Local zoning limits floodplain development in the communities within the area of potential effect. Thus, further floodplain loss or degradation from present and future developments can be avoided, minimized, or mitigated.

Floodplain impacts from I-94 Build Alternatives will be minimized with design measures that avoid filling in the floodway, which conveys the 100-year flood flow. Using these measures, as well as any additional measures determined through ongoing coordination with DNR, the cumulative impact from the I-94 Build Alternatives would be minimized.

Local governments would be responsible for monitoring compliance with zoning and land use regulations that manage and protect floodplains.

Threatened and Endangered Species

Coordination with resource agencies and field reviews completed during the EIS process have identified individuals or habitat for the following state threatened, endangered or special concern species that could be affected by the Build Alternatives:

- Butler's garter snake (state threatened)—impact pending outcome of further species evaluation
- Eastern massasauga rattlesnake (state endangered)—habitat impacted
- Blanding's turtle (state threatened)—habitat impacted
- Bluestem goldenrod (state endangered)—habitat impacted
- Seaside crowfoot (state threatened)—habitat impacted
- Reflexed trillium (state special concern)—habitat impacted
- Smooth black-haw (state special concern)—habitat impacted
- Alkali bulrush (state endangered, Illinois)—habitat impacted

The primary reason for listing these species for protection is due to habitat loss and degradation, habitat fragmentation and hunting, which results in declining and isolated populations of individual species in remaining habitats. While impacts from past, present and anticipated future actions cannot be specifically quantified for protected species, there is potential for the I-94 build alternatives and some of the foreseeable actions to affect protected species. State and federal laws are in place to regulate impacts to threatened and endangered species. However, it may be difficult to manage and mitigate these impacts on actions where no other state or federal approvals, such as federal Section 404 or state Chapter 30 permits, are required. The ability to manage the cumulative effect of other actions rests with local governments through existing land use and zoning regulations.

WisDOT and DNR have developed measures to avoid, minimize and mitigate impacts to species affected by the Build Alternatives. By using avoidance and minimization techniques the Build Alternatives will minimize the cumulative effect on threatened and endangered species and their habitat.

Farmland

The counties along the I-94 corridor, like many other counties across the country are experiencing a loss in farmland as land is converted for urban uses. Despite this trend, agricultural lands are still prevalent in Racine and Kenosha Counties, particularly in communities to the west of I-94 where agricultural preservation policies are in place. Milwaukee County, being the most urbanized county, has very little farmland compared to the other counties.

Development pressure and the resulting higher land costs in Kenosha, Racine, and Milwaukee Counties are causing the continuing conversion of farmland to non-farm uses. WisDOT completed federal farmland impact rating forms, which indicate that the Build Alternatives will not cause substantial impact to farmland. However, continuing development pressure along the corridor could affect the long-term viability of farming in Racine and Kenosha Counties. Both Kenosha and Pleasant Prairie have annexation agreements with the Town of Bristol, and Mount Pleasant and Caledonia are exploring sewer and water service agreements.

The planned construction of a 1.8-million-square-foot pharmaceutical company campus in the Village of Pleasant Prairie may influence future land use in the surrounding rural townships, particularly in Bristol and regionally. With anticipated long-term employment of over 10,000 local planners expect that the demand for housing and supporting development and infrastructure will increase within the 2035 timeframe.

A cumulative effect on farmlands can be expected with the foreseeable actions that have or will occur in the region, which primarily occur in Franklin and Oak Creek in southern Milwaukee County, and in communities east of I-94 in Racine and Kenosha Counties. These actions will convert farmlands, consistent with local land use plans. Land use and zoning regulations are either in place or will be amended to allow for development to occur according to local plans.

The decision to allow development is ultimately determined by local governments through land use plans and zoning ordinances. Developments on farmland zoned for agriculture would require a change in zoning and a permit from local governments. Furthermore, development will depend on the availability of sewer and water services, which are currently not widely available in townships west of I-94 in Kenosha and Racine Counties. In summary, cumulative impacts to farmlands are occurring in specific communities in the study area as a result of planned growth, and the Build Alternatives would incrementally contribute 27 acres to these impacts.

Surface Water Quality

The study-area freeway system bisects four watersheds—Des Plaines River, Kinnickinnic River, Oak Creek, and Root River. The quality of water in the watersheds has been degraded by human activities that cause point and non-point sources of pollution. Point sources of pollution have been highly regulated for decades through the Clean Water Act and the National Pollutant Discharge Elimination System. Regulations for non-point sources of pollution have been enacted more recently. Given the dispersed nature of non-point sources of pollution, it has been difficult to control and, therefore, contributes the most pollution to the waterways.

The Safety and Design Improvements Alternative would increase impervious areas by 8 percent over the No-Build Alternative, and the Safety and Design Improvements with Added Capacity Alternative by 25 percent. While runoff volumes will increase under the Build Alternatives, the water quality analysis in Section 4.7.1 concludes that using best management practices would reduce the level of pollutants in storm water runoff when compared to the No-Build Alternative.

Foreseeable future development could cumulatively impact water quality despite any improvements undertaken for the reconstruction of the I-94 corridor. For example, the proposed pharmaceutical company campus in Pleasant Prairie could add over 1.8 million square feet of office, hotel, retail, and other development space over the next 10 to 15 years. The 2,300-acre I-94 Area Plan in Mount Pleasant calls for a mixture of business park, commercial, and residential uses over the next 10 to 20 years. Additionally, the 27th Street Corridor in Franklin and Oak Creek is part of the double-digit population growth occurring in these communities. Increased impervious area from these developments and any potentially induced development from the I-94 build alternatives would increase the

likelihood of storm water carrying sediments and other pollutants in streams that are already heavily degraded from historic urbanization and agricultural runoff.

To mitigate the impact of non-point runoff, the DNR implemented NR 151. NR 151 sets standards for polluted runoff performance to achieve water quality standards for non-agricultural practices. Certain local communities are also subject to NR 216, which regulates storm water discharge permits. These new best management practices to control non-point runoff can improve water quality as future projects and ongoing redevelopment within existing urban areas occur. By using construction and operation best management practices, the Build Alternatives would not cause a substantial cumulative impact to water quality.

Air Quality

The I-94 north-south corridor, along with other developments in the study area, can create a cumulative impact to air quality in the region. Other activities in the region such as the new Oak Creek coal-fired power plant expansion and continued regional traffic growth from continuing development are sources of air pollutants within the region. The southeastern Wisconsin region is in attainment for six of the seven criteria pollutants; the region is in moderate non-attainment for the 8-hour ozone standard. Lake County, Illinois is currently in attainment status for five of the seven criteria pollutants, being in non-attainment for $PM_{2.5}$ and moderate non-attainment for the 8-hour ozone standard. WisDOT will not undertake any I-94 construction in Illinois.

To obtain federal funding, the reconstruction of the study-area freeway system, like other federally funded transportation projects in the region, must be in programs that conform to the State Implementation Plan. The State Implementation Plan demonstrates how Wisconsin is to achieve air quality standards. At the regional level, the SEWRPC prepares the Transportation Improvement Program to assure conformance with the State Implementation Plan. The proposed project, as well as other planned and funded transportation projects in the region, is included in SEWRPC's 2007–2010 Transportation Improvement Program. Since the proposed project is accounted for in the Transportation Improvement Program, it would not contribute a substantial cumulative impact to air quality, as measured by current pollutant standards. However, southeastern Wisconsin may be designated as non-attainment for $PM_{2.5}$ as soon as 2009, based on recent readings that indicate the region exceeds the NAAQS for $PM_{2.5}$.

In addition to these air quality standards, however, there is growing concern over the indirect and cumulative effect of mobile source air toxics pollutants, referred to as MSATs. WisDOT evaluated the risk of increased MSATs with the Build and No-Build Alternatives. Detailed discussion of the MSAT analysis is found in Section 4.7.9.

As background, U.S. EPA has issued regulations that will decrease MSATs through cleaner fuels and cleaner engines. FHWA has found that even if traffic (as measured in vehicle miles traveled) increases by 64 percent, reductions of 57 percent to 87 percent in MSATs are projected from 2000 to 2020. U.S. EPA regulations would also influence the long term emissions associated other actions in the study area.

Since vehicles will comply with U.S. EPA engine and fuel regulations as older vehicles are retired, all of the alternatives will show a decrease in MSATs compared to existing conditions.

Greenhouse gas emissions are also a concern along the I-94 north-south corridor. While there are no accepted quantitative tools to estimate greenhouse gases at the project level, it can be

expected that vehicles using the I-94 north-south corridor will contribute to greenhouse gas emissions in the region. WisDOT recently released a report, *Transportation and Global Warming: Defining the Connection and the Solution* (CTC and Associates, LLC, 2007). The report noted that greenhouse gas emissions in Wisconsin grew by 26 percent in the last decade, compared to 20 percent across the U.S. Another study conducted in Wisconsin for the Governor's Task Force on Global Warming noted that the transportation sector accounts for approximately 24 percent of greenhouse gas emissions in Wisconsin, ranking second behind energy sector at 35 percent (World Resources Institute, 2007). Transportation emissions have grown 19 percent from 1990 levels, with a concurrent 35 percent increase in VMT.

Uncertainty continues to exist about how climate changes in response to increased emissions, but overall global temperatures are rising. WisDOT is an active partner on the Governor's Task Force on Global Warming, providing input as part of the Transportation Work Group. The work group is considering policy recommendations, including adopting California emission standards, using low carbon fuels, and reducing VMT through land use planning and implementation of public transit.

However, a key element in managing and reducing greenhouse gases will be continued encouragement of appropriate land use and zoning policies that reduce travel demands within individual communities and the southeast Wisconsin region. A recent study published by the Urban Land Institute indicates that the continuing growth of VMT may offset emissions reduction gained through technological improvements in vehicles and fuels (Ewing et. al., 2007). The study points to the importance of reducing VMT by managing growth and land use patterns. An analysis of several studies on the relationship between land use and vehicle trips finds that where diverse land use, accessible destinations, and interconnected streets exist, households drive 33 percent less compared to households in low-density developments.

WisDOT will continue to participate in statewide initiatives to reduce greenhouse gases, monitor the development of additional findings, and minimize impacts of projects to the greatest practical extent allowed in its stated mission: to develop and operate a safe and efficient transportation system (WisDOT, 2004).

Increasing amounts of greenhouse gas in the atmosphere can be expected to have impacts on the environment and human health everywhere on the planet. Examples of these impacts include the possibilities of rising sea levels, causing erosion of beaches and shorelines, destruction of aquatic plant and animal habitat, and floods of costal cities, among other issues, such as disruption of ocean current flows; a warming trend over much of the earth broadening the range for many insect-borne diseases; and chronic stress of coral reefs. The possible impacts of global warming to Wisconsin include warmer and drier weather; decreases in the water levels of the Great Lakes and inland lakes and streams; increases in water temperature, lowering water quality, and favoring warm water aquatic species; changes in ecosystem and forest composition; increases in droughts and floods, impacting crop productivity; reduction of snow and ice cover, lessening recreational opportunities; and lower water levels on the Great Lakes, which may affect shipping operations (Public Service Commission of Wisconsin and DNR, 2004).

Neighborhoods

Residential neighborhoods can be found within 1/2 mile of the study-area freeway system. The densest neighborhoods are in the City of Milwaukee where several established residential neighborhoods are located adjacent to the study-area freeway system.

Maintaining infrastructure is important to the quality of life for a community because it provides reliable access to employment and cultural centers, improves the mobility of people and goods, and reduces congestion. However, the presence of infrastructure in and adjacent to neighborhoods can cause direct and proximity impacts such as right-of-way acquisition, relocations and increased noise, visual and air quality impacts. Neighborhoods like those in Milwaukee within close proximity to large infrastructure systems such as the study-area freeway system and the airport become more vulnerable to these impacts as the infrastructure expands.

The Build Alternatives would not split neighborhoods, as design modifications have minimized relocations to four residences in the City of Milwaukee. If the Drexel Avenue interchange in constructed it will require the removal of two additional residences in Oak Creek. There is a potential cumulative impact to neighborhoods, particularly in Milwaukee, where past and future freeway construction and airport expansion projects are planned. Local neighborhoods and the city have raised particular concerns about the future reconstruction of the Zoo Interchange and the rest of the southeast Wisconsin freeway system and planned runway expansions at General Mitchell International Airport.

WisDOT has developed design modifications that avoid and minimize relocations to the greatest extent possible. Impacts are further minimized by using community sensitive design practices to enhance infrastructure elements and to improve the visual quality of I-94 in the community. WisDOT and local communities can incorporate similar design and community sensitive design techniques into future infrastructure projects to enhance neighborhood quality of life. As a result, the cumulative impact of the Build Alternatives on neighborhoods is minimized.

4.3 Transportation Impacts

4.3.1 Traffic and Operational Characteristics

Freeway

This section compares the No-Build Alternative and the two Build Alternatives in regard to how the freeway will operate, i.e., how traffic flows. A key descriptor to measure traffic flow is level of service. Level of service is explained in Section 1.2.4 and illustrated in Exhibit 1-4. The following discussion focuses on traffic in the evening peak hour in the year 2035 because that represents the highest anticipated traffic volumes.

No-Build Alternative. Under the No-Build Alternative the congestion described in Section 1.2.4 and illustrated in Exhibits 1-5, 1-6, and 1-7 would occur by the year 2035.

Build Alternatives. Under the Safety and Design Improvements Alternative the study-area freeway system would operate at between level of service B and level of service F (Exhibits 4-3, 4-4, and 4-5).

- *Lake, Kenosha, and Racine Counties.* I-94 SB in Lake, Kenosha and Racine Counties would operate at level of service B through D, with level of service D mainly occurring in Racine County. I-94 NB in Kenosha County south of STH 50 would operate at level of service F. I-94 NB would operate at level of service B and C at all other locations in Lake, Kenosha, and Racine Counties.
- *Milwaukee County.* In Milwaukee County several segments of I-94 would operate at level of service D and E between Howard Avenue and Rawson Avenue in 2035. The ramp carrying I-894/43 EB to I-94 SB and the ramp carrying I-94 NB to I-894/43 WB would operate at level of service F. A NB collector-distributor road between College Avenue and the Airport Spur would operate at level of service F.

  Average speed on the study-area freeway system in the vicinity of the Mitchell Interchange would be 27 mph during the evening peak hour in 2035.

Under the Safety and Design Improvements with Added Capacity Alternative, there would be less congestion and higher speeds during the evening peak hour in 2035, compared to the Safety and Design Improvements Alternative.

- *Lake, Kenosha, and Racine Counties.* In the evening peak hour in 2035, I-94 SB in Lake, Kenosha, and Racine Counties would operate at level of service A through C. I-94 NB would operate at level of service A or B, except approaching STH 50[1]. However, in these counties the highest traffic volumes on I-94 occur on weekends. On weekends, I-94 would operate at level of service D, as illustrated on Exhibit 4-3.
- *Milwaukee County*. In the evening peak hour in 2035, the Mitchell Interchange, and all segments of the study-area freeway system would operate at level of service D or better. The SB collector-distributor road between the Airport Spur and College Avenue would operate at level of service E in the evening peak hour, but this collector-distributor road is separated from the mainline freeway. Exhibit 4-6 compares the congestion levels near the Mitchell Interchange between the two Build Alternatives. Hot spots (shown by red circles on Exhibit 4-6) appear when 13 or more vehicles are traveling slower than 5 mph in a travel simulation computer model. During the simulation, the hot spots grow and shrink depending on the number of cars slowed below the 5 mph threshold. Under the Safety and Design Improvements with Added Capacity Alternative, hot spots appear less frequently on the freeway during the peak hours simulated. Some hot spots appear on the arterials in both alternatives. Traffic signals on local streets bring vehicles to a stop, so hot spots are more common on the arterials. Exhibit 4-6 is a representative "snapshot" of the travel simulation model for the Mitchell Interchange. In this snapshot, the traffic signal at Layton Avenue and 13th Street has stopped enough cars to generate a red congestion circle under the Safety and Design Improvements with Added Capacity Alternative. PM peak hour speeds on the study-area freeway system in 2035 for the Safety and Design Improvements with Added Capacity Alternative would be 58 mph on SB I-94/43 from Holt Avenue to the Mitchell Interchange, 20 mph faster than the Safety and Design Improvement Alternative; 55 mph on EB I-894/43, 20 mph faster than the Safety and Design Improvement Alternative; and 62 mph on SB I-94 from the Mitchell Interchange to Rawson Avenue, 12 mph faster than the Safety and Design Improvement Alternative.

[1] The design of the STH 50 interchange exit ramp will affect the level of service on a short segment of I-94 NB. The ramp design has not been finalized.

Travel times under the two Build Alternatives would vary considerably in Milwaukee County and less so in Racine, Kenosha, and Lake Counties. The Safety and Design Improvements with Added Capacity Alternative would decrease travel times on SB I-94 during the evening rush hour by over 10 minutes between Howard Avenue and College Avenue in 2035, compared to the Safety and Design Improvements Alternative. Travel times would not vary by as much south of College Avenue. In Racine and Kenosha Counties, there would be little difference in travel times between the two alternatives.

Interchanges in Milwaukee County[2]

Traffic flow through the interchanges with I-94 would be affected by the alternative selected for the study-area freeway system. Traffic flow through the Ryan Road and Rawson Avenue interchanges also depends on whether a new interchange at Drexel Avenue is implemented.

Under the Safety and Design Improvements Alternative, all the interchange ramp intersections with crossroads would operate at level of service D or better in 2035.

Under the Safety and Design Improvements with Added Capacity Alternative, all interchange ramp intersections would operate at level of service C or better if a Drexel Avenue interchange is provided. If no interchange is built at Drexel Avenue, the I-94 SB exit ramp to Rawson Avenue would operate at level of service E and the I-94 SB exit to Ryan Road would operate at level of service D in the evening peak hour in 2035.

Local Roads

Traffic flow on some local roads depends, to some extent, on the alternative selected for the study-area freeway system. It also depends on whether a new interchange with I-94 at Drexel Avenue is implemented. WisDOT will reconstruct the interchanges with I-94 in Racine and Kenosha Counties. As a result, all the local roads that interchange with I-94 in Racine and Kenosha Counties will operate at an acceptable level of service in 2035.

Under the Safety and Design Improvements Alternative, the intersection of 27th Street and College Avenue would operate at level of service F in the evening peak hour in 2035. Three intersections would operate at level of service E in 2035:

- 27th Street and Layton Avenue
- Layton Avenue and Howell Avenue
- Puetz Road and Howell Avenue

Under the Safety and Design Improvements with Added Capacity Alternative, no intersections would operate at level of service F in 2035 if the Drexel Avenue interchange is implemented. Three intersections would operate at level of service E in 2035:

- 27th Street and Layton Avenue
- Layton Avenue and Howell Avenue
- Puetz Road and Howell Avenue

[2] The reconstruction of the I-94 service interchanges in Racine and Kenosha Counties is not included in this proposed action. WisDOT evaluated the traffic operations at interchanges with I-94 in Racine and Kenosha Counties in previous studies, documented in an Environmental Assessment completed in 1996 (WisDOT I.D. 1032-07-05). WisDOT updated its traffic analysis of these interchanges in 2007.

If no interchange is provided at Drexel Avenue, then the intersection of Puetz Road and Howell Avenue would operate at level of service F in 2035. Four intersections would operate at level of service E in 2035:

- 27th Street and Layton Avenue
- Layton Avenue and Howell Avenue
- Puetz Road and Howell Avenue
- 27th Street and Rawson Avenue

4.3.2 Safety

No-Build Alternative

Under the No-Build Alternative, none of the existing safety issues on the study-area freeway system would be addressed. The crash rate, which exceeds the statewide average in some locations, would likely remain the same. Also, congestion would continue to increase (see Section 1.2.4). As a result, more traffic would divert to local streets. In general, travel on local streets takes longer than travel on freeways and crash rates are also higher on local streets than freeways based on WisDOT crash data. Higher traffic volumes on local streets also increase the potential for car-pedestrian and car-bicycle crashes.

Build Alternatives

Both Build Alternatives would likely reduce crash rates by removing substandard design features that contribute to crashes. Available data on crashes does not allow WisDOT and FHWA to estimate the number of crashes that would be avoided by bringing the study-area freeway system to current freeway design standards. Both Build Alternatives would address substandard design features to the same extent.

The highest percentage of the north-south corridor crashes in Milwaukee County were off-road crashes (39 percent), followed by rear-end crashes (33 percent), and sideswipe crashes (20 percent). In general, off-road crashes are usually indicative of tight curves, and inadequate banking on curves. This is reflected in the high crash rates on tight curves in the Plainfield Curve, Mitchell Interchange, and Airport Spur Interchange. Rear-end and sideswipe crashes indicate congestion as well as inadequate acceleration/deceleration lanes, weaving, and substandard ramp spacing.

Under both Build Alternatives, the frontage roads adjacent to I-94 in Kenosha and Racine Counties would have a partially paved shoulder, in part to make it a safer bicycle route.

The Safety and Design Improvements with Added Capacity Alternative may further reduce crashes by reducing the level of congestion compared to the Safety and Design Improvements Alternative. Research suggests that the crash rate on a roadway may vary based on the level of congestion, and that increased congestion leads to increased crash rates (Lord et al., 2003; Zhou and Sisiopiku, 1997). The reduction in crash rate corresponds to the level of service, with a 10 percent reduction in crash rate for each "letter grade" improvement in level of service.

Traffic volumes on local streets adjacent to the study-area freeway system would generally be lower under the Safety and Design Improvements with Added Capacity Alternative compared to the No-Build Alternative and the Safety and Design Improvements Alternative. WisDOT estimated 2035 traffic volumes on local streets adjacent to the Mitchell Interchange near several

elementary and high schools. If capacity is added to the freeway system, traffic volumes on 13th Street near Garland Elementary would be approximately 10 percent lower in 2035 than if no capacity is added. Further north on 13th Street traffic volumes would be 20 percent lower near the Islamic Center's school.

Traffic volumes on Layton Avenue near 13th Street would be 5 percent lower if capacity is added to the freeway system. Traffic volumes on 20th Street near Sholes Education complex would be approximately 15 percent lower if capacity is added to the freeway system. Traffic volumes on 20th Street and Bolivar Avenue, near Lowell Elementary and St. Roman's schools, would be about 5 percent lower if capacity is added to the study-area freeway system.

A new interchange with I-94 at Drexel Avenue or a full interchange with I-94 at 27th Street are not expected to have a noticeable impact on safety.

4.3.3 Access to Facilities and Services

No-Build Alternative

Under the No-Build Alternative no changes to facilities or services would occur. Increased congestion may affect access to some facilities and services by increasing travel times.

Build Alternatives

The Build Alternatives would maintain access to facilities and services though in some areas near 27th Street and Layton Avenue the access would be modified. The level of congestion (described in Section 4.3.1, Traffic and Operational Characteristics) would vary between the alternatives which may affect access to some facilities and services by increasing travel times. Travel times would generally be higher under the Safety and Design Improvements Alternative than under the Safety and Design Improvements with Added Capacity Alternative.

In Milwaukee County, the intersection of 27th Street and Layton Avenue would be reconstructed under both Build Alternatives because of its close proximity to the 27th Street interchange with I-894/43. As a result of the reconstruction some business driveways close to the intersection would be closed or moved further from the intersection to improve safety. All businesses will retain access from Layton Avenue and/or 27th Street if they have access to those streets today. Some median openings on both Layton Avenue and 27th Street would be closed. As a result some business patrons, employees, or suppliers would not have as direct access as they do today, but the access would be safer.

Under both Build Alternatives, drivers who enter I-894/43 from 27th Street would not be able to access I-94 SB. Similarly, NB I-94 drivers would not be able to exit I-894/43 WB at 27th Street (see Section 2.2.4). Drivers who typically use the 27th Street interchange with I-894/43 as a connection to I-94 to and from the south could instead use the Layton Avenue interchange with I-94, approximately eight blocks east of 27th Street, or interchanges at Howard Avenue or College Avenue. I-894/43 will still be accessible from 27th Street in both directions.

The 27th Street Business Association and representatives of many businesses on 27th Street near I-894/43 expressed concern over limiting direct access between 27th Street and I-94. Their primary concern is that this would make it more difficult for patrons to access

businesses on 27th Street. Additional concerns included losses of jobs due to decrease in business patronage; increased congestion at the 27th Street/Layton Avenue intersection; increased traffic through residential and school areas; decreased economic development due to fewer new businesses moving to the area; and longer travel times and routes for employees. See Section 7 for a summary of a petition submitted in opposition to the proposed modification of access to the 27th Street interchange.

Currently, approximately 1,500 vehicles use the 27th Street/I-894/43 ramp to access 27th Street from NB I-94. This accounts for approximately 4 percent of traffic on 27th Street in the interchange area. Based on WisDOT's traffic analysis, Layton Avenue can adequately handle the additional traffic with minor improvements to the Layton Avenue/27th Street intersection and trailblazing signs from I-94 to the 27th Street commercial area. Travel times between I-94 and 27th Street would increase up to 3 minutes via Layton Avenue compared to I-894. Traffic projections indicate that in 2035 traffic volumes on 27th Street will increase approximately 13 percent from 2005 volumes to 41,800 AADT under the preferred alternative.

No local street access would be affected in Lake, Kenosha, or Racine Counties.

Drexel Avenue Interchange

A new interchange at Drexel Avenue would enhance freeway access to parts of Oak Creek and Franklin adjacent to Drexel Avenue (see Section 4.2.1, Indirect Effects).

27th Street Interchange

A full interchange at 27th Street would enhance freeway access to areas of Oak Creek and Franklin adjacent to this interchange (see Section 4.2.1, Indirect Effects).

4.4 Utility Impacts

4.4.1 No-Build Alternative

Under the No-Build Alternative, utility impacts would be those associated with normal roadway maintenance and service extensions to new development or redevelopment areas.

4.4.2 Build Alternatives

The Build Alternatives may require relocation or replacement of overhead or buried utilities that would be in conflict with roadway improvements. Currently, several utility lines parallel or cross the study-area freeway system. The extent of utility relocations would be determined based on more detailed design during a future engineering phase.

Several utilities under the roadway, such as storm sewer and WisDOT intelligent transportation system components will be replaced as part of the freeway reconstruction. A potential substantial utility relocation in the corridor involves the fiber optic network running the length of the corridor on the west side of I-94. Additionally, several large electrical transmission towers located at the Mitchell Interchange would be relocated under both Build Alternatives.

A 50-inch City of Milwaukee storm sewer just south of Layton Avenue would be relocated under both Build Alternatives.

4.5 Socioeconomic Impacts

4.5.1 Neighborhood and Community Cohesion

The impacts of reconstructing and expanding the study-area freeway system relate to changes in the physical and social setting, community services and other factors that promote a sense of community among residents in the study area. Community cohesion encompasses buildings and services provided in the study area such as churches, commercial development, social services, municipal buildings and services, parks, and schools.

Neighborhood Splitting

The proposed improvements would not split any neighborhoods. The study-area freeway system would remain in its existing corridor, and largely within the existing right-of-way. All existing crossroads over or under I-94 would be maintained.

Drexel Avenue Interchange. Immediately west of I-94 there are several residences on both sides of Drexel Avenue. A new interchange with I-94 at Drexel Avenue would increase traffic volumes on Drexel Avenue. Higher traffic volumes on Drexel Avenue could make it more difficult for residents on opposite sides of Drexel Avenue to interact with one another.

27th Street Interchange. The connector road between I-94 and 27th Street would be 1/4 mile from the nearest neighborhood and would not split any neighborhoods.

Isolation of Distinct Groups, Real or Perceived

Since the proposed action would not create a new corridor, no isolation of distinct groups is anticipated beyond the existing condition.

New Development Assisted or Discouraged by the Project

See Section 4.2.1, Indirect Effects.

Changes in Property Values

Residents who live near I-94 in Milwaukee have expressed concern over the potential for their property values to decrease if I-94 is closer to their homes after it is reconstructed. It is a concern that is frequently cited in regard to highway reconstruction projects. Home resale values are affected by numerous variables, including location, home condition, mortgage rates, and the economy. There is no evidence to suggest that property values will either increase or decrease as a result of the selected alternative. Additionally, WisDOT will fairly compensate property owners whose property is acquired as part of the project.

Changes in Travel Patterns

I-94 is already a well-established travel route. If capacity is added to the study-area freeway system, more drivers may use the freeway system as opposed to local roads.

A new interchange with I-94 at Drexel Avenue and a full interchange with I-94 at 27th Street would change travel patterns. More drivers would use Drexel Avenue, and less would use Ryan and Rawson Avenues (see Section 4.3, Transportation Impacts and Section 4.2.1, Indirect Effects).

Pedestrian and bicycle access in the study area would not be changed.

Changes in School Districts

No changes in school district boundaries are anticipated as a result of the proposed action. I-94 serves as a boundary between several school districts in Racine and Kenosha Counties.

The Milwaukee Public School Board expressed concern that residential relocations as a result of the project would decrease the pool of students in the MPS district. The four residential relocations in the City of Milwaukee would decrease MPS's potential student base by about ten students, assuming 2 to 3 children in each household (only one of the four households to be relocated have school age children right now). If new residential development occurs on land designated as excess right-of-way, or if relocated students stay in the MPS school district, it would mitigate the potential loss of students.

Reduction of Recreational Resources

See Section 4.10, Recreational Resources/Public Use Lands.

Effect on Community Facilities and Services

The reconstruction of the study-area freeway system will have no direct effect on community facilities or services. No residents would be isolated from community facilities or services.

Highway and Traffic Safety/Public Safety

See Section 4.3.2, Safety.

Effect on Social Groups

WisDOT assessed the project's effect on several social groups through its public involvement program. More information on the groups WisDOT met with is available in Section 6.1, Public Involvement.

Elderly. The No-Build Alternative would not directly affect elderly residents. Under the Build Alternatives, one of the households that would be relocated is occupied by an older couple.

Handicapped. WisDOT is not aware of any direct impacts to handicapped residents based on its public outreach efforts.

Non-Drivers and Transit Dependant. The proposed improvements would not directly affect non-drivers to the extent it would drivers who use the study-area freeway system on a regular basis. The higher crash rate and congestion that likely would be experienced under the No-Build Alternative, compared to the Build Alternatives, would not have an adverse effect on non-drivers to the extent it would drivers that use the study-area freeway system on a regular basis. Conversely, non-drivers and transit dependent would not experience the benefits of the Build Alternatives to the extent that regular users of the study-area freeway system would. Efficient movement of goods and services on the study-area freeway system would benefit non-drivers and transit dependant to the same extent as other social groups.

Transit routes and their riders that use the study-area freeway system would benefit from the improved safety under both Build Alternatives and the reduced congestion under the Safety and Design Improvements with Added Capacity. Adding capacity to the study-area

freeway system will reduce traffic volumes on some local streets near the corridor in Milwaukee County (see Section 4.3.1, Traffic and Operational Characteristics).

Some groups feel that investing in added capacity for the study-area freeway system would have an adverse impact on transit dependant and non-drivers because they would not benefit from the added capacity and because of the increased cost of adding capacity there would be fewer funds available for mass transit. See Section 4.5.5, Environmental Justice, for a more thorough discussion of this issue.

Minority Populations. See Section 4.5.5, Environmental Justice.

4.5.2 Relocations

General Relocation Considerations

The residential and business displacement evaluation for the Build Alternatives includes the number and types of residences displaced, availability of replacement houses, and relocation cost estimates.

Acquisitions and relocations are done in accordance with the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, as amended. Besides providing for payment of fair market value for acquired property, other benefits are available to eligible displaced persons required to relocate from their residence, business, or farm. Benefits include relocation advisory services, reimbursement of moving expenses, replacement housing and business payments, down payment and rental assistance for tenants, and business re-establishment expenses. Under state law, no person or business may be displaced unless a comparable replacement dwelling or business location is provided.

WisDOT would handle real estate acquisition. Prior to appraisals and property acquisition, an authorized relocation agent interviews each owner and renter to be relocated to determine their needs, desires, and unique situations associated with relocating. The agent explains the relocation benefits and services each owner may be eligible to receive. Compensation is available without discrimination to all displaced persons. Before beginning property acquisition, WisDOT provides information explaining the acquisition process and the state's Eminent Domain Law under Section 32.05, Wisconsin Statutes. A professional appraiser inspects the property to be acquired. Property owners are invited to accompany the appraiser to ensure that full information about the property is taken into consideration. Property owners may also obtain an independent appraisal. Based on the appraisal, the value of the property is determined and that amount offered to the owner.

Information for the following relocation discussion items was obtained from local government tax assessment rolls.

Residential Relocations

No-Build Alternative. No residential displacements would occur under the No-Build Alternative.

Build Alternatives. Up to four residential relocations would occur under both Build Alternatives. All four residences are single-family residences. Approximately eight detached garages at an apartment complex in the southwest quadrant of the Mitchell Interchange will need to be removed to allow construction to occur. These garages can be replaced at a different location on the property or at their current location after construction. No relocations would occur in Lake, Racine, or Kenosha Counties. As the final design for the

selected preferred alternative is refined, the actual number of residential displacements for any of the Build Alternatives could change.

Drexel Avenue Interchange. If an interchange is constructed at Drexel Avenue and I-94, two residential relocations would occur. Both potentially affected residences are single-family homes.

27th Street Interchange. No residential relocations would occur under this alternative.

Residential relocations are summarized in Table 4-6.

TABLE 4-6
Residential Relocation Summary

Alternative	Relocations
No-Build	0
Safety and Design Improvements	4
Safety and Design Improvements with Added Capacity	4
Drexel Avenue Interchange Alternative	2
27th Street/I-94 Interchange Alternative	0

Table 4-7 summarizes the characteristics of the houses that would be acquired. Tables 4-8, 4-9, and 4-10 summarize available housing in the study area. Current vacancy rates near the study area indicate an adequate supply of replacement housing. There are 14 homes for sale within approximately 1/4 mile of the Plainfield Curve with similar characteristics to those that would be acquired. There are 4 homes for sale within approximately 1/4 mile of the southeast quadrant of the Airport Spur interchange with similar characteristics to the one that would be acquired. This information was based on a review of the Milwaukee-area Multiple Listings Service (MLS), a listing of available real estate, in May 2007.

TABLE 4-7
Residential Relocation Characteristics

Number of Bedrooms	Number of Residences	Estimated Fair Market Value	Number of Residences
1 bedroom	0	$75,000 to $99,999	0
2 bedrooms	0	$100,000 to $124,999	1
3 bedrooms	5	$125,000 to $149,999	1
4 bedrooms	1	$150,000 to $174,999	1
5 or more bedrooms	0	$175,000 to $199,999	2
		$200,000 to $225,000	1

TABLE 4-8
Availability of Replacement Housing within 1/4 Mile of the Plainfield Curve

Price Range	2 bedroom	3 bedroom	4 bedroom	5 bedroom
$125,000 to $149,999	0	2	0	0
$150,000 to $174,999	0	9	0	1
$175,000 to $199,999	0	2	0	0

TABLE 4-9
Availability of Replacement Housing within 1/4 Mile of the Southeast Quadrant of Airport Spur Interchange

Price Range	2 bedroom	3 bedroom	4 bedroom	5 bedroom
$175,000 to $199,999	0	3	1	0

TABLE 4-10
Availability of Replacement Housing within 1 Mile of the Proposed Drexel Avenue/I-94 Interchange

Price Range	3 bedroom	4 bedroom
$175,000 to $199,999	1	0
$200,000 to $224,999	2	0
$225,000 to $250,000	6	1

Demographic data for the areas in which the residential displacements would occur indicate that there are no age or income level characteristics that would require special relocation consideration or services. If unusual circumstances were to arise during real estate activities, WisDOT real estate personnel would be available to provide appropriate relocation services.

Business Relocations

No business relocations will occur under any alternatives.

4.5.3 Commercial and Industrial Development

Although the study-area freeway system is access-controlled (meaning no business entrances are connected directly to the freeway) service-oriented businesses located near interchanges rely on freeway travelers for their continued viability.

Businesses' employees, patrons, shippers, and suppliers depend on the study-area freeways system to varying degrees for their continued viability. Businesses throughout southeastern Wisconsin use the study-area freeway system to access other parts of the region, state, and country.

WisDOT would acquire land from two manufacturing businesses on the south side of I-94/43 between 6th and 13th Streets. Neither business would be relocated. One business, a concrete manufacturing facility may need to be reconfigured to continue operating in their smaller remaining space. The land acquired from the other business is open space and would not require changes in access or operations.

Access Changes

See Section 4.3.3, Access to Facilities and Services.

Transportation User Benefits

No-Build Alternative. Continued and frequent maintenance of the deteriorated pavement would cause further lane closures, and increased congestion. Safety deficiencies would not be improved. Allowing the study-area freeway system to deteriorate further could lead to weight restrictions on bridges and potential closures of some portions of the study-area freeway system.

Build Alternatives. The Build Alternatives would ensure employees, trucking operators, and patrons have access to commercial and industrial businesses in southeast Wisconsin and throughout Wisconsin. Both Build Alternatives would improve traffic flow and decrease crashes on the study-area freeway system.

The Safety and Design Improvements with Added Capacity Alternative would provide additional capacity, improving the level of service to a greater extent than the Safety and Design Improvements Alternative.

Access During Construction

Access to businesses will be maintained during construction, though commuters, business patrons, shippers, and suppliers will experience inconvenience and additional travel time (see Section 4.9.3, Traffic/Conceptual Construction Staging).

4.5.4 Agricultural Resources

No-Build Alternative

No farmland would be affected.

Build Alternatives

WisDOT would acquire approximately 27 acres of farmland from 42 properties under either Build Alternative. The farmland acquisitions would occur in Kenosha and Racine Counties and are comprised of strip acquisitions from a few feet wide to approximately 60 feet wide. No farm severances would occur, and no farm buildings would be acquired.

Drexel Avenue Interchange

If an interchange is constructed at Drexel Avenue, approximately 2 acres of farmland in the northeast quadrant of the interchange would be acquired. No farm buildings would be acquired and no farmland severance would occur.

27th Street Interchange

Under this alternative, approximately 11 acres of farmland would be acquired, all from one property owner on the west side of I-94 near Elm Road. No farm buildings would be acquired and one farm field would be severed. The field is about 64 acres total, and the severed parcel would be about 5 acres.

In general, existing field access would be maintained. Possible modifications to field entrance locations to improve safety could be made during a future engineering design phase. Farmland impact rating forms (see Exhibit 4-7) were completed for the Build Alternatives in accordance with the Farmland Protection Policy Act. These forms rate several farmland characteristics in the study area and the effect of the Build Alternatives. The impact ratings indicate the Build Alternatives will not cause substantial impacts to farmland. The Wisconsin Department of Agriculture, Trade, and Consumer Protection evaluated the project's agricultural impacts and prepared an Agricultural Impact Statement (see Appendix E).

4.5.5 Environmental Justice

Presidential Executive Order on Environmental Justice 12898 requires each federal agency to address the impacts of their programs with respect to environmental justice. The Executive Order states that, to the extent practicable and permitted by law, neither minority nor low-income

populations may receive disproportionately high or adverse impacts as a result of a proposed project. It also requires representatives of any low-income or minority population that could be affected by the project in the community be given the opportunity to be included in the impact assessment and public involvement process.

An environmental justice analysis was completed to determine whether the proposed project has the potential to incur disproportionately high and adverse effects[3] upon minority or low-income populations[4]. If the high and adverse impacts are found to be borne disproportionately by low-income and minority populations, an analysis must examine mitigation measures, offsetting benefits, and impacts of other system elements in accordance with FHWA Order 6640.23, *Actions to Address Environmental Justice in Minority Populations and Low-income Populations* issued in 1998.

WisDOT and FHWA determined the impacts to the general population and natural resources and then determined if those impacts would be disproportionately borne by low-income or minority groups. The project's potential impacts were reviewed to determine which impacts may constitute a disproportionate impact on low-income and minority groups. The following impact categories were identified:

- Indirect and Cumulative Effects
- Transportation
- Agricultural
- Economic
- Institutional and Public Service
- Environmental
  - Water Quality
  - Noise
  - Air Quality
- Recreational/Public Use Lands
- Construction Impacts

[3] Adverse effects are defined in FHWA Order 6640.23 as the totality of significant individual or cumulative human health or environmental effects, including interrelated social and economic effects, which may include, but are not limited to: bodily impairment, infirmity, illness, or death; air, noise, and water pollution and soil contamination; destruction or disruption of man-made or natural resources; destruction or diminution of aesthetic values; destruction or disruption of community cohesion or a community's economic vitality; destruction or disruption of the availability of public and private facilities and services; vibration; adverse employment effects; displacement of persons, businesses, farms, or nonprofit organizations; increased traffic congestion, isolation, exclusion, or separation of minority or low-income individuals within a given community or from the broader community; and the denial of, reduction in, or significant delay in the receipt of, benefits of FHWA programs, policies, or activities.

[4] Disproportionately high and adverse effect on low income and minority populations is defined in FHWA Order 6640.23 as (1) is predominately borne by a minority population and/or a low-income population; or (2) will be suffered by the minority population and/or low-income population and is appreciably more severe or greater in magnitude than the adverse effect that will be suffered by the non-minority population and/or non-low-income population.

No-Build Alternative

While the No-Build Alternative would not have as many direct environmental impacts as the Build Alternatives, failure to address the condition of the study-area freeway system may have an adverse effect on low-income and minority residents as well as the general population because the crash rate would be higher under this alternative than the Safety and Design Improvements Alternative. In addition, the level of congestion would be higher under the No-Build Alternative than under the Safety and Design Improvements with Added Capacity Alternative. Also, MSAT emissions would be greater under the No-Build Alternative than under the Safety and Design Improvements with Added Capacity Alternative.

Build Alternatives

Some of the potential impacts are the same for the Safety and Design Improvements Alternative and the Safety and Design Improvements with Added Capacity Alternative, therefore they are evaluated together in terms of their potential environmental justice impacts.

Agricultural. Farmland impacts of both Build Alternatives would occur in Racine and Kenosha Counties. Some of the farmland to be acquired is owned by minorities, but to WisDOT's knowledge, none of the farmers who actually farm the land are minority. WisDOT does not have income data for farmers or farmland property owners, but the median household income in the Racine and Kenosha portions of the study area is well above the statewide average.

The Drexel Avenue Interchange Alternative would affect one farm field in the northeast quadrant of the interchange.

The 27th Street Interchange Alternative would affect farmland. The property owner is not minority.

Institutional and Public Service. The Build Alternatives will not directly affect any schools, community facilities, churches, police, fire, or ambulance services. No residents will be isolated from any of these services under either of the Build Alternatives.

Physical and Natural Environment. The environmental impacts of the proposed action are evaluated in Section 4.7. Three areas of environmental impacts are evaluated here because of their potential impact on people: water quality, noise, and air quality. Other environmental impacts such as wildlife, environmental corridors, visual/aesthetics were not assessed specifically for their potential environmental justice impact.

Water Quality. Degraded water quality could adversely affect those who rely on study area streams for subsistence fishing. Based on WisDOT coordination with DNR and the City of Racine, data on subsistence fishing in the study area or downstream is limited. However, subsistence fishing may occur and those that engage in it may be disproportionately low income.

The proposed reconstruction of the study-area freeway system will comply with more rigorous and recent state regulations regarding storm water run-off from highways. As a result less pollutants and suspended solids will be washed from the study-area freeway system into study-area streams compared to the No-Build Alternative.

Noise. The project's noise impacts are localized to those areas adjacent to the study-area freeway system. As documented in Section 3, the median household income adjacent to the study-area freeway system is higher than average, and the percentage of minority residents adjacent to the study-area freeway system is lower than the average in each respective community.

Air Quality. This issue is addressed at the end of Section 4.5.5.

Recreational/Public Use Lands. The Drexel Avenue interchange alternative would affect approximately 2 acres of Falk Park. During WisDOT's outreach to minority groups and agencies that work with low-income residents, none raised concerns about this potential impact having a disproportionate impact on low-income or minority groups.

Construction Impacts. Construction impacts are described in Section 4.9. Construction impacts will be experienced primarily by residents and businesses adjacent to the study-area freeway system. Based on 2000 Census data and WisDOT's public outreach program, the percentage of minority residents living adjacent to the study-area freeway system is less than their respective communities as a whole. Students at Garland and Lowell Elementary Schools have a higher minority percentage than the neighborhoods surrounding the schools. The median household income of residents adjacent to the freeway system is higher than the county and statewide median. Travelers on the study-area freeway system will experience inconveniences and additional delay during construction, but this will not affect minority or low-income populations disproportionately.

Each Build Alternative is evaluated individually for the following impact categories.

Indirect and Cumulative Effects. Section 4.2 describes the indirect and cumulative effects of the project. The following discussion of transportation issues also addresses indirect and cumulative effects related to the project.

Transportation. A civil rights advocacy group, among others, has raised the issue of highway funding levels versus transit funding levels. The group's position is that expanding capacity of the study-area freeway system—in the context of SEWRPC's recommendation to expand freeway capacity throughout Southeast Wisconsin—will have a disproportionately adverse impact on low income and minority groups because 1) the state and federal funds required to pay for capacity expansion will reduce the opportunity to fund mass transit services that would benefit low income and minority residents; and 2) these groups are less likely to have access to a vehicle and therefore less likely to benefit from the freeway capacity expansion compared to suburban commuters, who are more likely to be white and have higher income.

This issue is related to the group's position, raised during SEWRPC's freeway system plan development, that the recommended expansion of the southeast Wisconsin freeway system violates Title VI of the 1964 Civil Rights Act by allocating money to freeways at the expense of transit. Title VI of the Civil Rights Act of 1964 prohibits discrimination on the basis of race, color, or national origin in programs and activities receiving Federal financial assistance. Specifically, Title VI provides that "no person in the United States shall, on the ground of race, color, or national origin, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any program or activity receiving Federal financial assistance" (42 U.S.C. Section 200d).

However, SEWRPC's recommendation to widen the southeast freeway system needs to be evaluated in the context of its overall transportation plan. The plan states that regional transportation design is a sequential process beginning with consideration of public transit facilities and services, bicycle and pedestrian facilities, and travel demand and transportation systems management measures. Highway system capacity improvement and expansion is considered to address highway traffic volume and congestion which cannot be expected to be alleviated by public transit, bicycle and pedestrian, and travel demand and transportation systems management measures (SEWRPC, 2006b). The plan includes a 100 percent increase in transit, including rapid transit systems as well as local bus service (see Section 1.2.2). Also, public transit carries about 2 percent of total weekday travel in southeast Wisconsin while over 33 percent of the estimated capital and operating costs of the plan are devoted to public transit (SEWRPC, 2006b; Tables 34 and 125).

Furthermore, SEWRPC does not implement any of its recommendations. Local, county, state, or special districts implement recommendations for the transportation facilities and systems they have jurisdiction over as they see fit and funding allows.

Some minority and transit advocacy groups have stated that while a balanced transportation system is recommended, highways receive more funding than transit and as a result the level of transit services has stayed the same or decreased in recent years (after an expansion of transit service in Milwaukee in the late 1990s).

A discussion of WisDOT's role in developing and maintaining highways and transit systems is relevant. Wisconsin Statute 84.01(2) states "The department [of transportation] shall have charge of all matters pertaining to the expenditure of state and federal aid for the improvement of highways, and shall do all things necessary and expedient in the exercise of such supervision." Conversely, WisDOT does not operate or maintain any transit systems in the state.

However, at the direction of the state legislature WisDOT began providing funding to local transit systems for operating expenses in 1973, utilizing both state and federal funds. Eligible project costs are limited to the operating expenses of an urban mass transit system (Wisconsin Statute 84.20 and TRANS 4.04(1)). In 2003, WisDOT provided $98.7 million in state transit operating assistance to mass transit systems, and an additional $11 million in elderly and disabled transit assistance to counties. Eleven states provided more state transit funding than Wisconsin that year, and eight of those eleven states have a higher population than Wisconsin (USDOT, Bureau of Transportation Statistics, 2004).

State transit funding remained essentially the same in 2004 and 2005, with slight increases the next two years resulting in anticipated totals of $101.4 million in state transit aid and $15.4 million for elderly and disabled transit assistance in 2007. On average, state operating assistance covers about 37 percent of transit operating expenses statewide. Nearly $59 million of WisDOT's transit funding went to the MCTS, representing 42 percent of MCTS's operating budget (64 percent of MCTS's total public operating funding). WisDOT also provides about 30 percent of the Racine and Kenosha transit systems operating budget annually ($1.6 million to Kenosha and $1.9 million to Racine in 2005). Federal funds also contribute to these transit systems. WisDOT also funds commuter buses in Racine, provided 59 percent of the system's operating costs in 2005 (78 percent of the system's total public operating funding).

Since 1989 Wisconsin has partnered with Illinois to provide operating support for Amtrak's Hiawatha service between Milwaukee and Chicago, parallel to the I-94 north-south corridor. Wisconsin provides 75 percent of the non-federal, non-Amtrak operating costs. From 2004 through 2007, Wisconsin averaged $5.9 million in annual operating support for Amtrak.

At the federal level, 15.5 percent of the federal gasoline tax (2.86 cents of the 18.4 cent per gallon tax) goes to the Mass Transit Account of the Highway Trust Fund.

The race and income of those who would benefit from the proposed action is difficult to assess, and impossible to quantify. The demographics of those who live in the I-94 north-south corridor indicate that relatively few minorities live in the study area compared to Milwaukee, Racine, and Kenosha Counties as a whole. Median household income of residents in the study area is higher than average.

Another factor to consider is that those who do not drive on the freeway system also benefit from it to some extent through the efficient movement of goods and services. A large percentage of consumer products and other freight are carried on trucks via the interstate system. It's beyond the scope of this study to assess the extent which improvements to the study-area freeway system affect consumer prices in the Milwaukee area.

Those in southeast Wisconsin that do not have access to an automobile will not often use the study-area freeway system, except potentially through local or inter-city bus travel. This population will not benefit from the proposed action as much as those who use the study-area freeway system on a regular basis. In southeast Wisconsin, those without access to an automobile are largely low-income City of Milwaukee residents. A 2004 University of Wisconsin—Milwaukee study cites Census figures that 81 percent of low-income residents in a 4-county area (Milwaukee, Ozaukee, Washington, and Waukesha Counties) live in Milwaukee County and 90 percent live in the City of Milwaukee. Over 36 percent of low-income residents in the 4-county area do not have access to a vehicle. In terms of race, two-thirds of bus commuters in the City of Milwaukee are minority (University of Wisconsin—Milwaukee, 2004). However, according to year 2000 Census data for southeast Wisconsin, while minority populations utilize transit more for traveling to work (18 percent of African Americans and 8 percent of Hispanics compared to 2 percent of whites) most commuting by minorities is by car (79 percent for African Americans and 88 percent for Hispanics compared to 95 percent for whites).

Economic. Section 4.5.6 describes the cost of the Build Alternatives. See the previous discussion regarding the equity issues that have been raised regarding the cost of expanding capacity of the study-area freeway system.

Air Quality. The air quality impacts of the project are described in Section 4.7.9 and Appendix B. As indicated in Section 4.7.9, the project is not expected to have an adverse effect on residents or students adjacent to the study-area freeway system. Carbon monoxide levels are expected to be below national standards, and southeast Wisconsin is in attainment for particulate matter, though that designation may change in 2009 based on recent exceedances. Mobile source air toxics are expected to diminish under both Build Alternatives primarily as a result of reduced emissions from new motor vehicles. WisDOT's and FHWA's review of Census data and its extensive public outreach efforts indicate that there is not a large minority or low-income population in the study area, compared to the population as a whole.

Therefore the impacts to low-income and minority populations would not be disproportionately high and adverse. As a result, neither Build Alternative is expected to have an adverse effect on health due to air quality, and therefore neither Build Alternative would have a disproportionate impact on low income or minority communities in terms of air quality impacts.

Summary. Based on WisDOT's public outreach during this study, those who are directly affected by the proposed action, through property acquisition, relocation, noise, and other impacts generally reflect Census data for neighborhoods adjacent to the study-area freeway system. This does not mean that other areas of southeast Wisconsin that have much higher percentage of low income or minority populations would experience disproportionately high and adverse impacts. WisDOT's and FHWA's review of Census data and its extensive public outreach efforts indicate that there is not a large minority or low-income population in the study area, compared to the respective community or county population as a whole. WisDOT's and FHWA's conclusion is that the proposed action, regardless of which alternative is implemented, will not have a disproportionately high and adverse impact on low income or minority communities.

4.5.6 Economic Impacts

Construction Cost

All construction costs presented in this document have been calculated to account for inflation between 2006 and the end of the multi-year construction that WisDOT has scheduled to begin in 2009. WisDOT and FHWA assumed a 3 percent annual inflation rate.

No-Build Alterative. Under the No-Build Alternative no construction costs would be incurred. However, the study-area freeway system would eventually have to be replaced. Replacing the study-area freeway system in its current configuration would cost an estimated $1.1 billion in year-of-construction dollars.

Build Alternatives. The immediate economic impact of the Build Alternatives would be expenditure of state and federal funds to reconstruct the study-area freeway system. Table 4-11 summarizes the construction costs.

The Safety and Design Improvements Alternative would cost an estimated $1.3 billion including real estate acquisition, design costs, construction, and a contingency.

The Safety and Design Improvements with Added Capacity Alternative would cost an estimated $1.5 billion (2007 dollars) including real estate acquisition, design costs, construction, and a contingency.

Drexel Avenue Interchange. A new interchange with I-94 at Drexel Avenue would cost an estimated $11 to $13 million including real estate acquisition, design costs, construction, and a contingency.

27th Street Interchange. A new interchange with I-94 at 27th Street would cost an estimated $25 to $28 million including real estate acquisition, design costs, construction, and a contingency.

When the cost of the 11 service interchanges with I-94 in Kenosha and Racine Counties are added in the total reconstruction cost would be $1.7 billion for the Safety and Design

Improvements Alternative and $1.9 billion for the Safety and Design Improvements with Added Capacity Alternative and $1.4 billion to replace the study-area freeway system as it is today.

TABLE 4-11
Construction Cost

	No-Build Alternative	Safety and Design Improvements Alternative	Safety and Design Improvements with Added Capacity	Drexel Avenue Interchange	27th Street Interchange
Construction[a]	$0 to $1.05 billion	$1.32 billion	$1.45 billion	$9.2 to $10.5 million	$19.8 to $22.6 million
Real Estate	$0	$6.6 million	$7.4 million	$2.1 million	$5.6 million
Total	$0 to $1.05 billion	$1.33 billion	$1.46 billion	$11.3 to $12.6 million	$25.4 to $28.2 million

Note: These cost estimates do not include the cost of reconstructing 11 service interchanges with I-94 in Racine and Kenosha Counties. WisDOT studied these interchanges in the mid-1990s and their reconstruction is a separate project.

[a] Construction cost includes design, utility relocation, construction management, and a contingency.

Operation and Maintenance Cost

No-Build Alternative. The economic impact of the No-Build Alternative would be the long-term cost of maintaining the existing study-area freeway system including pavement resurfacing or replacement, and bridge rehabilitation or replacement. Increased traffic volumes, particularly heavy trucks, would contribute to the frequency of required pavement maintenance. There would also be increased costs associated with crashes to the public and local governments, compared to the Build Alternatives.

Build Alternatives. Maintenance costs under the Build Alternatives would be less than for the No-Build Alternative because the pavement and bridges would be new.

In the long-term, maintenance cost of the Safety and Design Improvements with Added Capacity Alternative would be higher than the Safety and Design Improvements Alternative because there would be more pavement (8 lanes versus 6 lanes) to maintain, resurface, and eventually replace. Snow removal cost under the Safety and Design Improvements with Added Capacity Alternative would be higher than the Safety and Design Improvements Alternative.

Drexel Avenue Interchange. A new interchange with I-94 at Drexel Avenue would slightly increase maintenance costs by adding the four freeway entrance and exit ramps. A bridge carrying Drexel Avenue over I-94 would be reconstructed regardless of whether an interchange is built.

27th Street Interchange. Unlike the Drexel Avenue interchange, if a new full interchange is constructed it would require long-term maintenance of a new bridge over I-94.

Construction Employment

Substantial economic impacts would result from the Build Alternatives compared to the No-Build Alternative. These impacts may be measured by increases in state output/economic activity, employment, and job earnings.

Construction expenditures would occur over the duration of construction, directly creating new demand for construction materials and jobs. These direct impacts would lead to indirect or secondary economic impacts, as output from other industries increases to supply the construction industry. The direct and indirect impacts of construction expenditures cause firms in all industries to employ more workers, leading to induced impacts as the additional wages and salaries paid to workers lead to higher consumer spending, creating new demand in many other economic sectors.

The construction job opportunities for this project will consist of a combination of new jobs and shifting of existing construction jobs to this project. The types of construction jobs required for this project include:

- Concrete workers
- Truckers
- Heavy equipment operators
- Electricians
- Iron workers
- General laborers
- Engineers
- Landscapers

WisDOT has formed two committees to help prepare minority owned contractors and minority workers to participate in the reconstruction of the study-area freeway system (see Section 6.1.16).

Tax Base

No-Build Alternative. The No-Build Alternative would have no effect on local governments' property tax receipts.

Build Alternatives. Under both Build Alternatives some buildings and private property would be acquired by the state, thereby removing it from the tax rolls. WisDOT assessed the potential tax base loss for Milwaukee County communities because the City of Milwaukee stated this as a concern and because the right-of-way acquisition in Milwaukee County is potentially higher than in Racine or Kenosha Counties if the Drexel Avenue and 27th Street interchanges are constructed.

The City of Milwaukee had a full value tax base of $26.2 billion in 2005. For the Safety and Design Improvements Alternative, the displacement of four residences and approximately 6.6 acres of property in the City of Milwaukee would be required to construct this alternative. The 2006 assessed value of these properties and land was $1,116,000, or 0.00004 percent, of the City of Milwaukee's full value tax base. Using current tax rates, this would result in approximate annual property tax loss of $52,000 for Milwaukee's property tax revenues (see Table 4-12).

TABLE 4-12
Build Alternatives Estimated Property Tax Revenue Impacts, Milwaukee County

	Milwaukee	Greenfield	Oak Creek	Total
Safety and Design Improvements Alternative				
	$51,887	$9,835	$5,778	$67,500
Safety and Design Improvements with Added Capacity Alternative				
	$54,701	$9,835	$5,778	$70,314
Drexel Avenue Interchange				
			$8,571	$8,571
27th Street/I-94 Interchange				
			$148	$148

The Safety and Design Improvements with Added Capacity Alternative would displace the same number of residences but would require slightly more land, an additional 0.2 acre, creating a loss in assessed value to the City of Milwaukee tax base of $1,128,000. Using current tax rates, this would result in approximate annual property tax revenue loss of $55,000 for the City of Milwaukee.

As a result of improvements to the existing Layton Avenue interchange, approximately 11 acres of existing WisDOT right-of-way at Layton Avenue could become available for future development in the southwest quadrant. Future development in this area would increase the tax base for the City of Milwaukee and has potential to more than offset the tax base loss experienced from this project. For additional information, see Section 4.2.1, Indirect Effects.

The 2005 tax base in the City of Greenfield was $2.8 billion. For both Build Alternatives, no residential or commercial properties in Greenfield would be displaced and approximately 0.9 acre of land would be acquired. The total loss in assessed value to the City of Greenfield tax base would be an estimated $163,000 (0.00005 percent). Using current tax rates, this would result in approximate annual property tax revenue loss of $10,000 for the City of Greenfield.

The 2005 tax base in the City of Oak Creek was $2.6 billion. Under both Build Alternatives no residential or commercial properties would be displaced and approximately 0.9 acre of land would be taken. This would result in a $75,623 loss in assessed value to the Oak Creek tax base. Using current tax rates, this would result in approximate annual property tax revenue loss of $6,000 for the City of Oak Creek.

Drexel Avenue Interchange. Construction of an interchange at Drexel Avenue would result in an estimated $357,000 loss to the Oak Creek tax base and $8,500 in property tax revenue.

27th Street Interchange. Construction of a full interchange with I-94 at 27th Street would result in no residential or business takings but would result in an estimated $6,300 loss in assessed value to the Oak Creek tax base and $150 in property tax revenue.

4.5.7 Institutional and Public Services

Fire, Ambulance, and Police Protection

As discussed in Section 3.1.9 Institutional and Public Services, various entities provide fire protection, police protection, and ambulance services along the I-94 north-south corridor. Since the Build Alternatives would be reconstructed largely in its existing alignment, no reduction in emergency service accessibility is envisioned.

In Milwaukee County, the City of Milwaukee and City of Oak Creek have emergency services that are located near and utilize the I-94 north-south corridor. As noted in Section 3.1.9, the Milwaukee Fire Department has two fire stations on 13th Street near I-94. A new interchange at Drexel Avenue and 27th Street would provide easier access for emergency vehicles.

Schools

In Racine and Kenosha Counties, the Build Alternatives would have no impact on school districts in the area. I-94 serves as the boundary for school districts in Kenosha and Racine Counties; thus, bus routes in these districts do not cross I-94 but do utilize the frontage roads to pick-up and drop off students. Changes to the frontage road alignment are not anticipated to impact these bus routes.

As noted in Section 3.1.9, Institutional and Public Services, several schools in Milwaukee County are in close proximity to the study corridor and three schools are directly adjacent to the existing freeway corridor. No direct impacts to any of the schools near the study area are anticipated and access to these schools will remain as it is today.

Near Lowell Elementary School, improvements at the Mitchell Interchange would move the interchange further away from the school under both Build Alternatives. Improvements to I-94 and the Airport Spur interchange near Garland Elementary School would move the freeway about 10 feet further away from the school and its playground under both Build Alternatives. Concerns about air quality near the schools is addressed in Section 4.7.9, and environmental justice impacts are discussed in Section 4.5.5.

20th and 13th Streets near Garland Elementary and the Sholes Education Complex would carry 10 to 15 percent less traffic in 2035 if freeway capacity is expanded.

Places of Worship

There are several places of worship located near the I-94 north-south corridor throughout the study area and three locations in Milwaukee County adjacent to I-94. The I-94 north-south corridor Build Alternatives would not directly impact any places of worship.

4.6 Visual Character / Aesthetics

Highways are prominent features in the landscape that can affect the visual quality of the natural and built environment; likewise, the visual quality of the adjacent natural and built environment affects highway travelers' visual experience. FHWA Technical Advisory T6640.8A provides guidance on the preparation and processing of environmental documents. It states that when potential for visual impact exists, an environmental study should identify the impacts to the existing resource, the relationship of the impact to potential viewers of and from the project, as well as measures to avoid, minimize, or reduce the adverse impact.

4.6.1 No-Build Alternative

The No-Build Alternative would not change the visual environment.

4.6.2 Build Alternatives

The Build Alternatives would have minimal impact on the visual quality of most locations in the study corridor. During construction, there would be several temporary visual impacts, such as exposed earth, jobsite equipment, and vegetation loss. Overall, the Build Alternatives would not substantially change the viewshed either for viewers of or from I-94. Since the highway would be reconstructed on its existing alignment, these viewsheds would remain relatively the same. I-94 would be noticeably higher near CTH C in Kenosha County (about 9 feet) and 7 Mile Road in Racine County (about 4 feet) under both Build Alternatives. This would make I-94 more prominent in the landscape.

WisDOT would relocate up to three homes, which are adjacent to one another, in the neighborhood next to the Plainfield Curve under both Build Alternatives. These homes provide a visual buffer between the freeway and other homes in the neighborhood, to some extent. If these homes are removed, the adjacent homes would lose their visual buffer.

The construction of new noise barriers and reconstruction of existing barriers could eliminate views of and from the freeway in several locations

As discussed in Section 6.1.16, WisDOT formed a Community Sensitive Design committee for Racine and Kenosha Counties in January 2007. This committee worked to identify potential aesthetic treatments and beautification measures that could blend the I-94 corridor into the surrounding environment. A similar committee has been formed for the Milwaukee County portion of the study area.

4.7 Physical and Natural Environment and Related Resources

4.7.1 Surface Water and Fishery

Water Quality

Water quality impacts can occur due to storm water run off from highways. Runoff pollution is rainwater or melting snow that washes off roads, bridges, parking lots, rooftops, and other impermeable surfaces. As it flows over these surfaces, the water picks up dirt and dust, rubber, and metal deposits from tire wear; antifreeze and engine oil that has dripped onto the pavement; pesticides and fertilizers; and discarded cups, plastic bags, cigarette butts, pet waste, and other litter. These contaminants are carried into lakes, rivers, and streams (U.S. EPA, 1995a).

Impacts to water quality are associated with constructing, operating, and maintaining roadways. The primary construction impact is the potential for erosion and siltation into streams. An increase in suspended sediment can reduce aquatic productivity by limiting photosynthesis, lowering oxygen levels, and covering food sources and fish spawning areas.

Water quality impacts associated with operating and maintaining highways include chemical pollutants from motor vehicles that have the potential for affecting water quality, vegetation, and associated aquatic life. Chemical pollutants include grease and petroleum from lubricant

spills or leaks, antifreeze and hydraulic fluid, and zinc, which is used as a tire filler and motor oil stabilizer. Dirt, sand, and gravel also collect on roadways during normal use.

During normal roadway operation, these pollutants could be washed from the roadway surface by storm water runoff to nearby water bodies. The effects of these pollutants would be greatest at locations that discharge directly to waterways. Winter maintenance includes applying de-icing agents, normally salt and/or sand. De-icing salts can also affect water quality by increasing the chloride levels during runoff and snowmelt. Salt flows into ditches and travels to receiving waterways. Salt spray from passing vehicles drifts as a mist and deposits on vegetation and soil.

The most common de-icing agent used in Wisconsin is sodium chloride, commonly referred to as road salt. According to TRB Special Report 235, *Highway Deicing: Comparing Salt and Calcium Magnesium Acetate* (1991), road salt impacts can adversely affect roadside vegetation, streams, and groundwater, but the impacts depend on a wide range of factors unique to each site. Traffic levels, wind direction, and intensity and frequency of salt application affect the extent to damage to vegetation. Threshold levels vary based on the species, temperature, light, humidity, wind, soil type, drainage patterns, precipitation, plant size, and water availability.

In general, chloride is thought to be more harmful than sodium to plants. When chloride accumulates in plants, it can cause stress similar to drought conditions. Sodium's impact is less direct, but it can be detrimental to plant growth. A 1990 Nevada DOT study found that the slope of the roadside is a key factor in determining where salt reaches vegetation. In flat areas, the salt exposure was an average 17 feet from the edge of pavement. In the I-94 corridor, this would affect plants in the ditches of the WisDOT right-of-way. I-94 would be 12 feet closer to vegetation and wells adjacent to the freeway.

Runoff from roadways or melting snow enters the ground through ditches adjacent to the study-area freeway system. Studies have found concentrations highest within 5 to 10 feet of the edge of pavement, but some studies have found increased sodium and chloride levels in soil up to 30 feet from the pavement. Salt spray can also deposit on leaves and branches.

In Kenosha, Racine, and southern Milwaukee Counties, road salt application onto I-94 would increase by roughly 15 to 20 percent under the Safety and Design Improvements with Added Capacity, according to WisDOT and Racine County highway maintenance staff.

The largest increase is impervious surface will occur around the Mitchell Interchange due to collector-distributor roads, auxiliary lanes, and two-lane system ramps. Most runoff from the Mitchell Interchange ultimately drains into Wilson Park Creek, which increases salt entering the stream. Wilson Park Creek already shows high chloride levels during winter months due to salt runoff from Mitchell Field, local streets, and parking lots, as well as the study-area freeway system.

Storm water runoff from pavement is typically warmer than stream water temperature, and therefore increased run off can potentially raise stream temperatures. Increased stream water temperatures can impair habitat for cold-water aquatic species by lowering the amount of dissolved oxygen available and increasing the amount of biological activity, further affecting dissolved oxygen levels.

The amount of storm water runoff is expected to increase proportionately to the increase in impervious surface (that is, pavement). The alternatives under consideration would have varying levels of impervious surface. Table 4-13 provides the estimated amount of impervious area for the Build Alternatives and the No-Build Alternative.

TABLE 4-13
Impervious Area

County	No-Build\Existing	Safety and Design Improvements[a]	Safety and Design Improvements with Added Capacity[a]
Lake	16 acres	16 acres	18 acres
Kenosha	292 acres	292 acres	341 acres
Racine	305 acres	305 acres	352 acres
Milwaukee	237 acres	308 acres	355 acres
TOTAL	850 acres	921 acres	1,066 acres

[a] Includes potential interchange at Drexel Avenue and full interchange with I-94 at 27th Street.

The Build Alternatives would increase the amount of runoff from the roadway compared to the No-Build Alternative. In general, an increase in runoff volume can increase the velocity of the runoff thus increasing the potential for erosion and increased sediment (Bent et al., 2001).

In response to these potential impacts, WisDOT and FHWA are evaluating several best management practices to minimize the amount of runoff that enters water bodies and its velocity, and improve the water quality of the runoff (that is, removing sediment and pollutants). See Section 4.11.5, Measures to Minimize Adverse Effects.

The WisDOT/DNR Cooperative Agreement contains a Memorandum of Understanding regarding storm water discharges to waters of the state. This Memorandum of Understanding requires that WisDOT implement a storm water management program for its projects that is consistent with Section 402(p) of the Clean Water Act, Chapter 283 of the State Statutes, and Chapter NR 216 Wisconsin Administrative Code.

Wisconsin Administrative Code Chapter TRANS 401 outlines storm water management and erosion control procedures for WisDOT projects. As applied to this project, this rule requires removal of 40 percent total suspended solids for the corridor, buffer areas upstream of waterways and wetlands, and maintaining the 2-year peak discharge rate to the maximum extent practicable.

In accordance with NR 216, the DNR has issued municipal stormwater discharge permits to the Cities of Franklin, Greenfield, Oak Creek, and Milwaukee. DNR does not issue a permit to WisDOT but rather requires the agency to control stormwater quality by way of the Cooperative Agreement.

Because of the frequent interconnection of municipal and freeway drainage systems, WisDOT coordinates with affected municipalities, MMSD, and DNR many times through the planning and design of the project. The goals of this coordination are to discuss known problem areas, share system information, and discuss design alternatives when drainage system alterations are needed. Several such meetings have occurred to date.

Federal Aviation Administration (FAA) Advisory Circular No. 150/5200-33B, *Hazardous Wildlife Attractants on or Near Airports* (2007), outlines requirements for proximity of detention basins to airports. The guidance states that wetlands and detention basins constructed within 10,000 feet of an airport used by jet-fueled aircraft or within 5,000 feet of an airport used by non-jet fueled aircraft should not contain permanent pools of water and should drain dry within 48 hours after a rainfall event. This guidance means that wet detention basins are not allowed between the STH 50 and STH 142 interchanges in Kenosha County, the STH 11 interchange in Racine County, and from Rawson Avenue to the eastern portion of the 27th Street interchange and the northern project limits in Milwaukee County (Exhibit 4-7a).

Stream Crossings

Bridges that carry roadways over streams create shady areas in the streams below and can affect the streams' hydrology depending on where the bridge abutments are located and if piers are placed in the stream to support the bridge. Bridges may discharge storm water runoff directly into streams.

Culverts and pipes have a greater effect on stream hydrology than bridges. The normal stream bottom transitions to a man-made bottom. In low-flow conditions, flat culvert bottoms tend to spread the stream flow very thinly, sometimes making it difficult for fish to swim through the culvert. Erosion at the down-stream exit of the culvert or pipe can result in a "perched" outfall, making up stream passage difficult.

No-Build Alternative

The No-Build Alternative would not affect existing river and stream crossings. Existing bridges, culverts, and pipes would not be replaced.

Under the No-Build Alternative storm water would continue to run off the existing pavement and enter areas waterways and ditches as it does today. Water that drains off bridges would fall directly into waterways below. Few areas of the study-area freeway system would have storm water run-off treatment techniques in place to remove suspended solids from storm water run off. Less storm water would run off the study-area freeway system under this alternative, but the level of pollutants entering receiving waters would be higher.

Build Alternatives

No new water crossings would be required. All existing bridges and pipes carrying waterways under the study-area freeway system, including frontage roads, would be replaced. Some existing culverts would be left in place and extended, based on the culverts' structural condition. WisDOT will work with DNR during the design of new culverts to facilitate a natural streambed condition. WisDOT will also attempt to provide 5-foot vertical clearance under the Root and Des Plaines River crossings per DNR's request (see Appendix C, page C-1). Table 4-14 lists all stream crossings and the proposed structure type that would be used to carry the mainline freeway or ramps or frontage roads over the crossing.

TABLE 4-14
Stream Crossings

Location	Name	Bridge, Pipe, or Culvert	Intermittent/ Perennial	New/ Extension	Road	Comments
Lake County						
650 feet south of Russell Road	Unnamed Tributary to Des Plaines River	Pipe or Culvert	Intermittent	New	Mainline Northbound	
1,000 feet south of Russell Road	Unnamed Tributary to Des Plaines River	Pipe or Culvert	Intermittent	New	Mainline Southbound	
Kenosha County						
850 feet south of CTH ML	Unnamed Tributary to Des Plaines River	Pipe or Culvert	Perennial	New	WFR, Mainline, EFR, Weigh Station Roads, Drives And Lots	
500 feet north of 116th Street	UT-1f to Des Plaines River	Pipe or Culvert	Perennial	New	WFR, Mainline, EFR	
1,600 feet north of 116th Street	UT-1e to Des Plaines River	Pipe or Culvert	Intermittent	New	WFR, Mainline, EFR	
1,200 feet north of STH 165	Unnamed Tributary to Des Plaines River	Pipe or Culvert	Intermittent	New	WFR, Mainline, EFR	
2,300 feet north of STH 165	UT-7 to Des Plaines River	Pipe or Culvert	Intermittent	New	WFR, Mainline, EFR	
2,200 feet south of CTH C	Unnamed Tributary to Des Plaines River	Pipe or Culvert	Intermittent	New	WFR, Mainline, EFR	
400 feet north of CTH C	Unnamed Tributary to Des Plaines River	Pipe or Culvert	Intermittent	New	WFR, Mainline	CTH C interchange
1,800 feet north of CTH C	Unnamed Tributary to Des Plaines River	Pipe or Culvert	Intermittent	New	WFR, Mainline, EFR	
3,700 feet north of CTH C	Des Plaines River	Bridge	Perennial	New	WFR, Mainline, EFR	
On HWY 50 1,725 feet East of Mainline	Kilbourn Road Ditch	Bridge	Perennial	New	HWY 50	
980 feet south of STH 158	Unnamed Tributary to Kilbourn Road Ditch	Box Culvert	Intermittent	Extended	Mainline, EFR	STH 158 interchange
On STH 158	Kilbourn Road Ditch	Bridge	Perennial	New	STH 158	STH 158 interchange

TABLE 4-14 (CONTINUED)
Stream Crossings

Location	Name	Bridge, Pipe, or Culvert	Intermittent/ Perennial	New/ Extension	Road	Comments
2,900 feet north of STH 158	UT-5 to Kilbourn Road Ditch	Pipe	Intermittent	New	WFR, Mainline, EFR	
600 feet south of STH 142	Unnamed Tributary to Kilbourn Road Ditch	Pipe	Intermittent	New	WFR, Mainline, EFR	
2,000 feet north STH 142	UT-8 to Kilbourn Road Ditch	Box Culvert	Intermittent	Extended	WFR, Mainline, EFR	
2,000 feet south of CTH E	UT-13 to Kilbourn Road Ditch	Box Culvert	Intermittent	Extended	WFR, Mainline, EFR	
1,900 feet north of CTH A	Unnamed Tributary to Kilbourn Road Ditch	Pipe or Culvert	Intermittent	Extended	WFR, Mainline, EFR	Does not appear on USGS Maps
Racine County						
750 feet north of CTH KR	Unnamed Tributary to Kilbourn Road Ditch	Pipe	Intermittent	New	WFR, Mainline, EFR	
1,600 feet south of Braun Road	UT-18 to Kilbourn Road Ditch	Pipe or Culvert	Intermittent	New	WFR, Mainline, EFR	
1,700 feet south of Grandview Parkway	Hoods Creek	Pipe or Culvert	Intermittent	New	WFR, Mainline, EFR	
160 feet south of 3 Mile Road	Unnamed Tributary to East Branch Root River	Pipe or Culvert	Intermittent	New	WFR, Mainline	
830 feet south of 4 Mile Road	Unnamed Tributary to East Branch Root River	Pipe or Culvert	Intermittent	New	WFR, Mainline, EFR	
1,560 feet north of CTH G	Unnamed Tributary to Root River	Box Culvert	Intermittent	Extended/ New	WFR, Mainline	CTH G Interchange
710 feet south of 7 Mile Road	Unnamed Tributary to Root River	Pipe	Intermittent	New	WFR	7 Mile Interchange
Milwaukee County						
500 feet north of Racine/ Milwaukee County Line	Root River	Bridge	Perennial	New	Mainline	

TABLE 4-14 (CONTINUED)
Stream Crossings

Location	Name	Bridge, Pipe, or Culvert	Intermittent/ Perennial	New/ Extension	Road	Comments
2,500 Feet North STH 241, I-94 Split	Unnamed Tributary to Root River	Pipe	Intermittent	New	Mainline	
1,200 feet south of Ryan Road	South Branch Oak Creek	Bridge	Perennial	New	Mainline, Ramps	Ryan Road Interchange
East half of Ryan Road Interchange	Unnamed Tributary to Oak Creek	Pipe	Intermittent	New	Mainline	
1,400 feet north of Ryan Road	Unnamed Tributary to Oak Creek	Pipe	Intermittent	New	Mainline	
2,000 feet south of Puetz Road	Unnamed Tributary to Oak Creek	Box Culvert	Intermittent	Extended	Mainline	
700 feet south of Puetz Road	Unnamed Tributary to Oak Creek	Box Culvert	Intermittent	Extended	Mainline	
650 feet south of Drexel Avenue	Unnamed Tributary to Oak Creek	Box Culvert	Intermittent	Extended/ New	Mainline, Ramps	Drexel Interchange
2,200 feet south of Rawson Avenue	Unnamed Tributary to Oak Creek	Box Culvert	Intermittent	Extended	Mainline	
Airport Spur Interchange	North Branch of Oak Creek	Box Culvert	Intermittent	Extended	Loop Ramps	
1,000 feet south of Edgerton Avenue	Unnamed Tributary to Oak Creek	Storm Sewer	NA	Existing	Mainline, C/D Roads	No changes proposed
300 feet east of 13th Street	Wilson Park Creek	Bridge	Perennial	New	Mainline	Mitchell Interchange
900 feet west of 27th Street	Villa Mann Creek	Box Culvert	Perennial	New	Mainline, Ramps	27th Street Interchange

WisDOT would implement the same storm water management techniques for either Build Alternative. The Build Alternatives will increase impervious area and therefore increase the amount of storm water run off from the study-area freeway system but they will also provide the opportunity to implement Best Management Practices to treat the run off and bring the study-area freeway system into compliance with Wisconsin's storm water management regulations that limit the amount of pollution in run off. As a result, there would be less pollution entering waterways than there is today.

Safety and Design Improvements Alternative. Impervious area will increase 8 percent compared to the No-Build Alternative. As discussed in previous sections, runoff in Racine and Kenosha Counties is primarily collected in grass ditches on each side of the freeway. Inlets in the median collect runoff from the inside shoulders and inside lanes and pipes covey this runoff to the grass ditches on the outside of the freeway. These grass ditches slow down the flow and allow some sediment and other pollutants to settle out before it discharges into a waterway. This would not change under the Safety and Design Improvements Alternative. No changes to the existing storm water collection system in Milwaukee are planned.

Safety and Design Improvements with Added Capacity Alternative. Impervious area will increase 25 percent compared to the No-Build Alternative. In Kenosha and Racine Counties there will be some areas where grass ditches on the outside of the freeway will not be possible because of right-of-way constraints under this alternative. In these areas inlets will collect the runoff from the outside lanes and shoulder and pipes will convey the runoff to the nearest ditch location. No changes to the existing storm water collection system in Milwaukee are planned.

4.7.2 Environmental Corridors and Natural Areas

No-Build Alternative

Under the No-Build Alternative no environmental corridors or natural areas would be affected.

Build Alternatives

The two Build Alternatives would have the same impact on environmental corridors and natural areas in terms of right-of-way acquisition from these resources. The Safety and Design Improvements with Added Capacity Alternative would have a 24-foot wider footprint than the Safety and Design Improvements Alternative (two 12-foot travel lanes, one in each direction). As a result it would affect more environmental corridors that lie in the existing right-of-way. The locations of environmental corridor impacts are illustrated on Exhibits 2-2 and 2-3.

Under both Build Alternatives, existing crossings of primary environmental corridor at the Des Plaines River in Kenosha County and the Root River in Milwaukee County would be reconstructed (Exhibits 2-2 and 2-3, sheets 5 and 21). Approximately 1 acre of primary environmental corridor would be acquired at the Des Plaines River crossing. No new right-of-way would be acquired at the Root River crossing. The bridges over both rivers would be reconstructed, which would involve construction work in the rivers and adjacent primary environmental corridors. Some WisDOT right-of-way is classified as primary environmental corridor. Approximately 7 acres of wetland impacts would occur in primary environmental corridor that is already in WisDOT right-of-way (see Section 4.7.5, Wetlands).

Several secondary environmental corridors are adjacent to the study-area freeway system. Some existing WisDOT right-of-way is categorized as secondary environmental corridors.

Approximately 9 acres of secondary environmental corridor would be affected under the Build Alternatives, most of which is already in the WisDOT right-of-way. Most of this impact would occur in the Milwaukee County portion of the study area adjacent to Oak Creek (Exhibits 2-2 and 2-3, sheet 22), the north branch of Oak Creek (Exhibits 2-2 and 2-3, sheet 26) and other unnamed tributaries that flow under I-94.

In order to minimize impacts to primary and secondary environmental corridors under both Build Alternatives, frontage roads will be kept within their existing alignment through the environmental corridors. Also, the 27th Street interchange at the Milwaukee/Racine County line was moved north to Elm Road in part to avoid impacts to primary environmental corridor.

Small portions of isolated natural area within the WisDOT right-of-way would be affected by the Build Alternatives.

All of Kenosha, Racine, and Milwaukee Counties are designated as coastal areas by Wisconsin's Coastal Management Program. Based on WisDOT's review and coordination with the Coastal Management Program, the project appears to be consistent with the Coastal Management Program's goals (see Section 6.2.1 regarding coordination with the Wisconsin Department of Administration Coastal Management Program).

4.7.3 Floodplain and Hydraulics

Executive Order 11988 on Floodplain Management and 23 CFR 650 Subpart A direct federal agencies to take action to reduce the risk of flood loss; minimize the impacts of floods on human safety, health and welfare; and to restore and preserve the natural and beneficial values served by floodplains. The executive order also requires agencies to elevate structures above the flood base whenever possible. The object of the order is to avoid the long- and short-term adverse impacts associated with the occupancy and modification of floodplain and to avoid direct and indirect support of floodplain development where ever there is a practicable alternative.

Through the Cooperative Agreement between the DNR and WisDOT, WisDOT is required to determine the impact of new or modified drainage structures (bridges, box culverts) to the base flood elevation. A hydraulic analysis of both existing and proposed conditions is conducted to determine if the drainage structure causes a change in the 100-year flood elevation. Property owners, local zoning authorities, and the DNR liaison are notified if the flood elevation increases by more than 0.01 foot. It should be noted that minor lengthening of most box culverts often do not require a hydraulic analysis unless known deficiencies in capacity exist.

WisDOT is also required to assist the affected municipality in updating floodplain information in their zoning ordinance for submittal to FEMA, if requested. WisDOT provides the results of the analysis and hydraulic models, mapping, and other exhibits developed in the course of the analysis.

As noted in Section 3.4.3, Floodplain and Hydraulics, the following streams along the study-area freeway system have floodplain associated with them:

- Des Plaines River and tributaries (Kenosha County)
- Root River (Racine and Milwaukee Counties)
- Oak Creek and two unnamed tributaries to Oak Creek (Milwaukee County)
- Wilson Park Creek and tributaries (Milwaukee County)

A small floodplain not associated with a stream is located in the I-94 right-of-way in Lake County. Exhibits 4-7b and 4-7c shows floodplain locations and differentiates between floodway and flood fringe within the study area. Impacts to floodplains at interchange locations in Kenosha and Racine Counties have been evaluated in a previously approved Environmental Assessment.

No-Build Alternative

The No-Build Alternative would not affect floodplain.

Build Alternatives

Both Build Alternatives would result in 17 acres of fill being placed in floodplain. Nearly 13 of the 17 acres are in the Des Plaines River watershed, mostly near the CTH C interchange just south of the Des Plaines River. The reconstruction of the CTH C interchange, which was evaluated as a separate project, will require filling an additional 30 acres of floodplain. Most of the floodplain that would be filled is flood fringe, meaning that it stores standing water during 100-year floods. Other parts of this large floodplain, referred to as floodway, actually carry flowing floodwater. Because the impact is mostly flood fringe, computer-based hydraulic models cannot estimate the effect on upstream and downstream flood elevations. WisDOT is coordinating with DNR, SEWRPC, Kenosha County and Village of Pleasant Prairie on this issue.

Three acres of floodplain in the Oak Creek watershed would be filled, 1 acre in the Kinnickinnic River watershed would be filled.

Bridge replacements or culvert extensions at these locations would involve crossings of the 100-year floodplain. All bridges, culverts and pipes would be sized to carry a 100-year flood without interruption to traffic due to flood damage to the roadway or structures. None of the floodplain crossings would interrupt or terminate a transportation route needed for emergency vehicles or that serve as an area's only evacuation route. All floodplain crossings would be constructed in accordance with the WisDOT-DNR Cooperative Agreement.

As noted, one intent of Executive Order 11988 is to avoid direct and indirect support of floodplain development. According to the executive order, an action supports floodplain development if it encourages, allows, serves or otherwise facilities additional floodplain development. Although the project would directly affect floodplain, there are several reasons why it would not support development in those floodplains.

- Des Plaines River floodplain. The largest floodplain in the study area is associated with the Des Plaines River. Neither Build Alternative would change access to the floodplain in this area. Much of the floodplain east of I-94 is publicly owned.
- Root River floodplain. A new full interchange at 27th Street would enhance access in the vicinity of the Root River, but the Root River corridor near I-94 is publicly owned.
- Oak Creek and Wilson Park Creek floodplain. The Build Alternatives will not change access in the vicinity of Oak Creek or Wilson Park Creek.
- Isolated floodplain in Lake County. This small floodplain is already in the existing I-94 right-of-way and therefore will not be developed.

4.7.4 Groundwater and Water Supply

The No-Build Alternative would not affect groundwater or drinking water supply. Neither of the Build Alternatives is expected to adversely affect drinking water supply or localized groundwater at or near the surface.

Since sizeable dewatering or depressurizing activities are not anticipated during construction, temporary impacts on the groundwater system are not expected or would be minimal in isolated locations such as creeks/stream beds and other low lying areas. No noteworthy changes in chemical characteristics of the surface material are anticipated and no degradation of water quality entering the aquifer is expected.

According to TRB Special Report 235, *Highway Deicing: Comparing Salt and Calcium Magnesium Acetate* (1991), road salt can enter water supplies by percolation through soil and into groundwater. Upon entering fast moving streams and larger rivers, salt water usually has little or no effect because concentrations are quickly diluted. In general, only wells near salt-treated highways are susceptible to salt infiltration. Wells most likely to be affected are those within 100 feet down gradient of the roadway in the direction of groundwater movement. In the I-94 corridor, most wells are not located that close to the freeway.

4.7.5 Wetlands

Wetland investigations within the project corridor identified 169 wetlands in the WisDOT right-of-way or adjacent to the study-area freeway system. WisDOT overlaid the boundaries onto the preliminary roadway design so that the alignment could be refined to avoid and minimize impacts to the extent practicable. A discussion regarding wetland avoidance, minimization, and conceptual compensation is located in Section 4.11.7.

Filling wetlands eliminates their functions and values whereas partial filling can diminish wetland quality, resulting in degraded functions and values. The preliminary wetland investigation indicated a wide distribution of non-native species and a prevalence of many of those species along plant community edges or disturbed areas, resulting in an overall degraded floristic quality throughout the project corridor. Additional disturbance to wetlands due to implementation of either of the Build Alternatives would result from increased edge effects as the size of remaining wetlands is reduced. However, existing floral quality is poor and not expected to change substantially as a result of this project.

Like the floral diversity function, the ability of the wetland to fulfill the wildlife habitat function depends on its quality, which can be adversely affected by disturbances that reduce species diversity. While most of the project corridor wetlands consist of degraded wet meadow and shallow marsh within ditches and interchange infield areas, wildlife and fisheries habitat associated with the Des Plaines River, Root River and their tributaries provide a higher value source of food and cover with less exposure to the study-area freeway system. The floodplain wetlands associated with these rivers and tributaries stabilize soils, prevent erosion, and provide surface water storage during flood events. Loss of wetland area and emergent wetland vegetation would reduce the capacity of the wetland to filter out nutrients and sediment prior to discharging into surface water bodies. Wetland vegetation acts to reduce the velocity of runoff and allows for settling time prior to discharging into surface waters. In addition, destruction of wetland vegetation would adversely affect viewshed aesthetics due to the loss of diverse ground cover types and the irregular edge created at the wetland/upland edge.

Linear corridors, such as highways, can foster the movement of invasive plant species. WisDOT will work with DNR during the design phase to develop and assess the feasibility of measures to minimize spread of invasive species.

No-Build Alternative

No wetlands would be affected under the No-Build Alternative.

Build Alternatives

The Build Alternatives would affect wetlands as a result of reconstruction of frontage roads, widening shoulders, construction of auxiliary lanes and expansion of interchange ramps. Wetland impacts for both Build Alternatives are the same in terms of location and quantity and are summarized in Exhibit 4-8 and discussed below. Wetland identifiers (referred to as "labels" in the left column of Exhibit 4-8) are also on Exhibits 2-2 and 2-3.

Impacts to 128 of the wetlands identified within the project corridor totaling approximately 52 acres would occur under both Build Alternatives. The majority of the impacts would occur where fill would be placed in degraded shallow marsh and degraded wet meadow. Table 4-15 lists wetland impact by wetland type (including the proposed Drexel Avenue interchange and I-94/27th Street interchange). Most of these two wetland types are located adjacent to the existing study-area freeway system in ditches and tributaries to the Des Plaines, Root River, and other wetland complexes. The condition of these wetlands is described as "degraded" because their floristic quality has been compromised by repeated disturbance such as mowing, sedimentation from roadway runoff and salt, and infiltration of non-native species such as reed canary grass, giant reed grass, and purple loosestrife. However, only the floristic component was considered during the wetland investigation and the "degraded" modifier could be eliminated if the majority of other wetland attributes, functions or values are found to be of higher quality during the final delineation. Floristic quality is one indicator of quality but it alone does not determine a wetland's functions and value.

Of the 128 wetlands that would be impacted under the Build Alternatives, 53 are located in Milwaukee County; 28 in Racine County; 39 in Kenosha County; and 8 in Lake County, Illinois.

TABLE 4-15
Wetland Impact by Wetland Type

Description	Potential Impact (Acres)	Potential Impact in Primary Environmental Corridor (ADID wetland)
Aquatic bed / shallow marsh, degraded	1.00	
Wet meadow	0.54	
Wet meadow, degraded	5.64 (1 acre at 27th Street interchange)	
Wet meadow / shallow marsh, degraded	3.95	
Wet meadow / shrub swamp, degraded	2.71	
Riparian wetland, emergent, degraded	2.87	0.13
Riparian forested wetland, degraded	0.54	

TABLE 4-15 (CONTINUED)
Wetland Impact by Wetland Type

Description	Potential Impact (Acres)	Potential Impact in Primary Environmental Corridor (ADID wetland)
Riparian forested wetland / wet meadow, degraded	1.34	1.34
Riparian forested wetland / riparian wetland, emergent, degraded	3.18	
Riparian forested wetland / shallow marsh, degraded	0.79	0.79
Shallow marsh, degraded	16.68	1.93
Shallow marsh, degraded / wooded swamp, not degraded	1.48	
Shallow marsh / wet meadow, degraded	6.08 (4 acres at Drexel Avenue interchange)	2.20
Shallow marsh / riparian forested emergent wetland, degraded	0.30	0.30
Shallow marsh / riparian forested wetland, degraded	0.53	0.26
Shallow marsh / shrub swamp, degraded	0.73	0.05
Shallow marsh / wooded swamp, degraded	3.71	
Shrub swamp, degraded	0.77	
Shrub swamp / wet meadow, degraded	1.79	
Shrub swamp / wet meadow / riparian forested wetland, degraded	0.25	
Shrub swamp / riparian wetland, emergent, degraded	0.37	
Wooded swamp	0.10	
Wooded swamp, degraded	0.12	
Wooded swamp, not degraded / shallow marsh, degraded	0.27	
Wooded swamp / shallow marsh, degraded	0.29	
TOTAL	**56 acres**	**7 acres**

Drexel Avenue Interchange

If an interchange with I-94 is constructed at Drexel Avenue, four acres of wetland would be filled in the southeast, southwest, and northeast quadrants. The wetland was classified as degraded shallow marsh and wet meadow during a 2006 field survey. Most of the affected wetland is associated with an unnamed tributary to the north branch of Oak Creek.

27th Street Interchange

If a full interchange with I-94 is built at 27th Street, one acre of degraded wet meadow wetland would be filled.

ADID Wetlands in the Primary Environmental Corridor

U.S. EPA Region 5 and the St. Paul District of the Corps of Engineers jointly announced the Advanced Identification Study (ADID) determination for southeastern Wisconsin in 1985. ADID waters and wetlands are considered generally unsuitable for receiving fill. ADID designation does not limit an applicant for applying for a Section 404 permit; although the project is less likely to comply with the Section 404(b)(1) Guidelines. For southeastern Wisconsin, ADID lakes, streams, and wetlands were those found in the 1980-designated Primary Environmental Corridors, based on the area-wide water quality planning process of the Southeastern Wisconsin Regional Planning Commission, conducted under Section 208 of the Clean Water Act.

Of the 56 acres of wetland that would be impacted under either of the Build Alternatives, 14 ADID wetlands totaling approximately 7 acres would be impacted. Thirteen of these wetlands are located in Kenosha County. These wetlands lie within the primary environmental corridor and are associated with the Des Plaines River, unnamed tributaries to the river, and the Kilbourn Road Ditch. One ADID wetland that would be impacted by the Build Alternatives is located in Milwaukee County and consists of a degraded floodplain forest and shallow marsh in the Root River floodplain.

All of the ADID wetlands within the primary environmental corridor are degraded floristically. In addition, most of them are found in roadside ditches or areas previously disturbed by roadway or facilities construction. They have been identified as part of the primary environmental corridor because the drainages they are associated with are tributaries to rivers.

4.7.6 Wildlife / Upland Habitat

No-Build Alternative

The No-Build Alternative would not affect upland habitat.

Build Alternatives

The Build Alternatives would have the same impact on wildlife and upland habitat. The primary impact associated with the loss of upland plant communities is loss of wildlife habitat that serves movement corridors and provides cover for breeding, foraging, and resting. Other wildlife impacts caused by removing vegetation include interrupting the natural succession to mature communities; increasing the potential for soil erosion; and reducing aesthetic values.

Because improvements would occur adjacent to the highway, upland impacts are strip or "edge takings." New woodland edges created by highway right-of-way may experience tree loss from the drying effects of wind, sun, and exposure to road runoff.

Under both Build Alternatives, approximately 10 acres of upland (not including farmland) would be acquired in Racine and Kenosha County. In Milwaukee County some upland would be acquired but it has little habitat value because most of it is residential property adjacent to the Mitchell Interchange. Additionally, approximately 4 acres of upland habitat, located in the I-94 median near the Root River in Milwaukee County, would be affected under both Build Alternatives. The habitat loss will be from strip takings adjacent to the existing freeway and there is ample comparable habitat remaining. Also, the Root River

and Des Plaines crossings will have room for wildlife to cross under the freeway adjacent to the streams. As a result, the habitat impacts are not expected to be significant.

Drexel Avenue Interchange

Approximately 7 acres of upland would be acquired if the Drexel Avenue interchange were constructed, not including farmland and residential property. Two acres of secondary environmental corridor and 2 acres from Falk Park are included in the 7-acre total.

27th Street Interchange

Almost all the land that would be acquired is farmland.

4.7.7 Threatened and Endangered Species

State-listed Species

No-Build Alternative. No state-listed threatened or endangered species would be affected.

Build Alternatives. The impacts of the Build Alternatives on state-listed threatened and endangered species would be the same. The Build Alternatives would adversely impact two threatened plant species, one endangered plant species and two special concern plant species. The Build Alternatives may affect the Butler's garter snake in Milwaukee County. Some good habitat for the eastern massasauga rattlesnake and the Blanding's turtle would be affected in Kenosha County, although neither species were found during habitat surveys. WisDOT will develop conservation measures including relocation, exclusion fencing, and habitat enhancement to address the unavoidable losses for threatened and endangered species.

The Illinois Department of Natural Resources' threatened and endangered species database noted the presence of the protected Iowa darter, a fish species (see Illinois DNR Correspondence in Appendix C). No streams are located in the Illinois portion of the study area. Therefore, there will likely be no impact to the species in Illinois. In Lake County, a small pocket of endangered alkali bulrush plants are located in the existing I-94 right-of-way. If and when IDOT or the Illinois Tollway Authority reconstructs I-94, this plant will be affected.

Thousands of threatened seaside crowfoot plants are located near I-94 in southern Kenosha County. Both Build Alternatives would result in hundreds or thousands of these plants being destroyed. Most of the plants that would be affected are located in the existing right-of-way.

Approximately 15 endangered bluestem goldenrod plants would be destroyed in Milwaukee County. However, WisDOT has modified the Build Alternatives in southern Milwaukee County to avoid a nearby area of 200 to 500 bluestem goldenrod plants located in the WisDOT right-of-way.

Two special concern plants, the reflexed trillium and smooth black-haw would be affected by the Build Alternatives. Isolated reflexed trillium plants may be destroyed in northern Racine County and hundreds of the reflexed trillium plants would likely be destroyed in southern Milwaukee County. About 200 smooth black-haw plants are located in the right-of-way in southern Milwaukee County. Most would be destroyed.

High-quality Tier 3 Butler's garter snake habitat is located within the I-94 right-of-way between Drexel Avenue and Rawson Avenue on both sides of I-94. Other lesser quality habitat is located in and adjacent to the I-94 right-of-way in other parts of Milwaukee County. No Tier 3 habitat would be acquired under the Build Alternatives, but Tier 3 habitat already in the existing right-of-way would be destroyed. As noted in Section 3.4.8, DNR is performed genetic testing on garter snakes in this area in 2007 to more accurately define whether garter snakes in this area are actually the protected Butler's garter snakes. WisDOT will work with DNR and incorporate this information during final design. Until then, the extent of the project's impact on Butler's garter snakes is not fully understood.

Both Build Alternatives would affect potential habitat for the eastern massasauga rattlesnake and the Blanding's turtle in southern Kenosha County. The habitat is in the existing I-94 right-of-way.

Drexel Avenue Interchange. Two acres of high-quality Butler's garter snake habitat in Falk Park would be acquired under this alternative. As of February 2008, Drexel Avenue marks the dividing line between the Butler's garter snake to the north and "hybridized" garter snakes to the south, pending ongoing DNR genetic testing. The south side of the Drexel Avenue interchange would result in the loss of 2 to 4 acres of high-quality habitat, but DNR does not consider this area to be Butler's garter snake habitat.

27th Street Interchange. Several of the plant species described in the preceding paragraphs are located in this area, but no additional impacts beyond those noted above are anticipated.

Federally-listed Species

No federally listed threatened or endangered species would be directly affected. The eastern prairie fringed orchid prefers wet meadows and other open wetlands. About 8 acres of mostly degraded wet meadow wetland in the existing I-94 right-of-way in Kenosha County would be filled. The eastern prairie fringed orchid is not present in the 8 acres of mostly degraded wet meadow wetland that will be filled and, thus, will not be affected.

See Section 4.11.8, Measures to Minimize Adverse Effects and correspondence with DNR in Appendix C for more information regarding threatened and endangered species.

4.7.8 Noise

The noise analysis presents the existing and future noise levels at various locations in the study area. The determination of noise abatement measures and locations is in compliance with 23 CFR Part 772 and the Wisconsin Administrative Code, Trans 405, Siting Noise Barriers, effective September 1989.

WisDOT's Noise Abatement Criteria (NAC) were used to analyze the project's acoustic impact. Code of Federal Regulations, Title 23 Part 772, revised April 2005, provides procedures to assess the acoustic impact of the proposed action and determine the need for abatement measures. The NAC for the various land uses are presented in Table 4-16. The noise level descriptor used is the equivalent sound level, $L_{eq}(1h)$, defined as the steady state sound level which, in a stated time period (usually one hour) contains the same sound energy as the actual time-varying sound.

Noise abatement measures will be considered when the predicted noise levels approach or exceed those values shown for the appropriate activity category in Table 4-16, or when the predicted traffic noise levels substantially exceed the existing noise levels. "Approach" is defined as being within 1 dBA less than the noise levels shown in Table 4-16. WisDOT has defined an increase over existing noise levels of 15 decibels or more as being a noise impact.

TABLE 4-16
Noise Abatement Criteria

Activity Category	L_{eq}(1h) (dBA)	Description of Activity Category / Land Uses
A	57 (Exterior)	Lands on which serenity and quiet are of extraordinary significance and serve an important public need and where the preservation of those qualities is essential if the lands are to continue to serve their intended purpose.
B	67 (Exterior)	Picnic areas, recreation areas, playgrounds, active sports areas, parks, residences, motels, hotels, schools, churches, libraries, and hospitals.
C	72 (Exterior)	Developed lands, properties, or activities not included in Categories A or B above.
D	—	Undeveloped lands.
E	52 (Interior)	Residences, motels, hotels, public meeting rooms, schools, churches, libraries, hospitals, and auditoriums.

Source: Code of Federal Regulations, Title 23 Part 772, Revised April 2005

The FHWA Traffic Noise Model®, Version 2.5 (Lau et al., 2004) was used to model existing (2004) and 2035 noise levels for the Build Alternatives. The following parameters were used in this model to calculate an hourly L_{eq}(1h) at a specific receiver location:

- Distance between roadway and receiver
- Relative elevations of roadway and receiver (all receivers are assumed to be 5 feet off the ground)
- Hourly traffic volume in light-duty (two axles, four tires), medium-duty (two axles, six tires), and heavy-duty (three or more axles) vehicles
- Vehicle speed
- Roadway grade
- Topographic features, including retaining walls and berms
- Noise source height of the vehicles

Three-hundred and ten representative receiver locations numbered N1 through N310 plus 13 field sites, numbered FS-1 through FS-13 are shown on Exhibits 2-2 and 2-3 at the back of the document. These receivers were selected to model the representative noise impacts at 936 residences (including apartments and trailer homes), 2 churches, 2 schools and playgrounds, 2 parks, 14 hotel/motels, and 123 commercial properties adjacent to the proposed project. The results of the computer modeling are presented in Appendix A. (Note that existing noise levels in Appendix A take into account existing noise walls, but future noise levels do not take into account the reduction in noise levels that would occur

with noise walls. WisDOT plans to provide noise walls at all the locations that currently have noise walls.)

Safety and Design Improvements Alternative

Future traffic noise levels adjacent to the corridor would increase one to four decibels over existing 2004 peak-hour noise levels under the Safety and Design Improvements Alternative. Near the College Avenue, Rawson Avenue, and Ryan Road interchanges, noise levels would drop 4 to 7 decibels at receptors near the existing entrance and exit ramps as a result of the interchange ramps being reconstructed closer to the freeway.

In 2035, peak hour noise levels would approach or exceed the NAC at 732 residences, 2 school playgrounds, 2 parks, 11 hotel/motels, and 84 commercial properties adjacent to the proposed project.

Safety and Design Improvements with Added Capacity Alternative

Under the Safety and Design Improvements with Added Capacity Alternative, noise levels would generally be 1 decibel higher than the Safety and Design Improvement Alternative. Overall, the range of noise level increases is the same for the two Build Alternatives.

Under the Safety and Design Improvements with Added Capacity Alternative, peak-hour 2035 noise levels would approach or exceed the NAC at 774 residences, 2 school playgrounds, 2 parks, 11 hotel/motels, and 91 commercial properties adjacent to the proposed project.

4.7.9 Air Quality

The air quality impact analysis for this project was conducted in accordance with WisDOT, DNR, FHWA, and U.S. EPA procedures. The project is subject to Wisconsin Administrative Code NR 411 Construction and Operation Permits for Indirect Sources. NR 411 has established traffic volume threshold for new highways and modified highways. None of the ramp volumes at new or revised intersections exceed the criteria of 1,200 vehicles per hour, and all the revised ramps were moved away from residential and commercial receptors. However, projected mainline traffic volume increases exceed the increase threshold of 1,200 vehicles per hour. Therefore, WisDOT and FHWA performed a carbon monoxide (CO) screening analysis to determine if future CO concentrations would exceed 75 percent of any ambient air quality standard for CO.

Recent FHWA regulations require an assessment of MSATs. As a result WisDOT and FHWA performed a quantitative analysis of MSAT emissions. The results of the MSAT analysis are summarized in this section and described in more detail in Appendix B.

Carbon Monoxide Screening Analysis

Even though the southern-most segment of the study area is projected to experience the greatest traffic growth from 2015 to 2035, it was deemed appropriate, based on population density and distance from I-94 and I-894/43 to residential areas, to perform the CO analysis adjacent to the study-area freeway system in Milwaukee County. Two air quality screening analyses, as prescribed in NR 411.04(2)(c), were performed: one along I-94 and the Airport Spur adjacent to Garland Elementary and one in the Mitchell Interchange near Lowell Elementary. According to NR 411.04(2)(c), "If the screening analysis results indicate that no

receptor location will be exposed to more than 75 percent of any ambient air quality standard for carbon monoxide, no permit is required." The 75 percent threshold is 26.25 ppm and 6.75 ppm, respectively for the 1-hour and the 8-hour standard.

U.S. EPA-approved computer models, MOBILE6.2 (U.S. EPA, 2003) and CAL3QHC 2.0 (U.S. EPA, 1995b) were used to analyze the emissions and dispersion of CO at two schools that abut the I-94 corridor in Milwaukee and four adjacent local street intersections. MOBILE6.2 is a U.S. EPA computer program for calculating average vehicle CO emission rates. The DNR provided the specific 2015 and 2025 input variables for MOBILE6.2 for Kenosha, Racine, and Milwaukee Counties (DNR, 2007).

CAL3QHC is a pollutant dispersion-modeling program for predicting pollutant concentrations from motor vehicles under free-flow or idling conditions. CAL3QHC was used to model traffic on the study-area freeway system, local streets around the two schools and all queued traffic at the four stop-sign controlled intersections near the schools. Peak 1-hour and 8-hour traffic volumes were used to determine the maximum 1-hour and 8-hour CO concentrations. The results of the CO screening analysis are presented in Table 4-17. Since none of the CO concentrations exceed the 75 percent criteria, an Indirect Source Permit is not required. The results of the CO screening analysis, along with the MOBILE6.2 and CAL3QHC data files, were sent to the DNR Bureau of Air Management in 2007, requesting concurrence on the screening analysis. DNR concurred in December 2007 (see Appendix D).

TABLE 4-17
Maximum Projected Carbon Monoxide Concentrations

	Carbon Monoxide (ppm)			
	1-Hour Peak[a]		8-Hour Average[b]	
Receptor Site (See Exhibit 2-2 and 2-3)	Construction Year 2015	Construction Year Plus Ten Years 2025	Construction Year 2015	Construction Year Plus Ten Years 2025
Lowell Elementary near Mitchell Interchange				
A1 Nearest Residence on W Van Norman Avenue	6.6	6.6	3.6	3.6
A2 Tennis Courts	5.6	5.7	2.9	2.9
A3 Intersection of S. 20th Street and W. Whitaker Avenue	6.4	6.3	3.0	3.1
A4 2nd Base on Ball Diamond	5.2	5.2	3.0	3.0
Garland Elementary at I-94 and Airport Spur				
A5 Northernmost Residence on S. 15th Place	7.1	7.0	3.9	3.8
A6 Northwest Corner of School Playground	5.7	5.7	3.2	3.1
A7 Northwest Corner of School	5.2	5.2	2.8	2.8
A8 Intersection of S. 14th Street and W. Goldcrest Avenue	5.4	5.4	3.1	3.1

[a] Includes 1-hour ambient background CO concentration of 4.0 ppm.

[b] Includes 8-hour ambient background CO concentration of 2.3 ppm.

Screening threshold, 1-hour = 26.25 ppm; 8-hour = 6.75 ppm.

MSAT Analysis

In February, 2006, FHWA issued guidance for the analysis of MSATs in the NEPA process for highway projects (FHWA, 2006a). The FHWA has developed a tiered approach for analyzing MSATs in NEPA documents. Depending on the specific project circumstances, FHWA has identified three levels of analysis:

- No analysis for projects with no potential for meaningful MSAT effects.
- Qualitative analysis for projects with low potential MSAT effects.
- Quantitative analysis to differentiate alternatives for projects with higher potential MSAT effects.

Since projected traffic volumes by 2035 are projected to exceed 150,000 vpd along a few segments of the corridor, this project required a quantitative analysis due to the higher potential for MSAT effects.

The MSAT analysis indicates that by 2035, with either Build Alternative, MSAT pollutants will decrease approximately 40 to 50 percent for five of the six priority air toxics and over 90 percent for diesel particulate and exhaust organic gases from 2004 conditions. The total VMT estimated for the Safety and Design Improvements with Added Capacity Alternative is less than 1 percent greater than with the Safety and Design Improvements Alternative, as the VMT on local streets decreased less than the VMT on the study-area freeway system increased. This slight difference could be created because the additional capacity would reduce congestion on the study-area freeway system and attract trips from the local streets within and outside the study area. This increase in VMT would lead to slightly higher MSAT emissions along the study-area freeway system, but still substantially below 2004 levels. The increased VMT on both the study-area freeway system and the local streets is offset by lower MSAT emission rates due to increased speeds. According to U.S. EPA's MOBILE6.2 emissions model, emissions of all of the priority MSATs except for diesel particulate matter decrease as freeway speeds increase.

The additional travel lanes contemplated as part of the Safety and Design Improvements with Added Capacity Alternative will have the effect of moving traffic closer to some homes, schools and businesses; therefore, there may be localized areas where ambient concentrations of MSATs could be higher compared to the Safety and Design Improvements Alternative (with both Build Alternatives being considerably lower than existing concentrations). However, as discussed in Appendix B, the magnitude and the duration of these potential increases compared to the No-Build Alternative cannot be accurately quantified due to the inherent deficiencies of current models. In summary, if the study-area freeway system is widened and, as a result, moves closer to some receptors, the localized level of MSAT emissions could be higher than if the freeway were not widened, but this could be offset due to increases in speeds and reductions in congestion (which are associated with lower MSAT emissions). Also, MSATs will be lower in other locations when traffic shifts away from local streets. However, as shown with the MSAT results presented in Appendix B, on a regional basis, U.S. EPA's vehicle and fuel regulations, coupled with fleet turnover, will over time cause substantial reductions that, in most cases, will cause region-wide MSAT levels to be significantly lower than today.

$PM_{2.5}$

Particulate matter (PM) is the general term used for a mixture of solid particles and liquid droplets found in the air. The very large particulates settle to the ground, while the smaller stay suspended in the air. Some are visible to the naked eye; others require a microscope to be seen. $PM_{2.5}$, as defined in section 3.4.10, are particles that are less than or equal to 2.5 microns in diameter and are referred to as fine particles. $PM_{2.5}$, due to its small diameter (approximately 1/30th the average width of a human hair), and the ability to become lodged in the lungs, is believed to pose a health risk (U.S. EPA, 2006).

Particles from engine exhaust, brake and tire wear, road dust, and soot from wood combustion are referred to as "primary" particles as they are emitted directly into the atmosphere. Particulates that form in the atmosphere from primary gaseous sources are referred to as "secondary" particulates. Examples of secondary particulates include sulfates, formed from SO_2 emissions from power plants and industrial facilities, and nitrates, formed from NOx emissions from power plants, automobiles, and other types of combustion sources. The chemical composition of particles depends on location, time of year, and weather. Generally, fine PM contains many more secondary particles (U.S. EPA, 2002).

Southeast Wisconsin is currently in attainment for $PM_{2.5}$. As a result, no analysis of $PM_{2.5}$ is required for this project. However, DNR has indicated that $PM_{2.5}$ levels have exceeded the NAAQS threshold at some monitoring locations in the project area. U.S. EPA is expected to make a determination in 2009 regarding whether southeast Wisconsin is in attainment for $PM_{2.5}$ or not.

If the region is designated as non-attainment for $PM_{2.5}$, a project-level conformity determination is required for the first federal approval action after a 1-year grace period for new non-attainment areas expires, which is expected to be in 2010 for $PM_{2.5}$. Since additional federal approvals for this project are expected during or after 2010, conformity determination will eventually apply to this project (assuming that the area is designated non-attainment for $PM_{2.5}$). WisDOT and FHWA will comply with whatever $PM_{2.5}$ conformity requirements apply at that time.

Lake County, IL is designated as a non-attainment area for $PM_{2.5}$.

Traffic volumes in Lake County, IL and Kenosha County are projected to increase 1.015 percent to 1.016 percent per year through 2035. The year of peak emissions for the study area is the projected to be the opening year for the proposed improvements. Therefore, the traffic analysis year 2016 has been used to determine whether the project is a project of air quality concern under 40 CFR 93.123(b)(1). AADT volumes with the No-Build and Safety and Design Improvements Alternative would be 105,900 vpd in 2016. The volumes for the Safety and Design Improvements with Added Capacity Alternative would be slightly higher at 107,500 vpd. Diesel truck traffic accounts for 17.41 percent of the traffic in the vicinity of the Wisconsin-Illinois state line. The difference in traffic between these two alternatives would be 1,600 vehicles per day or 279 trucks per day. The increase in traffic volumes from existing conditions to a projected opening year of 2016 would be 20 percent under the Safety and Design Improvements Alternative and 22 percent under the Safety and Design Improvements with Added Capacity Alternative.

As such, the Safety and Design Improvements with Added Capacity Alternative will result in only an approximate 1.5 percent increase in diesel traffic. As such, the project will not result in a significant increase in diesel vehicles and is not a project of air quality concern for $PM_{2.5}$ under 40 CFR 93.123(b)(1) and therefore does not require further hot-spot analysis.

The Chicago-Gary-Lake Co., IL-IN $PM_{2.5}$ non-attainment area does not yet have an applicable State Implementation Plan, and thus does not have any $PM_{2.5}$ control measures for which compliance must be demonstrated.

According to U.S. EPA, the 2007 heavy-duty engine standards will result in the introduction of new, highly effective control technologies for heavy-duty engines, beginning in 2007. Particulate matter emission levels are expected to be 90 percent lower on a per vehicle basis than 2000 standards levels due to the 2007 diesel engine and fuel program. On-road diesel trucks began to use Ultra Low Sulfur Diesel in the fall of 2006. As older heavy-duty diesel vehicles are replaced with newer less polluting vehicles, the heavy-duty diesel truck fleet emission rate is projected to decrease over 80 percent through the 2035 design year.

U.S. EPA's projected decrease in diesel truck particulate emission rates is substantially greater than the projected increase in the number of diesel trucks on I-94. Therefore, $PM_{2.5}$ concentrations in both the non-attainment area in northern Illinois and the attainment area in southeastern Wisconsin should decrease from existing levels.

Lake County, IL is part of the Chicago-Gary-Lake Co., IL-IN $PM_{2.5}$ non-attainment area. As such, any project in Lake County is subject to transportation conformity under Section 176(c) of the Clean Air Act. The criteria for determining project-level conformity are detailed in the Transportation Conformity Rule (40 CFR Part 93). The analysis of this corridor is based on the latest planning assumptions and the latest emissions model as applicable. Future expansion has been accounted for in the region's air quality analysis and has been considered in this EIS[5]. The 2006 update to the *2030 Regional Transportation Plan For Northeastern Illinois* was approved by the Chicago Metropolitan Agency for Planning (CMAP) on October 12, 2006, and submitted to the FTA and the FHWA. The FTA and FHWA reviewed the TIP, transportation plan, and related conformity analysis supplement submitted by CMAP and on October 16, 2006, determined that the conformity analysis submitted met the applicable criteria of 40 CFR 93 and the TIP and transportation plan are in conformance with the State Implementation Plan (FTA and FHWA Chicago Metropolitan Office, 2006).

As shown above, the Lake County portion of the project meets the project level conformity requirements in 40 CFR 93. The portion of the Safety and Design Improvements with Added Capacity Alternative in Lake County is consistent with the currently conforming transportation plan and TIP for the CMAP. The project also demonstrates that it meets the requirements of 40 CFR 93.116 without a hot spot analysis, since this project has been found to not be a project of air quality concern under 40 CFR 93.123 (b)(1).

[5] See Section 4 for further discussion on potential environmental impacts in Lake County.

Ozone

As noted in Section 1, SEWRPC is the federally designated MPO for ensuring air quality conformance in the seven-county, southeastern Wisconsin region. The six-county Milwaukee Transportation Management Area (Milwaukee, Racine, Kenosha, Ozaukee, Waukesha, and Washington Counties) is designated as moderate non-attainment area under the 8-hour ozone NAAQS. Walworth County is a maintenance area under the 1-hour ozone NAAQS, and an attainment area under the 8 hour ozone NAAQS. In accordance with the 1990 Clean Air Act Amendments, proposed highway improvements must be included in an approved TIP and the adopted regional transportation system plan to be in conformance with the State Implementation Plan for air quality. FHWA and FTA determined the 2035 regional transportation system plan and the 2005–2007 TIP are in conformance with the state's Air Quality Implementation Plan on June 21, 2006. Because the 2007-2010 TIP is consistent with, and implements, the 2035 regional transportation plan, the FHWA and FTA concurrence applies to the 2007–2010 TIP (see Appendix C of *A Transportation Improvement Program for Southeastern Wisconsin: 2007–2010* [SEWRPC, 2006c]).

The I-94 north-south corridor reconstruction is included in the 2007–2010 TIP as Project Number 75 with the following description: "Reconstruction with additional traffic lanes of I-94 from the Illinois State Line to the Mitchell Interchange in Milwaukee County (32 1/2 miles)."

If the Safety and Design Improvements Alternative or the No-Build Alternative were implemented, the regional transportation plan and TIP would have to be amended.

Conclusion

Based on the air quality analysis completed for the proposed improvements, this project will not contribute to any violation of the NAAQS. However, some air quality pollutants may present health issues for sensitive populations at levels below the NAAQS thresholds. MSAT emissions will decrease under both Build Alternatives and CO levels will not exceed air quality standards.

4.7.10 Hazardous Materials

WisDOT's Phase 1 hazardous material investigation located 32 sites in or adjacent to the study-area freeway system that warrant further investigation. These sites are in areas where excavation would occur or new right-of-way would be acquired. Most of the sites are known or suspected to have petroleum contamination. None of the 32 sites are in Lake County, 7 are in Kenosha County, 14 are in Racine County, and 11 are in Milwaukee County.

The No-Build Alternative would not affect any potentially contaminated sites.

The Build Alternatives would affect many of these 32 sites. If onsite testing is deemed necessary during a subsequent engineering phase, DNR and other affected parties would be notified of the results. WisDOT would work with concerned parties to ensure disposition of any petroleum contamination to the satisfaction of the DNR, WisDOT Bureau of Equity and Environmental Services, and FHWA.

Bridges on the study-area freeway system may contain asbestos. WisDOT considers all paint on bridges to be lead-based paint. All bridges are planned for replacement under

both Build Alternatives. Buildings to be acquired under both Build Alternatives could also contain asbestos and/or lead-based paint. Both asbestos and lead-based paint pose a health risk if inhaled or ingested.

WisDOT will survey all buildings and bridges that will be demolished to determine whether asbestos or lead paint is present. All appropriate and applicable engineering and regulatory controls will be during the handling and disposal of asbestos-containing material and lead-based paint.

4.8 Cultural Resources

4.8.1 Cemeteries

No-Build Alternative

The No-Build Alternative would not affect any cemeteries.

Build Alternatives

The Build Alternatives would not directly affect any cemeteries. The Sylvania Cemetery, which is only a few feet from the frontage road on the east side of I-94 just south of STH 11, would be the same distance from the frontage road under either Build Alternative. The roadway would not be any closer to the cemetery than it is today. The frontage road would be reconstructed under both Build Alternatives, and curb and gutter would be used in place of the existing ditch.

Drexel Avenue Interchange

If the Drexel Avenue interchange is implemented, traffic volumes on Drexel Avenue in front of the Oak Creek Community Cemetery on 13th Street and Drexel Avenue would increase. Traffic volumes in 2035 on Drexel Avenue near the cemetery are expected to be 21,000 vehicles per day if there is no interchange with I-94 at Drexel Avenue, and 26,000 vehicles per day with an interchange at Drexel Avenue.

27th Street Interchange

A full interchange with I-94 at 27th Street would not affect any cemeteries.

4.8.2 Archaeological

Neither the Build Alternatives nor the No-Build Alternative would affect known archaeological sites. The Wisconsin State Historical Society's Historic Preservation Office (SHPO) concurs with this conclusion (see Appendix C, page C-7). The Illinois SHPO concurred with this conclusion (see Appendix C, page C-10).

4.8.3 Historic Sites

Neither the Build Alternatives nor No-Build Alternative would affect historic buildings that are either listed on the National Register of Historic Places or eligible for the National Register. The Wisconsin State Historical Society's Historic Preservation Division concurred with this conclusion (see Appendix C, page C-7). The Illinois SHPO also concurred with this conclusion (see Appendix C, page C-10).

4.9 Construction Impacts

This discussion pertains to the Build Alternatives. If the No-Build Alternative is selected, no construction impacts would occur in the short term. However, WisDOT would perform maintenance on the study-area freeway system more frequently and eventually replace it, resulting in periodic lane closures as portions of freeway are replaced.

4.9.1 Noise

Noise will be generated by construction equipment used to reconstruct the study-area freeway system. Typical construction equipment would include dump trucks, graders, cranes, bulldozers, pile-driving equipment, and pavement construction equipment. The noise generated by this construction equipment will vary greatly, depending upon the equipment type and model, mode and duration of operation, and specific type of work effort; however, typical noise levels may occur in the 75 to 95 dBA range (at 50 feet). Other distance-typical noise level ranges are shown on Table 4-18.

Variations in building setbacks and land use, local intensity of specific construction activities, and sequencing and timing of construction will result in varying degrees of exposure to construction noise and hence varying levels of resulting impacts. Adverse effects related to construction noise are anticipated to be of a localized, temporary, and transient nature. Construction noise will be controlled in accordance with WisDOT FDM Procedure 23-40-1. In locations where noise walls currently exist, WisDOT will also make every effort to construct new noise walls prior to the demolition of the existing noise walls.

TABLE 4-18
Construction Noise/Distance Relationships

Distance From Construction Site (feet)	Range of Typical Noise Levels (dBA)
25	82-102
50	75-95
100	69-89
200	63-83
300	59-79
400	57-77
500	55-75
1,000	49-69

Sources: U.S. EPA and WisDOT

To reduce the potential impact of construction noise, special WisDOT provisions for this project will require operation of motorized equipment in compliance with all applicable local, state and federal laws and regulations relating to noise levels permissible within and adjacent to the project construction site. All motorized construction equipment would be required to have mufflers constructed in accordance with the equipment manufactures specifications or a system of equivalent noise reducing capacity. WisDOT would also require that mufflers and exhaust systems be maintained in good operating condition, free of leaks and holes.

WisDOT will work closely with staff and administrators of the schools located adjacent to I-94 in Milwaukee County during the project's design phase to develop appropriate noise mitigation measures adjacent to the schools.

4.9.2 Air Quality (Emissions and Dust)

Demolition and construction activities can result in short-term increases in dust and equipment-related particulate emissions in and around the project area. Equipment-related particulate emissions could be minimized if the equipment is well maintained. The potential air quality impacts will be short-term, occurring only while demolition and construction work is in progress and local conditions are appropriate.

Air quality impacts during construction would be generated by motor vehicle, machinery and particulate emissions resulting from earthwork and other construction activities. Construction vehicle activity and the disruption of normal traffic flows may result in increased motor vehicle emissions within certain areas. Construction vehicle emission impacts could be mitigated through implementing and maintaining a comprehensive traffic control plan, enforcing emission standards for gasoline and diesel construction equipment and stipulating that unnecessary idling and equipment operation is to be avoided.

Several air quality construction mitigation best practices are available to assist in reducing diesel emission impacts from construction equipment. Off-road diesel engines can contribute significantly to the levels of particulate matter and nitrogen oxides in the air. In recent years, U.S. EPA has set emissions standards for engines used in most new construction equipment. However, it may take several years before all equipment is equipped with engines that meet the U.S. EPA standards. To address this, several strategies can be implemented to reduce emissions from the older engines that are in operation today.

Reductions in pollutant emissions from older off-road diesel engines can be obtained through a variety of strategies including: reducing idle times, properly maintaining equipment, using cleaner fuel, and retrofitting diesel engines with diesel emission control devices. By reducing unnecessary idling at the construction site, emissions will be reduced and fuel will be saved. Proper maintenance of the diesel engine will also allow the engine to perform better and emit less pollution by burning fuel more efficiently. Switching to fuels that contain lower levels of sulfur reduces particulate matter. Using ultra-low sulfur diesel does not require equipment changes or modification. Using fuels that contain a lower level of sulfur also tend to increase the effectiveness of retrofit technologies. Retrofitting off-road construction equipment with diesel emission control devices can reduce particulate matter, nitrogen oxides, carbon monoxide, or hydrocarbons, in addition to other air pollutants. Diesel particulate filters can be used to physically trap and oxidize particulate matter in the exhaust stream and diesel oxidation catalysts can be used to oxidize pollutants in the exhaust stream (U.S. EPA, 2008). In the project's design phase, WisDOT will consider including these measures on a voluntary or mandatory basis. An Illinois law regulating engine idling covers Lake County, and notes that vehicles over 8,000 pounds cannot idle for longer than 10 minutes in a 1-hour period.

Fugitive dust impacts generated by construction activities would be mitigated by standard dust control measures. These measures may include the frequent watering of construction sites that have large expanses of exposed soil; watering debris generated during the

demolition of existing structures; washing construction vehicle tires before they leave construction sites; and securing and covering equipment and loose materials prior to travel.

Dust control during construction would be accomplished in accordance with WisDOT's Standard Specifications for Road and Bridge Construction, which require the application of water or other dust control measures during grading operations and on haul roads. The location and operation of concrete batch plants would be in accordance with the Standard Specifications, and any special provisions developed during coordination with DNR regarding air quality standards and emissions. Open burning of waste material or brush would be done in accordance with, and where allowed by, local ordinances and in accordance with DNR Bureau of Air Management permit requirements as applicable. Any portable material plants would be operated in accordance with DNR air quality requirements/guidelines. Demolition and disposal of residential or commercial buildings is regulated under DNR's asbestos renovation and demolition requirements (Wisconsin Administrative Code, Chapter NR447).

WisDOT will work closely with staff and administrators of the schools located adjacent to I-94 in Milwaukee County during the project's design phase to develop appropriate air quality mitigation measures adjacent to the schools.

4.9.3 Traffic / Conceptual Construction Staging

Those who use the study-area freeway system or rely on it for the movement of goods or services would experience disruptions of normal traffic flow during construction. The Mitchell Interchange and the entire study-area freeway system would remain open during construction. WisDOT will develop a detailed traffic management plan during the project's design phase to help ensure the safe and efficient flow of traffic during construction. On similar projects, WisDOT has reduced speed limits and implemented aggressive incident management procedures in freeway construction zones. WisDOT is beginning to develop a construction traffic mitigation plan. Construction impacts will likely include increased congestion on the study-area freeway system and local streets. Detour routes through construction areas will also be provided for transit, pedestrian, bicycle, and snowmobile users.

In Kenosha, Racine, and southern Milwaukee Counties, I-94 would be constructed one direction at a time. All traffic would be moved to one side of the freeway while the other side is reconstructed and vice versa. Two lanes would be open in each direction throughout construction.

Service interchanges in Milwaukee County may be closed during reconstruction. Local streets over and under the study-area freeway system may be closed for a construction season or more. WisDOT may be able to keep 27th Street over I-894/43 open during construction. WisDOT would stage local street closures to minimize the amount of time that adjacent streets are closed.

The Mitchell Interchange reconstruction would require closing some interchange ramps for extended periods of time, in some cases over a year. I-94 NB and SB through the interchange and the I-94 NB to I-894/43 WB ramp would remain open throughout construction, as would the I-894/43 EB to I-94 SB ramp. These are the most heavily used interchange ramps. The Mitchell Interchange reconstruction would take 3 to 4 years to complete.

Construction-Related Traffic Diversion

During construction traffic will be diverted from the study-area freeway system, especially during Mitchell Interchange construction when some ramps are closed for extended periods. Other freeways and local streets will experience increased traffic volumes as a result. At WisDOT's request SEWRPC analyzed the amount of traffic that would be diverted from the study-area freeway system and the routes the traffic would divert to.

In Lake, Kenosha, and Racine Counties, some traffic may divert to the frontage roads but parallel north-south routes such as USH 45 and STH 31 are not expected to see substantial increases in traffic during construction. In Milwaukee County, where traffic volumes are higher and more parallel routes are available, traffic will divert to other routes. Exhibit 4-9 illustrates the anticipated decline in traffic volumes on the study-area freeway system in Milwaukee County and corresponding increases in traffic on local streets.

The north-south portion of I-894 between the Hale and Zoo Interchanges is expected to see a 4 percent increase in traffic volumes during construction. I-94 between the Marquette Interchange and the Zoo Interchange is also expected to see a 4 percent increase in traffic.

Several local streets, especially in Milwaukee County, would experience an increase in traffic as a result of vehicles diverting from the study-area freeway system (Exhibit 4-9). Local streets that would be an increase of 5,000 vehicles per day or more are as follows:

- 27th Street
- Howell Avenue
- Loomis Road
- Forest Home Avenue
- Layton Avenue
- Howard Avenue
- Holt Avenue
- 13th Street

Transit, Pedestrian, and Bicycle Impacts

The Kenosha and Racine bus systems would not be affected by the reconstruction because they do not operate on I-94.

MCTS Freeway Flyer routes that use I-94 would be able to pass through the Mitchell Interchange using normal routes. The Freeway Flyer routes that use I-894/43 to I-94/43 may have to be diverted to another route during construction.

Local street closures and entrance and exit ramp closures may require bus route modifications. MCTS routes that pass over or under the study-area freeway system on 6th, 13th, 20th, and 27th Streets and Layton Avenue may have to be modified if these local streets are closed during construction where they pass over or under I-94.

Pedestrians and bicyclists that cross over or under the study-area freeway system may need to temporarily modify their routes during construction. As noted previously, local street closures would be staged to minimize or avoid closure of adjacent streets at the same time.

Mitigation Measures

During the design phase WisDOT and FHWA would evaluate the diversion routes to determine if improvements to these routes are necessary. In addition to roadway improvements, signal timing modifications, temporary signals, parking restrictions, intersection improvements, incident management, and demand management options may be instituted during construction to ease potential congestion and delay.

Freeway and local street lane closures would be staged to ease disruptions to the extent possible. Other mitigation measures may include:

- Workshops to determine which methods could be employed to reduce the effects of construction on area businesses, residents, commuters, community services, and special events.
- A community involvement plan to inform the public including radio, internet, print, and television.
- Encouraging the use of transit and carpooling through advertising, temporarily reduced rates, additional routes, and expanded or new park-and-ride lots.
- Encouraging businesses to modify their work schedules and/or shipping schedules to avoid peak traffic hours.
- Improving detour routes and other routes due to increased traffic resulting from construction.

4.9.4 Water Quality/Erosion

Construction in and near waterways would be performed in accordance with WisDOT Standard Specifications for Road and Bridge Construction, and Wisconsin Administrative Code Chapter TRANS 401—Construction Site Erosion Control and Storm Water Management Procedures, and the WisDOT/DNR Cooperative Agreement. Appropriate techniques and best management practices, as described in the WisDOT Facilities Development Manual, would be employed to prevent erosion and to minimize siltation to environmentally sensitive resources in the project area. Erosion control devices would be installed before erosion-prone construction activities begin.

There is potential for erosion during construction as soils are disturbed by excavation and grading. The project would use standard erosion control devices and best management practices to reduce and control the deposit of sediment into environmentally sensitive resources before erosion-prone construction begins. The construction contractor would be required to prepare an Erosion Control Implementation Plan that includes all erosion control commitments made by WisDOT while planning and designing the project. The construction plans and contract special provisions must include the specific erosion control measures agreed on by WisDOT in consultation with DNR. DNR reviews the Erosion Control Implementation Plan[6]. The following measures may be used during construction:

- Minimizing the amount of land exposed at one time
- Silt fencing
- Sedimentation traps
- Dust abatement
- Turbidity barriers
- Street sweeping
- Inlet protection barriers
- Temporary seeding
- Erosion mats
- Ditch or slope sodding
- Seeding and mulching exposed soils

[6] Erosion Control will be implemented in accordance with the WisDOT Facilities Development Manual, Chapter 10, Erosion Control and Storm Water Quality; Wisconsin Administrative Code Chapter TRANS 401, Construction Site Erosion Control and Storm Water Management Procedures for Department Actions; and the WisDOT/DNR Cooperative Agreement Amendment, Memorandum of Understanding on Erosion Control and Storm Water Management.

- Under revisions to the WisDOT/DNR Cooperative Agreement, *Memorandum of Understanding on Erosion Control and Storm water Management*, following construction disturbed land would be re-seeded with a mix of fast growing grasses. Drainage systems would be maintained, restored or re-established in a manner that would not impound water.

Additional impact mitigation techniques during construction would include the following, as needed, at a particular location:

- If dewatering is required, dirty water would be pumped into a stilling, or settling, basin before it is allowed to re-enter a stream.
- Trenched-in erosion bales would be installed in areas of moderate velocity runoff; clean-aggregate ditch checks would be installed in ditches with moderate to high velocity runoff during and after construction; and ditches would be protected with erosion bales and matting in conjunction with seeding.
- Storing and fueling of construction equipment would be done in upland areas, away from environmentally sensitive areas. Accidental spills during refueling at construction sites or as a result of an accident involving hazardous material haulers would be handled in accordance with local government response procedures. First response would be through local fire departments and emergency service personnel to ensure public safety and to contain immediate threats to the environment. Depending on the nature of the spill, the DNR would then be notified to provide additional instructions regarding cleanup and restoration of any affected resources. The cost of cleanup operations is the responsibility of the contractor or carrier involved in the spill. Further, WisDOT's *Standard Specifications* state that public safety and environmental protection measures shall be enforced by the project contractor.
- Contractors would be required to follow DNR guidelines for ensuring that construction equipment used in or near waterways is adequately decontaminated for zebra mussels and plant exotics including purple loosestrife and Eurasian milfoil.

Section 4.11.5 provides additional information regarding water quality mitigation and best management practices.

4.9.5 Vibration

Ground-borne vibration has the potential for causing impact. Because of the nature of construction activities, vibration can be felt in some nearby buildings. Blasting and impact pile driving are traditionally associated with high levels of vibration. Excavation and backfilling can generate vibration that is perceptible or noticeable in nearby buildings.

Pile driving would be required in the Mitchell Interchange, at all overpasses, and for some retaining walls.

Vibration created by the movement of construction vehicles such as graders, loaders, dozers, scrapers, and trucks are generally the same order of magnitude as the vibration caused by heavy vehicles traveling on streets and highways. In general, groundborne vibration from vehicles on streets is not sufficient to impact adjacent buildings.

Buildings that are in good structural condition would likely not be affected by construction-related vibration. WisDOT will coordinate with adjacent property owners prior to construction to determine if any buildings near construction areas are in poor structural condition. For construction work that occurs in the City of Milwaukee, which includes the Mitchell Interchange, I-894/43, the Airport Spur, and I-94 from Rawson Avenue to Howard Avenue, WisDOT will meet City of Milwaukee vibration ordinances. In communities that do not have vibration ordinances, WisDOT will comply with the Wisconsin Department of Workforce Development (formerly Department of Industry, Labor, and Human Relations) vibration regulations.

4.9.6 Material Source/Disposal Sites

Selection of material source sites would be the responsibility of the construction contractor. It is anticipated that material would be obtained from local existing quarry sites. Unusable excavated material would be disposed of by the contractor in accordance with WisDOT's *Standard Specifications for Road and Bridge Construction*, or special provisions to ensure protection of wetlands and waterways. Local zoning, reclamation plans, and other approvals may be needed for material source and disposal sites.

Soil and excavated material (including vegetation) would be stockpiled and disposed of in an upland area, away from wetlands, streams and other open water; and, where applicable, silt fence would be placed between the disposal area and wetland or any open water areas.

If any material sources are necessary to construct the project, appropriate erosion control measures would be applied to these sites during and following construction; and following use, such sites would be properly seeded, mulched, and protected from erosion.

Any portable materials plants would be properly treated to prevent erosion, and DNR would be provided an opportunity to review site plans, including any gravel washing operations, high capacity wells, and site closure/restoration.

4.10 Recreational Resources / Public Use Lands

Recreational resources and public use land adjacent to the study-area freeway system include Prairie Springs Regional Park, Root River Parkway, Falk Park, Maitland Park, the 16th and Edgerton playground, and the Lowell Elementary tot lot. Snowmobile trails and on-road bicycle routes cross the study-area freeway system.

4.10.1 No-Build Alternative

The No-Build Alternative would not acquire land from any parks or recreational resources. The study-area freeway system would not be any closer to any parks or recreational facilities under the No-Build Alternative.

4.10.2 Build Alternatives

Neither Build Alternative would require acquisition of parkland or directly affect recreational resources. The freeway or related ramps and collector-distributor roads would be closer to several parks under the Build Alternatives.

- **Prairie Springs Regional Park, Village of Pleasant Prairie:** An undeveloped portion of this park abuts the I-94 east frontage road. The frontage road would be reconstructed and may be a few feet closer to the park boundary. There would be no difference in impacts between the two Build Alternatives.
- **Root River Parkway, Milwaukee County:** Root River Parkway abuts the east side of the I-94 right-of-way. The I-94 bridge over the Root River would be reconstructed but no right-of-way from the Root River Parkway would be required. The Safety and Design Improvements with Added Capacity Alternative would be approximately 12 feet closer to the parkway boundary than the Safety and Design Improvements Alternative.
- **Falk Park, Milwaukee County:** Falk Park abuts the west side of I-94 for nearly a mile between Drexel Avenue and Rawson Avenue. No right-of-way would be acquired from the park but the reconstructed freeway would be closer to the park boundary. Under the Safety and Design Improvements with Added Capacity Alternative the freeway would be approximately 12 feet closer to the park boundary than under the Safety and Design Improvements Alternative. See Section 4.10.3 and Section 5 for more information about potential impacts to Falk Park.
- **Maitland Park, Milwaukee County:** Maitland Park abuts the east side of I-94 between College Avenue and the Airport Spur. No right-of-way would be acquired from the park but the reconstructed freeway would be closer to the park boundary. Under the Safety and Design Improvements with Added Capacity Alternative the freeway would be approximately 12 feet closer to the park boundary than under the Safety and Design Improvements Alternative.
- **16th and Edgerton Playground, City of Milwaukee:** The playground abuts the east side of I-94 at Edgerton Avenue. No right-of-way would be acquired from the playground but the reconstructed freeway would be closer to the park boundary under both Build Alternatives. Although the freeway would be closer to the playground, the existing noise wall between the playground and freeway would be reconstructed within a few feet of its current location.
- **Lowell Elementary Tot Lot, City of Milwaukee:** The Mitchell Interchange ramp carrying I-43 SB (the closest ramp to the tot lot) would be approximately 320 feet away from the tot lot under both Build Alternatives compared to approximately 130 feet away today.

Under both Build Alternatives portions of two small (1 acre or less) areas enrolled in the NRCS Conservation Reserve Program would be acquired near CTH G in Racine County. Total acquisition from the CRP land would be approximately 1 acre.

4.10.3 Drexel Avenue Interchange

If an interchange with I-94 is built at Drexel Avenue, approximately 2 acres would be acquired from the south end of Milwaukee County's Falk Park. See Section 5 for more information. The land that would be acquired is enrolled in NRCS's Conservation Reserve Program. No trails or other recreational resources would be affected.

4.10.4 27th Street Interchange

No parks or recreational facilities would be affected by a new full interchange with I-94 at 27th Street. The NB exit ramp from I-94 would be only a few feet from the Root River Parkway boundary. The design was modified to avoid acquisition from the parkway. No recreational facilities are located in this portion of the parkway.

4.11 Measures to Minimize Adverse Effects

4.11.1 Traffic Management

See Section 4.9.3, Traffic/Conceptual Construction Staging.

4.11.2 Aesthetics

Although the Build Alternatives would not have an adverse affect on aesthetics, WisDOT is studying community sensitive design enhancements within the study area.

WisDOT formed a Community Sensitive Design Advisory Committee (CSDAC) for Racine and Kenosha Counties in January 2007. The CSDAC met several times over the course of this study. The community-sensitive design process is intended to ensure that the structures in the corridor reflect the architectural themes and styles of the surrounding communities and landscapes. The CSDAC meetings are intended to identify potential aesthetic treatments and beautification measures that could blend the I-94 corridor into the surrounding environment. Incorporating community sensitive design treatment elements into the Build Alternatives would result in visual change.

The CSDAC identified a wide realm of potential aesthetic enhancement treatments that are intended to better integrate the I-94 corridor into the surrounding landscape. The committee determined that both Racine and Kenosha Counties favored the same appearance (prairie style) and that the STH 50 and STH 20 interchanges should be focal points. WisDOT will carry the community-sensitive design process forward into the design phase in order to implement community-sensitive design measures.

A community sensitive design committee was formed for Milwaukee County in 2008. WisDOT will work with DNR and community stakeholders during the design phase to develop appropriate aesthetic enhancements to the corridor.

4.11.3 Noise

Based on the criteria of 23 CFR 772 and within the framework of WisDOT's criteria, various methods were reviewed to mitigate the noise impact of the proposed improvements. Among those considered were restricting truck traffic to specific times of the day, prohibiting trucks, altering horizontal and vertical alignments, property acquisition for construction of noise berms, property acquisition to create buffer zones to prevent development that could be adversely impacted, insulating public use or nonprofit institutional buildings, berms, and sound barriers.

Restricting or prohibiting trucks is counter to the project purpose and need. Design criteria and recommended termini for the proposed project preclude substantial horizontal and vertical alignment shifts that would produce noticeable changes in the projected acoustical environment. Due to right-of-way limitation the construction of

noise berms is neither feasible nor reasonable. Therefore, only the construction of noise barriers was reviewed. Abatement is recommended only when it is feasible and reasonable to construct a noise barrier.

TRANS 405, Siting Noise Barriers, has established criteria for determining feasibility and reasonableness and is summarized as follows:

- The barrier must provide a minimum 8-dB reduction.
- The total cost of the barrier may not exceed $30,000 per abutting residence.
- There must be a formal resolution from the local government supporting the noise barrier.
- The local government must provide documentation of land use controls, which would reasonably eliminate the need for noise barriers adjacent to future developments that abut freeways or expressways.

Noise barriers were analyzed at 25 locations adjacent to the study-area freeway system. The results of the barrier analysis, including barrier location, future L_{eq}(1h) noise levels without and with a barrier, barrier length and height, estimated cost, the number of residential units benefited, the noise reduction provided by the barrier and the cost per residential unit are presented in Table 4-19. All of the noise barriers analyzed meet WisDOT's feasibility criteria. However, only 12 noise barriers meet both TRANS 405's definitions for feasible and reasonable noise mitigation under the Safety and Design Improvements Alternative. Under the Safety and Design Improvements with Added Capacity Alternative, 15 noise walls meet both TRANS 405's definitions for feasible and reasonable noise mitigation.

There are numerous areas adjacent to the study-area freeway system where individual receptors or small groupings of residences exceed the NAC, especially in Kenosha and Racine Counties. However, it is impossible to design a noise barrier for these receptors that would provide an 8-decibel reduction and still meet the TRANS 405, $30,000 per residence criteria.

The 66 dBA L_{eq}(1h) setback distance along undeveloped areas abutting the study-area freeway system would be 750 feet for the Safety and Design Improvements Alternative and 940 feet for the Safety and Design Improvements with Added Capacity Alternative. The setback distance indicates that noise levels within these distances, measured perpendicular to the centerline of the nearest lane in either direction, is 66 dBA or greater. This setback distance was developed to assist local planning authorities in developing land use control over the remaining undeveloped lands along the project in order to prevent further development of incompatible land use. Noise mitigation for future developments constructed within the setback distance will be the responsibility of the local communities or the developer.

Based on the study, and as shown in Table 4-19, WisDOT intends to replace the existing noise barriers and install the additional feasible and reasonable noise barriers. If final design results in substantial changes in roadway design from modeled conditions, noise abatement measures will be reviewed.

During the public comment period on the DEIS, comments on noise concerns were solicited at public meetings from local residents, and officials of the jurisdictions affected by the project.

Based on the study completed and as shown in Table 4-19, WisDOT intends to replace the existing noise barriers as required by the widening of I-94.

WisDOT also commits to installing the additional feasible and reasonable noise barriers shown in Table 4-19, pending future public and local government involvement. A final decision on the installation of new abatement measures will be made upon completion of the project design and a separate public/local unit of government involvement process.

If final design results in substantial changes in roadway design from modeled conditions, noise abatement measures will be reviewed.

4.11.4 Property Acquisition

Federal property acquisition law provides for payment of just compensation for businesses and residences displaced for a federally funded transportation project (Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, as amended [Uniform Act]). Acquisition price, replacement dwelling costs, moving expenses, increased rental or mortgage payments, closing costs, and other relocation costs are covered for residential displacements. Acquisition and relocation costs for business displacements are also covered under federal law. State law (Wisconsin's Eminent Domain Law under Section 32.05, Wisconsin Statutes) would cover increased rental or mortgage payments and closing costs for businesses.

Under state law, no person or business would be displaced unless a comparable replacement dwelling, business location, or other compensation (when a suitable replacement business location is not available) would be provided. Compensation is available to all displaced persons without discrimination.

Property acquisition not involving residential, business, or other building relocations is also compensated in accordance with state and federal laws. In consultation with the owners, the value of affected land would be appraised, and the owner compensated at fair market value. Owners are given the opportunity to obtain an independent appraisal. In the event agreement on fair market value cannot be reached, the owner would be advised of the appropriate appeal procedure.

Any septic tanks, drain fields, or wells on acquired properties would be abandoned in accordance with state regulations and local zoning standards. WisDOT will survey all buildings that will be demolished to determine whether asbestos or lead paint is present. All appropriate and applicable engineering and regulatory controls will be followed during the handling and disposal of asbestos-containing material and lead-based paint. Contractors must comply with the requirements of the U.S. EPA regulations, National Emission Standards for Asbestos, the Occupational, Safety, and Health Administration regulations on asbestos removal, all applicable regulations, and local government regulations.

TABLE 4-19
Acoustical Mitigation—Noise Barrier Locations Analyzed

Barrier Number	Locations	Existing L_{eq}(1h) Noise Levels, dBA	Range of Future L_{eq}(1h) Noise Levels, dBA		Noise Reduction (dB)	Barrier Characteristics		Cost[a]	Number of Units Attenuated	Cost/ Unit	Feasible and Reasonable	
			w/o Barrier	Barrier		Length (ft)	Height (ft)				6 - Lane	8 - Lane
1	West of I-94 and south of 12th Street (CTH E Kenosha County), Sta. 541 to 548L	75-76	75-76	67-68	8	700	15-18	$224,100	3	$74,700	N	N
2	West of I-94 and north of Spring Street (CTH C-Racine County), Sta. 891 to 906L	70-75	69-75	65-68	4-8	1,500	15-21	$523,800	4	$130,950	N	N
3	East of I-94 at Bell Road (Racine County), Sta. 1101 to 1119R	71-75	72-75	65-67	7-9	1,800	9-15	$432,000	7	$61,700	N	N
4	East of I-94 and north of Oakwood Road, Sta. 187 to 212+70R	68-74	67-73	60-62	5-11	2,600	12-18	$711,450	16	$44,500	N	N
5	West of I-94 between Ryan Road and Puetz Road, Sta. 253+50 to 269+20L	70-76	69-75	64-65	5-11	1,600	15-18	$484,860	17	$28,550	N	Y
6	East of I-94 and south of Puetz Road, Sta. 288 to 295+85R	75-76	72-76	66-73	4-7	800	18	$257,420	3	$85,800	N	N
7	East of I-94 between Puetz Road and Drexel Avenue, Sta. 316 to 340R	71-76	69-76	63-68	6-10	2,400	9-15	$538,650	18	$29,925	N	Y
8	East of I-94 and north of Rawson Avenue, Sta. 409+20 to 417+70R	68-71	66-71	61-63	5-8	860	21	$325,080	8	$40,635	N	N
9	West of I-94 between Rawson Avenue and College Avenue, Sta. 975+50 to 1012L	59-70	66-76	59-66	7-11	3,700	12-21	$944,250	62	$15,230	N	Y
10	East of I-94 and north of College Avenue, Sta. 1018+50 to 1034+25R	57-63	58-71	59-65	6-11	1,930	15-21	$683,600	24	$28,500	Y	Y
11	West of I-94, Airport Spur to north of College Avenue	64-69	69-75		6-8	2,700	15-21	$874,800	30	$29,160	Y	Y
12	East of I-94 and south of Airport spur, Ramsey to 13th Street	64-68	68-70	66-70	5-10	2,100	6-15	$423,300	9 + School	$42,300	Y	Y

TABLE 4-19 (CONTINUED)
Acoustical Mitigation—Noise Barrier Locations Analyzed

Barrier Number	Locations	Existing L_{eq}(1h) Noise Levels, dBA	Range of Future L_{eq}(1h) Noise Levels, dBA		Noise Reduction (dB)	Barrier Characteristics		Cost[a]	Number of Units Attenuated	Cost/ Unit	Feasible and Reasonable	
			w/o Barrier	Barrier		Length (ft)	Height (ft)				6 - Lane	8 - Lane
13	North of Airport Spur and east of I-94, 13th Street to Grange	62-67	67-79	64-69	5-9	2,250	10-20	$580,500	23	$25,240	Y	Y
14	West of I-94 and south of Grange Avenue	64-68	72-79		3-8	1,100	10-12	$217,800	3	$72,000	N	N
15	West of I-94, south of Layton to Grange	62-69	71-81		4-15	4,900	15-21	$1,420,900	48	$29,600	Y	Y
16	East of I-94, Grange to south of Layton Avenue	60-76	66-80	62-72	6-12	5,300	14-21	$1,812,600	64	$28,400	Y	Y
17	East of I-94 and north of Layton Avenue, Cudahy Avenue to 13th Street	61-70	69-78	63-73	5-14	2,625	15-21	$872,800	21	$41,570	N	N
18	West of I-43/94, 13th Street to west of 16th Street	63-76	66-77		6-13	1,700	15-19	$520,200	18	$28,900	Y	Y
19	West of I-43/94, Norwich Street to Railway	70-77	67-78	59-63	6-15	4,600	6-21	$1,327,450	50	$26,550	Y	Y
20	East of I-94/43 and south of Howard Avenue, 5th Street to Waterford avenue	71-78	67-77	60-68	6-9	1,340	6-15	$251,900	15	$16,800	Y	Y
21	South of I-94/43 and east of 20th Street, Sta. 132+50 to 141+85R	76-77	75-78	64-71	7-11	800	9-12	$144,950	10	$14,500	Y	Y
22	South of I-43/894 between 27th Street and 20th Street	69-72	66-69	59-61	7-8	1,550	15-21	$509,900	10	$51,000	N	N
23	North of I-94/43 and west of 20th Street, Sta. 72+25 to 88+50R	66-72	66-71	60-63	6-9	1,630	9-18	$440,300	15	$29,350	Y	Y
24	South of I-43/894 and west of 27th Street	66-74	69-74	61-66	8-9	1,600	12-21	$507,000	18	$28,200	Y	Y
25	North of I-43/894 and west of 27th Street	65-69	66-73	59-63	7-10	1,900	12-15	$482,000	11	$43,820	N	N

[a] Based on $18.00 per square foot

The most recent editions of all applicable standards, codes, or regulations shall be in effect. In addition, any person performing asbestos abatement must comply with all training certification requirements, rules, regulations, and laws of the State of Wisconsin regarding asbestos removal.

Before a contractor demolishes a building that may contain or is known to contain asbestos, the contractor must properly notify the DNR and Wisconsin Department of Health and Family Services at least 10 working days before starting the work, using DNR Form 4500-113 "Notification of Demolition and/or renovation and Application for Permit Exemption."

4.11.5 Water Quality

Storm water treatment measures will be evaluated during the project's design phase.

Best management practices (BMPs) can be utilized when dealing with storm water management. BMP options include:

- Retention Basins (Wet Detention Basins)—Retention basins have a permanent pool of water year-round. The permanent pool allows pollutant particles in storm water runoff to settle out over an extended period of time and nutrient uptake also occurs through biological activity. This BMP will be unavailable for most of the Milwaukee County portion of the project because of proximity to GMIA. Federal Aviation Administration guidelines (FAA Advisory Circular N. 150/5200-33A, July 27, 2004) restrict construction of open water ponds near airports (the ponds attract birds, which pose a risk for aircraft). WisDOT has identified about 7 to 9 locations in Kenosha and Racine Counties where wet detention basins/ponds may be located outside of the existing right-of-way. Each would be 1 to 2 acres and would be located adjacent to the frontage roads. The exact size and locations have not been determined. Potential locations are illustrated on Exhibit 2-2 and 2-3 at the back of the document.
- Dry Detention Basins—A dry detention basin is typically designed to store runoff volume and discharge it slowly to reduce the peak discharge downstream. As normally designed, these basins typically have little effect on the volume of storm water released to the receiving water. The peak flow reduction is often accomplished through use of a multistage outlet structure that allows increased discharge as water levels in the basin increase.
- Infiltration Devices—Infiltration can be achieved through use of infiltration basins, trenches, grass swales or rain gardens. Infiltration devices are used to slow down the water flow so that more water is absorbed into the ground and more pollutants are removed from runoff.
- Grass Ditches—This BMP generally helps reduce suspended solids to meet the regulatory goal of TRANS 401. The majority of the storm water quality control in Racine and Kenosha Counties and the southern part of Milwaukee County will be achieved with this BMP.
- Trapezoidal Swale through Infield—This BMP may be used within airport zones where wet detention is not allowed. It combines grass ditch treatment with peak flow reduction and is considered the same level of suspended solid control as grass ditches.

- Vegetated Rock Filters—This BMP may be used at outfalls to waterways or anywhere concentrated runoff leaves the right of way. It is similar in concept to a level spreader which attempts to reintroduce sheet flow and also provides a small amount of peak flow and volume reduction.
- Swale Blocks/Ditch Checks—These are small earthen berms constructed in the bottom of a ditch at regular intervals to detain runoff from frequent storms. This BMP provides peak flow reduction and may provide infiltration benefits depending on soil conditions.

4.11.6 Floodplain and Hydraulics

All structures would have adequate capacity for 100-year flood flow without public or emergency vehicle interruption from damage to the roadway or structures. None of the floodplain crossings would cause a substantial potential for interruption or termination of a transportation facility needed for emergency vehicles or the community's only evacuation route. Crossings would be consistent with local floodplain management goals and objectives. Impacts to natural and beneficial floodplain values would be minimized to the extent practicable by:

- Avoiding impacts to the Des Plaines River floodplain between STH 50 and CTH C in Kenosha County, where the majority of the project's floodplain impacts would occur. Under both Build Alternatives the frontage roads would stay in their existing alignment at this location. Impacts to floodplain associated with the Des Plaines River and its tributaries would otherwise occur if the frontage roads were relocated further away from the mainline.
- The Build Alternatives would minimize distance for separation between the mainline and frontage roads to minimize further encroachment into floodplain located on the outside of the frontage roads.

Many of the communities in the project corridor allow compensatory storage when a project causes an encroachment into the floodplain. The amount of compensation varies by community and can vary based on whether the impact is to the flood fringe or floodway.

The WisDOT/DNR Cooperative Agreement describes WisDOT's responsibilities related to projects that cause an encroachment into mapped flood hazard areas. WisDOT is required to compute the 100-year regional flood elevation for all new or replacement culverts and provide the results of the analysis to DNR. If an increase in backwater results, WisDOT is required to notify all affected landowners upstream of the project by certified letter, return receipt requested. The local zoning authority must also be notified of the project even in cases with no increase in elevation. When a floodplain ordinance is in effect, "appropriate legal arrangements" are required, which may include certified verification from the affected property owners that notification letters were received; acquisition of property rights or other compensation; or initiation of condemnation proceedings. DNR is responsible for providing assistance to the local unit of government or floodplain zoning authority during the ordinance amendment process. DNR notifies WisDOT if significant problems arise during the amendment process that could affect the project schedule. If a community fails to amend its ordinance within a timely manner and if appropriate legal arrangements have been made, WisDOT may proceed with construction of the project after consultation with DNR. The entire text of the Agreement can be found in the FDM, Procedure 20-30-1.

4.11.7 Wetlands—Only Practicable Alternative Finding

This section describes wetland impacts for the preferred alternative; how impacts were avoided or minimized to the extent practicable; measures to minimize harm to wetlands that cannot be avoided; and the wetland compensation plan for unavoidable wetland loss.

Basis of Finding

Presidential Executive Order 11990, Protection of Wetlands, requires federal agencies to avoid, to the extent practicable, long- and short-term adverse impacts associated with the destruction or modification of wetlands. More specifically, the Order directs federal agencies to avoid new construction in wetlands unless there is no practicable alternative. The order states that where wetlands cannot be avoided, the proposed action must include all practicable measures to minimize harm to wetlands.

The Clean Water Act's Section 404(b)1 Guidelines for Specification of Disposal Sites for Dredged or Fill Material (40 CFR Part 230) are administered by U.S. EPA and the Corps. The guidelines state that dredged or fill material should not be discharged into aquatic ecosystems (including wetlands), unless it can be demonstrated that there are no practicable alternatives to such discharge; that such discharge will not have unacceptable adverse impacts; and that all practicable measures to minimize adverse effects are undertaken.

Summary of Alternatives Considered

See Section 2 for a description of the alternatives considered and the preferred alternative. Under the No-Build Alternative no improvements would be made to the study-area freeway system. Although no wetlands would be affected under the No-Build Alternative, it was eliminated from consideration because it does not meet the project's purpose and need.

Under the Build Alternatives evaluated in detail, approximately 52 acres of wetlands would be affected. The wetland impacts of the Safety and Design Improvements Alternative (6-lane) and the Safety and Design Improvements with Added Capacity Alternative (8-lane) would be the same. Two interchanges that are part of the preferred alternative would impact additional wetland. A full interchange with I-94 and 27th Street would impact 1 acre of wetland, and the Drexel Avenue interchange would affect 4 acres of wetland.

As a result, the preferred alternative (Safety and Design Improvements with Added Capacity), along with the proposed full interchange at I-94 and 27th Street and the Drexel Avenue interchange, would affect a total of approximately 56.7 acres of wetland. Of that total, approximately 7 aces are ADID wetlands, and the remaining 49.7 acres are non-ADID wetland. Six acres of the 7-acre ADID wetland impact are wetlands already in the existing WisDOT right-of-way.

Exhibit 4-8 lists the wetland impacts of the preferred alternative, broken down by the mainline (Build Alternative), full interchange at 27th Street, and Drexel Avenue interchange. Table 4-15 lists wetland impacts by wetland type.

Determination of No Practicable Alternative

The preferred alternative was selected as the most practicable alternative based on engineering and environmental evaluation, public input, and agency coordination. It is considered to be the "environmentally preferred alternative" providing a balance among

sound engineering design, long-term travel demand and safety concerns in the I-94 north-south corridor, and minimizing adverse impacts to adjacent residences, businesses, farmland, and natural resources, including wetlands.

Measures to Minimize Harm

In accordance with state and federal agency policies and regulations for wetland preservation, including the *Section 404(b)(1) Guidelines for Specifications of Disposal Sites for Dredged or Fill Material* (40 CFR part 320) the following discussion summarizes wetland mitigation strategies for the I-94 North-South Corridor Study.

Avoid and Minimize Wetland Impacts. Because wetlands are scattered along both sides of the study-area freeway system, including in the ditches that drain the freeway, it is not possible to avoid wetland impacts completely where expansion is recommended.

Of the 169 wetlands identified within the project corridor, impacts to 41 wetlands, totaling 100 acres, would be avoided for both Build Alternatives. Six of these avoided wetlands lie within the primary environmental corridor and, as a result, are considered to be ADID wetlands. These wetlands are located in Kenosha County and are located in roadside ditches or wetland complexes that are associated with tributaries to the Des Plaines River. Efforts to avoid and minimize impacts to ADID wetlands are given strong consideration because of the functions they perform due to their geographic position in the landscape. For example, a wetland within the primary environmental corridor can be degraded floristically, but still be considered an ADID wetland due to the function it provides at that location, such as providing flood storage adjacent to a river.

Other ADID and non-ADID wetlands have been avoided due to efforts made during development and refinement of the alternatives:

- WisDOT plans to keep the frontage roads in their existing alignment at the Des Plaines River and I-94. Wetland impacts at the CTH C interchange near the Des Plaines River were addressed in a previous Environmental Assessment.
- In other areas where the frontage roads will be reconstructed outside their existing alignment, they will meet the minimum WisDOT standard for separation between freeways and frontage roads. WisDOT chose to provide the minimum separation rather than the desirable separation in order to minimize impacts to residences, businesses, and natural resources, including wetlands.
- The new full interchange with I-94 at 27th Street near the Racine/Milwaukee County line was moved north about 1/2 mile from the location of the existing half interchange, in order to avoid impacts to wetlands and floodplain in the Root River corridor.

During the project's design phase, WisDOT will investigate additional measures to minimize wetland impacts such as keeping roadway side slopes as steep as practicable; disposing of excavated material on new roadway side slopes or in upland areas; minimizing sedimentation and siltation into adjacent wetlands by using strict erosion control measures; and using detention ponds, where allowed, to reduce pollutant loading and protect cold-water communities from sedimentation. One area where preliminary design has begun is at the College Avenue interchange with I-94. WisDOT and FHWA are designing the slope adjacent

to wetland W6-9 with 3:1 slopes (steeper than the typical 4:1 slopes) to minimize the impact to wetland W6-9 by an estimated 0.5 acre.

Wetland Compensation. Compensation for unavoidable wetland loss will be carried out in accordance with the interagency Wisconsin Department of Transportation Wetland Mitigation Banking Technical Guideline (Guideline) developed as part of the WisDOT/DNR Cooperative Agreement on Compensatory Wetland Mitigation. A wetland mitigation plan will be developed during the project's design phase, in consultation with state and federal agencies.

WisDOT developed the Guideline in 1993 and updated it in 1997 and 2002 in cooperation with DNR, Corps, U.S. EPA, FWS, and FHWA. Through the Guideline, these agencies established a statewide policy regarding the sequence of activities required for WisDOT to compensate for wetland losses. Specifically, the Guideline states "preference should be given for compensatory mitigation accomplished in the vicinity of the impacted area (onsite). Where such opportunities are not present or practical, in-watershed (near-site) opportunities should be explored."

For those cases in which onsite or near-site opportunities for wetland mitigation are not available, WisDOT can debit the wetland loss at the closest established wetland mitigation bank. Since the time at which the Guideline was developed, "onsite" has been typically interpreted as being within 1/4 mile of the wetland impact, while "near-site" has been interpreted as within 2 1/2 miles of the wetland impact area. Therefore, a mitigation site search for a linear corridor, such as the I-94 north-south corridor, would encompass a 1/2-mile-wide corridor centered on the highway and expand to a 5-mile-wide corridor if onsite opportunities were not available.

The Guideline provides ratios for wetland replacement versus wetland loss depending on where the mitigation is to be provided. The replacement ratios increase with the mitigation site's distance from the impacted wetland. WisDOT increases the ratio for ADID wetland impacts by 0.5 acre if replacement wetlands are non-ADID; the replacement ratios for ADID wetland debits in that instance is therefore 1/2 acre higher per acre of wetland loss compared to non-ADID wetlands (i.e., 2:1 instead of 1.5:1).

Searches for potential wetland mitigation compensation sites for future wetland losses in the I-94 north-south corridor have been performed from 1995 to the present. The site search began in the "onsite" corridor associated with I-94 and has since been expanded to include in excess of 500 square miles. The results of those site search efforts have been the subject of three separate reports. WisDOT's commitment to find potential sites has been long-term and extensive, as well as beyond the Guidelines requirements. WisDOT uses preliminary investigative tools such as Federal and State Wetland Inventory Maps, soil survey maps, federal and county hydric soils lists, SEWRPC aerial photos, USGS 7.5 quadrangle maps, and Kenosha/Racine plat maps. Other criteria include geographic location in the landscape; adjacent wetlands and streams; degree of isolation and abutting development; hydrologic connection between adjacent number of property owners; and potential for long-term ownership and maintenance by public entities. Parcels that meet the criteria for preliminary screening are field reviewed to determine prior converted status; hydric soils; depth to bedrock greater than 5 feet; jurisdictional wetland status; access of publicly-owned road/right-of-way; willing seller status, proximity to public/conservancy lands; hydrology

features (tiles, ditches) that could be disabled to allow for restoration of the site; and degree of dominance of invasive species that could prove problematic for long-term management.

1995 – Pre-Design Planning. WisDOT had a selected site adjacent to I-94 in Section 19 in the Village of Pleasant Prairie. This site contains 80 acres of prior-converted wetlands being used for agriculture and would have compensated for all future wetland impacts associated with the I-94 projects. Unfortunately, funding was not made available to WisDOT for purchase of this site when it became available. The site was dropped from consideration due to funding issues and has since converted to a thriving wetland adjacent to I-94 and the Des Plaines River. Since the original site searches, the I-94 corridor has seen tremendous growth; many potential sites have either been developed or have reverted to wetland.

1999 – DOT Hired a Wetland Consultant. The wetland consultant revisited the mitigation site search in accordance with the Wetland Banking Guidelines, including all lands within 2.5 miles (5-mile width) of I-94 from the Milwaukee/Racine County border to the north to the Wisconsin/Illinois state line to the south. Within approximately 144 square miles, three sites were identified—two were unwilling sellers, and, with further investigation, the third site was determined to be problematic from a restoration standpoint.

2000 – Extended Site Search. WisDOT conducted an additional site search extending an additional 2.0 miles west from the boundary of the original site search performed in 1999 to include an additional 48 square miles. Of 47 sites investigated, one site with good restoration potential was identified. The current site owner has internal operation issues that need to be resolved prior to making a commitment to sell. WisDOT has maintained contact and met with representatives of the current site owner several times over a period of years to discuss the parcel. In addition, WisDOT has continued to field review the parcel to assess its restoration potential. The owner remains unwilling to sell at this time; however, they have not ruled out selling at a later date.

2006 – Extended Site Search 2. WisDOT conducted a final search that encompassed a 10-mile wide corridor centered on I-94 from the Milwaukee/Racine County line to the Wisconsin/Illinois state line**.** The study area included approximately 500 square miles; all sites identified in previous studies were revisited. A total of 276 sites were screened for restoration potential. Of 11 potential sites, which were identified during a preliminary review of area mapping, the majority had converted to wetland or had been developed. The number one ranked site remains the parcel abutting the Des Plaines floodplain identified in the 2000 Extended Site Search; WisDOT will continue its efforts to pursue this parcel.

WisDOT is pursuing the acquisition of a new consolidated wetland mitigation parcel in the Fox River watershed; however, once the proposed acquisition is finalized, the restoration of this parcel will not be constructed for approximately 5 years. In addition, WisDOT has an established statewide wetland mitigation bank located in Walworth County that has remaining acreage available for credit. Debiting wetland acreage credits from this bank to mitigate for the wetland losses from the I-94 north-south corridor project is in accordance with the terms of the Guideline.

Also, Federal Aviation Administration Advisory Circular No. 150/5200-33B, *Hazardous Wildlife Attractants on or Near Airports* (2007) states that wetlands and detention basins constructed within 10,000 feet of an airport used by jet-fueled aircraft or within 5,000 feet of an airport used

by non-jet fueled aircraft should not contain permanent pools of water and should drain dry within 48 hours after a rainfall event. This guidance means that constructed wetlands are not allowed between the STH 50 and STH 142 interchanges in Kenosha County, the STH 11 interchange in Racine County, and from Rawson Avenue to the eastern portion of the 27th Street interchange and the northern project limits in Milwaukee County (Exhibit 4-7a).

Wetland Finding. Based on the above considerations in accordance with Presidential Executive Order 11990 and the Clean Water Act Section 404(b)1 Guidelines, it is determined that there is no practicable alternative to the proposed construction in wetlands and that the proposed action includes all practicable measures to minimize harm to wetlands that may result from such use.

4.11.8 Threatened and Endangered Species

WisDOT and DNR met on January 31, 2007, to discuss potential impacts to state threatened and endangered species and appropriate mitigation measures for unavoidable impacts (see Appendix C, page C-6).

Plants

A conservation plan will be developed in cooperation with the DNR Bureau of Endangered Resources that will address conservation measures required in the proposed project area for the state threatened seaside crowfoot. All populations of the state threatened plant occurring in the construction footprint will be avoided, if possible, and if this is not possible impacts to this species will be minimized to the extent practicable. An incidental take authorization will be required for unavoidable impacts to the listed plant species. The authorization requires a determination that this loss would not jeopardize the continued existence and recovery of the species in the state. WisDOT will develop a plan to relocate those plants that cannot be avoided.

WisDOT will avoid impacts to all but about 15 plants in a key bluestem goldenrod patch in Milwaukee County. The state endangered plants that cannot be avoided will be addressed through the incidental take process. No other known protected plant species will be affected. DNR recommends relocating two special concern plant species, although DNR acknowledges that WisDOT is under no obligation to do so because the plants are not designated as threatened or endangered. WisDOT may voluntarily relocate some of the two special concern plants that would be affected.

If IDOT reconstructs I-94 in the Lake County portion of the study area, IDOT would coordinate with the Illinois Department of Natural Resources to develop appropriate mitigation measures for the state endangered alkali bulrush.

Herpetiles (Snakes and Turtles)

In cooperation with DNR Bureau of Endangered Resources, WisDOT will prepare a plan to avoid or minimize impacts to the Blanding's turtle and eastern massasauga rattlesnake in southern Kenosha County. Installing fencing around construction areas and hand collecting Blanding's turtles and eastern massasauga rattlesnakes from inside the fencing will be a key element of the plan.

Pending the outcome of DNR's genetic testing of Butler's garter snakes in southern Milwaukee County, WisDOT may develop mitigation measures for the Butler's garter

snake. WisDOT and DNR agreed at the January 31, 2007, meeting to wait for the results of this genetic testing before developing mitigation measures.

Mussels

DNR surveyed the Root and Des Plaines Rivers near I-94 for mussels in 2007. No mussels were found.

Fish

WisDOT will avoid in-water construction between March 15 and May 15. All in-water construction would be accomplished under "dead water" conditions, per DNR's request. During culvert installation, WisDOT will maintain stream flow such that fish passage is not interrupted. All demolition and construction will be designed to limit material falling into streams. WisDOT will attempt to remove bridge decks in sections rather than knocking it down into the waterway. If a structure must be knocked down, devices will be used to catch falling debris. Material that inadvertently enters the water will be removed. Existing bridge piers in streams would be removed down to approximate stream bed locations.

4.11.9 Permits

Chapter 30, Wisconsin Statutes, administered by DNR, requires permits for structures and deposits into navigable waters. Section 30.12(4)(a) provides an exemption to the permit requirements for WisDOT actions carried out in accordance with interagency liaison procedures to minimize the adverse effects of transportation actions on environmental resources. Liaison efforts under the WisDOT/DNR Cooperative Agreement cover project development from early corridor alignment studies through selection of a recommended alternative, design, and construction. Coordination with DNR has been ongoing while developing and refining the alternatives presented in this EIS.

Wisconsin's Endangered Species Law (Section 29.604, Wisconsin Statutes) can allow for an Incidental Take Authorization from DNR for take of individual state-listed threatened or endangered species, such as the seaside crowfoot, a state threatened plant, that is present in the I-94 north-south corridor.

Section 32.25, Wisconsin Statutes, requires that Relocation Assistance Plans for displaced residences and businesses be approved by the Wisconsin Department of Commerce.

Stream and wetland impacts are subject to permits under Section 404 of the Clean Water Act. This permit program, administered by Corps, covers the discharge of fill material into waters of the United States, including wetlands. Issuance of Section 404 permits is contingent on receipt of water quality certification from DNR under Section 401 of the Clean Water Act, and Wisconsin Administrative Code Chapter NR 299.

Another Clean Water Act provision that governs the discharge of dredged or fill material is provided in the Section 404(b)(1) Guidelines for Specification of Disposal Sites for Dredged or Fill Material (40 CFR Part 230), administered by U.S. EPA and Corps. The guidelines are premised on the mandate that dredged or fill material should not be discharged into aquatic ecosystems (including wetlands) unless it can be demonstrated that there are no practical alternatives to such discharge, that such discharge will not have unacceptable adverse impacts either individually or in combination with known and/or probable impact of other activities, and that all practicable measures to minimize adverse effects are undertaken.

Wetlands located in primary environmental corridors as defined by SEWRPC, are included in U.S. EPA's ADID program. Such wetlands are considered unsuitable for discharge of dredged or fill material unless it can be demonstrated that there are no practicable alternatives to the discharge.

4.12 Relationship of Local and Short-Term Uses versus Long-Term Productivity

Highway construction projects require the investment or commitment of resources in the project area. Short-term uses refer to the immediate consequences of the project while long-term productivity relates to its direct and indirect effects on future generations.

The No-Build Alternative would involve minimal short-term and localized construction impacts associated with pavement and structure maintenance and spot safety improvements. However, projected traffic growth in the study area would further reduce the operational efficiency of the existing highway, resulting in reduced safety and mobility, and the possible loss of economic growth opportunities.

The short-term consequences of the Build Alternatives include:

- Removing private property from local tax base, thereby reducing the local tax base.
- Committing public funds to construct the highway improvements. Because highway funding is derived mainly from vehicle user fees and motor fuel taxes, those using the highway ultimately pay for the improvements.
- Converting residential and commercial land, wetland, farmland and other uses to transportation.
- Displacing residences. Although displacement costs would be reimbursed through state and federal relocation assistance programs, displaced residents may relocate outside the project area, thus reducing the local tax base.
- Right-of-way acquisition from some residential properties may result in non-conforming lot sizes and residences that are closer to the study-area freeway system than they are today.
- Inconvenience and added travel time during the construction period for through and local traffic, area residents and businesses.
- Generating construction noise and dust that may affect residences, schools and businesses near construction areas.

Some long-term benefits of the Build Alternatives include:

- Reducing congestion and increased safety.
- Converting existing highway right-of-way to non-highway use, for possible redevelopment based on local input.
- Increasing operational energy efficiency.

- Adding roadway capacity to address future traffic demand (in the case of the Safety and Design Improvements with Added Capacity Alternative).

The local short-term impacts and use of resources by the Build Alternatives are consistent with maintenance and enhancement of long-term productivity.

4.13 Irreversible and Irretrievable Commitments of Resources

The No-Build Alternative would involve substantial commitments of resources to maintain the existing, deteriorating pavement and structures and to make spot safety improvements. Under the Build Alternatives, land acquired for highway construction is considered an irreversible commitment during the time period such land is used for highway purposes. Considerable amounts of fossil fuel, labor, and highway construction materials such as cement, aggregate, and asphaltic material would be required. Considerable labor and natural resources would be used in the fabrication and preparation of construction materials. These resources generally are not retrievable. However, they are expected to remain in adequate supply.

Expenditure of public funds for construction of the Build Alternatives is considered an irretrievable commitment. In addition, land converted from private to public use would reduce local tax revenues.

As an alternative to total use of new resources, full consideration will be given to utilizing clean construction demolition materials and recycled cement or asphaltic materials. Depending on current technology at the time the project would be constructed, alternative types and sources of materials may be available.

The proposed commitment of resources is based on the concept that residents in the study area, region, and State would benefit by the improved quality of the highway. Benefits, which are expected to outweigh the commitment of resources, will include improved safety, preservation of an important transportation corridor and, depending on the alternative selected, travel-time savings.

Exhibits

SECTION 5

Final Section 4(f) and Section 6(f) Evaluation

5.1 Introduction

The U.S. Department of Transportation's Section 4(f) law (49 USC 303) states that federal funds may not be approved for projects that use land from a significant publicly owned park, recreation area, wildlife or waterfowl refuge, or any significant historic site unless it is determined that there is no feasible and prudent alternative to the use of land from such properties, and the action includes all possible planning to minimize harm to the property resulting from such use.

Section 6(f) of the Land and Water Conservation Fund Act (LWCF) states that property purchased or developed with funds under the act may not be converted to any use other than outdoor public recreation uses. The Act also states that land required from such properties must be replaced with property of at least equal fair market value and of reasonably equivalent usefulness and location, or be compensated through other means in consultation with DNR, the agency responsible for administering the LWCF and other aspects of the Act.

Falk Park is a Section 4(f) and Section 6(f)[1] resource in the area of potential effect of both Build Alternatives and the Drexel Avenue Interchange Alternative. Falk Park would be affected if a new interchange were constructed on I-94 at Drexel Avenue. The Root River Parkway is also a Section 4(f)/Section 6(f) resource at the Milwaukee-Racine County line, but a reasonable avoidance alternative has been developed for that interchange. Falk Park and its relationship to the Build Alternative and the Drexel Avenue Interchange Alternative are discussed in Section 5.3.

Compensation is also required when right-of-way is acquired from properties purchased or developed with other federal or state funds that are designated, allocated, and administered similar to LWCF.

5.2 Proposed Action

As discussed in Section 1, Purpose of and Need for the Proposed Action, the purpose of the I-94 North-South Corridor Study is to provide a safe and efficient transportation system to serve existing and future traffic demand while minimizing disturbance to the natural and built environment. The proposed transportation improvements have the following objectives:

- Improve safety and traffic operations

[1] Wisconsin DNR, acting as the state administrator of the LWCF under authority delegated from the National Park Service, maintains that the entire park is subject to LWCF even though the potentially affected areas of Falk Park were not acquired or improved with LWCF grants. WisDOT and FHWA disagree with this interpretation of LWCF requirements but acknowledge that DNR and NPS have the responsibility to determine LWCF applicability. The same situation applies to Root River Parkway, but the proposed action will not affect this resource.

- Accommodate future traffic volumes at an acceptable level of service
- Maintain a key link within the state and regional transportation network
- Replace deteriorating pavement

The need for the transportation improvements in the I-94 north-south corridor is demonstrated through a combination of factors, including regional land use and transportation planning, system linkage and route importance, existing and future traffic volumes, safety, existing freeway conditions, and deficiencies (see Section 1 for more detailed information). As part of the proposed action, WisDOT and FHWA considered a new interchange with I-94 at Drexel Avenue, adjacent to Falk Park. In December 2007, FHWA Headquarters approved the addition of a new interchange at Drexel Avenue.

Publicly owned resources in the area of potential effect for proposed improvements to the I-94 north-south corridor are discussed in detail in Section 3.6, Recreational Resources/Public Use Lands.

5.3 Section 4(f)/6(f) Property

Falk Park is located on the west side of I-94 between Rawson Avenue and Drexel Avenue. The park and the freeway right-of-way share a property line (Exhibit 5-1). Falk Park is owned by Milwaukee County.

The park is 216 acres. It is undeveloped except for a park office/pavilion and small parking area located off Rawson Avenue and unpaved trails in the north half of the park. The pavilion is available for rent. School groups and nature groups use the northern half of the park. The County has no visitor data for Falk Park.

Much of the northern half of the park consists of a wet beech-maple forest. A roughly 13-acre dry oak-hickory forest is located in the southern half of the park. Much of the remaining southern half of the park is conservation area. Some of the conservation area is enrolled in the NRCS's Conservation Reserve Program. As part of this conversion agreement, some of this southern area of the park has been planted with prairie grasses.

Most of Falk Park was acquired with LWCF (see Exhibit 5-2). U.S. Department of Housing and Urban Development Community Development Block Grant (CDBG) funds were used in conjunction with LWCF in the northern half of the park. Falk Park had two LWCF grants according to DNR Southeast Region. Five parcels totaling 116 acres were approved in a 1975 grant and additional properties totaling 36 acres were acquired in a 1978 grant. A portion of the park along I-94 was not acquired with special funds.

A 1970s master plan for Falk Park included a golf course and athletic fields. According to the Milwaukee County Parks System, if the master plan were updated today, it would likely be very different. The County has no plans to develop any facilities in the park.

5.4 Impacts on Section 4(f)/6(f) Property

The I-94 mainline Build Alternatives (Safety and Design Improvements and Safety and Design Improvements with Added Capacity) would not require any right-of-way acquisition from Section 4(f) or 6(f) properties. Under the preferred alternative (Safety and Design Improvement with Added Capacity), the 8-lane I-94 would be approximately 12 feet closer to Falk Park than the existing 6-lane I-94.

A new interchange with I-94 at Drexel Avenue is now part of the preferred alternative. The I-94/Drexel Avenue interchange would be a diamond interchange (see Exhibit 5-3). As part of the diamond interchange configuration, the entrance and exit ramps would intersect Drexel Avenue close to the freeway in order to minimize impacts to adjacent residences and Falk Park. However, as illustrated in Exhibits 2-10 and 5-3, the interchange's southbound ramp from I-94 to Drexel Avenue would require acquisition of approximately 2 acres from the 216-acre Falk Park. The 2-acre acquisition is part of a larger area in the park that is enrolled in the Conservation Reserve Program. Milwaukee County has begun prairie restoration in this area.

5.4.1 Avoidance Alternatives

No Build Alternative

Under this alternative, the I-94/Drexel Avenue Interchange would not be built and no right-of-way would be required from Falk Park. The No-Build Alternative would not be consistent with SEWRPC regional transportation plan, *A Regional Transportation System Plan for Southeastern Wisconsin: 2035*, which recommends construction of the I-94/Drexel Avenue Interchange.

Falk Park Avoidance Alternative

WisDOT and FHWA developed this alternative to avoid Falk Park (see Exhibit 2-10). Six residences would be relocated from the west side of I-94 under this alternative, and 16 acres of right-of-way would be acquired compared to two residential relocations and 7 acres of right-of-way acquisition under the preferred diamond interchange. The City of Oak Creek opposes the Falk Park Avoidance Alternative.

Based on the additional residential relocations, increased right-of-way impacts, and local opposition, this alternative is not a prudent and feasible course of action. As a result, it has been dropped from consideration.

5.4.2 Measures to Minimize Harm

Prior to constructing the I-94/Drexel Avenue diamond interchange, WisDOT will compensate Milwaukee County for the acquisition from Falk Park. The compensation would be in accordance with the LWCF Act, administered in Wisconsin by the DNR under authority from the National Park Service. The compensation could include the transfer of land adjacent to the north end of Falk Park in the southwest quadrant of the I-94/Rawson Avenue Interchange (see Exhibit 5-3 and Section 5.4.3). The alternatives for rebuilding the I-94/Rawson Avenue interchange include ramps that are closer to the freeway than the existing ramps, resulting in a potential unneeded parcel (approximately 8 acres) of WisDOT right-of-way contiguous to

Falk Park. This transfer of land from WisDOT and Milwaukee County adjacent to the north end of Falk Park, or transfer of other parcels yet to be identified, would be used to replace the acquisition at the south end of Falk Park.

Milwaukee County could enroll the replacement land in the Conservation Reserve Program if they choose.

5.4.3 Coordination

Milwaukee County supports a new interchange at Drexel Avenue (See Appendix C, page C-29). WisDOT met with the Milwaukee County Parks System staff twice in 2006 to inform them of the project and the potential impact to Falk Park and Root River Parkway. In March 2007 and November 2007, WisDOT met with Milwaukee County Parks System staff to begin discussions on potential mitigation measures.

In November 2007, WisDOT received a letter from the Milwaukee County Parks System stating that it will continue to work with WisDOT, FHWA, and DNR during the design phase of the project to finalize appropriate mitigation for Falk Park. Although WisDOT offered excess right-of-way contiguous to Falk Park near Rawson Avenue to mitigate the Falk Park impact, Milwaukee County indicated "Milwaukee County Parks System will continue to work with WisDOT to identify suitable lands to exchange with WisDOT to accommodate the proposed interchange at Drexel Avenue." The mitigation may include other parcels than the potentially excess right-of-way near the reconstructed Rawson Avenue interchange (see Milwaukee County Parks System letter in Appendix D).

DNR will recommend approval of the Falk Park conversion to the National Park Service (see Appendix D, DNR comment number 79).

5.5 Other Section 6(f) Properties Adjacent to the Corridor

There are two other 6(f) properties in the corridor, but those resources will not be affected (Exhibit 3-13).

5.5.1 Root River Parkway

I-94 crosses over the Root River. WisDOT owns the right-of-way that the existing I-94 lies on, and no new right-of-way would be acquired under either Build Alternative. Milwaukee County's Root River Parkway lies immediately east of the I-94 crossing. WisDOT modified the proposed full interchange with I-94 at 27th Street so acquisition from Root River Parkway would not be required.

5.5.2 Ives Grove Golf Course

Racine County owns this golf course, which lies 1/4 mile west of I-94 near STH 20. No property would be acquired from this park under either Build Alternative.

For more detailed information on these resources, see Section 3.6, Recreational Resources/Public Use Lands.

5.6 Other Section 4(f) Resources Adjacent to the Corridor

There are other 4(f) resources in the corridor, but no property would be acquired from these resources. These include three parks that abut the I-94 right-of-way (Lowell Elementary Tot Lot, 16th and Edgerton Play Lot, and Maitland Park [see Exhibit 3-14]). Two other parks (Copernicus Park and Jewell Playfield) lie within one block of I-94.

Under both Build Alternatives, I-94 would be closer to the 16th and Edgerton Play Lot and Maitland Park. No right-of-way would be acquired from either park. The 16th and Edgerton Play Lot is separated from I-94 by a noise wall. The Mitchell Interchange would move further away from the Lowell Elementary Tot Lot under both Build Alternatives.

For more detailed information on these resources as well as others within 1/4 mile of the corridor (see Section 3.6, Recreational Resources and Section 4.10, Public Use Lands).

5.7 Final Section 4(f) / Section 6(f) Finding

WisDOT and FHWA evaluated several alternatives for a new interchange with I-94 at Drexel Avenue.

The No-Build Alternative would not be consistent with SEWRPC's regional transportation plan, *A Regional Transportation System Plan for Southeastern Wisconsin: 2035*, which recommends construction of the I-94/Drexel Avenue interchange. The Cities of Oak Creek and Franklin oppose the No-Build Alternative.

An alternative that would avoid impacts to Falk Park would require the relocation of six residences from the west side of I-94 and 16 acres of right-of-way would be acquired. Under the preferred diamond interchange, there would only be two residential relocations and 7 acres of right-of-way acquisition. The City of Oak Creek opposes the Falk Park Avoidance Alternative. Based on the additional residential relocations, increased right-of-way impacts, and local government opposition, this alternative is not a prudent and feasible course of action.

WisDOT and FHWA have minimized impacts to Falk Park during the study phase by developing a tight diamond interchange and will continue to refine the alignment of this interchange in an attempt to further reduce impacts to the park. WisDOT and FHWA will continue to work with Milwaukee County, DNR, and National Park Service during the design phase to develop appropriate mitigation for the impact.

Based on the above considerations, there is no feasible and prudent alternative to the use of land from Falk Park. The proposed action includes all possible planning to minimize harm to the park resulting from such use.

Tables

SECTION 6

Public Involvement and Agency Coordination During Draft EIS Preparation

This section discusses community involvement activities and coordination with state and federal review agencies and other interest groups during the development and evaluation of alternatives and the preparation of the EIS. The study team offered numerous opportunities for citizens and state and federal review agencies to be involved in the process. In addition, study team members attended numerous meetings initiated by local officials and citizens. The public involvement process was open to all residents and population groups in the study area, and did not exclude any persons because of income, race, color, religion, national origin, sex, age, or handicap.

6.1 Public Involvement

WisDOT's public involvement plan for the I-94 north-south corridor seeks to incorporate public input from all stakeholders in order to ensure that the recommended alternative best serves the needs of the public. To ensure that the EIS process involves all stakeholders, including potentially affected individuals, businesses, and communities, the study team outlined the following objectives for the public involvement plan:

1. Solicit input on the study from the public and local and state officials.
2. Incorporate input that has been collected into the alternatives analysis process.
3. Provide the public, local, and state officials, and the media with timely, accurate, and useful information.

6.1.1 Summary of Activities

To identify public concerns regarding the project, WisDOT organized four community workshops in January and February 2006. Participants were encouraged to identify issues and concerns. Their issues were noted on project maps, then catalogued and used to help set priorities for the project.

To open the lines of communication, the study team implemented several vehicles for receiving feedback from the community including the following:

- Setting up a dedicated phone line and e-mail address
- Distributing pre-addressed comment forms
- Utilizing neighborhood representatives to work as liaisons between WisDOT and potentially affected communities

To keep the public updated, WisDOT held three sets of four public information meetings. These meetings were held throughout the corridor with meeting locations in Kenosha,

Racine, Oak Creek, and Milwaukee. At the public information meetings, attendees were encouraged to review concepts and provide feedback. WisDOT also developed a database of residents, businesses, and organizations interested in the project. Individuals and organizations in the database receive regular newsletters. The study team also distributed fact sheets, maintained a Web site, exhibited at community events, and produced a video.

To ensure affected groups receive accurate information and to mitigate the spread of inaccurate information, WisDOT met with groups and individuals that were potentially affected. WisDOT organized larger neighborhood meetings for groups of potentially affected property owners. WisDOT met with local officials, elected officials, faith-based groups, businesses groups, community-based organizations, schools, and anyone that requested a meeting.

To gain greater insight and promote discussions regarding certain aspects of the project, four committees were created:

- The Community Advisory Committee acts as a sounding board of stakeholder interests along the corridor and provides feedback on alternatives, issues and concepts.
- The Technical Advisory Committee engages local officials and agencies on key technical aspects of the study in order to help refine concepts.
- The Disadvantaged Business Enterprise (DBE) and Labor Advisory Committee improves coordination and communication between WisDOT programs and projects in order to provide input into product, labor development, training, and opportunities for the I-94 project.
- The CSDAC works with WisDOT to help design freeways that function safely and efficiently, and are pleasing to both the user and the neighboring communities.

6.1.2 Project Database

To maintain regular communication with stakeholders, WisDOT developed a database of all property owners whose property lay within 1/4 mile of the project limits and entered their contact information into the database. Other stakeholders—including local leaders, community-based organizations, and local and state elected officials—were also added to the database.

WisDOT uses the database to notify stakeholders of upcoming public information meetings and send regular updates through newsletters. The database includes e-mail addresses whenever available and allows for interested parties to select their preferred channel of communication: e-mail, post, or both. WisDOT collects stakeholder and interested party names and contact information on sign-in sheets at all meetings. Interested parties can request to be added to the database by contacting WisDOT staff, or through e-mail or phone.

Currently, the database contains over 13,000 property addresses, residents, businesses, organizations, local leaders, elected officials, and other interested parties.

6.1.3 Newsletters, Fact Sheets, and Project Updates

To keep the public informed of new developments in the study, WisDOT published newsletters, fact sheets, and project updates. Each kind of informational material was designed to meet a specific purpose or project need.

The I-94 North-South Corridor Study newsletter provides regular communication between WisDOT and the public. Four editions of the project newsletter have been published: January 2006, May 2006, November 2006, and April 2007. The newsletter was mailed to the entire project database. An electronic version of the newsletter was also e-mailed to those who indicated a preference. Spanish versions of the newsletter were distributed in the Hispanic community. The newsletters are also posted on the project Web site.

The I-94 North-South Corridor Study fact sheets keep the public abreast of new developments. WisDOT staff and neighborhood representatives distributed the fact sheets to property owners, residents, and business owners along the corridor. Fact sheets were published in May 2006 and August 2006.

As the study progressed, residents requested information geared towards each community. In April 2007, WisDOT published brochures targeting each county—Racine, Kenosha, and Milwaukee. Because the brochures cover a smaller portion of the corridor, each brochure details the issues and effects of the alternatives at each interchange. The brochures were translated to Spanish and Arabic for Milwaukee County.

6.1.4 Dedicated Phone Line, E-mail Address, and Comment Forms

The study team implemented several vehicles for the public to contact WisDOT with questions and concerns. These included a dedicated phone number, managing a project-specific e-mail address, and distributing and collecting pre-addressed comment forms.

To help disseminate the project contact information, the project phone number and e-mail address appears on all printed material distributed to the public. While conducting door-to-door outreach, neighborhood representatives (see Section 6.1.5) distribute pocket-sized cards that include the project name, e-mail address, and phone number. The cards serve two purposes: to identify staff working on the project and provide contact information in case individuals have questions or concerns.

WisDOT distributes preaddressed comment forms at all events and meetings. The comment forms allow individuals to raise concerns and provide feedback with ease. WisDOT gathers, reviews and catalogues all comment forms, letters, and e-mails from the public. Telephone calls are also logged, summarized, and catalogued. Phone calls from Spanish-speakers are referred to a study team member specializing in Hispanic outreach.

6.1.5 Neighborhood Representatives

In an effort to establish public trust, WisDOT enlisted the help of neighborhood representatives. Neighborhood representatives were chosen based on their familiarity, experience, and involvement within the communities they represented. Locations covered by neighborhood representatives were divided into three areas of the corridor:

- Milwaukee County, from the Mitchell Interchange to the Racine County Line

- City of Racine
- City of Kenosha

The major goals of the neighborhood outreach are as follows:

- Implement a public involvement program that establishes and maintains the public trust
- Provide clear and concise project information in a timely manner
- Allow for maximum inclusion of all people throughout the EIS process

Neighborhood representatives used a variety of field outreach methods to create project awareness and to solicit public input into the EIS process. Those methods include the options that follow.

Door-to-Door Informational Campaigns

WisDOT neighborhood representatives knocked on doors in densely developed residential areas in the north end of the study area, distributed literature, and confirmed that residents were receiving information from WisDOT.

- S. 15th Street—Layton Avenue to College Avenue: August 11, 2006
- S. 18th Street—Layton Avenue to College Avenue: July 11, 2006
- Plainfield Curve—S. 4th and 5th Streets: August 17, 2006
- Drexel Avenue NW and SW Quadrants off I-94 Corridor: August 15, 2006
- Elm Road: August 15, 2006
- Edgerton Avenue: July 16, 2006

Block Meetings

WisDOT neighborhood representatives built relationships with residents in potentially affected areas soliciting input to help organize and publicize block meetings. At the meetings, WisDOT staff described alternatives and their potential impacts on maps specific to each neighborhood and visited potentially affected homes.

- 18th Street residents: August 16, 2006
- Elm Road residents: September 27, 2006
- Plainfield Curve residents: September 30, 2006
- Drexel Avenue residents: October 14, 2006
- 15th Street residents: November 14, 2006

6.1.6 January 2006—Community Workshops

At the onset of the project, WisDOT initiated a series of four community workshops designed to act as "listening" sessions for WisDOT to identify concerns and gather input from the public. Locations were selected based on their proximity to the project.

- January 31, 2006, CATI Center, 2320 Renaissance Boulevard, Sturtevant
- February 2, 2006, Kenosha County Center, 19600 75th Street, Bristol
- February 7, 2006, West Middle School, 7630 S. 10th Street, Oak Creek
- February 8, 2006, Sholes Education Complex, 4965 S. 20th Street, Milwaukee

Workshop Activities

Upon arriving at the workshops, participants were first asked to register and then view a short presentation on basic freeway design. Participants then headed to a worktable area where they formed small workgroups. Working with WisDOT staff, participants identified areas of concern and suggested ideas and defined priorities, all of which were recorded on maps of the corridor.

The hands-on style of the workshops encouraged the public to set priorities for WisDOT according to the needs of their communities. At the same time, the workshops provided the public with education regarding freeway design and construction. Over 500 participants attended the four workshops. In addition to interaction with staff, participants were given preaddressed comment forms so they could respond with additional comments or ideas. Participants' names and addresses were logged and entered into the project database.

Ideas and Areas of Concern

WisDOT collected comments from the workshop maps and catalogued them. Table 6-1 summarizes these comments. These comments are also illustrated in Exhibit 1-13.

TABLE 6-1
Issues Identified through Community Workshops

Area	Issue
Southbound exit ramp (I-94/894-43)	Congestion/insufficient lanes
Westbound weave along I-894/I-43	Congestion/weave/exit-only lane
Plainfield curve (I-43/94)	Crashes/tight curve/compound curve/noise/enforcement
Westbound ramps at 27th Street	Short ramps
Northbound entrance ramps (I-94)	Crashes/congestion
Eastbound weave along I-894/I-43	Crashes/congestion/weave
27th Street and Layton Avenue	Congestion
Mitchell Interchange	Left side entrance and exits/congestion/weave/tight curves/narrow shoulders
Layton Avenue Interchange	Confusing interchange configuration Close intersection spacing/crashes/merge Weave/consider closing interchange
Northbound I-94 between Airport Spur and Mitchell Interchange	Crashes/congestion/weave/narrow shoulders
Southbound I-94 between Layton Avenue and Airport Spur	Crashes/weave/exit only lane
Airport Spur	Consider parkway
I-94 between Airport Spur and College Avenue	Close interchange spacing/weave
Airport Spur ramps	Crashes/exit only
College Avenue interchange	Close intersection spacing/tight curves Short ramps/crashes/weave/congestion
I-94 between College and Rawson Avenue	Congestion weave
Rawson Avenue interchange	Close intersection spacing/tight curves Short ramps/crashes/weave/congestion

TABLE 6-1 (CONTINUED)
Issues Identified through Community Workshops

Area	Issue
Falk Park	Avoid impacts to the park
Drexel Avenue	Consider access
20th Street and Drexel Avenue	Flooding
I-94 between Drexel Avenue and Puetz Road	Consider noise wall
Puetz Road	Consider access
I-94 corridor-wide	Stay within right-of-way
Ryan Road interchange	Close intersection spacing/tight curves Short ramps/crashes/weave/congestion
27th Street interchange	Not a full interchange, frontage roads are not continuous, tight curve
Elm Road	Consider access
West frontage road intersection	Close intersection spacing

6.1.7 May/June 2006—Public Information Meetings

Based on community feedback from the workshops, WisDOT generated a range of options that responded to the needs and issues the public had identified. These options were introduced to the public at a set of four public information meetings (PIMs) held in May and June 2006.

- May 30, 2006, Mahone Middle School, 6900 60th Street, Kenosha
- June 1, 2006, CATI Center, 2320 Renaissance Road, Sturtevant
- June 6, 2006, West Middle School, 8401 S. 13th Street, Oak Creek
- June 8, 2006, Best Western-Airport, 5105 S. Howell Avenue, Milwaukee

A total of 391 residents, property owners, businesses, and local leaders attended and commented on the concepts and exhibits presented during these meetings. The concepts are summarized in Table 6-2.

TABLE 6-2
Alternatives Presented at May/June PIM 1

Concept	Number of Lanes	Replaces Pavement	Safety	Traffic Congestion
No-Build	6	No		
Replace-in-Kind	6	Yes		
Spot Improvements	6	Yes	Corrects some safety deficiencies	
Safety and Design Improvements	6	Yes	Corrects safety deficiencies	Minimal improvement to congestion
Safety and Design Improvements with Added Capacity	8	Yes	Corrects safety deficiencies	Improves traffic flow and relieves congestion

Participant names and addresses were collected and added to the project database.

Ideas and Areas of Concern

After collecting, reviewing, and cataloguing input, three areas of concern became apparent: the addition of an interchange at Drexel Avenue, a proposal to lower the profile of the freeway and close Edgerton Avenue, and noise levels.

Drexel Avenue Interchange

- Residents on west side of freeway, along Drexel Avenue, offered mixed opinions about addition of an interchange.
- Some participants expressed frustrations over the length of time until a decision would be made.
- In general, business interests in Franklin and Oak Creek support a Drexel Interchange while resident support in the area is mixed.

Edgerton Avenue Option

- Residents along 18th Street, near Edgerton, on the west side of the freeway, were concerned about the proximity of the reconstructed freeway to their back yards.
- There were varied opinions on the option of closing Edgerton Avenue that would lower the height of the freeway, but close a neighborhood access route.
- Residents view the existing area between their backyard and noise wall as a buffer to the freeway—this buffer would be eliminated under some of the options being proposed.

Table 6-3 summarizes other comments.

6.1.8 November/December 2006—Public Information Meetings

WisDOT held a second set of PIMs in November and December 2006. At the second set of PIMs, WisDOT refined the options under study and presented them to the public. Results of traffic analysis of the freeway alternatives and for the Layton Avenue and Drexel Avenue interchanges were presented, as were options for Edgerton Avenue. A total of 349 participants attended the PIMs. Their names and addresses were added to the project database.

- November 28, 2006, Mahone Middle School, 6900 60th Street, Kenosha
- November 30, 2006, CATI Center, 2320 Renaissance Road, Sturtevant
- December 5, 2006, West Middle School, 8401 S. 13th Street, Oak Creek
- December 7, 2006, Best Western-Airport, 5105 S. Howell Avenue, Milwaukee

Ideas and Areas of Concern

The following is a summary of issues and concerns expressed at the second PIMs.

I-94 in Racine and Kenosha Counties

- Some residents who live on the frontage roads in Racine and Kenosha Counties felt the reconstruction of the frontage roads would result in too much of their land being acquired. As a result of this input, WisDOT modified their plans to reduce the right-of-way impacts.

TABLE 6-3
Summary of PIM 1 Comments

Capacity Expansion

13 In favor of expansion

1 Against expansion

1 In favor of spot improvements

Layton Avenue Interchange Ramps

1 In favor of closing the interchange

4 In favor of keeping the interchange

Access from 27th Street & I-894 to and from the South via I-94

3 Feel that access is not needed if the Layton interchange is kept open

1 Feel that access is needed regardless of the Layton interchange

Edgerton Avenue

3 In favor of lowering the freeway profile and closing Edgerton Avenue

3 In favor of keeping Edgerton Avenue open

Plainfield Curve

8 In favor of correcting the Plainfield Curve

2 In favor correcting the curve to accommodate traffic at 65 mph

1 Asked that construction begin on the Plainfield curve begin before construction in Kenosha County

Drexel Interchange

7 In favor of adding an interchange at Drexel Avenue

3 Against adding an interchange at Drexel Avenue

2 Prefer the diamond interchange concept

1 Prefer the single point interchange concept

1 Propose a park-and-ride at Drexel Avenue

Full Interchange at the County Line (27th Street)

3 In favor of building a full interchange

1 Against building a full interchange

Noise Quality

15 Concerned about noise

Air Quality

5 Concerned about air quality

Other

2 Suggested an outer bypass around the City of Milwaukee

3 In favor of removing scissor ramps at Racine and Kenosha County interchanges

STH 20

- Mount Pleasant officials want the east frontage road, between STH 11 and STH 20, relocated further east from its current location.

27th Street Interchange with I-94

- Residents on Elm Road east of I-94 do not support an interchange with I-94 connecting to Elm Road.

Drexel Avenue Interchange

- Attendees feel that the decisions on Drexel Avenue have already been made.
- Traffic analysis does not provide support in favor of or against an interchange at Drexel Avenue.
- Work with Milwaukee County Parks to eliminate loop ramp option.

Edgerton Avenue Option

- Attendees were split between whether to close Edgerton Avenue or allow it to remain open.

Layton Avenue Interchange

- There was little support for closing this interchange.

Noise

- Residents who live near the freeway want to know if noise walls will be built along the freeway near their homes.

6.1.9 May 2007—Public Information Meetings

WisDOT held a third set of public information meetings in May of 2007. At this set of PIMs, WisDOT presented the most favorable options, based on community feedback, traffic analysis, and cost. WisDOT also presented the modernization and modernization with added capacity concepts.

- May 8, 2007, CATI Center, 2320 Renaissance Road, Sturtevant
- May 16, 2007, Mahone Middle School, 6900 60th Street, Kenosha
- May 22, 2007, West Middle School, 8401 S. 13th Street, Oak Creek
- May 23, 2007, Best Western-Airport, 5105 S. Howell Avenue, Milwaukee

Ideas and Areas of Concern

The following is a summary of issues and concerns expressed at the third PIMs.

Six or Eight Lanes

There was general support for the eight-lane option. However, some attendees felt that WisDOT should focus on expanding mass transit rather than on expanding I-94. Others cited increased noise and air pollution as reasons for opposing expansion.

Drexel Avenue

Supporters felt that an interchange at Drexel Avenue would alleviate peak-hour congestion at the Rawson Avenue interchange. Opponents felt that the interchange would bring unneeded traffic and noise to the otherwise quiet neighborhood.

Edgerton Avenue

Support for keeping Edgerton Avenue open under I-94 has grown since the second PIM. Supporters cited the need for people to cross Edgerton to get to schools and parks in the area.

27th Street and Layton Avenue Interchanges

Attendees expressed their support for keeping the Layton Avenue Interchange open in all directions and for the design of 27th Street. Representatives from Franklin and Oak Creek requested WisDOT work with them in planning the 27th Street Interchange.

Community Sensitive Design

Through the community sensitive design process, WisDOT developed two concepts for the appearance of bridges and interchanges in Racine and Kenosha counties. Attendees liked both concepts. Some attendees felt that design elements wasted money and WisDOT should select the cheapest option (see Section 6.1.10, Outreach Meetings).

To ensure that all stakeholders were aware of the public information meetings and workshops, WisDOT provided meeting notices in the following ways:

- Posted dates of all workshops and PIMs on the project Web site
- Printed an invitation in the project newsletter and sent the newsletter to the project database
- Neighborhood representatives did door-to-door outreach in select neighborhoods
- Placed advertisements in local and community newspapers
- Sent media advisories to local media outlets

Advertising

For the community workshops and public information meetings, WisDOT placed meeting notices in the following papers:

TABLE 6-4
Ad Placements

Publication	Geographic Area
Kenosha News	Serving the Kenosha County Area
Waukegan, Illinois News Sun	Serving Northern Illinois
Racine Journal Times	Serving the Racine County area
Journal Sentinel	Serving the Greater Milwaukee Area
El Conquistador	Weekly Hispanic newspaper serving the Greater Milwaukee Area
Community Newspapers Incorporated, Oak Creek	Neighborhood weekly newspaper serving areas in Milwaukee close proximity to the project limits

Advertisements were placed 2 weeks before each public information meeting and community workshop.

Media Relations

Prior to the workshop and public information meetings, media advisories were sent to local media outlets, including print, television, and radio channels. Follow-up calls were made to targeted media. The following table lists outlets that received media advisories.

TABLE 6-5
Media List

Action Publications	*Milwaukee Times*	WFMR-FM 106.9 MHz
Burlington Standard Press	*Mukwonago Chief*	WGLB-AM 1560 kHz
Business Journal	*Oconomowoc Enterprise*	WGTD-FM 91.1 MHz
Campbellsport News	*Ozaukee Press*	WIIL-FM 95.1 MHz
Catholic Herald	*Racine Journal Times*	WISN TV - Channel 12
City Channel 25	*Small Business Times*	WISN-AM 1130 kHz
Clear Channel Milwaukee	*Spanish Journal*	WITI TV - Channel 6
Community Newspapers Inc.	*This Week Publications/Villagers*	WJMR-FM 98.3 MHz
Daily Reporter	*VCY America*	WJZI-FM 93.3 MHz
Delevan Enterprise	*Voz Latina*	WKLH-FM and WJYI-AM
Discover Hometown Publications	W63CU TV - Channel 63	WKLH-FM 96.5 MHz
East Troy News	*Walworth Times*	WKTI-FM 94.5 MHz
El Conquistador	*Washington County Daily News*	WLKG-FM 96.1 MHz
Elkhorn Independent	*Waterford Post*	WLZR-FM 102.9 MHz
Emergency Management	*Waukesha Freeman*	WMCS-AM 1290 kHz
Greater Milwaukee Today	*Wauwatosa Express News*	WMIL-FM 106.1 MHz
Hartford Times Press	WAUX-AM 1550 kHz	WMSE-FM 91. 7 MHz
Kenosha News	WBJX-AM 1460 kHz	WMVP-AM 1000 kHz
Kettle Moraine Index	WBKV-AM 1470 kHz	WMVS & WMVT TV (public)
Kewaskum Statesman	WBSD-FM 89. 1 MHz	WMYX-FM, WXSS, and WEMP-AM
Key Milwaukee Magazine	WBWI-FM & WBKV-AM	WNOV-AM 860 kHz
Labor Paper	WCCX-FM 104.5 MHz	WOKY-AM 920 kHz
Lake Country Publications	WCGV TV - Channel 24	WRRD-AM 540 kHz
Lake Geneva Regional News	WDJT TV - Channel 58	WSLD-FM 104. 5 MHz
Marquette Tribune	West Allis Star	WSUW-FM 91.7 MHz
Metro Network	*Western Builder Magazine*	WTKM-AM 1540 kHz/FM 104. 9 MHz
Milwaukee Community Journal	*Westine Report*	WTMJ TV - Channel 4
Milwaukee Journal Sentinel	*Westosha Report*	WTMJ-AM 620 kHz
Milwaukee Labor Press	WEXT-FM, WIIL-FM, WLIP-AM	WUWM-FM 89.7 MHz (public)
Milwaukee Magazine	WEZY-FM and WRJN-AM	WVCY-FM 107.7 MHz FM
Milwaukee Star and Courier	WisPolitics.com	

The public information meetings generated some press coverage. For the first set of public information meetings, press coverage prior to the events was positive. Prior to the second set of PIMs, some channels erroneously ran stories stating that a high number of homes would be taken. Follow-up calls were made to attempt to have the stories corrected.

6.1.10 Outreach Meetings

In addition to community workshops and public information meetings, WisDOT has met with hundreds of individuals and organizations. WisDOT took on the motto "anytime, anyplace, anywhere" to let the public know that WisDOT staff and neighborhood representatives would be willing to meet with individuals and organizations to discuss their concerns. WisDOT also targeted property owners for door-to-door outreach and met with community organizations, neighborhood groups, businesses, labor organizations, schools, and local and elected officials.

Door-to-Door and Property Owner Visits

A "knock and drop" approach was used to reach homeowners with informational materials. If at home, homeowners were asked if they were aware of the project and whether they had any specific questions or concerns. These door-to-door visits were generally made prior to Public Information Meetings as a way of personally inviting individuals to attend the meetings. Efforts were made by neighborhood representatives to establish ongoing relationships with several people per block in an effort to build trust and establish credibility with people in the neighborhoods. Each homeowner received a "contact card" listing the name and phone number of the neighborhood representative who would be their contact throughout the project.

Table 6-6 lists property owners with whom WisDOT met.

TABLE 6-6
Property Owner Meetings

Date	Property Owner	Topic	Notes/Issues
03/10/2006	Islamic Center	Project Overview	Pedestrian issues, right-of-way, Layton Avenue
04/21/2006	State Senator Wirch and Mars Cheese Castle owners (Mario Ventura)	Functional plans for I-94/ WIS 142 interchange	Impacts to Ventura Property/ project schedule
05/02/2006	Wilson Garden Apartments	Project Overview	Property acquisition issues, right-of-way
05/11/2006	Jerrold Franke-WisPark	Project Overview	
05/24/2006	Dennis Kelly-Dairyland Greyhound Park	Project Overview	
08/21/2006	Jeff Lloyd of Quality Carriers	CTH C	Access to local roads
08/23/2006	Property meeting with Jerome Willkomm of Mobil Oil	CTH E	Discussed overall project and impacts to business owner
08/23/2006	Al Ruffalo of Ruffalo Painting	CTH E	Discussed overall project and impacts to business owner
08/28/2006	Jeff Klement, Icon Development Corp CEO, Klement's Sausage CEO	Property Impacts	Discussed Drexel Avenue Interchange concepts

TABLE 6-6 (CONTINUED)
Property Owner Meetings

Date	Property Owner	Topic	Notes/Issues
09/13/2006	County G Interchange area residents	Plans and Access	Driveways and access/schedule
09/20/2006	Property Owner: Ade	CTH E	Discussed overall project and impacts to property owners
09/20/2006	Property Owner: Hysell	CTH E	Discussed overall project and impacts to property owners
09/20/2006	Property Owner: Robinson	CTH E	Discussed overall project and impacts to property owners
09/27/2006	Elm Road Block meeting	Property Impacts	Presented interchange configuration plans to homeowners
09/30/2006	Plainfield Curve Residents Meeting	Property Impacts	Presented options for Plainfield curve to homeowners
10/3/2006	Property Owner: Richard and Judith Desotell	Interchange 142	Local road access
10/6/2006	Property Owner: Margaret Flynn	Interchange 142	Local road access
10/11/2006	CTH G: Property Owners	Right-of-Way Impacts	Driveways and access/schedule
10/14/2006	Drexel Avenue Residents	Project Overview	Discussed potential property acquisition with homeowners
10/16/2006	Property Owner: Leonard Investments	142 Interchange	Real estate/access issues
10/16/2006	Property Owner: Giovanalli Parcel	142 Interchange	Local road access
10/23/2006	Property Owner: Sherwin and Mohsen Amiran	CTH G	Driveways and access/schedule
11/09/2006	Howard Johnson's Airport Hotel, Rakesh Shah, Owner	Plans for Layton Avenue/ 27th Street Interchange	Discussed possible eliminations of Layton Avenue Interchange
11/16/2006	CTH C Property Owner Meeting	1031-07-000 CTH C Interchange in Kenosha	Real estate/access issues
11/22/2006	Property Owner: Steven Karides	CTH G	Driveways and access/schedule
12/07/2006	Property Owners on CTH K	Present 30% Plan alternatives, signalized intersections and roundabout intersections	Roundabouts/right-of-way/access
12/13/2006	Property Owners on Ramsey Street, Milwaukee	Property Options	Discussed concerns with freeway wall moving closer to their homes

TABLE 6-6 (CONTINUED)
Property Owner Meetings

Date	Property Owner	Topic	Notes/Issues
12/20/2006	Property Owner: Dam	CTH E	Discussed overall project and impacts to property owner
01/17/2007	Sharif and Aquil Malik, Mobil Gas Station	Property Impacts	Contactors concern on quantities for lets in upcoming years
01/17/2007	Al Ruffalo of Ruffalo Painting	CTH E	Follow-up meeting—discussed impacts to business owner
02/01/2007	Metro Milwaukee Auto Auction	Project Overview	Discussed location of Frontage roads and access for the Metro Milwaukee Auto Auction
6/07/2007	Property Owner 4152 South 5th Street	Plainfield Curve	Sound wall

Community-based Organizations and Neighborhood Groups

Milwaukee is a city of neighborhoods with a long history of identification by area names. For example, the 13th Street Neighborhood Association is an organization involved in neighborhood issues and that provides advocacy for residents living in that particular area. In an effort to reach larger numbers of people, presentations were made to numerous organizations and groups with a key interest in the project.

Efforts were made to meet with community-based organizations in both the cities of Racine and Kenosha. The majority of these meetings targeted organizations that served minority populations such as the Urban League of Racine and Kenosha, the NAACP of Kenosha, and the YMCA of Racine.

Meetings and presentations were held throughout the corridor and included the groups and organizations listed in Table 6-7.

TABLE 6-7
Community-Based Organization and Neighborhood Group Meetings

Date	Group/Individuals	Topic	Notes/Issues
03/20/06	Karyn Rotker, ACLU Wisconsin	Project Overview	Air quality issues
04/10/06	Wilson Park Senior Center	Distribute literature	Project overview
05/02/06	Ralph Hollman, Milwaukee Urban League	Project Overview	Jobs/job training
05/04/06	Sierra Club	Project Overview	Environmental concerns
05/09/06	Dester Martin, African-American Chamber of Commerce	Project Overview	Jobs/job training
05/10/06	Cudahy Chamber of Commerce	Project Overview	Benefits to business, project costs
05/15/06	Racine West Rotary Club	Project Overview	Benefits to business, project costs

TABLE 6-7 (CONTINUED)
Community-based Organization and Neighborhood Group Meetings

Date	Group/Individuals	Topic	Notes/Issues
05/16/06	Barbara Wesener, SE Chamber United in Business (Oak Creek / Franklin)	Project Overview	Benefits to business, jobs, costs, Drexel Avenue interchange
06/13/06	Kenosha Rotary	Project Overview	Benefits to business, cost of project
06/30/06	UMOS Internal Staff meeting	Project Overview	Jobs/job creation
07/11/06	Visit Milwaukee Executive team		Discussed range of options for Milwaukee County area interchange
07/19/06	Kenosha Realtors Association		
08/07/06	S. 18th Group, special meeting	Property Impacts	Discussed potential impacts to property owners on West side of I-94
08/16/06	18th Street Block Meeting	Property Impacts	Right of way and acquisition concerns
09/26/06	27th Street Business Association	Community Outreach 27th Street ramps	Presented overview of project, specifically on 27th Street
11/03/06	Kenosha/Racine Land Trust	I-94 Community Outreach	Overview of project/discussion of acquisition of land along I-94
11/10/06	American Indian Chamber of Commerce, American Indian Construction Trade Association	I-94 North-South Corridor/Labor	Jobs/job training
11/14/06	15th Street Block Meeting	Impacts to Properties	Discussed project impacts to adjacent property owners
11/29/06	Focus Groups	Indirect and Cumulative Effects Discussion	Discussion of potential indirect effects of the project
12/08/06	Islamic Center of Milwaukee	I-94 Community Outreach, Layton and 27th interchange concepts	Right-of-way issues, pedestrian concerns
01/05/07	ACLU	Air Quality/I-94 Corridor Project	Concerned with SEWRPC forecasting for traffic and Title VI issues
02/02/07	Marie Black, Racine Hispanic Business and Professionals Association	Project Overview	Informational
02/07/07	Alicia Tanguma, PA Staffing	Project Overview	Informational
02/09/07	Robert Jeffers, La Campeona	Project Overview	Informational
02/13/07	Ken Tregellas, Salvation Army	Project Overview	Informational/jobs/training
02/13/07	Wilson Park Senior Center	Distribute literature	Informational
02/14/07	13th Street Trucking Companies	Layton Avenue Ramps	Access to Layton Avenue ramps
02/16/07	United Community Center Senior Citizens	Distribute literature	Informational
02/20/07	Next Generation Now	Question and Answer	Jobs/job training
03/01/07	Robert Miranda, Esperanza Unida	Labor Development Opportunities	Jobs/job training opportunities

TABLE 6-7 (CONTINUED)
Community-based Organization and Neighborhood Group Meetings

Date	Group/Individuals	Topic	Notes/Issues
03/01/07	Planning Commission Meeting for Kenosha Business and Labor Partnership	Planning Meeting	Planning for jobs fair event
03/15/07	Wisconsin Manufacturers and Commerce Traffic Committee	Project Overview	Informational
05/01/07	15th Street neighborhood meeting	Project Update	Property impacts and proximity of freeway to homes
05/03/07	18th Street neighborhood meetings	Project Update	Property impacts, location of soundwall, closing of Edgerton Avenue
05/14/07	Homeowners on Drexel Avenue	Project Update	Property impacts from potential interchange at Drexel Avenue
05/17/07	Plainfield Curve Neighborhood meeting	Project Update	Property impacts and location of sound wall
05/31/07	27th Street Open House	Informational	Access from 27th Street interchange

Faith-Based Organizations

Faith-based organizations also serve the neighborhoods in the study area. Many of these religious organizations sponsor senior citizen lunch programs and summer festivals. Informational materials were handed out to the public after church services, during special events and at the summer festivals. In the Racine and Kenosha African-American and Hispanic communities, neighborhood representatives made informational presentations to the public after the regular worship services. Outreach to the following faith-based organizations included the following:

TABLE 6-8
Meetings with Faith-Based Organizations

Date	Group/Individuals	Topic	Notes/Issues
03/10/06	Islamic Center	Project Overview	Pedestrian issues, right-of-way, Layton Avenue
04/28/06	Marcus White-Interfaith Conference	Project Overview	Suburban flight, jobs/job training and impact of project on area senior citizens
05/10/06	Halim Hennes Coptic Church	Project Overview	Right-of-way, property acquisition, range of options for Drexel Avenue interchange
11/12/06	Primera Iglesia Luterna	I-94 Community Outreach	Jobs/job training
11/18/06	Abundant Life Ministries/ Project New Life, Pastor Elliot Cohen	Labor Opportunities for Young Adults, Job Training Programs	Jobs/job training opportunities
11/18/06	New Omega Church, (Fred Richmond, Pastor)	Project Overview	Jobs/job training
12/21/06	Cristo Rey Parish	Project Overview	Informational
02/09/07	Trinity Lutheran Church	Project Overview	Informational

TABLE 6-8 (CONTINUED)
Meetings with Faith-based Organizations

Date	Group/Individuals	Topic	Notes/Issues
02/09/07	St. Paul Baptist Church	Project Overview	Informational
02/15/07	Ascension Lutheran Center	Project Overview	Informational
02/19/07	Grace Lutheran and Baptist Church and School-Andrew Bailey, Pastor	Project Overview	Informational
03/15/07	Racine Vocational Training Ministry	Project Overview	Jobs/job training opportunities
05/11/07	Islamic Center of Milwaukee	Project Update	Layton Interchange, 27th Street Interchange, Edgerton Avenue
06/10/07	Assembly of God Church	Informational	Drexel Avenue Interchange

Business and Labor

Businesses located near the corridor are often represented by area organizations such as the 27th Street Business Association, the Airport Gateway Business Association, and various city and suburban chambers of commerce. Presentations and regular updates were provided to keep businesses informed of project milestones and important project information. WisDOT also distributed information to businesses along the 27th Street interchange and on Layton Avenue between South Howell and South 20th Street.

Jobs and job training opportunities were of particular interest to labor-related organizations. This was especially true for organizations serving minority populations in the area of employment and training opportunities. Presentations and regular updates were made to business and labor organizations listed in Table 6-9.

TABLE 6-9
Business and Labor Meetings

Date	Group/Individual	Topic	Notes/Issues
01/11/06	Gregg Linder, Airport Gateway Business Association	Meet and Greet	Request to make presentation to group
01/18/06	WisDOT / WTBA Contractor Engineer Conference	Project Overview	Informational presentation
03/20/06	Jeff Crawford-Potawatomi Casino	Project Overview	Access during construction/Corridor update/schedule
03/20/06	Lincoln Neighborhood Redevelopment Corporation	Project Overview	Impacts to small businesses
03/22/06	Lincoln Avenue Business Association	Project Overview	Want Lincoln Avenue exit sign on I-94
04/05/06	Teamsters Local 200	Project Overview	Labor, jobs, and training
04/08/06	Alfonso Gardner, Ola Baiyewu, Morris Reece (minority labor interests)	Minority Labor Development	Labor, jobs, and training
04/12/06	Maria Monreal Cameron, Hispanic Chamber of Commerce of Wisconsin	Project Overview	Jobs/job training

TABLE 6-9 (CONTINUED)
Business and Labor Meetings

Date	Group/Individual	Topic	Notes/Issues
04/26/06	Daniel Marty, Delaware Avenue Merchants Association	Project Overview	Business access issues, traffic, costs
04/28/06	Lyle Balistreri, Building & Trades Council	Project Overview	Job training/labor supply
05/02/06	Ralph Hollman, Milwaukee Urban League	Project Overview	Jobs/job training
05/04/06	John Miller, President-Goodwill of SE Wisconsin	Briefing on I-94	Information to underrepresented groups
05/09/06	Dester Martin-African American Chamber of Commerce	Project Overview	Jobs/job training
05/09/06	International Union of Operating Engineers	Project Schedule	Informational presentation
05/09/06	Teamsters Local 200	Follow-up to April 5 to provide comment forms to members	Labor/jobs/job training issues, discussed range of options under consideration for Milwaukee County
05/10/06	Cudahy Chamber of Commerce	Project Overview	Benefits to business, project costs
05/10/06	Gordon Kacala, Racine County Economic Development Corporation	Economic Development/Labor Development	Encouraged working with local communities especially Mount Pleasant and Caledonia
05/15/06	Racine West Rotary Club	Project Overview	Benefits to business, project costs
05/15/06	John Schmitt, Laborers Local 113	Project Overview	Labor/jobs/job training issues
05/16/06	Barbara Wesener - SE Chamber United in Business (Oak Creek / Franklin)	Project Overview	Benefits to business, jobs, costs, Drexel Avenue interchange
06/12/06	Union Grove Chamber of Commerce	Project Overview	Benefits to business, cost of project
06/13/06	Kenosha Rotary	Project Overview	Benefits to business, cost of project
06/20/06	South Milwaukee Chamber of Commerce	Project Overview	Benefits to business, cost of project
06/26/06	Southside Business Club	Project Overview	Project costs, benefits, impacts
06/30/06	UMOS Internal Staff meeting	Project Overview	Jobs/job creation
07/20/06	West Suburban Chamber of Commerce	Project Overview	Discussed range of options for Milwaukee County area interchange
08/07/06	Milwaukee North Shore Rotary Club	Project Overview	Informational
09/29/06	Racine Minority Businesses	Presentation to minority businesses	Job/job training
10/04/06	M&I Political Awareness Forum	Sec. Busalacchi speaking. Will address SE Freeway Issues.	Informational
10/13/06	Judge Valerie Hill	DMV License Reinstatements for Labor Initiatives	Jobs training program to boost enrollment
10/20/06	WisDOT 21st Annual DBE Workshop	I-94 Corridor Study and DBE opportunities	Corridor update/Labor and Business committees/Schedule

TABLE 6-9 (CONTINUED)
Business and Labor Meetings

Date	Group/Individual	Topic	Notes/Issues
10/27/06	Hispanic Professionals of Greater Milwaukee	Project Overview	Jobs/job training issues
11/09/06	Airport Gateway Business Association Board Members	I-94 Community Outreach, Airport Spur Options	Overviewed project and discussed possible elimination of Layton interchange
11/10/06	American Indian Chamber of Commerce, American Indian Construction Trade Association	I-94 North South Corridor/Labor	Jobs/job training
11/18/06	Abundant Life Ministries/Project New Life, Pastor Elliot Cohen	Labor Opportunities for young adults, job training programs	Jobs/job training opportunities
11/18/06	Mini Service Expo	Business and Labor	Provided information regarding jobs and training
11/21/06	Racine, Hispanic Business and Professional Association Roundtable	Overview of project, labor and business opportunities.	Discussed project schedule and job opportunities
12/14/06	Airport Gateway Business Association, Full Business District	Project Update	Discussed Layton Avenue interchange options
01/10/07	Racine Hispanic Business Roundtable	DBE and Labor Opportunities	Jobs/job training
01/17/07	Engineer/Contractor Conference Presentation	Corridor Overview	Corridor update/schedule/quantities
01/29/07	Kriston Lee, University of Wisconsin Extension	Kenosha Business and Labor Partnership	Planning for jobs fair event
02/02/07	Marie Black, Racine Hispanic Business and Professionals Association	Project Overview	Informational
02/07/07	Alicia Tanguma, PA Staffing	Project Overview	Informational
02/13/07	Deborah Blank, Executive Director, Social Development Commission	Project Overview	Jobs/job training, construction impacts
02/13/07	Ken Tregellas, Salvation Army	Project Overview	Informational/jobs/training
02/14/07	13th Street Trucking Companies	Layton Avenue Ramps	Access to Layton Avenue ramps
03/01/07	Robert Miranda, Esperanza Unida	Labor Development Opportunities	Jobs/job training opportunities
03/01/07	Planning Commission Meeting for Kenosha Business and Labor Partnership	Planning Meeting	Planning for jobs fair event
02/25/06	Kenosha Chamber expo	Project Introduction/Overview	Impacts to business, cost of project
02/26/06	Downtown Businessman's Roundtable	Update on freeway projects	Informational
03/07/07	Racine Literary Council	Project Overview	Business and labor opportunities
03/09/07	Maria Cambell, Director of Diversity of SC Johnson	Project Overview	Informational, business and labor opportunities
03/09/07	Custom Staffing, Girl Scouts, Spanish Center of Kenosha, Police	Project Overview	Informational, business and labor opportunities

TABLE 6-9 (CONTINUED)
Business and Labor Meetings

Date	Group/Individual	Topic	Notes/Issues
03/16/07	West Racine Business Association	Project Overview	Informational, business opportunities
03/19/07	Jack Maderin, Owner Central Redimix, Operations Manager, Bob Peters, Brian Kron	Layton Avenue Interchange	Layton Avenue Interchange
04/25/07	Community Brainstorming Workshop	Informational	Business and labor opportunities
04/28/07	Uptown Business Group, Racine	Project Overview	Business opportunities and impacts
05/03/07	Schlossmann's Dodge Dealership	27th Street interchange	Access to/from I-94 and 27th Street
05/08/07	27th Street Business Association	Project Update, 27th Street interchange	Informational, design of 27th Street, access from 27th Street
05/15/07	Surety Association	Project Overview	Informational
05/17/07	Racine County Economic Development Corporation	Project Update	Impacts to businesses, inclusion of mass transit

Educational Institutions

Special consideration was given to reaching schools along the corridor. Issues such as impacts to schools during construction, transportation of students, and health-related concerns, such as air quality issues, were discussed with individual school staff and with the Milwaukee Public School Superintendent and the Milwaukee Public School Board of Directors.

An outreach initiative called "Careers in Motion—Science/Engineering and Transportation" was successfully piloted at the Garland Elementary School located adjacent to the I-94 corridor in the City of Milwaukee. This program offered a diverse population of students the opportunity to understand how building roads and transportation projects can offer long-term career opportunities. The program also increased awareness of the project among parents of the students who live in the neighborhood.

Educational outreach included informational meetings and presentations shown in Table 6-10.

TABLE 6-10
Meetings with Educational Institutions

Date	Group/Individuals	Topic	Notes/Issues
03/10/06	Mike Turza, MPS Transportation Director	Project Overview	Discussed school bus routes near corridor
04/25/06	Lowell Elementary School	Project Overview	Construction impacts, air quality, and range of options at Mitchell Interchange with teachers
04/27/06	Ronald Reagan High School	Project Overview	Construction impacts, air quality, tax base and range of options in Milwaukee County
04/27/06	Brian Albrecht, President, Gateway Technical College	Project Overview	Corridor update
05/05/06	Oak Creek / Franklin School district	Project Update	School bus service during construction

TABLE 6-10 (CONTINUED)
Meetings with Educational Institutions

Date	Group/Individuals	Topic	Notes/Issues
05/05/06	Len Brandrup, Kenosha Public Transit	Project Overview	Informational
05/09/06	Tom Slowinski, Administrator, Paris School District	Project Overview	Informational
05/12/06	Greenfield School District	Project Overview	Impact to school and neighborhood
05/16/06	Robert Wenner, Principal, Victory Elementary School		Discussed possible access changes and impacts to school
05/17/06	Ruth Maeglie, Principal, Garland Elementary School	Project Overview	Impacts to students and neighborhood
05/17/06	Transportation Supervisor, Kenosha Unified Schools	Project Overview	Informational
05/22/06	Bill Streeter, UW Parkside	Project Overview	Informational
11/13/06	Milwaukee Public Schools	Project Overview	Discussed projects in relationship to Garland Elementary School
02/15/07	Karen Petric, Superintendent, Whitnall Schools District	Project Overview	Informational
02/15/07	Scott Eckert, Business Manager, West Allis/West Milwaukee School District	Project Overview	Informational
02/22/07	Milwaukee Public Schools Board	Project Overview	Concerned with freeway expansion generating more asthma conditions in school kids.
03/15/07	Sholes Education Complex Board	Project Update	Informational
03/06/07–03/21/07	Garland School	Educational initiative to introduce elementary school children to transportation engineering	Educational
05/22/07	Mike Turza, MPS Transportation Director	Project Update	Informational

Elected Officials

Elected officials at the state and local level were kept informed of various milestones in the EIS process and were regularly updated on key issues affecting their constituents. This was accomplished through phone calls, e-mail updates, and periodic meetings. The neighborhood representatives also informed elected officials when informational materials were being distributed in their districts. WisDOT met with elected officials listed in Table 6-11.

TABLE 6-11
Meetings with Elected Officials

Date	Group/Individuals	Topic	Notes/Issues
01/03/06	State Senator Wirch, State Representative Kerkman, State Representative Kreuser, and State Representative Steinbrink	I-94 Outreach Preview	Corridor update
01/05/06	State Representative Robert Turner	I-94 Outreach Preview	DBE and labor options
01/11/06	State Senator Lazich, State Representative Honadel (staff) and State Representative Stone	I-94 Outreach Preview	Corridor update
01/12/06	State Senator Stepp, State Representative Gundrum, State Representative Lehman, State Representative Vos	I-94 Outreach Preview	Corridor update
01/25/06	Alderman Terry Witkowski and 13th District Association	Real Estate Issues	Acquisition of property, right-of-way
02/01/06	Alderman Willie Hines, President, Milwaukee City Council	DBE and Labor Opportunities	Continued DBE and labor efforts
02/08/06	Mayor Tom Barrett & City of Milwaukee Staff	I-94 Outreach Preview	Corridor update/minimize property acquisition
02/17/06	State Senator Jim Kreuser, 64th Assembly District	WIS 50 Interchange Plans	
03/28/06	Ken Vetrovec, Racine County Board	Project Update	
04/12/06	Mayor Tom Barrett, Alderman Terry Witkowski, City of Milwaukee	Community Listening Session sponsored by Witkowski	Potential residential relocations/tax impacts
06/20/06	Kenosha County Board	Alternative Discussions	Overview of alternatives
06/21/06	Mayor Tom Barrett, City of Milwaukee	Alternative Discussions	Corridor update/potential resident relocations
08/28/06	Franklin and Oak Creek City Councils Joint Meeting	Project Update	Drexel and Elm Road Interchanges/Access to freeway/ cost sharing—local participation
10/13/06	Judge Valerie Hill	DMV License Reinstatements for Labor Initiatives	Jobs training program to boost enrollment
11/07/06	Alderman Terry Witkowski	Overview of PIM Exhibits	Reviewed concepts/alternatives in advance of PIM
11/17/06	Racine Elected Officials: Includes Supervisor Donnie Snow, Supervisor Ken Lumpkin, Supervisor and Alderman QA Shakoor, Supervisor Gaynell Dyess, Alderman Keith Fair	Project Overview	Jobs/job training
11/27/06	Kenosha Alderwoman Katherine Marks, Alderman Everett Butler, Kenosha County Supervisor David Arrington, NAACP Director Anthony Kennedy, Pam Stevens, Kenosha School Board	Overview of project, labor, and business opportunities	Jobs/job training opportunities

TABLE 6-11 (CONTINUED)
Meetings with Elected Officials

Date	Group/Individuals	Topic	Notes/Issues
01/18/07	Supervisor Paul Cesarz, 9th District	Project Overview	Project overview/Falk Park and Root River impacts
01/25/07	State Representative Mark Honadel, 21st Assembly District	Southeast Region Projects Briefing	Informational/update on project
03/08/07	State Representative Robin Vos	3 Mile Road Drainage Issue	
03/16/07	Alderman Bob Baumann, Chairman of Public Improvements Committee	Project Update, Layton Avenue	Resolution to keep the Layton Avenue and I-94 Interchange open
04/02/07	Richard Bolander, Mayor City of Oak Creek; Alderman Al Foeckler, City of Oak Creek 2nd District; Alderman Tom Michalski, Oak Creek 6th District; Doug Seymour–City Planner, Pat Degrave–City Administrator, Wayne St. John–City Engineer; Marie Myszkowski–27th Street Advisory Committee	Interchange at Elm Road and Drexel Avenue	Adding interchanges at Elm Road and Drexel Avenue, Falk Park
04/13/07	State Senator Jeff Plale, 7th District	Project Update	Keep Layton Avenue ramps open
05/10/07	Mayor Tom Barrett, City of Milwaukee	Project Update	
05/18/07	State Representative Cory Mason, 62nd Assembly District	Project Update	

Beginning February of 2007, the team also initiated regular e-mail updates in a fact sheet format to elected officials whose constituents were affected by the project. The updates were designed to keep officials abreast of new developments in the project.

Local Officials

Project and outreach staff worked closely with planning officials from the City of Milwaukee, Milwaukee County, and the various cities and townships located in proximity to the Corridor. These planning and update meetings were held to discuss details of various alternatives and options for the reconstruction of the Corridor. The meetings with representatives of local governments are listed in table 6-12.

TABLE 6-12
Meetings with Local Officials

Date	Group/Individuals	Topic	Notes/Issues
01/03/06	Jeff Polenske, City of Milwaukee	I-94 Outreach Preview	Corridor update
01/09/06	Racine county local officials	I-94 Outreach Preview	Highway 20-Mount Pleasant Development
01/27/06	Brian Dranzik, Terrence Cooley-Milwaukee County Board	I-94 Outreach Preview	Corridor Update/Airport Spur
02/01/06	Kenosha county local officials	I-94 Outreach Preview	No issues
02/22/06	George Torres, Milwaukee County	I-94 Issues	Corridor update
03/30/06	Barry Bateman, General Mitchell International Airport	Project Overview	Airport spur issues

TABLE 6-12 (CONTINUED)
Meetings with Local Officials

Date	Group/Individuals	Topic	Notes/Issues
03/21/06	Jim Ciha, Milwaukee County Parks	I-94 Outreach and Obtain Info on Parks in the Corridor	Root River/Falk Park
03/22/06	Tracy Williams, City of Milwaukee Dept. of Neighborhood Services	Project Overview	Impact to utilities and city tax base
03/27/06	Kenosha County C local agencies and utilities	Operational Planning Meeting	
03/29/06	Doug Seymour, Planner, City of Oak Creek	Oak Creek planning issues	Drexel Elm Road Interchanges/access process/cost share to local government
05/11/06	Wayde Buck, Kenosha Regional Airport	Project Overview	Informational
05/16/06	Jim Henke & Ron Meyer, Village of Mount Pleasant	Indirect and Cumulative effects	Indirect impacts of project
05/24/06	George Melcher, Kenosha County	Indirect and Cumulative Effects	Potential indirect impacts of project
05/24/06	Jean Werbie, Village of Pleasant Prairie	Indirect and Cumulative Effects	Potential indirect Impacts of project
08/16/06	County G Interchange, local officials, and Departments of Public Works		
08/30/06	City of Milwaukee	Indirect Cumulative Impacts	Indirect impacts of project
09/15/06	Town of Somers	Land Use Plan	Obtain Land Use Plan
09/15/06	Town of Yorkville	Land Use Plan	Land Use and Potential Development
09/20/06	Racine and Kenosha local officials	Round About Presentation, CTH KR Interchange Reconstruction, Racine and Kenosha Counties	Jobs/job training
09/26/06	General Mitchell International Airport, County and Airport Staff	Options for the airport spur	Presented interchange options at I-94 and boulevard options to homeowners
09/26/06	Town of Paris Board Meeting	I-94 and CTH KR	Roundabouts
09/28/06	Jim Ciha, Milwaukee County Park System		Falk Park/Root River Parkway
10/12/06	Franklin and Oak Creek Planning Department	Cost Sharing	Cost sharing by local government
11/09/06	CTH C Kenosha Local Officials Meeting	1031-07-000 CTH C interchange in Kenosha	Presented 30% plan
11/21/06	Village of Caledonia	I-94 Corridor Project Update	Informational
12/12/06	Milwaukee County Parks Meeting	Root River/Falk Park	Potential impacts to Falk Park
12/12/06	Mount Pleasant Department of City Development	STH 20 and STH 11	Moving the frontage road between STH 20 and STH 11 farther east
12/12/06	Racine County/Department of Natural Resources	Snowmobile trail at CTH G	Investigate alternate routes for snowmobile trail to cross I-94

TABLE 6-12 (CONTINUED)
Meetings with Local Officials

Date	Group/Individuals	Topic	Notes/Issues
12/20/06	Racine County Local Officials Meeting	Project Overview	Jobs/job training
01/03/07	Kenosha County—Park Superintendent, John Rudie	CTH E	Discussed existing snowmobile trails within the interchange footprint. No trail impacts are expected.
01/31/07	Caledonia Plan Commission and CDA	I-94 Corridor Study Update	Overview of project
02/02/07	Town of Yorkville-Frontage Road Policy Meeting	Frontage Road access	Discussed DOT policy on access to Frontage Roads
02/15/07	Jim Moyer, Town of Yorkville	Drain Tiles	Discussed location of drain tiles in township
02/23/07	Racine County Department of Public Works	Corridor Discussion	Typical sections on county trunk highways, roundabouts, East Frontage Road, 7 Mile to connect to 27th Street, Bike Trail Routine
03/02/07	Jeff Polenske, City of Milwaukee	Traffic analysis results	Concerned with freeway traffic being rerouted onto 27th Street and Layton Avenue
03/05/07	Milwaukee County Parks System	Project Update	Falk Park impacts
03/07/07	City of Kenosha	CTH K Underpass	
03/20/07	Kenosha Officials	CTH C	Presented 60% plan
03/22/07	SEWRPC	Project Update	
03/23/07	Glenn Lampark, Racine County Public Works	Project Update	
04/24/07	Oak Creek Plan Commission Meetings	Project Update	Drexel and Elm road interchanges

6.1.11 Festivals and Fairs

In addition to regular meetings, the project was exhibited at several local festivals and fairs. The project had a significant presence at the Wisconsin State Fair, where attendees could view exhibits and interact with WisDOT staff. Additionally, neighborhood representatives attended fairs and festivals, staffed booths, and distributed information. In 2006, WisDOT conducted outreach at the following venues:

- Arts Riverwalk—AKA Event
- Black Health Coalition Walk Run
- African American Chamber Public Luncheon
- Pridefest
- Juneteenth Day
- United Negro College Fund Walk Run
- Garfield Jazz Blues Festival
- African World Festival
- MLK Back to School Picnic
- Firefighter's Picnic, Milwaukee
- Laborfest
- Labor 113 Picnic
- Ramadan Feast

6.1.12 Television and Radio

To ensure that Racine and Kenosha County residents received ample information regarding the study, WisDOT produced a 20-minute video on the project. The video began airing on Racine digital cable public access television prior to the public information meetings in November of 2006.

6.1.13 Project Web Site

In March 2006, WisDOT launched the Web site www.sefreeways.org. The site provided Internet users with information on major freeway projects in the region. Information on the I-94 North-South Corridor Study available on the Web site includes the following:

- General information regarding the project including an overview of the project, a map of the project limits, and proposed reconstruction schedule
- Electronic versions of the project newsletter
- Announcements regarding public information meetings
- Exhibits from the public information meetings and workshops
- Information on, and minutes from, advisory committees
- Contact information and a form for requesting a face-to-face meeting

6.1.14 Bilingual Outreach

Because some areas of the project border areas of high Hispanic concentration, WisDOT worked to ensure that the Hispanic population had access to information. All of the project newsletters and fact sheets were translated into Spanish. A neighborhood representative was utilized to ensure that the Hispanic community was engaged in the project. The neighborhood representative disseminated information at key locations in the Hispanic community, made initial contact with key leaders in the community, and provided language support for public information meetings, door–to-door outreach, and phone calls.

WisDOT translated the Milwaukee County update fact sheet into Arabic in 2007 for Middle Eastern residents near the Mitchell Interchange.

6.1.15 Committees

Outreach meetings and PIMs allowed WisDOT to interact with the public. However, to formalize public interaction and to garner more in-depth input on issues affecting the public of the project, four committees were formed:

- The Technical Advisory Committee
- The Community Advisory Committee
- The Community Sensitive Design Committee
- The Disadvantaged Business Enterprise and Labor Advisory Committee

Technical Advisory Committee

The Technical Advisory Committee (TAC) is made up of public agency staff representing towns, villages, cities, and counties along the corridor. See Table 6-13 (TAC Participant List) for a specific listing of individuals, their titles, and affiliations.

The role of the TAC is defined as follows:

- Engage officials and agencies on key aspects of the study
- Act as liaisons to their respective communities
- Support the process, even though you may not support the outcome

Meetings and associated discussions were held on the following dates with TAC:

- **January 25, 2006, 10:00 A.M. at WisDOT offices in Waukesha, Wisconsin**

  Major Items Discussed:

  – What year was the Finding of No Significant Impact completed for the interchanges?

  – What is the range of options you are studying for freeway upgrades?

  – Will WisDOT take over maintenance of frontage roads during construction?

  – Is WisDOT planning on extending the study limits out 1 mile east/west of the corridor?

  – How will WisDOT handle storm water for the corridor?

  – Did WisDOT send direct mail pieces to residents informing them of the community workshops?

- **May 3, 2006, 9:00 A.M., Lakeview Recplex, Pleasant Prairie, Wisconsin**

  Major Items Discussed:

  – Could I-894 be expanded to five lanes in each direction?

  – What happens when an additional lane is added to the freeway?

  – Does WisDOT have anything we can put into our community plans, showing the proposed freeway footprint?

  – Concern that 1996 interchange plans do not adequately provide for development pressures communities are facing.

  – Why is WisDOT starting construction in Kenosha County?

- **November 8, 2006, CATI Center, Sturtevant, Wisconsin**

  Major Items Discussed:

  – Local officials were supportive of WisDOT taking jurisdictional control of the frontage roads.

- WisDOT was questioned about postponing I-94 North-South Corridor Study to advance the Zoo Interchange Study in Milwaukee County.

- **April 24, 2007, Miller Room, O'Donnell Pavilion, Milwaukee, Wisconsin**

  Major Items Discussed:

  - Discussed frontage road access plans for Racine and Kenosha County interchanges.
  - Reviewed community sensitive design options for Racine and Kenosha County interchanges.
  - Viewed screened options for all three counties and discussed options and concepts.

TABLE 6-13
Technical Advisory Committee

Name	Title	Agency
John Bennett	Director of Public Works	City of Franklin
Larry Brumback	Division Director of Planning and Development	Kenosha County Planning and Development
Andy Buehler	Senior Land Use Planner	Kenosha County Planning and Development
Gerald Derr	Town Chairman	Town of Bristol
Carol Fischer	Town Chairperson	Town of Somers
Virgil Gentz	Town Chairman	Town of Paris
Pete Harmet		Illinois Department of Transportation
Mark Hoefs	Village President	Village of Union Grove
Steven Jansen	Village President	Village of Sturtevant
Rich Jones	Director of Public Works	City of Racine
Jeff Katz		Racine County
Glenn Lampark	Director of Public Works	Racine County
Tom Lebak	Administrator	Village of Caledonia
Mike Lemens		City of Kenosha
Jeff Mantes	Commissioner of Public Works	City of Milwaukee
Cecil Mehring		Racine County
George Melcher	Director of Planning & Development	Kenosha County Planning and Development
Jim Moyer	Town Chairman	Town of Yorkville
Michael Andreasen	Administrator	Village of Mount Pleasant
Fred Patrie	Director of Public Works	Kenosha County
Dave Platz		Federal Highway Administration
Jeff Polenske	City Engineer	City of Milwaukee
Mike Pollocoff	Executive Director, Community Development Authority	Village of Pleasant Prairie
Ron Romeise	Assistant City Engineer	City of Franklin

TABLE 6-13 (CONTINUED)
Technical Advisory Committee

Name	Title	Agency
Colin Sadler	Town Chairman	Town of Raymond
David Scott		Federal Highway Administration
Richard Sokol	Director of Public Works	City of Greenfield
Wayne St John	Public Works Director	City of Oak Creek
John Steinbrink	Village President	Village of Pleasant Prairie
Matthew Sullivan	Engineer	City of Oak Creek
George Torres	Director of Public Works	Milwaukee County
Jean Werbie	Community Development Director	Village of Pleasant Prairie
Rick Young		Illinois Department of Transportation
Ken Yunker	Deputy Director	SEWRPC

Community Advisory Committee

The Community Advisory Committee is made up of homeowners, business owners, business associations, community-based organizations, and school representatives. See Table 6-14 for a specific listing of individuals, their titles, and affiliations.

TABLE 6-14
Community Advisory Committee Participant List

Name	Title	Representing
Dean Brown	Executive Director	13th District Neighborhood Association
Roger Caron	President	Racine Area Manufacturers and Commerce
Diane Goemans	Homeowner	18th Street neighborhood Resident
Ted Grintjes	Committee Member	Franklin Economic Development Commission
John Helding	President	Legacy Development Company
Christine Henning	Executive Director	Racine County Economic Development Corporation
Joe and Yvonne Makowski	Homeowner	SE quadrant of Mitchell Interchange
Seyoum Mengesha	Executive Director	Community Economic Development Corporation
Linda Mielke	Plan Commission member	Village of Caledonia
Mike Reba	Homeowner	Plainfield curve resident
Tom Rosandich	Homeowner	Oak Creek resident at Drexel Avenue
Bill Streeter		UW Parkside
Bill Tucker	General Manager	Prime Outlets
Keith and Nancy Ulicki	Owner	Uke's Harley Davidson
Barbara Wesener	Executive Director	Southeastern Chamber United in Business
Julia D'Amato	Principal	Ronald Reagan Preparatory High School

TABLE 6-14 (CONTINUED)
Community Advisory Committee Participant List

Name	Title	Representing
Todd Battle	President	Kenosha Area Business Alliance
Nabil Salous	President	Islamic Center
Richard Cimple	Program Chair	South Side Business Association
Tara Cavazos		South 27th Street Business District Association
Marilyn Spiegel	Homeowner	St Roman's area resident
Jerry Willcom	President	Jerry Willcom, Inc.
Roger Caron	President	Racine Area Manufacturers and Commerce
Ola Baiyewu	Director	First Choice Pre-Apprentice Program
Taimi Perry	Principal	Garland Elementary School
Rosalie Greco	Principal	Lowell Elementary School
Greg Linder	President	Airport Gateway Business Association
Ricardo Diaz	Executive Director	UCC/Centro De La Comunidad Unida
Rev. Pedro Lopez		Primera Iglesia Luterna
Ms. Katrina Wardrip	Des Plaines Project Coordinator	Kenosha/Racine Land Trust
Jim Price		Park People of Milwaukee County
Dennis Worthy	General Manager	Metro Milwaukee Auto Auction
Chad Navis		WISPARK - Lakeview Corporate Park

The role of the Community Advisory Committee is defined as follows:

- Function as a sounding board for stakeholder interests along the corridor.
- Provide feedback to alternatives, issues, and concepts throughout the development of the Environmental Impact Statement.
- The group has no official capacity or voting authority—it is advisory to the project team.

Members were selected to participate on this committee based on one of the following criteria:

- Must represent an area of the project or a stakeholder group
- Must live within the limits of the corridor

Community Advisory Committee meetings were held on the following dates:

- **August 24, 2006, 6:30 P.M., CATI Center, Sturtevant, Wisconsin**

  Major Items Discussed:

  – WisDOT was asked how the Technical Advisory Committee, Community Advisory Committee, and Disadvantaged Business Enterprise Committee would all work together.

- WisDOT was asked how they were going to make businesses aware of when portions of the freeway would be closed for construction.
- How was the design of specific interchanges developed?
- WisDOT was asked about aesthetic design treatments for the project.
- WisDOT was asked about noise from pavements and what could be done to minimize it.
- Participants broke up into four groups and brainstormed answers for the following questions:
  - What must WisDOT do to ensure that the implementation of the project meets the needs of the community?
  - Fill in the blank, "As long as WisDOT does something about _____, I will consider this project positive and successful."
  - Besides mainstream media such as newspaper and nightly news, by what other means to you and members of your community collect important public information?

- **November 16, 2006, 6:30 P.M., CATI Center, Sturtevant, Wisconsin**

  Major Items Discussed:

  - WisDOT was asked about status of the Elm Road and Drexel Avenue interchanges in Oak Creek.
  - WisDOT was asked when the decision would be made regarding a preferred alternative.
  - WisDOT was asked about the freeway being expanded to five lanes in the future in Racine and Kenosha Counties.

- **April 25, 2007, 6:30 P.M., CATI Center, Sturtevant, Wisconsin**

  Major Items Discussed:

  - The committee discussed issues they have heard from their constituents.
  - Many constituents were not aware of the No-Build Alternative and Safety and Design Improvements (6-lane) Alternative, and had assumed that the project would widen I-94 to 8 lanes.
  - The committee reviewed options for community sensitive design.
  - The committee also reviewed upcoming Public Involvement Meeting exhibits.

Community Sensitive Design Advisory Committee

The CSDAC is made up of representatives from each local unit of government (in Racine and Kenosha counties) and business owners along the project corridor. See Table 6-15 for a specific listing of individuals, their titles, and affiliations. Currently, the CSDAC focuses on 11 service interchanges in Racine and Kenosha counties. A Milwaukee County community sensitive design committee will be formed in 2008.

TABLE 6-15
Community Sensitive Design Committee Participant List

Full Name	Representing	Title
Judy Aimone	Town of Yorkville	Yorkville Clerk
James Moyer	Town of Yorkville	Town Chairman
Dave Flannery	Apple Holler	Owner
Virgil Gentz	Town of Paris	Town Chairman
Carolyn Engle	Racine County Economic Development Corporation	Racine County Economic Development Corporation
Randy Kerkman	Town of Bristol	Bristol Town Administrator
Jeff Labahn	City of Kenosha	Acting Director of City Development
Thomas Lebak	Village of Caledonia	Village Administrator
George Melcher	Kenosha County Department of Planning and Development	Director
Cole Sadler	Town of Raymond	Town Chairman
Bill Tucker	Prime Outlets	General Manager
Jean Werbie	Village of Pleasant Prairie	Community Development Director
Julie Anderson	Racine County Planning and Development	Racine County Planning Director
Todd Battle	Kenosha Area Business Alliance	President
Roger Caron	Racine Area Manufacturers and Commerce	President
Cecil Mehring	Racine County	Manager of Planning and Engineering
Bill Morris	Town of Somers	Administrator
Ron Myer	Village of Mount Pleasant	Planner
Brian O'Connell	City of Racine	Director of City Development
Gary Sipsma	Kenosha County	Director of Highways
Keith Ulicki	Uke's Harley Davidson	Owner
Jerry Willkomm	Petro Truck Stop	Owner
Dennis Worthy	Metro Milwaukee Auto Auction	
Dean Amhaus	Milwaukee 7	

The role of the CSDAC is defined as follows:

- Provide input on the "character" of their community
- Develop concepts, with project staff, for aesthetic treatments along the corridor
- Act as a liaison to their respective community or stakeholders to get feedback on proposed aesthetic treatments

CSDAC meetings were held on the following dates:

- **January 25, 2007, 4:00 P.M., CATI Center, Sturtevant, Wisconsin**

  Major Items Discussed:

  - After a general overview presentation on community-sensitive design (CSD), participants were broken up into two groups by county.
  - Participants were asked to brainstorm the following questions:
    - Describe your community image.
    - Describe the vision of your community for the future.
    - What opportunities and constraints do you see for community sensitive design?

- **March 1, 2007, 2 P.M., CATI Center, Sturtevant, Wisconsin**

  Major Items Discussed:

  - The study team reviewed major themes that became apparent during the first workshop.
  - Participants were broken up into groups and shown a catalog of basic styles and sample treatment options.
  - Participants were asked to select those styles, treatment options and colors that conveyed those themes.

- **March 29, 2007, 2 P.M., CATI Center, Sturtevant, Wisconsin**

  Major Items Discussed:

  - Using the styles and treatment options selected by the participants in the second workshop, the study team sketched potential themes for the interchanges.
  - The study team showed the participants three potential styles.
  - Participants selected two themes to show to the public.

- **May 31, 2007, 2 P.M., RecPlex, Pleasant Prairie, Wisconsin**

  Major Items Discussed:

  - The committee reviewed comments from the Public Information Meetings regarding community sensitive design options.
  - The committee voted on an option and selected the "meadow option" as the style for Racine and Kenosha County Interchanges and bridges.

DBE and Labor Advisory Committee

The DBE Advisory Committee was created to improve coordination, communication, and planning of WisDOT programs and projects within the communities affected by its projects. The committee consists of a wide range of transportation industry businesses, agencies, and government.

The Labor Advisory Committee was created to involve management level key stakeholders in the community and a wide range of participants including residents, labor associations and government agencies.

The goals of the DBE Advisory Committee are as follows:

- Foster, nurture, and promote effective and community-oriented relationships with businesses.
- Identify appropriate and effective best practices to do business and disseminate to WisDOT's leadership, management team, and staff.
- Provide guidance in the areas of business training, technical assistance, and products to expand capacity and quality of life.
- Provide a mechanism and forum for WisDOT to explain efforts and community to relay expectations.

The goals of the Labor Advisory Committee are as follows:

- Review information on issues affecting equitable workforce participation of women and minorities on the project.
- Suggest key resources that will lead to resolution.
- Review goals and assess progress on attaining goals.

As part of its key activities, the DBE Advisory Committee will:

- Exchange and share information.
- Educate the community on WisDOT business opportunities.
- Understand potential barriers or challenges for achieving business participation on this project.
- Recommend training and support resources.
- Work within the timelines and measures to succeed.
- Track the deliverables and compile statistics.

As part of its key Activities Labor Advisory Committee will:

- Identify potential barriers or labor opportunities for the area communities.
- Provide suggested guidance in training.
- Track the job deliverables and compile statistics.

The DBE Advisory Committee will address DBE goal recommendations on a project-by-project basis, analyze potential DBE participation, review and analyze DBE participation for construction work, and use a proven methodology to determine equitable DBE goals

The Labor Advisory Committee will address concerns and issues about access to jobs, evaluate training criteria and needs, monitor training and outcomes, review resource needs, and network with contractors to reinforce community expectations for hiring and monitoring discretionary goals.

TABLE 6-16
DBE Advisory Committee Participant List

Name	Representing
Richard Caradine (Chairman)	Perfect Touch Cleaners
Marie Black	Hispanic Chronicle
Tom Burse	Buveck Consultants
Roger Caron	Racine Area Manufactures and Commerce
Diane Chamness	Chamness Consulting Inc.
Spencer Coggs	WI State Legislator
David Cole	Vision General Contractors
Bill Erickson	Kenosha Co. Job Center
Keith Fair	The City of Racine
Wendell Funderburg	Century 21 Savaglio & Cape
Corey Jackson	Jackson Practitioner Group Inc.
Roberto Gonzalez	National Association of Minority Contractors, WI
Naison Nyamatutu	Vanstone Printing
Ruben Martinez	R & R Investments
Marie Oliver	Marie Oliver Accounting & Tax Service
Scott Piefer	Zenith Tech Inc.
Jerome Powell	J.P. Landscaping
William Stark	FHWA
George Stinson	General Converters & Assembly
Tom Walker	Wisconsin Transportation Builders Association

TABLE 6-17
Labor Advisory Committee Participant List

Name	Representing
Robert Turner (Chairman)	State Representative
Gary Cotton	Racine/Kenosha Community Action Agency
John Antaramian	City of Kenosha
Olen Arrington	Second Baptist Church
Olatoye Baiyewu	First Choice Pre-Apprenticeship Job Training Program
Lyle Balestreri	Milwaukee Building Trades
Gary Becker	City of Racine
Everett C Butler	City of Kenosha, 10th Aldermanic District
Paul Cesarz	Milwaukee County Supervisor, 9th District
Shonda Collins	St. Paul Missionary Baptist Church
Keith Evans	Greater Mount Eagle Baptist Church
Nacarci Feaster	Laborers Union Local 113
Alfonso Gardner	Racine/Kenosha Economic Inclusion Coalition

TABLE 6-17 (CONTINUED)
Labor Advisory Committee Participant List

Name	Representing
Jameel Ghuari	George Bray Neighborhood Center
Adelene Greene	Kenosha County Job Center
Joe Harris	State Department of Workforce Development
Beverly Hicks	NAACP
Allan Kehl	Kenosha County Executive
Michael Coleman	NAACP
Lawrence L. Kirby	St. Paul Missionary Baptist Church
Diane Knutson	Department of Workforce Development SE Job Service District
Katherine Marks	United Way of Kenosha
John Milisauskas	Kenosha County Job Center
Beth Norris	SE Workforce Development Board
Alice Oliver	Racine County Workforce Development Center
Dawn Pratt	Construction Resources Management
Morris Reece	Fair Housing of Racine
Tom Reiherzer	SE WI Building Construction Trades Council Local 118
Fred Richmond	New Omega Church
Carol Sample	Spotted Eagle Inc.
Jerry Scott	Human Resources/Affirmative Action Officer-City of Racine
Scott Sharp	AFSCME Wisconsin Council 40
Senator Lena Taylor	State Legislature
James Wilson	Martin Luther King Center

6.2 Agency Coordination

The Notice of Intent to Prepare a Draft EIS for the I-94 North-South Corridor Study appeared in the *Federal Register* on December 23, 2005.

Coordination with state and federal review agencies and Native American tribes began in January 2006 and continued through development and refinement of alternatives and preparation of the Draft EIS. Table 6-18 summarizes key agency coordination activities. Appendix C contains all agency correspondence cited in this section.

Congress passed the *Safe, Accountable, and Flexible Efficient Transportation Equity Act–A Legacy for Users* (SAFETEA-LU) in August 2005. SAFETEA-LU included several measures to require early coordination with a broad range of local, state, tribal and federal agencies. SAFETEA-LU created a new category of agencies to participate in the environmental review process for EISs. These 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. The Participating Agencies are formally invited to participate in the environmental review of a project.

FHWA guidance implementing the agency coordination elements of SAFETEA-LU was issued in December 2006, well after agency coordination for this study had begun.

However, the following SAFETEA-LU 6002 agency coordination requirements were addressed after the guidance was issued:

- An invitation to be a Cooperating Agency was sent to the Corps on April 30, 2007, and a response from the COE was received on May 17, 2007, agreeing to serve as a Cooperating Agency.
- An Agency Scoping Meeting invitation was sent to the agencies on January 5, 2006, inviting the federal, state and tribal agencies to be participating agencies. Federal agencies must decline in writing to FHWA. The National Park Service declined to be a participating agency. The state and tribal agencies are required to accept in writing. No state and tribal agencies accepted the invitation to be a participating agency. However, WDNR and WisDOT have an existing cooperative agreement to coordinate on highway projects. WDNR and WisDOT have met every two weeks to discuss the project and WDNR has provided input and concurrence at key project milestones.
- Impact Assessment Methodologies were developed for each of the impact categories. Those impact categories include Socioeconomic, Commercial and Residential, Environmental Justice, Indirect and Cumulative Effects, Agricultural, Air Quality, Noise, Wetlands, Water Resource and Floodplain, Upland Habitat/Wildlife, Threatened and Endangered Species, Public Use Lands, Cultural Resource, Hazardous Materials, Aesthetic, and Construction. These were shared with the public at the May 2007 public information meetings at the agencies at the June 14, 2007, meeting.
- A coordination plan was developed in May 2007 and shared at the May 2007 public information meetings and at the June 14, 2007, Agency Coordination Meeting with the agencies.
- An Environmental Review Project Initiation letter was sent from WisDOT to FHWA on June 26, 2007.

WisDOT and FHWA engaged a wide range of local, state, and federal agencies in this study. This section is divided into three areas:

- Local government coordination
- State agency coordination
- Federal agency and tribal coordination

6.2.1 State Agency Coordination

WisDOT coordinated with several state agencies in Wisconsin and Illinois.

Wisconsin Department of Natural Resources

WisDOT and DNR implement the November 2002 Cooperative Agreement for agency coordination. DNR attended the agency scoping meeting for this study in January 2006.

WisDOT meets with DNR every two weeks to discuss the I-94 North-South Corridor Study. In addition, WisDOT met with DNR air quality staff in September 2006 and May 2007 to discuss the range of alternatives considered, including the viability of high occupancy vehicle lanes, and air quality. DNR provided data on threatened and endangered species in the study area in February 2006 (see Appendix C, page C-2 and C-3). WisDOT met with DNR staff to discuss the presence of, and potential impacts to, threatened and endangered species in January 2007.

DNR concurred with the purpose of and need for the project in 2006 (see Appendix C, page C-4). DNR concurred with the range of alternatives considered in May 2007 (see Appendix C, page C-5). DNR and WisDOT met in January 2007 to discuss threatened and endangered species (see Appendix C, page C-6). DNR participated in a June 2007 meeting when WisDOT indicated it may select the Safety and Design Improvements with Added Capacity Alternative as it's preferred alternative.

Wisconsin Department of Agriculture, Trade, and Consumer Protection (DATCP)

WisDOT notified DATCP of the I-94 North-South Corridor Study in January 2006. WisDOT submitted an Agricultural Impact Notice to DATCP in July 2007. DATCP indicated it will prepare an Agricultural Impact Statement (Appendix C, page C-6a).

Wisconsin State Historic Preservation Office

WisDOT informed SHPO of the I-94 North-South Corridor Study in January 2006. In February 2007, WisDOT submitted information to SHPO to document compliance with Section 106 of the National Historic Preservation Act. SHPO concurred with WisDOT's conclusion that no cultural resources would be affected by the project (Appendix C, page C-7).

Wisconsin Department of Administration—Coastal Management Program (CMP)

WisDOT informed the CMP of the project in January 2006. No response was received. WisDOT contacted the program in August 2007. CMP will respond in writing and note the need to comply with DNR, Corps, and local permitting requirements.

Illinois Department of Natural Resources

WisDOT used Illinois DNR's online Ecological Compliance Assessment Tool to assess the presence of sensitive environmental resources in the Illinois portion of the study area. WisDOT also contacted Illinois DNR to inform them of the study (Appendix C, pages C-8 and C-9).

Illinois Department of Transportation

WisDOT met with IDOT on several occasions. WisDOT keeps IDOT informed of its coordination with other Illinois state agencies. IDOT has jurisdiction over I-94 from the Illinois/Wisconsin state line to Russell Road.

Illinois State Toll Highway Authority (Tollway)

The Illinois Tollway began reconstructing I-94 in Illinois in 2007. WisDOT and the Illinois Tollway have met on several occasions during the study and exchanged information on each other's studies.

Illinois SHPO

In February 2007, WisDOT submitted information through IDOT to the Illinois SHPO to document compliance with Section 106 of the National Historic Preservation Act in the Illinois portion of the study area. In May 2007 Illinois SHPO concurred with WisDOT's conclusion that no cultural resources would be affected by the project (Appendix C, page C-10).

6.2.2 Federal Agency and Tribal Coordination

Merged NEPA/Section 404 Process

WisDOT and FHWA utilized the Merged NEPA/Section 404 process for this study. The merged NEPA/404 process calls for WisDOT and FHWA to solicit input and concurrence from federal resource agencies at key milestones in project development such as the purpose and need for the project, the range of alternatives considered, the preferred alternative, and mitigation measures. U.S. EPA, Corps, and FWS all participated in the process. Wisconsin DNR also participated in the Merged NEPA/404 process. The Corps agreed to serve as a cooperating agency for this EIS (see Appendix C, page C-13).

Key agency coordination milestones in the Merged NEPA/404 process were as follows:

- Agency scoping meeting, January 2006. U.S. EPA and Corps attended this meeting. WisDOT and FHWA reviewed the study scope and schedule. WisDOT followed up with FWS after the meeting to brief them on the project. U.S. EPA and FWS provided initial comments on the project (see Appendix C, pages C-14 and C-17).
- Agency review and concurrence in the project's purpose and need statement, summer 2006. WisDOT provided the project's Purpose and Need Statement (Section 1 of this EIS) to U.S. EPA, Corps, and FWS. All three agencies either concurred with the purpose and need for the project or deemed it "reasonably defined." Based on the feedback from the agencies, WisDOT did not convene a meeting to discuss the purpose and need statement (Appendix C, pages C-11, C-15, and C-18).
- Agency review and concurrence in the range of alternatives considered, winter/spring 2007. A meeting was held in January 2007 to review the range of alternatives considered and note which alternatives have been dropped from consideration. At the time of the meeting the two alternatives remaining under consideration were the Safety and Design Improvements Alternative and the Safety and Design Improvements with Added Capacity Alternative. WisDOT and FHWA also provided the agencies a preliminary review of the impacts of both alternatives. WisDOT and FHWA provided the Alternatives Considered section of the EIS to U.S. EPA, Corps, and FWS to review shortly after the meeting. All three agencies concurred with the range of alternatives considered (see Appendix C, pages C-12, C-16, and C-20).

Agency Review of WisDOT's Preferred Alternative

WisDOT met with U.S. EPA, Corps, and FWS in June 2007 and provided more information on the impacts of the Build Alternatives. WisDOT also indicated it may identify the Safety and Design Improvements Alternative with Added Capacity as its preferred alternative in this Draft EIS.

6.2.3 Other Federal Agency Coordination

The National Park Service declined to be a participating agency for this study (see Appendix C, page C-21).

WisDOT contacted NRCS to determine whether any conservation easements are in place in the corridor (none are). WisDOT also contacted NRCS to coordinate submittal of the AD 1006 Farmland Conversion Impact Rating Forms (Exhibit 4-7). NRCS indicated it was not necessary for WisDOT to submit the AD 1006 forms if the total of Section 6 is less than 60 points.

Tribal Coordination

WisDOT sent letters describing the I-94 North-South Corridor Study to 10 tribes that have requested notification about WisDOT projects in southeast Wisconsin. WisDOT also notified the Great Lakes Intertribal Council and the Bureau of Indian Affairs Midwest Regional Office.

Three tribes responded, indicating they have no objections to the proposed project (see Appendix C, pages C-22, C-23 and C-24).

6.2.4 Local Government Coordination

WisDOT has met with each local government in the study area several times during this study. A key venue for local government coordination is the TAC. WisDOT invited each local government in the corridor to attend these meetings to get updates on the study progress and the alternatives under consideration. WisDOT solicited input from local officials at these meetings as well. The TAC consisted of planning and engineering staff. Four TAC meetings were held during the study:

- January 2006. WisDOT described the role of the committee, the study schedule, key elements of the study, and the range of alternatives to be considered.
- May 2006. WisDOT described the conceptual construction staging plan, proposed frontage road ownership policy, the purpose and need for the project, an update on information to be shared at the upcoming public information meetings, and an update on design of service interchanges in Racine and Kenosha counties.
- November 2006. WisDOT described its adopted frontage road policy and planned frontage access control policy, cost share policy, alternatives screening, and an update on design of service interchanges in Racine and Kenosha counties.
- April 2007. WisDOT described its adopted frontage road access policy, update on alternatives screening, a preview of the upcoming public information meetings, and an update on design of service interchanges in Racine and Kenosha counties.

In addition to the TAC, WisDOT met with elected officials and staff from each county, municipality and town in the study area, often on several occasions.

Key issues raised by local governments include the following:

City of Milwaukee

- Concerns over residential relocations in the City of Milwaukee if capacity is added to I-94 (Appendix C, page C-26)

- Support keeping the Layton Avenue interchange with I-94 (Appendix C, page C-27)
- Traffic operation impacts at intersection 27th Street/Layton Avenue with loss of full access at 27th Street interchange (Appendix C, page C-28)

Milwaukee County

Milwaukee County Executive Scott Walker supports a new interchange with I-94 at Drexel Avenue (Appendix C, page C-29).

Racine County

The Racine County Board passed a resolution in May 2007 supporting adding capacity to I-94 (Appendix C, page C-30).

U.S. Congressman Paul Ryan

Congressman Ryan supports a new interchange with I-94 at Drexel Avenue (see Appendix C, page C-31).

Cities of Oak Creek and Franklin

Both communities support a new interchange with I-94 at Drexel Avenue and a full interchange with I-94 at 27th Street (near Racine/Milwaukee county line) (see Appendix C, page C-32 and C-33).

TABLE 6-18
Agency Coordination Summary

Agency	Coordination Activities and Letters Received
State Agencies	
Wisconsin DNR	January 23, 2006—Participated in agency scoping meeting February 13, 2006—Letter from DNR with preliminary scoping comments and recommendations (Appendix C, page C-1) February 13, 2006—Letter from DNR with results of National Heritage Inventory database search (Appendix C, page C-2) February 16, 2006—Letter from DNR with more detailed data on records of threatened and endangered species in the corridor (Appendix C, page C-3) July 19, 2006—WisDOT briefed DNR on project purpose and need August 31, 2006—E-mail from DNR concurrence in project purpose and need (Appendix C, page C-4) September 20, 2006—Participated in meeting to discuss range of alternatives and viability of high-occupancy vehicle lanes January 31, 2007—Participated in inter-agency meeting on range of alternatives considered and preliminary review of impacts (Appendix C, page C-6) May 2, 2007—DNR concurrence with the range of alternatives considered (Appendix C, page C-5) June 14, 2007—Participated in inter-agency meeting on impacts of the Build Alternatives and update on alternatives Beginning in September 2006, WisDOT and DNR staff meet bi-weekly to discuss the I-94 North-South Corridor Study.

TABLE 6-18 (CONTINUED)
Agency Coordination Summary

Agency	Coordination Activities and Letters Received
Wisconsin SHPO	January 2006—WisDOT letter to SHPO informing them of the study and the agency scoping meeting February 2007—WisDOT submits documentation to SHPO to document compliance with Section 106 February 2007—SHPO concurrence with WisDOT conclusion that no significant cultural resources will be affected (Appendix C, page C-7)
Wisconsin DATCP	January 2006—WisDOT letter to DATCP informing them of the study and the agency scoping meeting June 2007—Phone conversation with DATCP staff regarding need for an agricultural impact statement. July 2007—WisDOT submits Agricultural Impact Notice to DATCP August 8, 2007—DATCP letter indicating an Agricultural Impact Statement appears necessary (Appendix C, page C-6a)
Illinois DNR	March 2, 2006—E-mail from IDNR providing T&E species data (Appendix C, page C-8) WisDOT used Illinois DNR's online Ecological Compliance Assessment Tool (Appendix C, page C-9)
Illinois Department of Transportation	Participated in the January 2006 Technical Advisory Committee meeting. WisDOT submitted Section 106 compliance documentation to IDOT for transmittal to Illinois SHPO in February 2007.
Illinois State Toll Highway Authority	Participated in a December 2005 inter-agency meeting
Illinois SHPO	WisDOT submitted Section 106 compliance documentation Illinois SHPO (through IDOT) in February 2007. May 11, 2007—Illinois SHPO concurrence with WisDOT conclusion that no significant cultural resources will be affected (Appendix C, page C-10)
Federal Agencies	
Corps	January 23, 2006—Participated in agency scoping meeting July 13, 2006—Letter from Corps concurring with project's purpose and need (Appendix C, page C-11) January 31, 2007—Participated in inter-agency meeting on range of alternatives considered and preliminary review of impacts February 28, 2007—Letter from Corps concurring with range of alternatives considered (Appendix C, page C-12) May 17, 2007—Letter from Corps agreeing to be cooperating agency for the EIS (Appendix C, page C-13) June 14, 2007—Participated in inter-agency meeting on impacts of the Build Alternatives and update on alternatives
U.S. EPA	January 23, 2006—Participated in agency scoping meeting February 6, 2006—Letter from U.S. EPA agreeing to be participating agency (Appendix C, page C-14) July 17, 2006—Letter from U.S. EPA stating the project's purpose and need is reasonably defined and provides adequate information to frame the alternatives analysis (Appendix C, page C-15) January 31, 2007—Participated in inter-agency meeting on range of alternatives considered and preliminary review of impacts

TABLE 6-18 (CONTINUED)
Agency Coordination Summary

Agency	Coordination Activities and Letters Received
	March 21, 2007—Letter from U.S. EPA concurring with range of alternatives considered, encouraging WisDOT and FHWA to minimize wetland impacts (Appendix C, page C-16)
	June 14, 2007—Participated in inter-agency meeting on impacts of the Build Alternatives and update on alternatives
FWS	January 2006—WisDOT letter to FWS informing them of the study and the agency scoping meeting and requested federal threatened and endangered species data
	March 13, 2006—Letter from FWS with threatened and endangered species data and initial comments on the study (Appendix C, page C-17)
	July 27, 2006—E-mail from FWS regarding the project's purpose and need statement (Appendix C, page C-18)
	October 17, 2006—E-mail from FWS regarding federally listed threatened and endangered species in the Lake County, IL portion of the study area (Appendix C, page C-19)
	March 15, 2007—Letter from FWS concurring in range of alternatives considered (Appendix C, page C-20)
	June 14, 2007—Participated in inter-agency meeting on impacts of the Build Alternatives and update on alternatives
U.S. Department of the Interior—NPS	January 2006—WisDOT letter to NPS informing them of the study and the agency scoping meeting
	January 9, 2006—E-mail from NPS declining to be a participating agency (Appendix C, page C-21)
U.S. Department of Agriculture—NRCS	January 2006—WisDOT letter to NRCS informing them of the study and the agency scoping meeting
	March 5, 2007—Phone conversation with NRCS staff regarding processing AD 1006 forms
Native American Tribes	
Bad River Band of Lake Superior Chippewa Indians of Wisconsin, Forest County Potawatomi Community of Wisconsin, Ho-Chunk Nation, Red Cliff Band of Lake Superior Chippewa Indians of Wisconsin, Sokaogon Chippewa Community Mole Lake Band, Prairie Band Potawatomi Nation, Menominee Indian Tribe of Wisconsin, Sac and Fox Nation of Missouri, Sac and Fox Nation of Oklahoma, Sac and Fox of the Mississippi in Iowa, Great Lakes Intertribal Council	January 2006—Letter from WisDOT to tribes informing them of the study and asking for comments on the study or information on cultural resources in the study area.
	February 6, 2006—Letter from Prairie Band Potawatomi Nation stating no objections to the project and requesting to be notified if any cultural resources are discovered (Appendix C, page C-22)
	February 9, 2006—Letter from Sac and Fox Nation of Missouri in Kansas and Nebraska stating no objections to the project and requesting to be notified if any cultural resources are discovered (Appendix C, page C-23)
	February 10, 2006—Letter from Sac and Fox Nation of the Mississippi in Iowa stating no objections to the project and requesting to be notified if any cultural resources are discovered (Appendix C, page C-24)
Local Agencies	Also see Tables 6-11 and 6-12
Milwaukee County Historical Society, Racine County Historical Society, Kenosha County Historical Society, Oak Creek Historical Society	February 21, 2006—Letter to historical societies informing them of the study and asking for input
	March 3, 2006—Letter from Milwaukee County Historical Society stating that no Milwaukee County Landmarks would be adversely affected by the project (Appendix C, page C-25)

TABLE 6-18 (CONTINUED)
Agency Coordination Summary

Agency	Coordination Activities and Letters Received
City of Milwaukee	June 8, 2006—Letter from the City of Milwaukee stating opposition to capacity expansion within the City (Appendix C, page C-26)
	March 22, 2007—Resolution from City of Milwaukee urging WisDOT to retain an interchange at Layton Avenue (Appendix C, page C-27)
	August 21, 2007—Letter from City of Milwaukee summarizing their position on Build Alternatives and service interchange alternatives in the City of Milwaukee (Appendix C, page C-28)
Milwaukee County	May 22, 2007—Letter from Milwaukee County supporting Drexel Avenue interchange with I-94 (Appendix C, page C-29)
Racine County	May 22, 2007—Resolution from Racine County Board supporting adding capacity to I-94 (Appendix C, page C-30)
City of Oak Creek	August 6, 2007—Resolution from City Council supporting Drexel Avenue interchange (Appendix C, page C-32)
Franklin Economic Development Commission	June 25, 2007—Resolution from Franklin Economic Development Commission supporting Drexel Avenue interchange (Appendix C, page C-33)

Tables

SECTION 7

Comments and Coordination Following Draft EIS Availability and Public Hearing

This section discusses community involvement activities and coordination with state and federal review agencies and other interest groups following the release of the Draft EIS, including the public hearing. The public involvement process was open to all residents and population groups in the study area.

7.1 Public Involvement

The public hearings were held on December 3, 2007, at the West Middle School, 8401 13th Street, Oak Creek; December 6, 2007, at the Mahone Middle School, 6900 60th Street, Kenosha; December 14, 2007, (rescheduled from December 11 due to inclement weather) at the CATI Center, 2320 Renaissance Boulevard, Sturtevant; and December 12, 2007, at the Best Western Airport Hotel, 5105 South Howell Avenue, Milwaukee. The hearing in Kenosha was held from 5 to 8 P.M., while the hearings in Sturtevant, Oak Creek, and Milwaukee were held from 4 to 8 P.M. A total of 405 people attended the hearings: 62 in Kenosha, 76 in Sturtevant, 100 in Oak Creek, and 167 in Milwaukee.

The public hearing was an open house format, and representatives from WisDOT and the consultant team were available to review project alternatives, listen to comments, answer questions, and explain procedures for providing testimony. Two formats for providing testimony were available at the hearing: oral presentations to a court reporter and written comment forms at the hearing. The comment forms could also be mailed or faxed in after the public hearing, or comments could be emailed to the project e-mail address, dotsefreeways94nsc@dot.state.wi.us, which was provided on the comment form and in the project newsletter on the I-94 north-south corridor Web site. All forms of testimony were given equal consideration. The DEIS comment period was originally from November 16 to December 31, 2007. However, after several requests, the comment period was extended until January 25, 2008.

The notice announcing the public hearing, comment period, and release of the Draft EIS was published in the Federal Register on November 16, 2007, and local newspapers of record. A display advertisement announcing the hearing dates and comment period also appeared in the *Daily Reporter, Oak Creek Now, Greenfield Now, Racine Journal Times, Westine Reports, Kenosha News, Labor Paper, News Sun* (Waukegan), *Illinois News Sun, CNI-South Zone, CNI-Midwest, Kenosha Labor Paper, Milwaukee Journal Sentinel,* and *Chicago Sun Times*. In addition, a postcard announcing the hearing dates and comment period was mailed to the project's mailing list, which includes approximately 14,000 individuals.

Exhibits at the public hearing included:

- Project costs
- Reconstruction timeline
- I-94 corridor outreach meetings
- Community sensitive designs for Racine and Kenosha Counties
- Pavement age
- High crash rates
- Existing and future traffic in the morning and afternoon rush hours
- Existing and future levels of service
- Safety improvements
- 27th Street and Layton Avenue alternatives
- 27th Street preferred alternative
- Traffic diversions for partial access on 27th Street showing traffic flow for the 27th Street preferred alternative
- Mitchell Interchange 6-lane alternative
- Mitchell Interchange preferred alternative
- Mitchell Interchange problems and solutions
- Mitchell Airport spur preferred alternative
- Airport Spur Boulevard designs
- Plainfield curve alternative
- Impact assessment methodologies
- Alternatives and impacts table
- Draft EIS's available for review

WisDOT real estate personnel and disadvantaged business enterprise support staff were also present to answer questions.

A presentation detailing the project scope, alternatives, schedule, budget, contacts, environmental impacts, public involvement, the DEIS to FEIS process, timeline, and procedures for providing oral and written testimony was given every half hour. Comment forms were available at the public hearing. A newsletter detailing the process for giving oral and written testimony at the public hearing was also mailed to the project's mailing list.

7.2 Summary of Oral and Written Comments

During the public hearing and public comment period, 609 comments were received. The following table summarizes the comments into categories. Comments that included more than one issue were noted in multiple categories.

TABLE 7-1
Public Comment Summary

Comment Category	Total
ALTERNATIVES	
Preferred Mainline Alternative (8 Lanes)	
Opposes	128
Supports	72
Preferred 27th Street Alternative (partial closing of the 27th Street/I-894 interchange)	
Opposes	292
Supports	7

TABLE 7-1 (CONTINUED)
Public Comment Summary

Comment Category	Total
Drexel Avenue Alternative (building a new interchange at I-94 and Drexel)	
Opposes	15
Supports	16
Layton Avenue Preferred Alternative (keep Layton interchange and I-94 open)	
Supports	6
TRANSPORTATION CONCERNS	
Build Transit before Adding Capacity to the Freeway	
Opposes	7
Supports	110
Concerned about Increasing Gas Prices	22
Concerned about Increasing Oil Dependency	12
Support Building HOV (High Occupancy Vehicles)/Toll Lanes	8
Support Building Zoo Interchange before I-94 North-South Corridor	7
ENVIRONMENTAL CONCERNS	
Concerned about Noise Impacts	27
Concerned about Pollution in General	21
Concerned about Air Quality Impacts	18
Concerned about Global Warming	20
Concerned about Environmental Justice	13
Concerned about Water Resources Impacts	12
Concerned about Flooding in the Corridor	7
TOTAL COMMENTS RECEIVED	609

Those who supported the WisDOT preferred alternative, Safety and Design Improvements with Added Capacity, cited the need to rebuild the freeway and to add an extra lane in each direction on the freeway system to accommodate future traffic. A common response was that WisDOT should minimize disruption to the traveling public by interrupting travel only during initial system construction. Another common response included reasoning to build eight lanes to accommodate economic growth in the region.

Many who oppose the WisDOT preferred alternative suggested that the freeway system needs to be rebuilt, but the cost difference between building the 8-lane and 6-lane alternatives should be used to help fund transit projects, specifically the Kenosha-Racine-Milwaukee (KRM) commuter rail system. Another reason cited for prioritizing the KRM is to give people a choice of transportation modes as gas prices increase. Noise, air, water, and general pollution, global

warming, compliance with NEPA-requirements, format of the public hearing, and environmental justice are also areas of concern for those who oppose the project.

A large percentage of the comments received on the project were related to freeway access at 27th Street and I-894. WisDOT's preferred alternative limits direct access at the 27th Street interchange from I-94 south of the Mitchell Interchange. Under this alternative, northbound traffic from I-94 would not be provided an exit or entrance ramp to and from 27th Street, but rather would use the Layton Avenue ramp as an alternative. The 27th Street businesses, employees, and patrons expressed concerns about this change in access. The 27th Street Business Associated submitted a 3,844-signature petition opposing the limited access at the 27th Street/I-894 interchange.

A petition from 24 residents living along South 18th Street adjacent to I-94 south of Layton Avenue was also submitted to WisDOT during the comment period. The petition supports WisDOT's preferred alternative for the 27th Street/I-894 interchange.

7.2.1 Agency and Local Official Comments

Comments on the Draft EIS and the preferred alternative were received from state and federal review agencies and local governments. Table 7-2 summarizes these comments, and full copies of comments are included in Appendix D. WisDOT and FHWA have developed responses to each comment. Coordinating responses are on the page opposite the agency's comments.

TABLE 7-2
Summary of Federal, State, and Local Government Comments

Agency	Comment
Federal Agencies	
U.S. EPA	January 25, 2008—Letter noting previous concurrence with the project's purpose and need and range of alternatives considered. U.S. EPA has concerns over how wetland and air quality impacts are characterized and how mitigation strategies will be evaluated.
U.S. Army Corps of Engineers	December 19, 2007—Letter noting previous concurrence with the project's purpose and need, range of alternatives considered. Requested copy of the Indirect and Cumulative Effects report. Expressed concerns regarding secondary impacts to remaining wetlands and noted additional wetland work required during the design phase for Section 404 purposes.
Federal Highway Administration Headquarters	December 10, 2007—Approval of Drexel Avenue interchange.
FHWA Illinois Division/Illinois DOT	December 28, 2007—Asked for clarification of the extent of the projects taking place on I-94 in Lake County and request discussion regarding how no right-of-way will be required in Lake County.
U.S. Fish and Wildlife Service	December 7, 2007—No comments on the project.
National Oceanic and Atmospheric Administration	December 10, 2007—Provided information to identify the location and designation of any geodetic control monuments that may be affected by the project. Require notification if any geodetic control monuments will be impacted.

TABLE 7-2 (CONTINUED)
Summary of Federal, State, and Local Government Comments

Agency	Comment
State Agencies	
Wisconsin DNR	December 28, 2007—Provided variety of comments focused on the Affected Environment and Environmental Consequences sections.
Wisconsin DNR – Bureau of Air Management	December 12, 2007—Confirmed that no air pollution control permit is required for this project.
WisDOT – Bureau of Aeronautics	January 25, 2008—Was unable to review the entire document. Provided list of concerns the study should address.
Illinois EPA	November 29, 2007—No objections to the project. Noted permits that will be required during construction.
Local Governments	
City of Milwaukee – DPW	January 25, 2008—Requested that transit alternatives be incorporated and evaluated in the environmental document. Disappointed the comment period was not extended a second time to allow for a peer review of the DEIS. December 28, 2007—Advocates for a multimodal approach to provide mobility in the study corridor and refinement of the travel demand forecast. Asks for a peer review of the DEIS. December 10, 2007—Asked for a comment period extension to January 25, 2008.
City of Milwaukee Common Council	November 20, 2007—Resolution opposing capacity expansion. Support Safety and Design Improvement alternative while using savings to develop KRM commuter rail line and high-speed rail service between Chicago, Milwaukee, and Madison.
Milwaukee Alderman James Witkowiak	December 17, 2007—Constituents want all 27th Street ramps to remain open after reconstruction.
Milwaukee Alderman Terry Witkowski	January 25, 2008—Pleased with WisDOT's community involvement and is pleased that Edgerton Avenue remains open and Layton Avenue ramps remain open. Opposes residential relocations. If access is restricted at the 27th Street interchange, asks for mitigation measures to include way finding and safety enhancements.
Milwaukee Aldermen Donovan, Dudzik, and Witkowski	January 25, 2008—Pleased with WisDOT's community involvement and is pleased that Edgerton Avenue remains open and Layton Avenue ramps remain open. Oppose residential relocations. If access is restricted at the 27th Street interchange, asks for mitigation measures to include way finding and safety enhancements.
State Senators Carpenter and Plale and State Representatives Zepnick and Sinicki	January 23, 2008—Asked for creation of South 27th Street Community Sensitive Design Committee to engage local stakeholders in area improvements. Provide list of suggested committee members.
State Representatives Honadel and Krusick	December 31, 2007—Request WisDOT to prepare a new 27th Street alternative that preserves all existing access to 27th Street from I-894 while protecting existing homes and apartments and improving safety,
Milwaukee County (County Executive)	November 26, 2007—Supportive of most of the corridor plan but would like full access at the 27th Street interchange.

TABLE 7-2 (CONTINUED)
Summary of Federal, State, and Local Government Comments

Agency	Comment
Milwaukee Public School Board President Peter Blewett	December 12, 2007—Opposes eliminating access to the 27th Street interchange for certain movements.
Milwaukee Public School Board	December 12, 2007—Opposes to freeway expansion in City of Milwaukee. Concerned with effects of air pollution, specifically $PM_{2.5}$, in the study area.
Milwaukee County Department of Parks, Recreation and Culture	December 3, 2007—Will continue to work with WisDOT regarding Falk Park and the Drexel Avenue interchange and seek all approvals required to implement needed land exchanges to facilitate the project.
Milwaukee Metropolitan Sewerage District	January 23, 2008—Asked that the project make every effort to reduce polluted runoff entering waterways. MMSD staff can provide technical assistance during the design process.
City of Greenfield	December 27, 2007—Opposes the 27th Street interchange alternative. Concerned about construction impacts to Loomis Road and Layton Avenue. Provide list of priorities for mitigating the impacts of the preferred alternative.
City of Franklin	December 12, 2007—Supports the Safety and Design Improvement with Added Capacity and full interchanges at Drexel Avenue and Elm Road.
Racine County (County Executive)	December 11, 2007—Strong support of the Safety and Design Improvement with Added Capacity.
Racine County Public Works Department	December 17, 2007—Supports proposed capacity expansion from six to eight lanes.
Kenosha County (County Executive)	November 30, 2007—Preliminary support of the DEIS and construction timeline. Supports capacity expansion.
Kenosha County Highway and Parks Committee	December 3, 2007—Unanimous support of Safety and Design Improvement with Added Capacity alternative. Support construction timeline.
Village of Pleasant Prairie	January 9, 2008—Supports the Safety and Design Improvement with Added Capacity
Wisconsin State Senator Lena Taylor	December 19, 2007—Appreciates being notified of Milwaukee public hearing. Sessions like that help develop sound policy.

Frequently Asked Questions and Comments

1. Comment: Why can't an alternative for the 27th Street interchange with I-894 provide full access to/from I-94 from the south?

Several public comments indicated that WisDOT's preferred alternative for the 27th Street interchange is not clear. Under WisDOT's preferred alternative, the 27th Street interchange with I-894/43 will remain in place providing access both eastbound (to downtown) and westbound (to the Hale Interchange). WisDOT's preferred alternative does eliminate direct access from northbound I-94 to the 27th Street interchange and direct access from the 27th Street interchange to southbound I-94.

The primary reason for eliminating the direct connection from northbound I-94 to the 27th Street interchange and the direct connection from the 27th Street interchange to I-94 southbound is the impacts that would be incurred to provide these connections safely. Providing these connections would result in 26 residential relocations (16 apartment units and 10 single-family houses). The additional cost to provide these connections would be $40 to $50 million and require a more congested single-point interchange. In addition, to construct this direct access to I-94 from the south, 27th Street over I-894 would have to be closed for 1 year.

Early in the study, a preliminary alternative was presented at a public meeting that showed the direct I-94-to-27th Street connection with relatively few impacts. Further engineering analysis during the study revealed that this connection could not be provided without the impacts noted above and was eliminated from consideration.

Currently, approximately 1,500 vehicles per day use the 27th Street/I-894/43 ramp to access 27th Street from northbound I-94. This represents approximately 4 percent of traffic on 27th Street in the interchange area, which would likely find alternative routes to reach 27th Street.

Based on WisDOT's traffic analysis, Layton Avenue can adequately handle the additional traffic with minor improvements to the Layton Avenue/27th Street intersection and trailblazing signs from I-94 to the 27th Street commercial area. Travel times between I-94 and 27th Street would increase approximately 3 minutes via Layton Avenue compared to I-894 based on actual test drives.

2. Comment: The Kenosha-Racine-Milwaukee commuter rail project or other transit projects should be funded before the freeway is expanded.

Numerous public comments suggested that WisDOT should reconstruct the study-area freeway system as a 6-lane freeway and contribute the $200 million cost difference between the 6-lane ($1.7 billion) and 8-lane ($1.9 billion) alternatives toward implementing the KRM commuter rail project. Many also suggested that widening the study-area freeway system would not be necessary if KRM were implemented instead.

SEWRPC's 2035 regional transportation plan clearly shows that the recommended transit improvements in the corridor, including light rail and commuter rail, will not eliminate the need to add capacity to the study-area freeway system and that both modes, highway and transit, are needed to provide an efficient transportation network. Likewise, detailed commuter rail ridership forecasts developed during the current KRM study, of which WisDOT participates and partially funds, show no substantial effect on I-94 north-south corridor traffic forecasts or on the need for additional lanes. The future traffic forecasts for the I-94 north-south corridor used for this study assume full implementation of the regional transportation plan, including doubling bus mass transit, four potential commuter rail lines, and six potential light rail lines. WisDOT concurs with the regional transportation plan's recommendations for the KRM and other transit improvements.

However, Wis. Stat. 59.58(6) places responsibility for "coordinating of transit and commuter rail programs in the region" on regional transit authorities rather than WisDOT. The state legislature, in the 2003–2005 biennial budget, also approved a measure that created a commuter rail grant program that caps WisDOT's funding of any commuter rail systems at

50 percent of the non-federal share or 25 percent of the total, whichever is less (Wis. Stat. 85.064). WisDOT provides over $100 million annually to support mass transit operating costs around the state. In 2003, WisDOT's transit operating support ranked 11th nationally.

3. Comment: SERWPC developed its 2035 regional transportation plan and traffic forecasts using the assumption that the cost of gas was $2.30 per gallon in 2035. Gas is much more expensive today. If the recommendation to expand I-94 was based on that assumption, then the recommendation is flawed.

Several public comments stated that the future traffic forecasts used for this study incorrectly assumed the price of gasoline would remain steady at $2.30 per gallon. This statement is not accurate. The travel forecasting conducted for the regional transportation plan and this study makes assumptions about the price of gasoline and the average fuel efficiency of cars and trucks. Together these factors result in a fuel cost per mile of travel.

The forecast of motor fuel cost per gallon is based on forecasts prepared annually by the U.S. Department of Energy. The forecast in early 2005 was $2.19 per gallon, and in the year 2035, *in 2004 dollars*. At the time this gasoline forecast was made, gas prices were $1.95 per gallon. Thus, the Department of Energy's forecast anticipated that the price of gas would increase at a rate higher than inflation. Over the previous 25 years, the price of gas did not increase as quickly as inflation (gas prices increased 92 percent between 1980 and 2005; inflation increased 137 percent over the same period). Based on the Department of Energy forecast, the gas price used by SEWRPC in their traffic forecast was $2.30 per gallon in 2005 dollars. This was adjusted for inflation at 3 percent per year, which is typical of the last several years and slightly less than the last 25 years. This equates to a price of about $5.60 per gallon in 2035.

The other side of the equation, SEWRPC assumed that average fuel efficiency would increase from 22 miles per gallon to 30 miles per gallon. However, federal legislation has recently raised the mandated average fuel efficiency standard to 35 miles per gallon for new vehicles by 2020. Therefore, the average vehicle fuel efficiency in 2035 may be expected to be 35 miles per gallon, higher than the forecast 30 miles per gallon.

Accounting for this higher fuel efficiency under the SEWRPC 2035 forecast of 18.7 cents for gasoline cost per mile ($5.60 per gallon divided by 30 miles per gallon) would result in an increase in the SEWRPC forecast of motor fuel to $6.50 per gallon in the year 2035 (or about $2.94 in 2008 dollars and expected to increase with inflation over the next 27 years to 2035). The average gas price in the Milwaukee area on January 30, 2008, was $2.98 (milwaukeegasprices.com; accessed January 30, 2008).

WisDOT concurs that this is a reasonable methodology.

4. Comment: The cost of the preferred alternative, $1.9 billion, is not funded. How will this project be paid for?

The project will be funded with a combination of state and federal funds. In the 2007–2009 biennial state budget, the governor and the legislature showed a strong commitment to the project by including $245 million of project costs in fiscal year 2008 and fiscal year 2009. Wisconsin law prevents the current legislature from committing future legislatures to a particular course of action; therefore, the specific source of funds for completing the project cannot be identified at this time. WisDOT will continue to work with the governor and

legislature to develop funding alternatives for completing the project as scheduled. This is the same process that was used to fund the Marquette Interchange.

7.2.2 Project Meetings Since Draft EIS Approval

The Technical Advisory Committee (TAC) met for the fourth time on November 27, 2007, at the MATC campus in Oak Creek. In addition to WisDOT and the consultant study team members, the meeting was attended by FHWA and local officials.

The purpose of the meeting was to give the group a preview of the exhibits that would be shown at the public hearings as well as to report on study activities including the release of the DEIS, comment period, and the selection of the preferred alternative. Study team members reviewed the exhibits and the preferred alternative and facilitated a question and answer session with the TAC members to address concerns.

The Community Advisory Committee (CAC) met with WisDOT and the consultant study team members for the third time on November 28, 2007, at the MATC campus in Oak Creek.

The purpose of the meeting was to give the group a preview of the exhibits that would be shown at the public hearings and to report on study activities including the release of the DEIS, comment period, and the selection of the preferred alternative. Study team members reviewed the exhibits and the preferred alternative and facilitated a question and answer session with the CAC members to address concerns.

Other project meetings include:

- Metropolitan Milwaukee Association of Commerce
- 27th Street Business Association
- 18th Street neighborhood group and Alderman Terry Witkowski
- Two community sensitive design meetings in Milwaukee
- City of Milwaukee Department of Public Works
- Milwaukee County Department of Public Works
- Milwaukee Metropolitan Sewerage District

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EIS Distribution List

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Federal Agencies

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U.S. Department of the Interior—Fish and Wildlife Service
U.S. Department of the Interior—Office of Environmental Policy and Compliance
U.S. Department of Agriculture—Natural Resources Conservation Service
U.S. Department of Housing and Urban Development
U.S. Department of Commerce
National Center for Environmental Health and Injury Control

State Agencies

Illinois Department of Natural Resources
Illinois Department of Transportation
Illinois State Toll Highway Authority
Wisconsin Department of Transportation (various Bureaus)
Wisconsin Department of Administration
Wisconsin Department of Natural Resources
Wisconsin Department of Agriculture, Trade and Consumer Protection
State Historical Society
Wisconsin Legislative Fiscal Bureau
State Reference and Loan Library

Federal and State Elected Officials

Governor Jim Doyle
Lieutenant Governor Barbara Lawton
Honorable Herbert Kohl (U.S. Senator)
Honorable Russ Feingold (U.S. Senator)
Honorable Gwen Moore (U.S. Congresswoman)
Honorable Paul Ryan (U.S. Congressman)
Honorable Tim Carpenter (State Senator)
Honorable Jeffrey Plale (State Senator)
Honorable John Lehman (State Senator)
Honorable Robert Wirch (State Senator)
Honorable Peggy Krusick (State Assemblywoman)
Honorable Josh Zepnick (State Assemblyman)
Honorable Christine Sinicki (State Assemblywoman)

Honorable Mark Honadel (State Assemblyman)
Honorable Cory Mason (State Assemblyman)
Honorable Robin Vos (State Assemblyman)
Honorable James Kreuser (State Assemblyman)
Honorable John Steinbrink (State Assemblyman)
Honorable Samantha Kerkman (State Assemblywoman)

Local Units of Government / Interest Groups

City of Milwaukee
City of Greenfield
City of Oak Creek
City of Franklin
Town of Raymond
Village of Caledonia
Town of Yorkville
Village of Mount Pleasant
Town of Paris
Town of Somers
Town of Bristol
City of Kenosha
Village of Pleasant Prairie
Village of Wadsworth, Illinois
Milwaukee County
Racine County
Kenosha County
Lake County
Southeastern Wisconsin Regional Planning Commission
Technical Advisory Committee Members
Community Advisory Committee Members
City of Milwaukee Central Library
City of Milwaukee Tippecanoe Library
Greenfield Library
Oak Creek Library
Franklin Library
Racine Library
Kenosha Library
Union Grove Library
Zion, Illinois Library

List of Preparers

List of Preparers

Organization/Name	Primary Responsibility	Qualifications
FHWA		
David Scott, P.E.	EIS review for environmental and design aspects	B.S., Civil Engineering; experience since 1989 in highway project development and environmental review
David Platz, P.E., PTOE	EIS review for environmental and design aspects	B.S., Civil Engineering; experience since 1999 in highway project development and environmental review
Jaclyn Lawton, P.E.	EIS review for environmental aspects	B.S., Civil Engineering; experience since 1975 in highway project development and environmental review
WisDOT		
Bureau of Equity and Environment Services (BEES)		
Kassandra Walbrun, AICP	Indirect and cumulative effects analysis	B.S., Natural Resources, M.P.A., Public Administration; 13 years of planning experience
Jay Waldschmidt, P.E.	EIS review for environmental aspects and legal sufficiency	B.S., Civil Engineering, B.S., Mining Engineering; Experience since 1989 in highway project development and environmental review
Bob Newbery	Cultural resource review	B.A., M.A., U.S. history; 27 years experience as WisDOT historian
Southeast Region		
John Oimoen	WisDOT SE freeways manager	B.S., Civil Engineering; Experience since 1991 in design and planning
Robert Gutierrez, P.E.	WisDOT project supervisor, public involvement, review of engineering studies and EIS preparation	B.S., Civil Engineering; Experience since 1988 in design and planning
Bill Mohr, P.E.	WisDOT mega project manager	B.S., Civil and Environmental Engineering, 1987; 20 years of experience in the planning, design and construction of freeway, highway, and local road projects
Scott Lee	WisDOT SE region environmental coordinator	B.S., Forestry, M.S. Plant/Soil Science; 3 years as WisDOT Environmental Coordinator; 20 years of experience in natural resources/environmental management and regulations compliance
Carrie Cooper	Environmental impact analysis; EIS preparation; data gathering; public involvement	B.S., Environmental Studies and Geography; 12 years experience in transportation data analysis; 2 years experience in transportation environmental studies and EIS preparation

Organization/Name	Primary Responsibility	Qualifications
James Liptack, P.E.	Alternatives development in Kenosha County	B.S., Civil Engineering; Experience since 1991 in both design and construction related engineering for the WisDOT
Nicholas Martin, P.E.	Alternatives development in Racine & Kenosha Counties	B.S., Civil Engineering; 17 years of experience in highway project development
Mike Cape	Hazardous materials	M.S., Geology; 14 years of experience in contaminated site investigation/remediation
Karla Leithoff	Wetland review and coordination	M.S., Biological Science/Ecology–Wetland Science emphasis; Experience since 1993 in all aspects of wetland ecology, restoration design/management, transportation
Manojoy Nag	Traffic analysis	B.S., Civil Engineering; 15 years of experience in freeway traffic operation planning and design
Reem Shana	Stormwater issues	B.S., Civil Engineering; M.S. Water Resources Engineering; Experience since 1992 with different parts of civil engineering work (soils, transportation design, environmental studies and hydraulics
Emlynn Grisar	Public involvement	B.A., Communications; 10 years of experience implementing community involvement programs and communication strategies
Kimberly Stephenson	Environmental justice analysis	B.A., Political Science, M.P.A., Masters of Public Administration, and Ph.D., Student in Urban Studies Programs; Experience in Environmental Justice and Planning for 3 years
Milwaukee Transportation Partners, LLC		
Mike Paddock, P.E. CH2M HILL	Project manager; engineering studies; alternatives development; EIS preparation; public involvement	B.S., Civil Engineering and Surveying; 20 years of experience in transportation projects
Brian Swenson, P.E. HNTB	Assistant project manager; engineering studies; alternatives development; EIS preparation; public involvement	B.S., Civil Engineering; experience since 1985 in highway project planning and design.
Charlie Webb CH2M HILL	Environmental impact analysis; EIS preparation; data gathering; public involvement	M.S., Urban and Regional Planning; 16 years of experience in transportation environmental studies and EIS preparation
Ben Goldsworthy, AICP CH2M HILL	Environmental impact analysis; EIS preparation; data gathering; public involvement	B.A., Political Science, M.S., Urban and Regional Planning; Over 5 years experience in transportation environmental studies and EIS preparation
Tom Pettit, P.E. CH2M HILL	Alternatives development in Milwaukee County	B.S., Civil and Environmental Engineering; 18 years experience in highway design

Organization/Name	Primary Responsibility	Qualifications
Marty Hawley, P.E., PTOE HNTB	Traffic engineering and review of traffic/operational data	B.S. and M.S., Civil Engineering; 14 years experience in traffic engineering and freeway operations
Caron Kloser HNTB	Indirect and cumulative effects analysis	B.S., Agronomy and M.S. Horticulture; 21 years experience with transportation studies and NEPA document preparation
Carolyn Seboe HNTB	Indirect and cumulative effects analysis	B.S, Geography and Master Urban Planning; 5 plus years experience working on community planning, environmental documentation and transportation planning projects
John Jaeckel HNTB	Air quality and noise impact evaluation	B.S., Applied Science and Engineering, over 34 years of experience in transportation air quality and noise mitigation for environmental studies and EIS preparation
Suheil Acra HNTB	Air quality and noise impact evaluation	B.S. and M.S., Civil Engineering; 18 years of experience in air quality and noise mitigation for transportation studies
Mary Ellen O'Brien Transportation Environmental Management	Environmental impact analysis; EIS preparation; agency coordination	B.S. and M.S., Environmental Sciences, Ph.D. course work in Land Resources; experience since 1976 in transportation environmental studies and EIS preparation
George Christiansen Archaeological Research, Inc.	Archaeological resource impact evaluation	B.S. and M.A., Anthropology and Archaeology, 19 years of experience in Cultural Resource Management
Mike McQuillen Heritage Research, Ltd.	Historic resource impact evaluation	M.S., Historic Preservation; 9 years of cultural resource management experience including managing historic resource surveys
Gary Casper, Ph.D. Casper Consulting	Butler's garter snake study, Blanding turtle survey, eastern massasauga rattlesnake survey	B.S., Zoology and Biological Aspects of Conservation; 26 years experience herpetology and environmental consulting
Rose Chmielewski Ecological Services of Milwaukee	Wetlands impact and mitigation	Over 15 years of experience in wetland identification and functional assessment and wetland mitigation site selection
Gopal Adhikary Himalayan Consultants	Hazardous materials impact evaluation	Over 15 years of hazardous materials investigations/remediation and geotechnical engineering experience
Ameera Ahmed Abrazo Marketing	Public involvement	B.B.A., Management Information Systems and Marketing; 4 years of experience in communications and public involvement

Index

Index

Alternatives Exhibits:
Exhibits 2-2 and 2-3