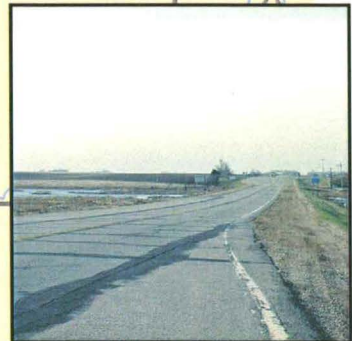
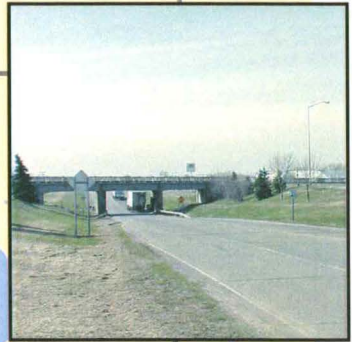
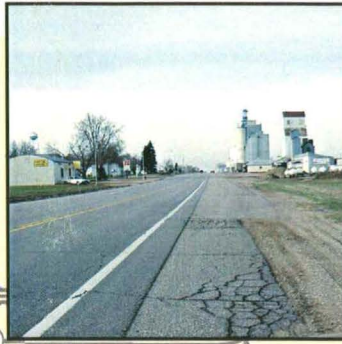
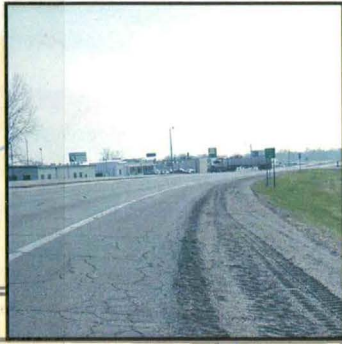


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Highway 60 Reconstruction Project Draft Environmental Impact Statement



Iowa Department
of Transportation

July 2002

**DRAFT ENVIRONMENTAL IMPACT STATEMENT
for
TRUNK HIGHWAY 60**

State Project Number: S.P. 5305-51 and 5306-42

From approximately 1.8 miles south of the Minnesota-Iowa border (120th Street)
to Interstate 90 north of Worthington, Minnesota, 14.3 miles
County: Nobles, MN and Osceola, IA

**Submitted Pursuant to 42 USC 4332 (2)(C), 49 USC 303, and Minn. Stat. Chap. 116D
By the U.S. Department of Transportation
Federal Highway Administration
Minnesota Department of Transportation
and Iowa Department of Transportation**

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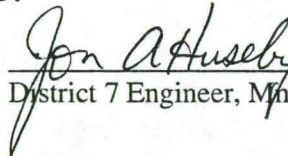
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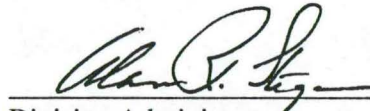
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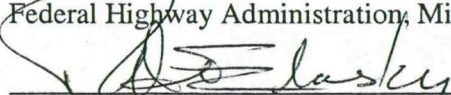

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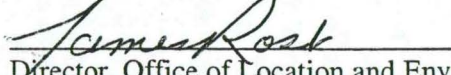
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*This document is available in alternative formats to individuals with disabilities
by calling the Project Manager at the phone number listed above, or to individuals who are hearing or
speech impaired by calling the Minnesota Relay Service at 1-800-627-3529.*

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1.0 PROJECT SUMMARY

1.1 PURPOSE OF THE DRAFT ENVIRONMENTAL IMPACT STATEMENT

The proposed reconstruction of Trunk Highway 60 is considered a Federal Class I Action because of the potential for significant impacts on the natural and physical environment. An Environmental Impact Statement (EIS) is a full disclosure document, which discusses the environmental impacts of a proposed Class I action. A Draft EIS discusses all reasonable alternatives to the proposed action and summarizes the results of all studies, reviews, consultation, and coordination conducted on the environmental impacts of the action and all reasonable alternatives. A Final EIS identifies the preferred alternative and describes environmental mitigation commitments.

1.2 MINNESOTA-IOWA AGREEMENT

Because the Highway 60 Reconstruction Project crosses the Minnesota-Iowa state line, the Minnesota Department of Transportation (Mn/DOT) and Iowa Department of Transportation (IDOT) are developing an agreement addressing the responsibilities for completing the EIS, how impacts will be discussed, and outlining the review process.

IDOT is anticipated to complete reconstruction of Highway 60 as a four-lane roadway from LeMars to 120th Street in 2006. The location and timing of the remaining portion of Iowa Highway 60 is dependent on Mn/DOT's decision to bypass Bigelow or stay on the existing alignment. For this reason, Mn/DOT will be responsible for the design and environmental review of improvements to Highway 60 from I-90 in Nobles County, Minnesota to 120th Street in Osceola County, Iowa.

The Draft EIS prepared by Mn/DOT includes impacts to the natural and physical environments of both Minnesota and Iowa; however, each state's impacts will be discussed separately to aid agency review. The document will go through the review process in both states, as agreed upon by Mn/DOT, IDOT, the Minnesota and Iowa FHWA's, and other state agencies.

1.3 DESCRIPTION OF THE PROPOSED ACTION

Mn/DOT, in cooperation with IDOT, proposes reconstruction of Highway 60 in Nobles County, Minnesota and Osceola County, Iowa. The project limits extend from approximately 1.8 miles south of the Minnesota-Iowa border (120th Street) north to Interstate 90 (I-90) north of the City of Worthington. The total length of the project corridor is approximately 14.3 miles.

Highway 60 is a principal east-west roadway on the National Highway System (NHS) that serves as a diagonal route between LeMars, Iowa and Mankato through northwestern Iowa and southwestern Minnesota. Near Mankato, Highway 60 connects with Highway 169 and serves as a main route to the Twin Cities metropolitan area. Locally and regionally, Highway 60

connects citizens and communities to jobs, retail centers, and recreational/tourist destinations. The planning and design of this project will include the identification and analysis of social, economic, and environmental impacts, such as adjacent residential and commercial developments, historic and archaeological sites, farmland, wetlands, wildlife, and many other potential impacts that may be caused by project construction or operation.

1.4 PURPOSE AND NEED OF THE HIGHWAY 60 RECONSTRUCTION PROJECT

The purpose of this process is to identify an environmentally and socially sensitive alternative for a transportation system improvement designed to improve travel safety and efficiency consistent with meeting the identified needs presented below. Each of these needs is described further in Section 2.6 of this document.

- Maintain System Continuity
- Address Physical Conditions
- Correct Design Deficiencies
- Address Truck and Farm Traffic
- Increase Capacity

1.5 ALTERNATIVES

Alternatives Carried Forward for Analysis in the Draft EIS

As a result of the alternatives development and screening process (described in Section 3.0 of this document), seven primary alternatives were recommended for further review in the Draft EIS. To facilitate the presentation and discussion of the alternatives, they have been renamed and defined as listed below. There are three base alternatives, each with a subalternative that adds the Bigelow bypass, and the No-Build Alternative.

- Alternative A – Existing Alignment: Reconstruct four lanes on existing alignment.
- Alternative A1 – Existing Alignment with Bigelow Bypass: Construct four-lane easterly bypass of Bigelow and reconstruct four lanes on existing alignment north of Bigelow.
- Alternative B – Worthington Bypass: Reconstruct four lanes on existing alignment to Org and construct four-lane westerly bypass of Worthington.
- Alternative B1 – Worthington Bypass with Bigelow Bypass: Construct four-lane easterly bypass of Bigelow, reconstruct four lanes on existing alignment to Org, and construct four-lane westerly bypass of Worthington.
- Alternative C – Two-Lane Worthington Split: Reconstruct four lanes on existing alignment to Org, construct two-lane westerly bypass of

Worthington, and reconstruct two lanes on existing alignment through Worthington.

- Alternative C1 – Two-Lane Worthington Split with Bigelow Bypass: Construct four-lane easterly bypass of Bigelow, reconstruct four lanes on existing alignment to Org, construct two-lane westerly bypass of Worthington, and reconstruct two lanes on existing alignment through Worthington.
- Alternative D – No-Build: Two lanes on existing alignment with minor reconstruction including general maintenance, turn lane improvements, shoulder widening, and spot safety improvements.

1.6 ENVIRONMENTAL CONSEQUENCES

A summary of the potential beneficial and adverse environmental impacts associated with each alignment alternative is presented in Table 1 (on the following three pages). In many cases, the potential effects are common among one or more alternatives because several alternatives share portions of the same alignment corridor(s).

1.7 PROJECT COST AND FUNDING SOURCE

Construction of the Highway 60 Reconstruction Project will be funded from both federal and state sources. It is anticipated that federal funds would be the primary source of funding (80 percent) with a 20 percent state match. The section of Highway 60 from 120th Street to approximately ½-mile south of County Road 4 (between 3.3 and 3.6 miles, depending on the alternative chosen) in Minnesota will be constructed as Phase 1 beginning in fiscal year 2007. Construction cost estimates for the build alternatives are presented in Table 2. These cost estimates are based on a standard cost per mile of construction.

**Table 2
Construction Cost Estimates**

Alternative	Total Cost (\$ millions) ¹	Phase 1 Cost (\$ millions) ¹
Alternative A	42.1	9.7
Alternative A1	42.3	10.0
Alternative B	53.0	9.7
Alternative B1	53.3	10.0
Alternative C	50.4	9.7
Alternative C1	50.7	10.0
Alternative D – No-Build	15.9	1.6

¹ Cost estimates include right-of-way, relocation, and construction.

1.8 PERMITS/APPROVALS/CONCURRENCE

It is anticipated that federal, state, and other local permits/approvals/concurrence may be required for the proposed action. The following permits/approvals/concurrence will likely be required for construction of the proposed action:

- Section 404 Permit from the United States Army Corps of Engineers (USACE) – Minnesota and Iowa
- Section 401 Water Quality Certification from Minnesota Pollution Control Agency (MPCA) and Iowa Department of Natural Resources (IDNR)
- National Pollutant Discharge Elimination System (NPDES) permit from the MPCA and the Environmental Protection Agency (EPA)
- Section 106 Concurrence from the State Historic Preservation Officer (SHPO) – Minnesota and Iowa
- Minnesota Wetland Conservation Act (WCA) from Mn/DOT
- Municipal approval from the City of Worthington and the City of Bigelow (if required)
- Protected Waters Permit from the Minnesota Department of Natural Resources (MNDNR)

Other permits and approval required may include:

- Permits from watershed districts
- Approval from ditch authorities

1.9 COORDINATION

Mn/DOT and IDOT are committed to public and agency involvement/outreach at all levels in decision-making related to the Highway 60 Reconstruction Project. Mn/DOT and IDOT will continue to engage community organizations; area property owners; business owners; residents; and local, county, regional, state, and federal agencies in the development of the project.

Furthermore, the development and analysis of alternatives for the Highway 60 Reconstruction Project were discussed with the Highway 60 Project Advisory Committee (PAC). The PAC was formed to establish a communication link with the affected communities, organizations, and agencies. The committee represents a wide range of special interest groups and will ensure community values/interests are being expressed.

**Table 1
Summary of Impacts by Alternative**

Subject	Alternative A	Alternative A1	Alternative B	Alternative B1	Alternative C	Alternative C1	Alternative D (No-Build)	
Land Use	<ul style="list-style-type: none"> Potentially affect existing land uses through the expansion of right-of-way and changes in access Improved roadway may encourage additional development 		<ul style="list-style-type: none"> Potentially affect existing land uses through the expansion of right-of-way and changes in access Improved roadway may encourage additional development, especially along the Worthington bypass and new interchange at I-90 				No effects	
Social and Community Impacts	<ul style="list-style-type: none"> Minimal impacts to community resources are anticipated May have indirect effects to homes and businesses as a result of changes in access 						Potential indirect effects resulting from not addressing safety concerns	
Environmental Justice	Although minority and low-income populations are present in the project area, no disproportionately high and adverse human health or environmental effects on these populations will occur as a result of any of the project alternatives						No effects	
Right-of-Way/Relocation								
Potential residential acquisitions	21	21	4	4	12	12	0	
Potential commercial acquisitions	9	3	6	0	9	3	0	
Total potential acquisitions	30	24	10	4	21	15	0	
Additional right-of-way (urban), acres	33	26	7	1	20	14	1	
Additional right-of-way (rural), acres	192	257	365	430	264	330	0	
Economic Impacts	<ul style="list-style-type: none"> Acquisition and/or relocation of existing businesses Minor loss of property tax revenue from conversion of farmland to highway Loss of annual income from farmland 		<ul style="list-style-type: none"> Acquisition and/or relocation of existing businesses Loss of drive-by traffic through Worthington Minor loss of property tax revenue from conversion of farmland to highway Loss of annual income from farmland 		<ul style="list-style-type: none"> Loss of drive-by traffic through Worthington Minor loss of property tax revenue from conversion of farmland to highway Loss of annual income from farmland 		<ul style="list-style-type: none"> Acquisition and/or relocation of existing businesses Loss of drive-by traffic through Worthington Minor loss of property tax revenue from conversion of farmland to highway Loss of annual income from farmland 	
Benefit/Cost	0.8	0.7	0.5	0.5	0.5	0.5	N/A	
Parks and Public Recreational Areas	Snowmobiles required to cross four lanes rather than two lanes at trail crossing ½-mile north of County Road 10		No effects				No effects	
Section 4(f)/6(f)	No impacts to 4(f)/6(f) properties						No effects	
Pedestrian and Bicycle Movements	<ul style="list-style-type: none"> Pedestrians and bicyclists required to cross four lanes rather than two lanes Opportunity to improve pedestrian and bicycle movements associated with the Swift plant and area neighborhoods 		<ul style="list-style-type: none"> Opportunity to improve pedestrian and bicycle movements associated with the Swift plant and area neighborhoods 				No effects	
Transit Services	<ul style="list-style-type: none"> Positive impact as a result of improved traffic operations Potential short-term adverse impacts from construction activities including minor delays and detours 						No effects	
Utilities	Would require some relocation and disruption of utility services during construction						No effects	
Railroads	Reconstruction of bridge in Worthington		<ul style="list-style-type: none"> Reconstruction of bridge in Worthington New underpass for UP Railroad constructed on Worthington bypass New at-grade crossing of Minnesota Southern Railway 				Reconstruction of bridge in Worthington	

Table 1, cont.

Subject	Alternative A	Alternative A1	Alternative B	Alternative B1	Alternative C	Alternative C1	Alternative D (No-Build)
Secondary and Cumulative Effects	<ul style="list-style-type: none"> Overall cumulative effects are expected to be minimal Potential secondary impacts include economic impacts of relocating existing businesses; loss of drive by traffic on existing Highway 60 with Worthington bypass; potential for induced development; and short-term economic benefit of increased private sector income during construction 						Potential indirect economic impacts of increased congestion and safety problems
Farmland							
Prime and Unique, acres	143	214	249	320	192	263	0
Total farmland, acres	146	218	252	324	194	266	0
Noise (Number of residential properties where noise standards may be exceeded, 2030)	Daytime: 88 Nighttime: 230	Daytime: 89 Nighttime: 213	Daytime: 76 (17 on Alternative B, 59 on Old Highway 60) Nighttime: 195 (55 on Alternative B, 140 on Old Highway 60)	Daytime: 77 (18 on Alternative B1, 59 on Old Highway 60) Nighttime: 178 (38 on Alternative B1, 140 on Old Highway 60)	Daytime: 83 Nighttime: 205	Daytime: 84 Nighttime: 188	Daytime: 75 Nighttime: 217
Wetlands, acres	MN: 33.5 IA: 1.0	MN: 36.8 IA: 0.2	MN: 29.4 IA: 1.0	MN: 32.7 IA: 0.2	MN: 36.0 IA: 1.0	MN: 39.3 IA: 0.2	0
Floodplains	Some fill placed in floodplain associated with County Ditch No. 6		No effects		Minimal impact to floodplain associated with County Ditch No. 6		No effects
Surface Water Drainage	<ul style="list-style-type: none"> A lift station and improved storm sewer system would be required at the railroad underpass in Worthington Additional culvert capacity required to accommodate demand for drainage resulting from increase in impervious surface 	<ul style="list-style-type: none"> Additional culverts required along the Bigelow bypass A lift station and improved storm sewer system would be required at the railroad underpass in Worthington Additional culvert capacity required to accommodate demand for drainage resulting from increase in impervious surface 	<ul style="list-style-type: none"> A lift station and improved storm sewer system would be required at the railroad underpass in Worthington Additional culvert capacity required to accommodate demand for drainage resulting from increase in impervious surface 	<ul style="list-style-type: none"> Additional culverts required along the Bigelow bypass A lift station and improved storm sewer system would be required at the railroad underpass in Worthington Additional culvert capacity required to accommodate demand for drainage resulting from increase in impervious surface 	<ul style="list-style-type: none"> A lift station and improved storm sewer system would be required at the railroad underpass in Worthington Additional culvert capacity required to accommodate demand for drainage resulting from increase in impervious surface 	<ul style="list-style-type: none"> Additional culverts required along the Bigelow bypass A lift station and improved storm sewer system would be required at the railroad underpass in Worthington Additional culvert capacity required to accommodate demand for drainage resulting from increase in impervious surface 	<ul style="list-style-type: none"> County Ditch No 6 capacity problem not addressed Lift station and improved storm sewer system required at the railroad underpass in Worthington
Water Quality	Potential impacts to County Ditch Nos. 6 and 10 as a result of additional impervious surface runoff	<ul style="list-style-type: none"> Potential impacts to County Ditch Nos. 6 and 10 as a result of additional impervious surface runoff Potential erosion and sedimentation issues in Bigelow bypass area 	Potential impacts to water quality of small intermittent streams flowing into Lake Okabena as a result of increased runoff from Worthington bypass	<ul style="list-style-type: none"> Potential impacts to water quality of small intermittent streams flowing into Lake Okabena as a result of increased runoff from Worthington bypass Potential erosion and sedimentation issues in Bigelow bypass area 	Less impacts to ditches and streams than Alternatives A and B due to 2-lane roadway	<ul style="list-style-type: none"> Less impacts to ditches and streams than Alternatives A and B due to 2-lane roadway Potential erosion and sedimentation issues in Bigelow bypass area 	No effects
Geology/Groundwater/Aquifers	<ul style="list-style-type: none"> No impacts to groundwater are anticipated Drain tile systems will be maintained during and after construction No impacts to aquifers are anticipated 						No effects
Wild and Scenic Rivers	None located in the project area						
State/Federal Threatened and Endangered Species	<ul style="list-style-type: none"> Three mesic prairie remnants located between existing Highway 60 and the UP Railroad are not anticipated to be impacted by any of the project alternatives Within the distribution range of the Topeka shiner. It was determined through field inspection that there is not suitable habitat due to intense channelization and urbanization that has taken place since the documented occurrence of this species. 						No effects
Fish and Wildlife Habitat	<ul style="list-style-type: none"> No fish habitats or spawning areas within the project area Waterfowl Production Area (WPA) will not be impacted by any of the project alternatives Some wetland wildlife habitats may be impacted 						No effects

Informational and coordination meetings have also been held with representatives from local, state, and federal agencies with approval and/or permit authority to discuss appropriate analysis methodology for different resource areas.

1.10 SCHEDULE FOR ENVIRONMENTAL REVIEW

Completion Date	Task/Activity
March 2000	Release of SD/DSDD for public comment; begin 30-day comment period
April 2000	Public Scoping Meeting
June 2000	Final Scoping Decision Document
August 2000	Federal Notice of Intent to prepare an EIS
October 2002	Distribute Draft EIS for agency/public comment; start of Draft EIS comment period
October 2002	Notice of Availability
November 2002	Public Hearing on Draft EIS
December 2002	Selection of Preferred Alternative by Mn/DOT
June 2003	Distribute Final EIS
August 2003	Mn/DOT Adequacy Determination
September 2003	FHWA Record of Decision
November 2003	Project Study Report Approved for Phase 1
Summer 2006	Construction of Phase 1

2.0 PURPOSE AND NEED FOR PROPOSED ACTION

2.1 DESCRIPTION OF PROJECT

Project Location

The Highway 60 project corridor is located in southwest Minnesota and northwest Iowa. The project corridor traverses diagonally through Nobles County (see Figure 1). The project limits extend from approximately 1.8 miles south (120th Street) of the Minnesota-Iowa border to I-90 in Worthington, Minnesota (see Figure 2). The total length of the project corridor is approximately 14.3 miles.

Project Setting

Highway 60 is a principal east-west roadway on the NHS that serves as a diagonal route between Iowa and Mankato through southwestern Minnesota. Near Mankato, Highway 60 connects with Highway 169 and serves as a main route to the Twin Cities metropolitan area. Locally and regionally, Highway 60 connects citizens and communities to jobs, retail centers, and recreational/tourist destinations. The corridor is characterized by farmland, commercial development, and single-family residences. The Union Pacific (UP) Railroad runs along the west side of existing Highway 60 from Iowa north and crosses Highway 60 in Worthington. The Minnesota Southern Railway connects with the UP Railroad near Org and runs west.

Project Background

In June 2000, the Scoping Decision Document (SDD) for this project was completed. This document explains the alternatives to be evaluated in the EIS and describes potential impacts and issues that have been identified at that level in the project development process.

The public participation process of the Highway 60 Scoping Document consisted of a series of committee meetings and open houses. The Technical Advisory Committee (TAC) and PAC were formed in early 1999 to review the project development process, issues, and technical findings and to represent the concerns of various interest groups. The committees were comprised of public and private business interests and citizen representatives, including both local and regional perspectives.

Public open house meetings were held on June 24, 1999 and April 13, 2000 as part of the Scoping process. These meetings allowed the public an opportunity to review and comment on the initial range of alternatives prior to the start of the EIS process.

This involvement led to the reintroduction of the westerly Worthington bypass alternative, which had been eliminated from further consideration in the Draft SDD completed in March 2000. Sufficient public comments were received and formal resolutions from local government agencies passed expressing interest in the bypass to warrant further study.

2.2 RESPONSIBLE GOVERNMENTAL UNITS

Mn/DOT is the Responsible Governmental Unit for the development of and the environmental documentation for the Highway 60 Reconstruction Project. Mn/DOT is managing the project with the Federal Highway Administration (FHWA) as a Joint Lead Agency. The contact persons for the project are:

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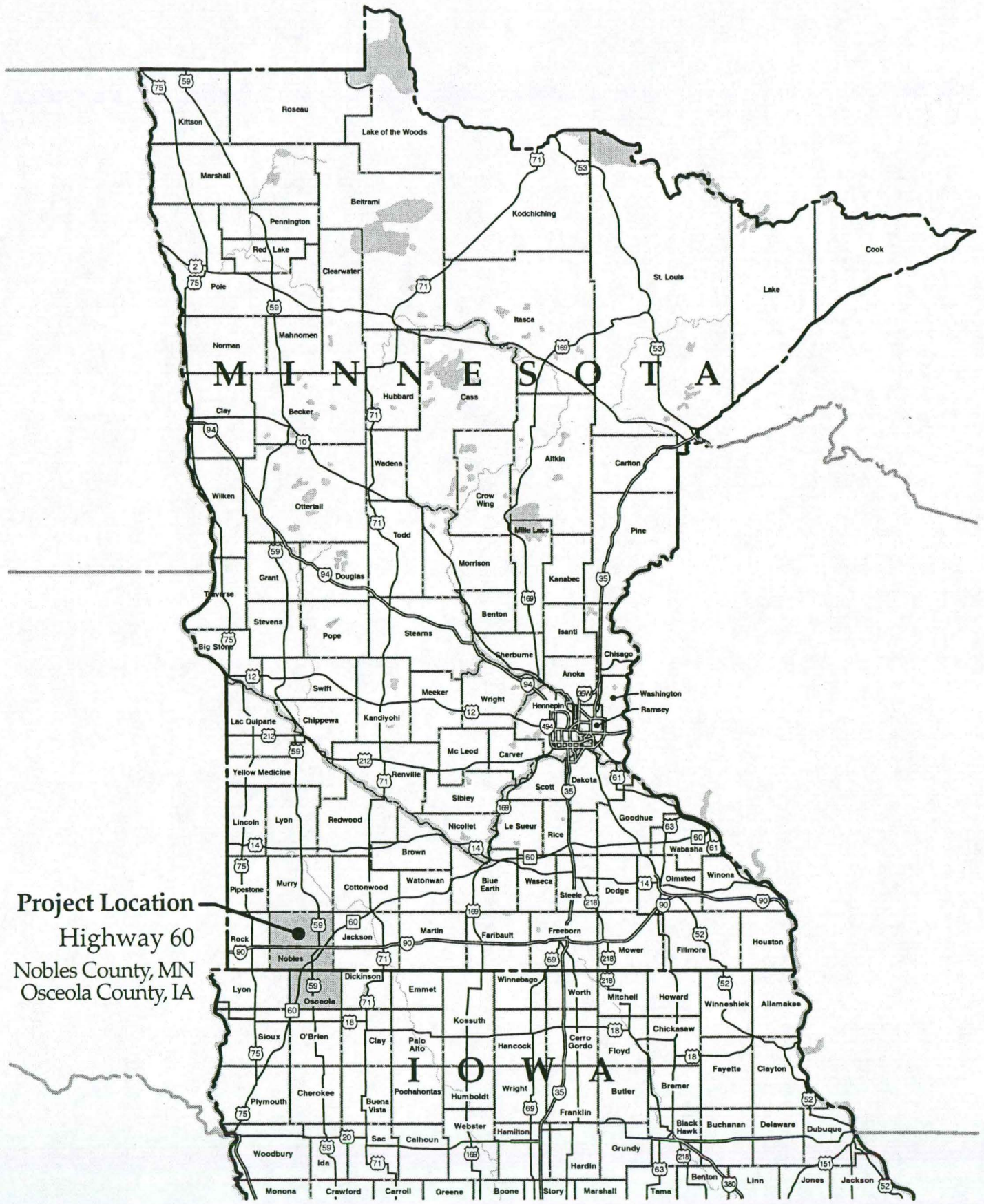
FHWA
Tamara Cameron
Galtier Plaza
380 Jackson Street, Suite 500
St. Paul, MN 55101-2904
651.291.6121
tamara.cameron@fhwa.dot.gov

2.3 MINNESOTA-IOWA AGREEMENT

Because the Highway 60 Reconstruction Project crosses the Minnesota-Iowa state line, Mn/DOT and IDOT are developing an agreement addressing the responsibilities for completing the EIS and outlining the review process.

IDOT is anticipated to complete reconstruction of Highway 60 as a four-lane roadway from LeMars to 120th Street in 2006. The location and timing of the remaining portion of Iowa Highway 60 is dependent on Mn/DOT's decision to bypass Bigelow or stay on the existing alignment. For this reason, Mn/DOT will be responsible for the design and environmental review of improvements to Highway 60 from I-90 in Nobles County, Minnesota to 120th Street in Osceola County, Iowa.

The Draft EIS prepared by Mn/DOT includes impacts to the natural and physical environments of both Minnesota and Iowa; however, each state's impacts will be discussed separately to aid agency review. The document will go through the review process in both states, as agreed upon by Mn/DOT, IDOT, the Minnesota and Iowa FHWAs, and other state agencies.



Project Location
 Highway 60
 Nobles County, MN
 Osceola County, IA



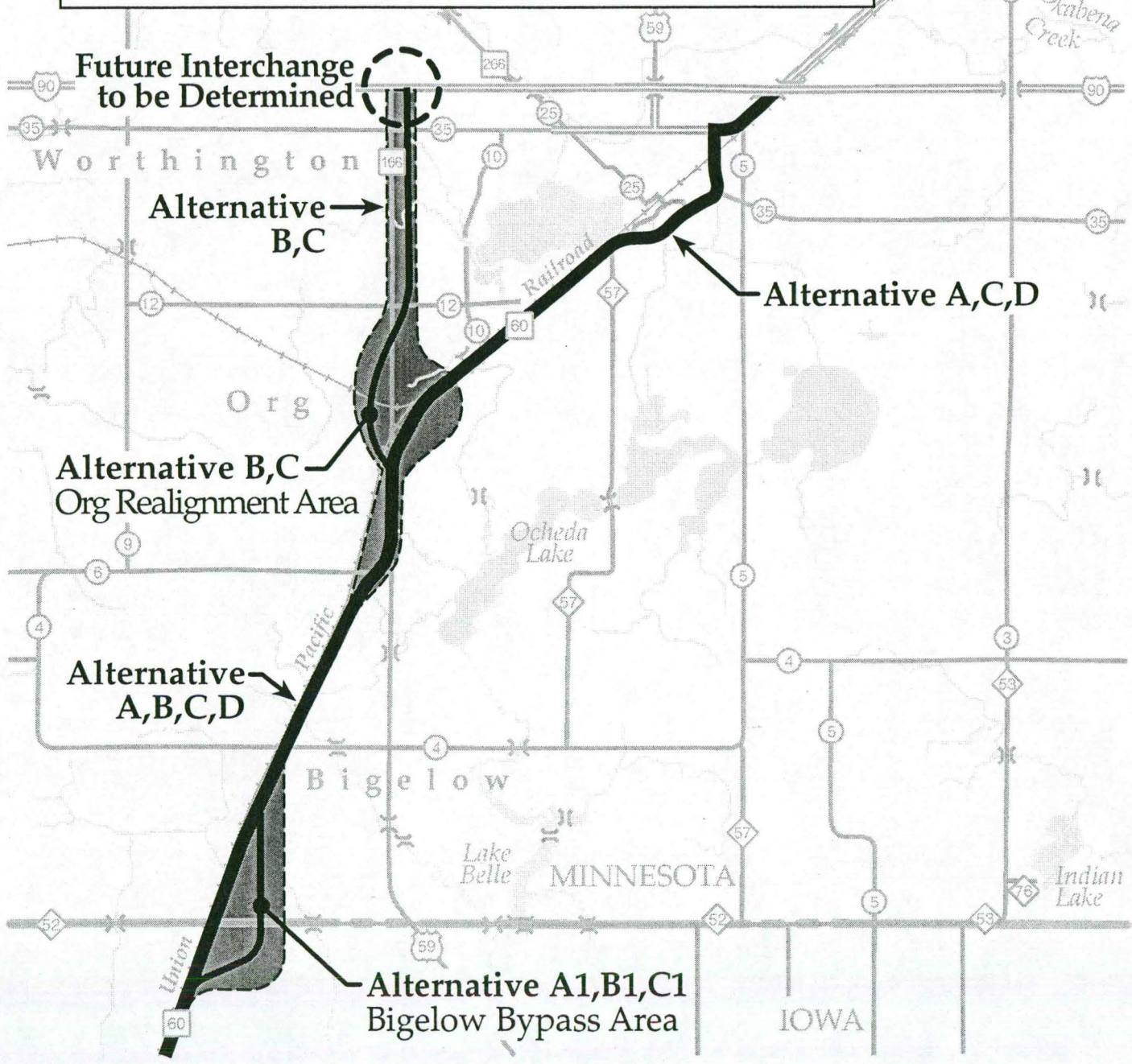
Highway 60
 Draft Environmental
 Impact Statement

Figure 1
 State/County Location Map



January 2002

- Alternative A - 4 Lanes on Existing Alignment
- Alternative A1 - 4 Lanes on Existing Alignment with Bigelow Bypass
- Alternative B - 4 Lanes on Existing Alignment with Worthington Bypass
- Alternative B1 - 4 Lanes on Existing Alignment with Worthington Bypass and Bigelow Bypass
- Alternative C - 4 Lanes on Existing Alignment and Splitting to 2-Lane Worthington Bypass and 2-Lane Major Reconstruction through Worthington
- Alternative C1 - 4 Lanes on Existing Alignment with Bigelow Bypass and Splitting to 2-Lane Worthington Bypass and 2-Lane Major Reconstruction through Worthington
- Alternative D - 2 Lanes on Existing Alignment with Minor Reconstruction Including General Maintenance, Turn Lane Improvements, Shoulder Widening, and Spot Safety Improvements (No Build Alternative)



Highway 60
Environmental
Impact Statement

Figure 2
Project Location Map



2.4 FUNDING AND SCHEDULE

Funding

It is anticipated that federal funds would be the primary source of funding (80 percent) with a 20 percent state match. The segment of Highway 60 from 120th Street to approximately ½-mile south of County Road 4 in Minnesota will be constructed as Phase 1. Currently, Phase 1 is not programmed, and the remainder of the project is not in Mn/DOT's 10-year plan.

State Project Number	Construction Date	Funding Program	Funding Source	Program Estimate ¹
5305-51	Phase 1: start Summer 2006	Major Construction	Federal (80%) and State (20%)	Phase 1: \$5 million

¹Cost estimates include right-of-way, relocation and construction costs. Estimates are in 2001 dollars.

Schedule for Environmental Review

Completion Date	Task/Activity
March 2000	Release of SD/DSDD for public comment; begin 30-day comment period
April 2000	Public Scoping Meeting
June 2000	Final Scoping Decision Document
August 2000	Federal Notice of Intent to prepare an EIS
October 2002	Distribute Draft EIS for agency/public comment; start of Draft EIS comment period
October 2002	Notice of Availability
November 2002	Public Hearing on Draft EIS
December 2002	Selection of Preferred Alternative by Mn/DOT
June 2003	Distribute Final EIS
August 2003	Mn/DOT Adequacy Determination
September 2003	FHWA Record of Decision
November 2003	Project Study Report Approved for Phase 1
Summer 2006	Construction of Phase 1

2.5 PURPOSE OF THE DRAFT ENVIRONMENTAL IMPACT STATEMENT

The National Environmental Policy Act (NEPA) of 1969 requires that social, economic, and environmental considerations be included in the planning of projects that receive federal funding. The proposed reconstruction of Highway 60 is considered a Federal Class I Action because of its potential for significant impacts on the natural and physical environment. The EIS is a full disclosure document that discusses the environmental impacts of a proposed Class I Action. The Draft EIS discusses all reasonable alternatives to the proposed action and summarizes the results of all studies, reviews, consultations, and coordination conducted on the environmental impacts of the action for all reasonable alternatives. The Final EIS will identify the preferred alternative and describe the environmental mitigation measures and commitments.

This Draft EIS has been prepared as part of the federal NEPA process and state environmental review process to fulfill requirements of both 42 USC 4321 et. Seq. and Minnesota Rules Chapter 4410.2100.

2.6 PURPOSE AND NEED FOR PROPOSED ACTION

Objective

The purpose of this process is to identify an environmentally and socially sensitive preferred alternative for a transportation system improvement consistent with meeting the identified needs presented in the following sections.

Project Need

Maintain System Continuity

System continuity can be defined as the compatibility of level of service, traffic flow, and/or roadway design between adjacent segments of the same facility or corridor within the system.

Statewide and regional system planning has identified Highway 60 as part of the principal arterial system serving interstate, state, and county travel needs. Highway 60 also serves as an important link between towns along the corridor and provides access to much of the secondary county highway and local township road systems serving the surrounding farmlands.

Currently, Highway 60 in Minnesota is predominantly four lanes between Worthington and Windom. The four-lane will be completed in the Heron Lake area in 2003. IDOT is currently in the planning process for reconstructing Highway 60 as a four-lane roadway from LeMars to 120th Street in Osceola County, Iowa near the Minnesota-Iowa border.

The reconstruction of Highway 60 from Worthington to 120th Street as a four-lane roadway would complete the four-lane section of Highway 60 from LeMars, Iowa to Windom, Minnesota, enhancing the continuity of roadway design and mobility. Alternately, a two-lane bypass of Highway 60 in Worthington would provide continuity of traffic flow and level of service, but not design continuity.

Address Physical Conditions

The pavement on Highway 60 from Worthington to Bigelow is aging and in relatively poor condition today. The cost of maintaining the highway will continue to increase as more extensive work is required and prices rise over time.

Correct Design Deficiencies

Highway 60 has several design deficiencies that heavily influence the quality of traffic flow and safety of the corridor including intersection operation and safety. Design issues include, but are not limited to, the following:

- Limited and unsafe passing opportunities

- Absence of appropriate turn lanes
- Limited sight distance at intersections
- Substantial uncontrolled access directly to Highway 60 resulting in increased conflicts between through-traffic and turning/merging traffic
- Skewed intersections
- Narrow shoulders
- Inadequate drainage at railroad underpass in Worthington

Address Truck and Farm Traffic

Because Highway 60 functions as a major grain and livestock shipping and freight commerce corridor in a primarily agricultural area, it experiences high volumes of truck and farm traffic. The project will make travel on Highway 60 more convenient, safe, and efficient, thereby providing a better connection between regional, national, and international markets.

Farm equipment movements on and across Highway 60 often slow and restrict traffic flow. Truck traffic on Highway 60 ranges from 12 to 20 percent of the existing average daily traffic, with heavier use experienced during harvest season. On rural state highways like Highway 60, approximately 10 percent of traffic is typically truck traffic.

Due to some of the design deficiencies of the roadway, such as limited sight distance and passing opportunities, the high volume of truck traffic and presence of farm vehicles creates safety and performance issues for Highway 60. Highway 60 is publicly perceived as unsafe due to the large number of trucks driving through town and the frequent use of the roadway by farm vehicles. It is anticipated that farm equipment and the large proportion of truck traffic will remain on Highway 60 in the future, and, as traffic in general increases, these problems will intensify.

Increase Capacity

The segment of Highway 60 from County Road 35 to Highway 59 (Oxford Street) will experience increased congestion in the future. Existing traffic volumes range from 7,900 to 8,600 and are anticipated to grow beyond the capacity of the roadway to between 11,300 and 13,000 by 2030. Under these conditions, the intersection of Highway 60 and Highway 59 (Oxford Street) is expected to operate at an unacceptable level, and peak hour traffic volumes will indicate the need for a signal. This segment of Highway 60 is also a high crash area. More detailed information is available in the Traffic Analysis section of this report.

3.0 ALTERNATIVES

The Highway 60 Scoping Document, dated March 2000, considered 18 alternatives. These alternatives included the following:

- Easterly bypasses of Bigelow
- Easterly bypasses of Org
- Westerly bypasses of Worthington
- Rerouting Highway 60 and Highway 59 to new alignments by:
 - Rerouting Highway 60 and Highway 59 together along the Minnesota-Iowa border and north along existing Highway 59
 - Rerouting Highway 60 along Township Road 166 (T-166) from Org to I-90 (two alignment alternatives at Org)
- Reconstructing Highway 60 on existing alignment as:
 - Four-lane roadway
 - Two-lane roadway

The alternative screening process was based on an assessment of how each alternative addresses the purpose and need objectives of the project, as well as information received during the comment period for the Scoping Document. As a result of the screening process and comments received from the public, the alternatives presented in the SDD included the following:

- Alternative A – Reconstruct four lanes on existing alignment (Alternative 2 in Scoping Document)
- Alternative B – Reconstruct four lanes on existing alignment except with an easterly Bigelow bypass (Alternative 6 in Scoping Document)
- Alternative C – Reconstruct existing number of lanes on existing alignment (Alternative 17 in Scoping Document)
- Alternative D – Reconstruct two or four lanes with a west Worthington bypass, with or without an easterly Bigelow bypass (Alternatives 1, 4, 5, and 8 in Scoping Document)
- Alternative E – No-Build (Alternative 18 in Scoping Document)

3.1 ALIGNMENT ALTERNATIVES CONSIDERED

Several alignment options were considered for the general alternatives (Bigelow bypass, existing alignment, etc.) as described in the following section. One option was selected to represent each alternative for analysis in the Draft EIS. The alignment may be shifted during the design phase of the project in order to avoid or minimize impacts.

Bigelow Bypass

Two bypass alignments were evaluated in the Bigelow area. The two alignments ran parallel to each other from approximately County Road 4 to the Iowa border. The eastern alignment had three options for the curve to tie back to Highway 60 in Iowa. The western-most alignment was chosen to represent the Bigelow bypass for analysis in the Draft EIS because it segments farmland in a way that leaves more usable land.

Org

For the alternatives including the Worthington bypass, seven options for the Org area were analyzed. Four of these options went around Org to the east and were eliminated based on the segmentation of farmland and impact to farming operations. One option went straight through Org and was eliminated because of the impacts to homes. The other two options went around Org to the west. The option that keeps T-166 as a frontage road was chosen because it will have fewer impacts to homes.

Worthington

A more extensive analysis of options through Worthington was completed, specifically addressing the area of the Highway 60/Highway 59 (Oxford Street) intersection. Six alternatives were investigated for Highway 60 between County Road 57 and I-90. A PAC meeting was held in January 2002, where public input was received concerning the six alternatives. District staff reviewed the comments and dismissed two of the alternatives. The remaining four were evaluated as summarized below.

The six alternatives included:

- Existing Proposed Alignment: Four lanes on existing alignment.
- Highway 60/Highway 59 (Oxford Street) Roundabout (dismissed): Roundabout constructed at the Highway 60/59 intersection. This alternative was dismissed by the District due to concerns with the high volume of semi-trucks and their operation and mobility through the intersection and concerns about the operational effects of adjacent cross-streets.
- Highway 60 Throughway: The 90-degree bend in Highway 60 at Highway 59 (Oxford Street) is replaced with a smooth turn that makes Highway 60 the through movement.
- East Bypass with Trident Intersection (dismissed): Bypass Worthington east of the existing Highway 60 alignment, beginning east at County Road 35 and going north on County Road 5 to Highway 60. This option was dismissed by the District because the Highway 59 (Oxford Street)/County Road 33/Highway 60 intersection would require an at-grade railroad intersection at Highway 59 (Oxford Street) that would

substantially impact a high volume roadway and the railroad operations. Also, there were several access issues for the nearby properties.

- East Bypass with Elevated Intersection: Bypass Worthington east of the existing Highway 60 alignment, beginning at County Road 35 and going north on County Road 5 to Highway 60 with an elevated intersection at the Highway 59 (Oxford Street)/County Road 33/Highway 60 intersection.
- Big East Bypass with Elevated Intersection: Bypass Worthington east of the existing Highway 60 alignment, beginning at County Road 57 and going east of the cemetery and County Road 5, then traveling north to the elevated intersection

Conclusions

Mn/DOT District staff met in February 2002, discussed the options for Highway 60 through Worthington, and selected the Highway 60 Throughway as the preferred alignment through Worthington.

It was determined that there were three basic flaws with the Big East Bypass with Elevated Intersection alternative. The complex design features of the elevated intersection created problems such as truck acceleration and deceleration on the steep inclined ramps on all four legs, superelevation of Highway 60 for higher speeds, and sight distance problems at the intersection. Near the intersection of County Road 57, the alignment would cross through and preclude the proposed Lake Okabena Restoration project. Another concern was the low traffic demand for the bypass based on the origin-destination study completed as part of the Highway 60 Travel Study that concluded the majority of traffic on Highway 60 is local. For this reason, the benefit of the bypass would be low.

Due to the design problems of the elevated intersection and the low traffic demand for the bypass, the East Bypass with Elevated Intersection alternative was also dismissed. One other concern for this alternative was the higher cost coupled with even fewer benefits.

The Existing Proposed alternative did not address the existing problems with the Highway 60/Highway 59 (Oxford Street) operations. It also did not address the problems with the existing Armour Road intersection. In addition, it would require the greatest number of signals over time to address intersection operations.

The Throughway allows for free movement of Highway 60 through the Highway 60/Highway 59 (Oxford Street) intersection, and the access closures may reduce the need for future signals. This alternative will be carried forward to the Draft EIS and compared to the other alternatives along the entire Highway 60 corridor.

3.2 ALTERNATIVES CARRIED FORWARD FOR FURTHER REVIEW

As a result of the review and refinement process described above, seven primary alternatives were carried forward for further review in the Draft EIS (see Figures 3A-3D). The preferred alternative will be selected from these seven alternatives based on the analysis found in the remainder of this document and identified in the Final EIS. The alternatives described below are general location corridors. Alignment shifts may occur once the preferred alternative is selected in order to reduce impacts as a result of the improved highway.

To facilitate the presentation and discussion of the alternatives in the EIS process, they have been named and defined as follows:

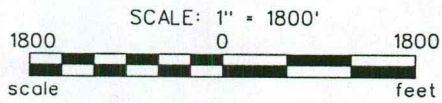
Alternative A – Existing Alignment

This build alternative would reconstruct Highway 60 as four lanes along the existing alignment from the 120th Street in Iowa to I-90 in Worthington. This alternative includes reconstructing the Highway 60/Highway 59 (Oxford Street) intersection in Worthington to make Highway 60 the through movement. The existing UP Railroad bridge in Worthington will be reconstructed to accommodate the expanded roadway and correct drainage problems. Because the UP Railroad runs parallel to existing Highway 60 on the west side for most of the corridor, the roadway will be widened primarily to the east. Existing right-of-way is approximately 150 feet. The total length of this alternative is 14.3 miles, which includes new four-lane construction and some frontage roads.

Alternative A1 – Existing Alignment with Bigelow Bypass

This four-lane alternative bypasses the City of Bigelow to the east from 120th Street in Iowa to approximately ½-mile south of County Road 4 in Minnesota, then continues on the existing alignment to I-90 in Worthington. Within the City of Worthington, this alternative includes reconstructing the Highway 60/Highway 59 (Oxford Street) intersection in Worthington to make Highway 60 the through movement. The existing UP Railroad bridge in Worthington will be reconstructed to accommodate the expanded roadway and correct drainage problems. Because the UP Railroad runs parallel to existing Highway 60 on the west side for most of the corridor, the roadway will be widened primarily to the east. Existing right-of-way is approximately 150 feet; however, there is currently no right-of-way in the Bigelow bypass area. The total length of this alternative is 17.1 miles, which includes new four-lane construction, old Highway 60 reconstruction, and some frontage roads.

FIGURE 3A HIGHWAY 60 RECONSTRUCTION ALTERNATIVES - BIGELOW AREA



ALTERNATIVES
A, A1, B, B1, C, C1&D
(ON EXISTING
TH 60)

MESIC PRAIRIE
REMNANTS

MESIC PRAIRIE
REMNANTS

330TH STREET

ALTERNATIVES
A, B, C & D
(ON EXISTING
TH 60)

ALTERNATIVES
A1, B1 & C1
(BYPASS BIGELOW
ON NEW ROADWAY)

MINNESOTA
NOBLES COUNTY

OSCEOLA COUNTY
IOWA

UNION PACIFIC RAILROAD*

SOUTH END OF
CONSTRUCTION

120TH STREET

WORTHINGTON
BYPASS
AREA

WORTHINGTON
AREA

ORG
AREA

BIGELOW
AREA

LEGEND

- * ELIGIBLE FOR LISTING IN THE NATIONAL REGISTER OF HISTORIC PLACES
- NOISE MONITORING SITE
- WETLAND
- || RIGHT-OF-WAY WIDTH

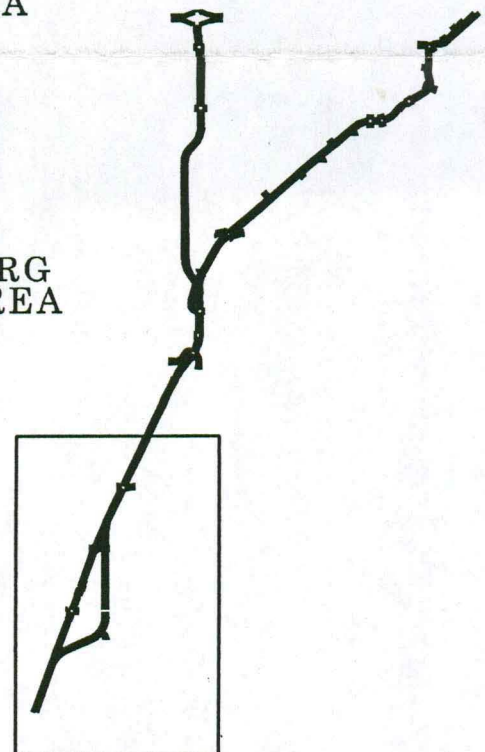
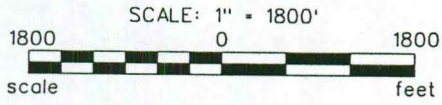


FIGURE 3B HIGHWAY 60 RECONSTRUCTION ALTERNATIVES - ORG AREA



ALTERNATIVES
B, B1, C & C1
(BYPASS ON
NEW ROADWAY)

EXISTING ROUTE 166
STAYS IN PLACE TO
SERVE LOCAL TRAFFIC

AT-GRADE
RAILROAD
CROSSING

ALTERNATIVES
A, A1 & D
(ON EXISTING
TH 60)

NORTHBOUND AND
SOUTHBOUND BRIDGES
OVER RAILROAD TRACKS

LEGEND

- * ELIGIBLE FOR LISTING IN THE NATIONAL REGISTER OF HISTORIC PLACES
- NOISE MONITORING SITE
- ◡ WETLAND
- || RIGHT-OF-WAY WIDTH

ACCESS LOCATIONS FOR
NON-WORTHINGTON
BYPASS ALTERNATIVES

NOISE
MONITORING
SITE #3

TRAVEL INFORMATION
CENTER

ALTERNATIVES
A, A1, B, B1, C, C1 & D
(ON EXISTING
TH 60)

MESIC PRAIRIE

NOISE
MONITORING
SITE #2

ALTERNATIVES
A, A1, B, B1, C, C1 & D
(ON EXISTING
TH 60)

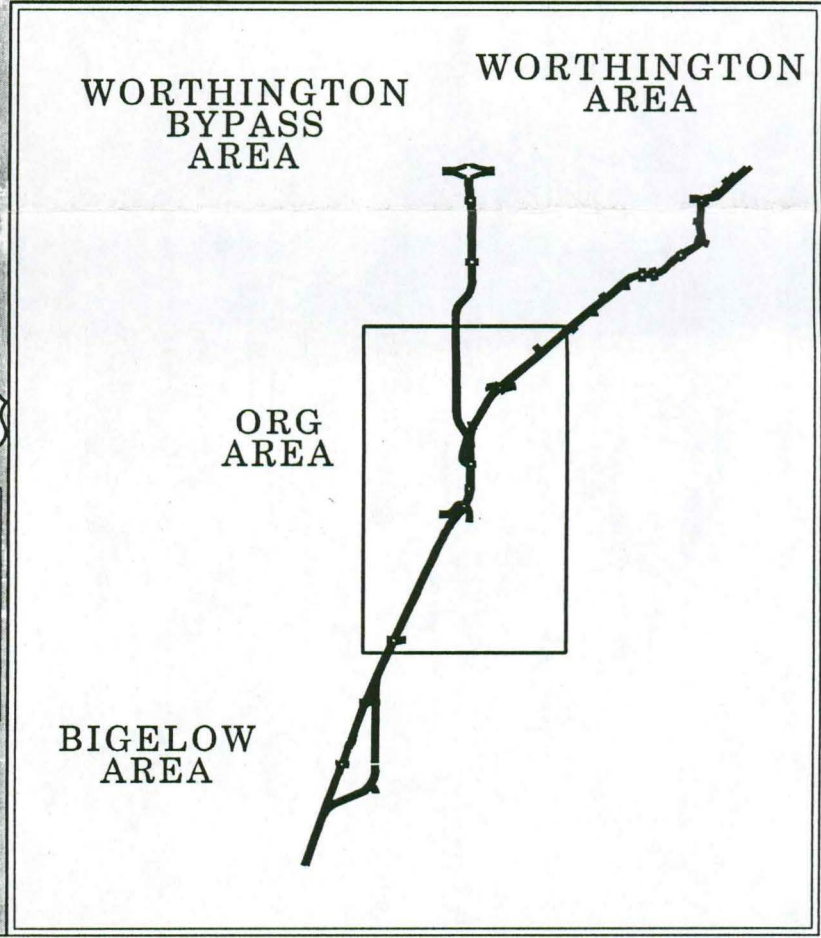
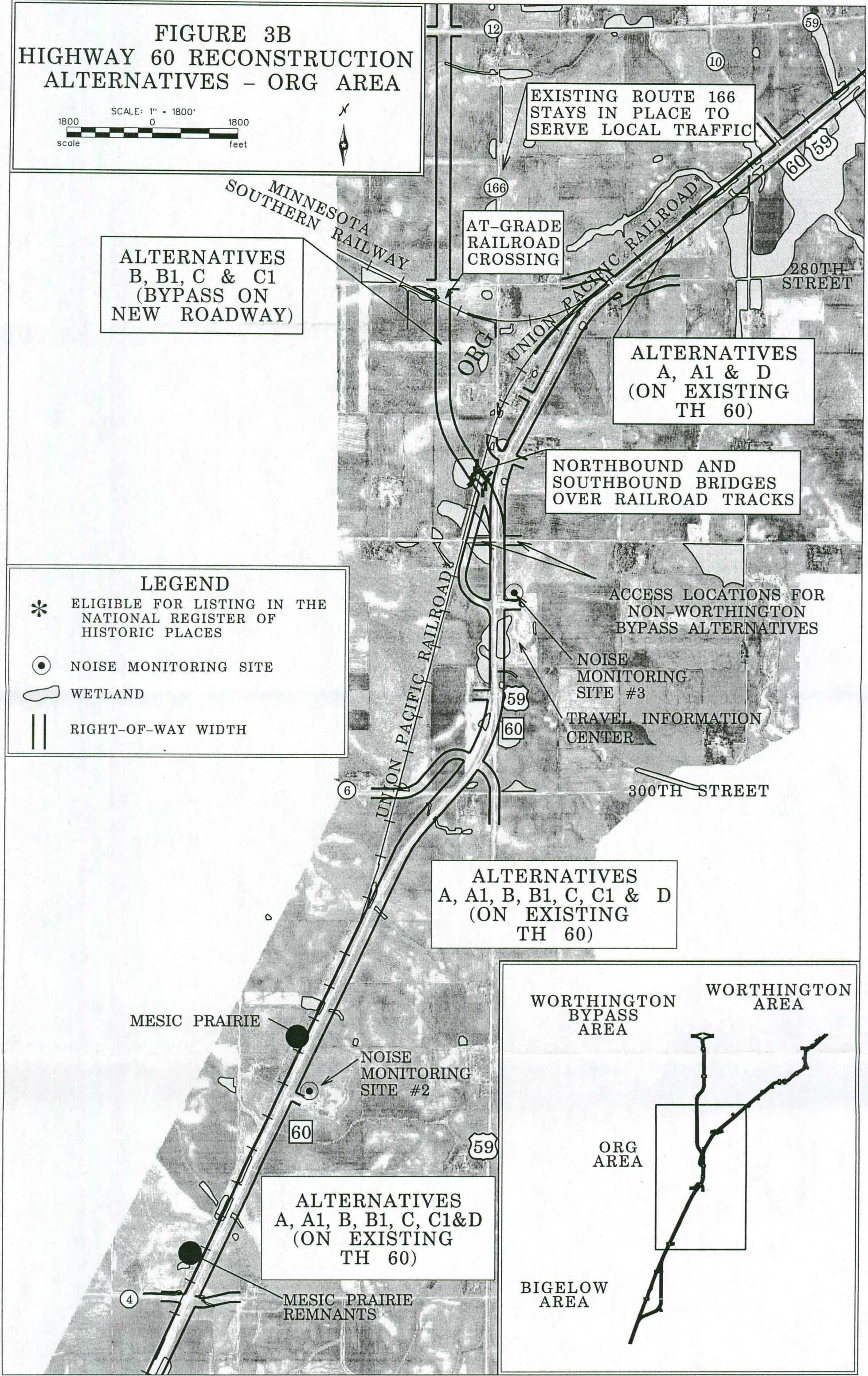
MESIC PRAIRIE
REMNANTS

WORTHINGTON
BYPASS
AREA

WORTHINGTON
AREA

ORG
AREA

BIGELOW
AREA



**FIGURE 3C
HIGHWAY 60 RECONSTRUCTION
ALTERNATIVES - WORTHINGTON
BYPASS AREA**

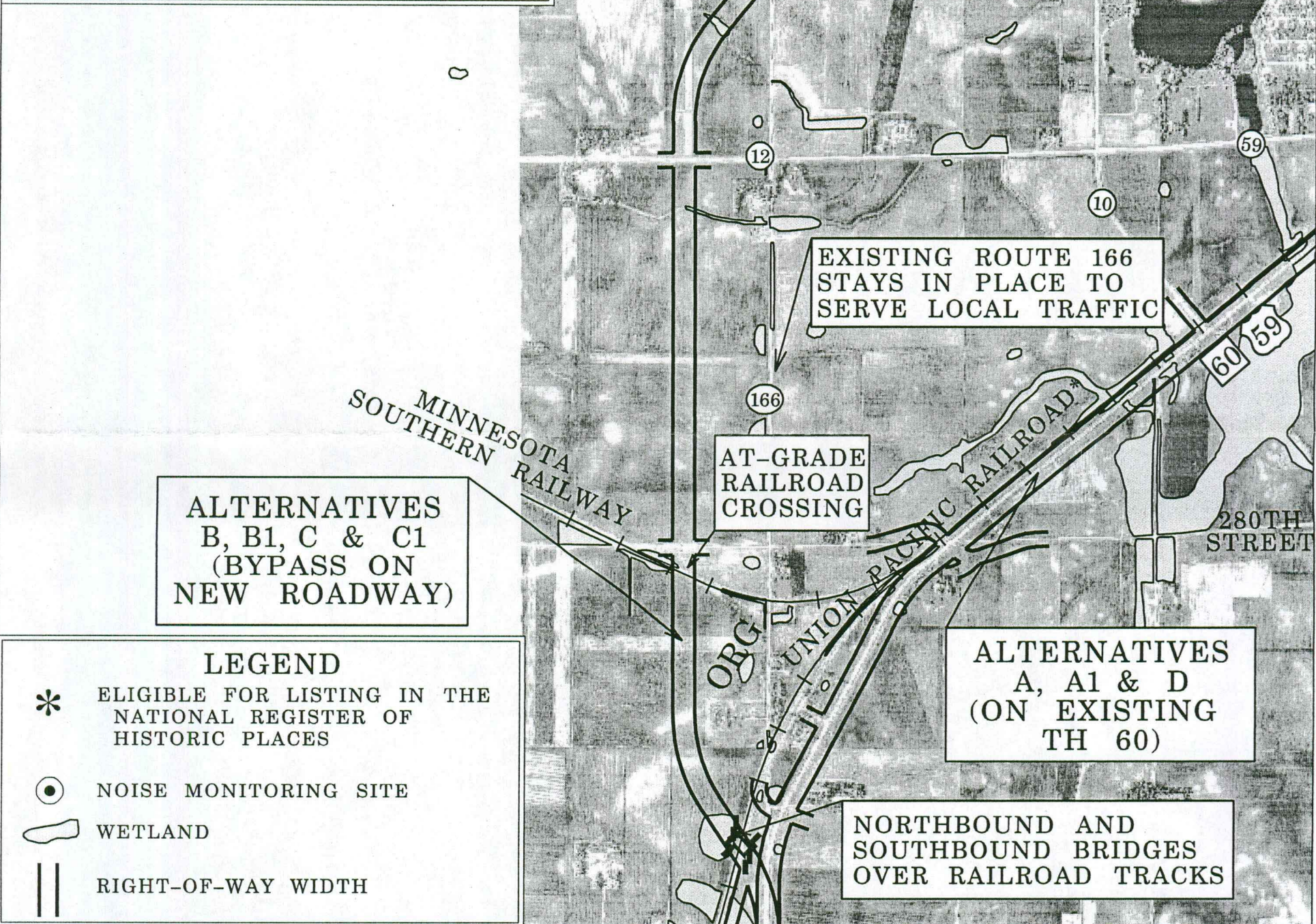
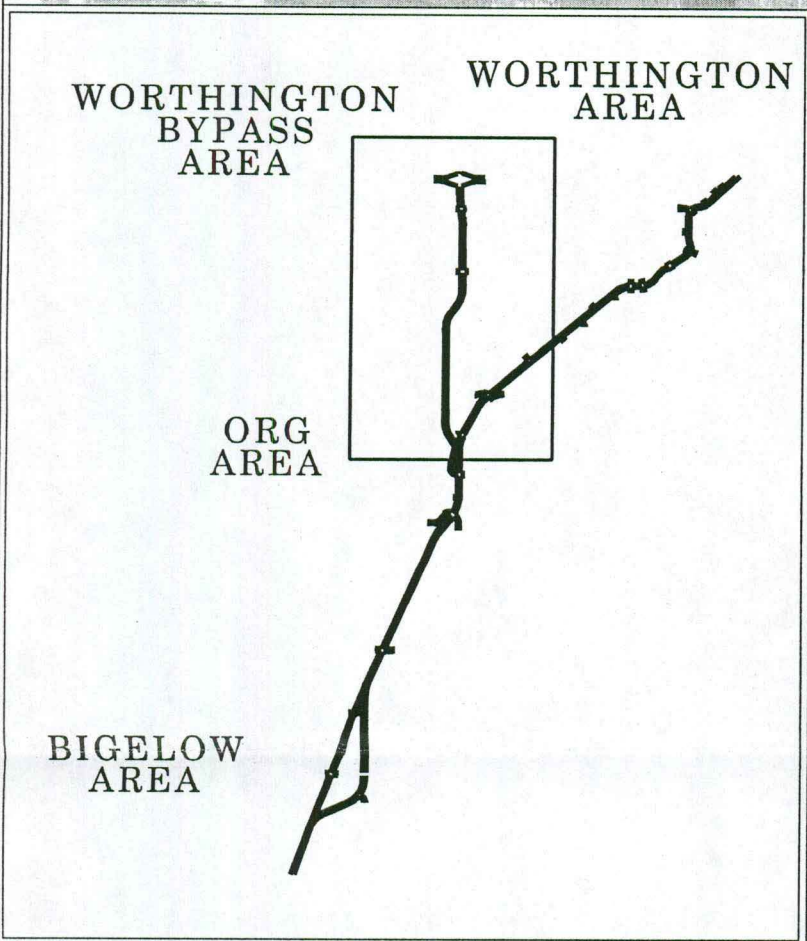
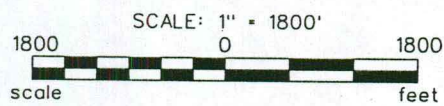
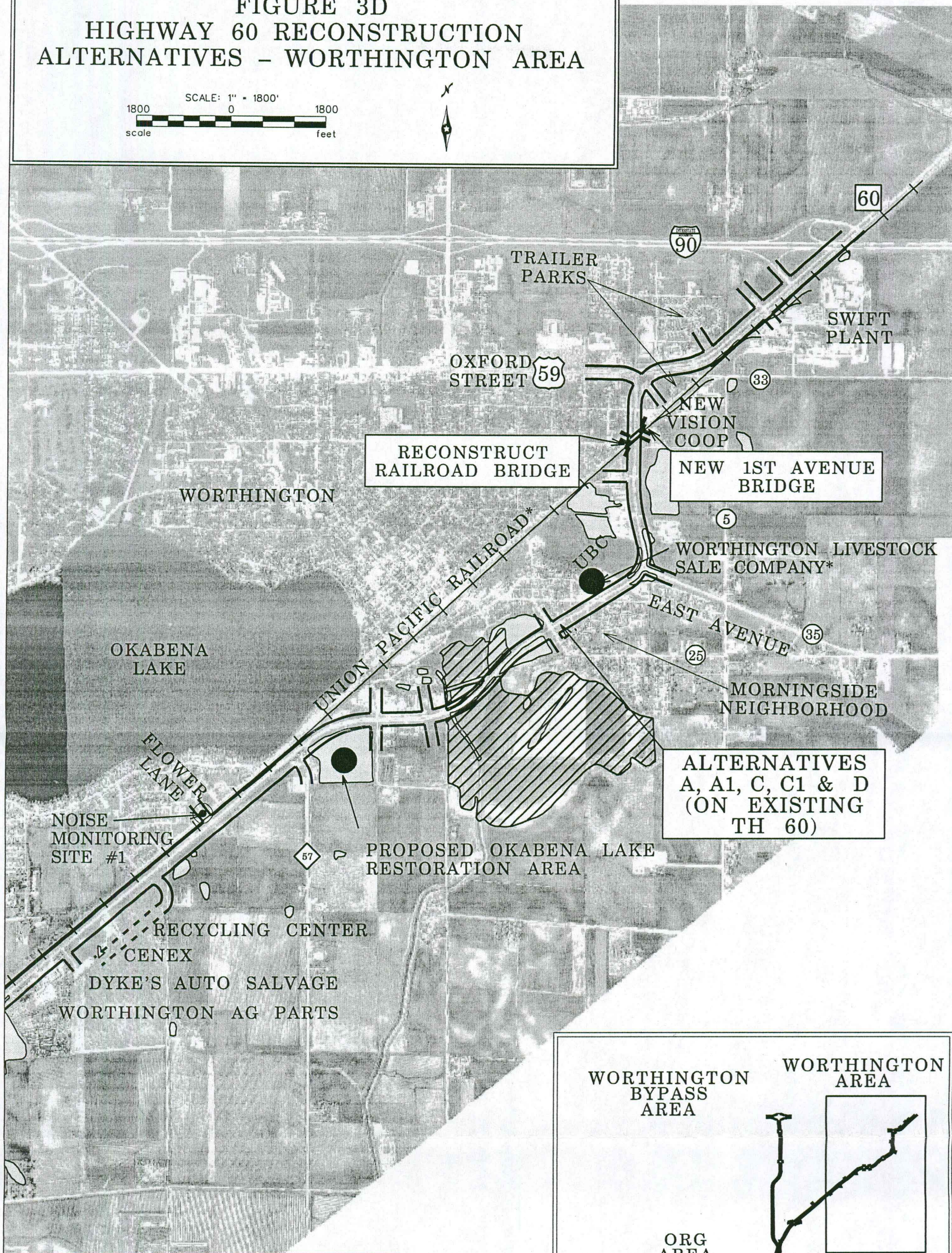
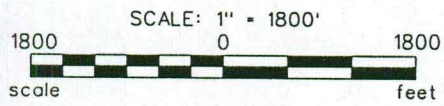


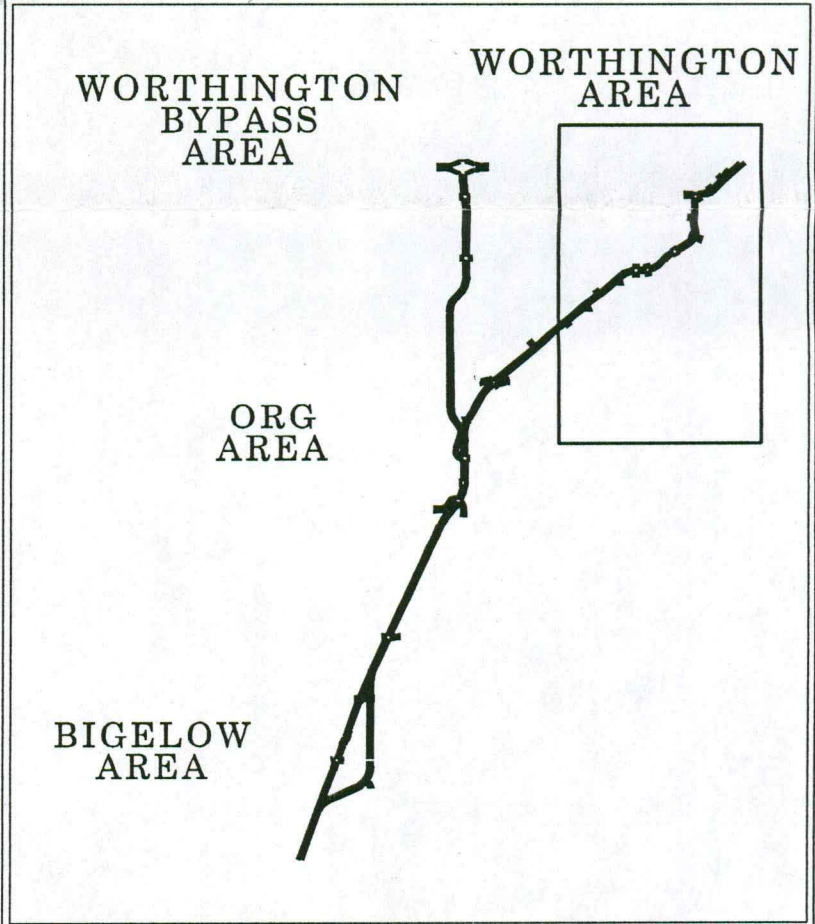
FIGURE 3D HIGHWAY 60 RECONSTRUCTION ALTERNATIVES - WORTHINGTON AREA



ALTERNATIVES
A, A1, C, C1 & D
(ON EXISTING
TH 60)

LEGEND

- * ELIGIBLE FOR LISTING IN THE NATIONAL REGISTER OF HISTORIC PLACES
- NOISE MONITORING SITE
- ▨ WETLAND
- ▩ FLOODPLAIN
- || RIGHT-OF-WAY WIDTH



Alternative B – Worthington Bypass

This alternative would reconstruct Highway 60 as four lanes from 120th Street in Iowa to the Org area. The highway will go around Org to the west and, north of Org, a four-lane bypass of the City of Worthington would be constructed following T-166 to I-90. Just south of Fox Farm Road, the new Highway 60 will be offset to the east of T-166 and T-166 would function as a frontage road. A new connection with I-90 will be required for this alternative. An overpass of the UP Railroad and an at-grade signalized crossing of the Minnesota Southern Railway will be constructed at Org. Because the UP Railroad runs parallel to existing Highway 60 on the west side for most of the corridor, the existing alignment will be widened to the east. Existing right-of-way is approximately 150 feet; however, there is currently no right-of-way in the Worthington bypass area.

Some improvements would be made to existing Highway 60 through Worthington under this alternative prior to turning the roadway back to the county. These improvements include minor reconstruction, turn lane improvements, shoulder widening, spot safety improvements, reconstructing the existing UP Railroad bridge, and reconstructing the Highway 60/Highway 59 (Oxford Street) intersection to make Highway 60 the through movement.

The total length of this alternative is 19.3 miles, which includes new four-lane construction, old Highway 60 reconstruction, and some frontage roads.

Alternative B1 – Worthington Bypass with Bigelow Bypass

This four-lane alternative bypasses the City of Bigelow to the east from 120th Street in Iowa to approximately ½-mile south of County Road 4 in Minnesota, then continues on the existing alignment to the Org area. The highway will go around Org to the west and, north of Org, a four-lane bypass of the City of Worthington will be constructed following T-166 to I-90. Just south of Fox Farm Road, the new Highway 60 will be offset to the east of T-166, and T-166 will function as a frontage road. A new connection with I-90 will be required for this alternative. An overpass of the UP Railroad and an at-grade signalized crossing of the Minnesota Southern Railway will be constructed at Org. The existing UP Railroad bridge in Worthington will be reconstructed to correct drainage problems. Because the UP railroad runs parallel to existing Highway 60 on the west side for most of the corridor, the existing alignment will be widened to the east. Existing right-of-way is approximately 150 feet; however, there is no existing right-of-way in either bypass area.

Minor reconstruction of existing Highway 60 through Worthington similar to Alternative B would occur under this alternative.

The total length of this alternative is 22.1 miles, which includes new four-lane construction, old Highway 60 reconstruction, and some frontage roads.

Alternative C – Two-Lane Worthington Split

This alternative will reconstruct Highway 60 as four lanes from 120th Street in Iowa to the Org area. At Org, the highway will split to two lanes continuing on the existing Highway 60 alignment through Worthington and two lanes going west around Org and following T-166 north to I-90. Just south of Fox Farm Road, the new Highway 60 will be offset to the east of T-166, and T-166 will function as a frontage road. A new connection with I-90 will be required for this alternative. An overpass of the UP Railroad and an at-grade signalized crossing of the Minnesota Southern Railway will be constructed at Org. Improvements to the existing alignment through Worthington will include minor reconstruction, turn lane improvements, shoulder widening, spot safety improvements, reconstructing the UP Railroad bridge to correct drainage problems, and reconstructing the Highway 60/Highway 59 (Oxford Street) intersection to make Highway 60 the through movement. Because the UP railroad runs parallel to existing Highway 60 on the west side for most of the corridor, the existing alignment will be widened primarily to the east. Existing right-of-way is approximately 150 feet; however, there is currently no right-of-way in the Worthington bypass area.

The total length of this alternative is 19.3 miles, which includes new two-lane and four-lane construction, two-lane reconstruction, and some frontage roads.

Alternative C1 – Two-Lane Worthington Split with Bigelow Bypass

This four-lane alternative bypasses the City of Bigelow to the east from 120th Street in Iowa to approximately ½-mile south of County Road 4 in Minnesota, then continues on the existing alignment to the Org area. At Org, the highway will split to two lanes continuing on the existing Highway 60 alignment through Worthington and two lanes going west around Org and following T-166 north to I-90. Just south of Fox Farm Road, the new Highway 60 will be offset to the east of T-166, and T-166 will function as a frontage road. A new connection with I-90 will be required for this alternative. An overpass of the UP Railroad and an at-grade signalized crossing of the Minnesota Southern Railway will be constructed at Org. Improvements to the existing alignment through Worthington will include minor reconstruction, turn lane improvements, shoulder widening, spot safety improvements, reconstructing the UP Railroad bridge to correct drainage problems, and reconstructing the Highway 60/Highway 59 (Oxford Street) intersection to make Highway 60 the through movement. Because the UP Railroad runs parallel to existing Highway 60 on the west side for most of the corridor, the existing alignment will be widened primarily to the east. Existing right-of-way is approximately 150 feet; however, there is currently no right-of-way in either bypass area.

The total length of this alternative is 22.1 miles, which includes new two-lane and four-lane construction, two-lane reconstruction, old Highway 60 reconstruction, and some frontage roads.

Alternative D – No-Build

Under the No-Build Alternative, improvements to Highway 60 will be limited to normal and ongoing pavement maintenance, turn lane improvements, shoulder widening, and spot safety improvements. The existing UP Railroad bridge will be reconstructed to correct drainage problems. The effects of future traffic increases will be borne by existing Highway 60 and adjacent roadways, causing a decline in mobility and safety in some areas. The No-Build Alternative is carried forward in the EIS to serve as a baseline for comparison with the build alternatives.

3.3 INTERSTATE ACCESS

Alternatives B, B1, C, and C1 include the construction of a new interchange with I-90, which requires the approval of FHWA. Should one of these alternatives be selected as the preferred alternative, an Interstate Access Request (IAR) will be completed as part of the Final EIS.

FHWA has indicated that a new interchange with I-90 would not be approved for the following reasons:

- The existing interchanges have the capacity to serve the projected traffic volumes.
- The existing interchanges do not meet the FHWA design standard of a minimum 2-mile spacing between the interchanges on the interstate system in a rural area.

However, FHWA would consider approving a new interchange if one of the existing interchanges is removed from I-90. The most likely interchange to be removed is at Highway 266 since it currently has low traffic volumes and is the closest to the proposed new interchange. The potential impacts of closing this interchange will be evaluated in the Final EIS if a bypass is chosen as the preferred alternative.

3.4 TRAFFIC ANALYSIS

The Highway 60 Travel Study, dated June 2000, was used as a source for much of the traffic data used for this project. The following discussion is a summary of the traffic analysis found in the Highway 60 Traffic Report (available upon request from Mn/DOT District 7 offices in Mankato, Minnesota).

The following traffic analysis does not specifically discuss traffic conditions along the Iowa portion of the project. However, given the rural nature of this segment, it is assumed that traffic conditions in this area will be similar to conditions in rural Minnesota.

Existing Conditions

Currently, Highway 60 is a rural two-lane highway from 120th Street in Iowa to South Lake Street in Worthington. From South Lake Street to I-90, Highway 60 varies from a two-lane arterial to a four-lane divided highway.

In the study area, Highway 60, along with I-90 and Highway 59, are functionally classified as principal arterials. Principal arterials are expected to mainly move traffic and to provide only limited direct access to adjacent homes and businesses.

Existing Traffic Volumes

Average daily traffic (ADT) volumes were obtained from Mn/DOT and the Highway 60 Travel Study. The most recent Mn/DOT ADT data is from 1998, and is shown in Figure 4.

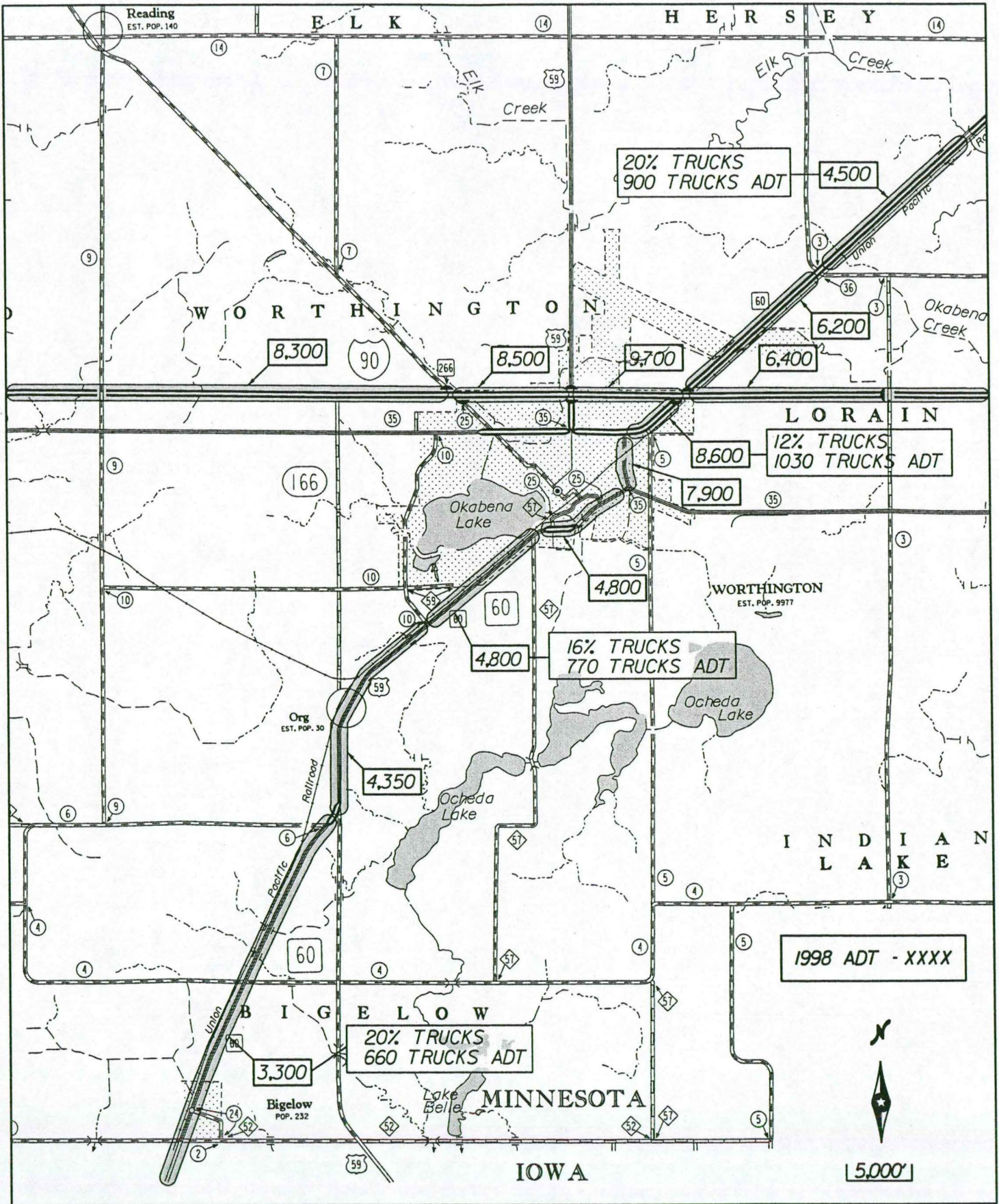
Existing Traffic Operations Analysis

Level of service is a qualitative rating system used to describe the efficiency of traffic operations on a roadway segment or at an intersection. LOS uses letter grades, A to F, to denote the quality of traffic operations. LOS A represents the best or most desirable traffic conditions (minimal delay and no congestion), while LOS F represents the worst or least desirable traffic conditions (substantial delay and considerable congestion). For rural locations in Minnesota, LOS C is generally considered the limit of acceptable traffic operations for roadway segments or intersections.

LOS was calculated on Highway 60 and at selected intersections under existing and forecast conditions. The results of the Highway 60 p.m. peak hour LOS analysis are shown in Table 3.

Table 3
Highway 60 Existing (1998) and Forecast (2030) LOS

Alternative	Road Segment	P.M. Peak Hour LOS
Existing (1998)	Iowa Border to South Lake Street	B
A/A1 (2030)	Iowa Border to South Lake Street	A
B/B1 (2030)	Iowa Border to Worthington Bypass	A
	Worthington Bypass	A
C/C1 (2030)	Iowa Border to Worthington Bypass	A
	Worthington Bypass	B
D (2030)	Iowa Border to South Lake Street	C



1998 ADT - XXXX



Table 4 presents the results of the p.m. peak hour LOS analysis for the selected intersections. While the results are displayed only for the overall intersection, it is possible for certain movements, usually the minor street movements at unsignalized intersections, to be operating at a poor LOS while the intersection as a whole is operating at an acceptable LOS. For example, the Highway 60/Armour Road intersection is operating at LOS B for the overall intersection, while the westbound approach (Swift plant entrance) is operating at LOS E and the eastbound approach (truck plaza entrance) is operating at LOS C. This implies that, although the Highway 60 approaches are operating satisfactorily, traffic from the truck plaza and the Swift plant is having difficulty getting onto Highway 60 under existing conditions during the p.m. peak hour.

**Table 4
Existing and Forecast Intersection Level of Service**

Intersection	Level of Service		
	Existing 1999	2030 No West Bypass	2030 With West Bypass
Highway 60 & South Lake Street	A	A	A
Highway 60 & Highway 59 (Oxford Street)	A	F	F
Highway 60 & Armour Road	B	C	C
Highway 60 & North I-90 Ramp	A	A	A
Highway 60 & South I-90 Ramp	A	B	B
Highway 59 & North I-90 Ramp	A	C	E
Highway 59 & South I-90 Ramp	A	E	F
CR 25 (Diagonal Rd) & North I-90 Ramp	A	A	A
CR 25 (Diagonal Rd) & South I-90 Ramp	A	A	A

Future Conditions

The proposed improvements to Highway 60 should not only address existing problems, but should also provide for long-term needs. For this study, a design year of 2030 is being used to determine future needs.

2030 Traffic Volume Forecasts

The Highway 60 Travel Study developed traffic forecasts for the Highway 60 study area for the year 2020. The 2030 ADT forecasts shown in this Draft EIS and the Highway 60 Traffic Report were developed by applying an annual growth factor to the 2020 forecast ADTs by segment.

The 2030 ADT forecasts for the seven alternatives are shown in Figures 5A and 5B.

2030 Traffic Operations Analysis

A LOS analysis for 2030 p.m. peak hour conditions was performed for Highway 60 and the selected intersections. The results of the Highway 60 p.m. peak hour LOS analysis for the alternatives are shown in Table 3.

Table 4 shows the results of the p.m. peak hour LOS analysis for the selected intersections for 2030 traffic conditions. Traffic volumes at the key intersections vary with the west bypass of Worthington; therefore, the 2030 LOS analysis for the intersections shows results for 2030 without the Worthington bypass (Alternatives A, A1, and D) and for 2030 with Worthington bypass (Alternatives B, B1, C and C1).

For the intersections with approaches operating at an unacceptable LOS, the installation of a traffic signal improves the LOS to B or better.

Signal Warrant Analysis

The intersections examined in this study are currently unsignalized. The LOS analysis suggests that traffic signals may be a way of mitigating existing or future traffic problems. Therefore, an analysis was completed to determine if signals are warranted at any of these intersections under existing or future traffic conditions.

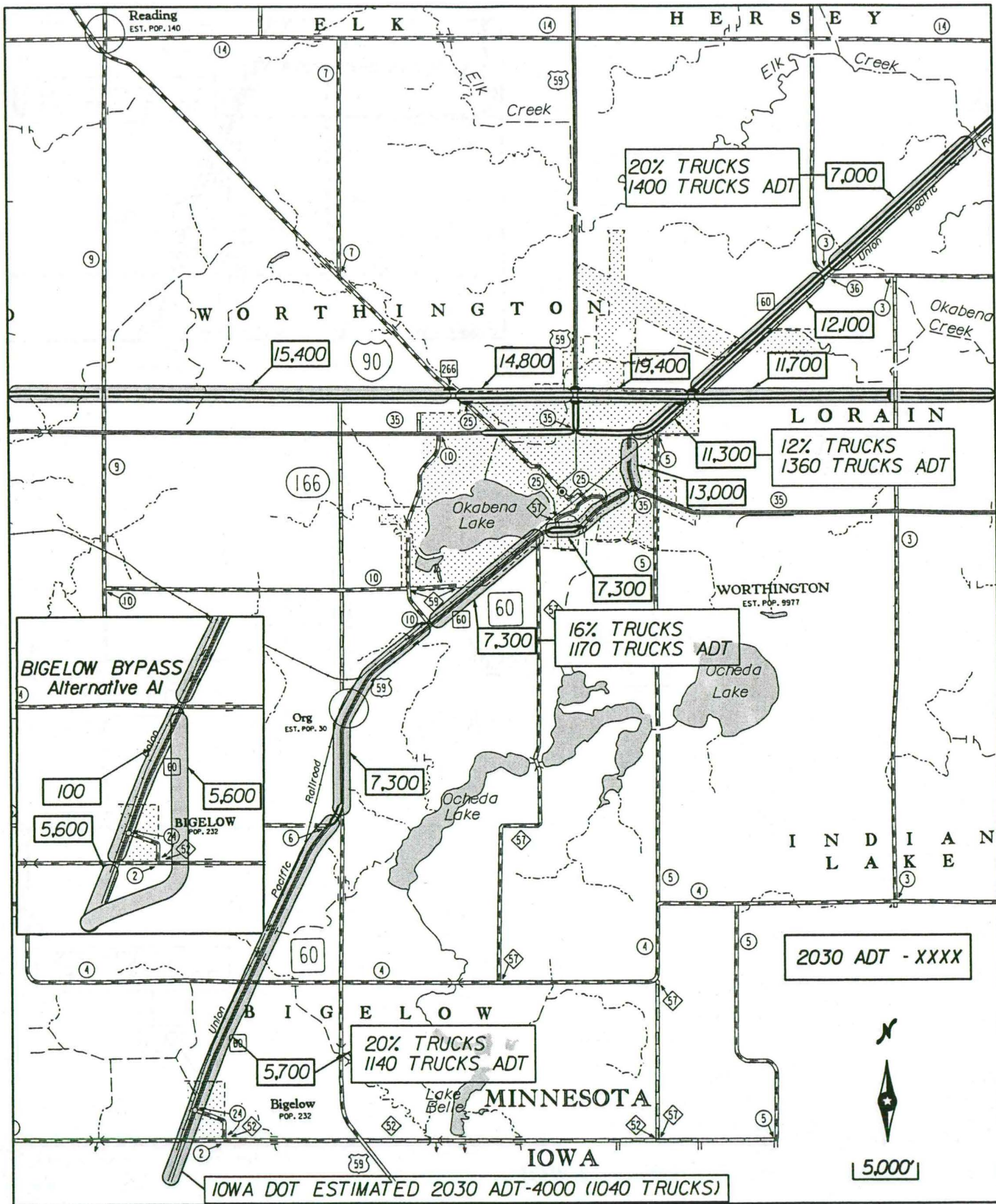
The initial review was performed using the p.m. peak hour traffic volumes at the five intersections for existing and future conditions. For future conditions, the 2005 and 2030 traffic volumes were reviewed.

Based on this preliminary analysis, the intersections at Highway 59 (Oxford Street), Armour Road, the south I-90 ramp, and the north and south I-90 ramps at Highway 59 (Oxford Street) potentially require a signal. The peak hour traffic volumes at Armour Road indicate the need for a signal under existing conditions. The I-90 ramps at Highway 59 (Oxford Street) will have traffic volumes indicating the need for a signal in 2005. Traffic volumes at Highway 59 (Oxford Street) and the south I-90 ramp will indicate a signal is needed in 2030.

03-10-95 PM

06 06

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T.H.60 Environmental
Impact Statement

Figure 5A
2030 AVERAGE DAILY TRAFFIC FORECAST
ALTERNATIVES A, AI & D



A more thorough engineering analysis should be conducted to determine if a traffic signal is the best solution to the problems at the intersection of Armour Road. Traffic conditions at the other intersections where signals may be required in the future should be monitored periodically to determine when (if) a signal should be installed.

Travel Speed Analysis

Mn/DOT has developed performance targets for the roadways on the Interregional Corridor (IRC) System in response to traffic growth and signal proliferation along these corridors. Highway 60 is designated a medium priority IRC with a performance target of 56+ mph average speed. Since Highway 60 is a designated IRC, a travel speed analysis was performed for existing conditions and the Highway 60 alternatives for the 2030 p.m. peak hour.

Table 5 shows the average travel speed for the p.m. peak hour for each alternative, as well as for existing conditions.

**Table 5
Average Speed**

Alternative	Comments	Year	Segment	Average Speed (mph)	IRC Performance Target Speed (mph)
1999	Existing Conditions	1999	I-90	70.0	≥ 61
			Highway 60	53.0	≥ 56
A	Four-Lane Build, No Bypass	2030	Highway 60	59.4	≥ 56
A1	Four-Lane, Bigelow Bypass	2030	Highway 60	59.5	≥ 56
B	Four-Lane, Worthington Bypass	2030	Highway 60 ⁺	65.7 [*]	≥ 56 / ≥ 61
B1	Four-Lane, Bigelow Bypass and Worthington Bypass	2030	Highway 60 ⁺	65.7 [*]	≥ 56 / ≥ 61
C	Two-Lane, Worthington Bypass	2030	Highway 60 ⁺	62.6 ^{**}	≥ 56 / ≥ 61
C1	Two-Lane, Bigelow Bypass and Worthington Bypass	2030	Highway 60 ⁺	62.6 ^{**}	≥ 56 / ≥ 61
D	No-Build, Two-Lane	2030	I-90	70.0	≥ 61
			Highway 60	52.5	≥ 56

Notes: For Alternatives A-D, traffic signals are assumed to be in place at the following intersections: Highway 60 and Highway 59 (Oxford Street), Highway 60 and Armour Road, and Highway 60 and South I-90 Ramp.

*Segment has two different speed limits: 65 mph for four-lane Highway 60 and 70 mph for I-90.

**Segment has three different speed limits: 65 mph for four-lane Highway 60, 55 mph for two-lane Worthington Bypass, and 70 mph for I-90.

+Includes portions of I-90 that will have dual I-90/Highway 60 designation.

Crash Analysis

Mn/DOT crash data for the period from January 1, 1996 to December 31, 2000 was reviewed for the section of Highway 60 from the Minnesota-Iowa border to I-90. Table 6 shows the number, type, and general location of the crashes that occurred within the five-year study period. Figure 6 shows the locations of the crashes.

To help determine potential safety problem areas, locations with five or more crashes during the five-year study period were identified. Four intersections and one roadway segment were identified as high crash locations. These high crash areas were:

- Highway 60/Armour Road intersection – 21 crashes
- Highway 60/Dover Street intersection – 11 crashes
- Highway 60: Nobles Street to East Avenue – 11 crashes
- Highway 60/1st Avenue intersection – 8 crashes
- Highway 60/Highway 59 (Oxford Street) intersection – 7 crashes

Crash rates and severity rates, as well as the total number of crashes, are important in identifying potential safety problem areas. Table 6 indicates the five-year crash rates and severity rates for areas along the Highway 60 study segment, as well as the statewide average for highways comparable to the identified segments along Highway 60. The segment of Highway 60 from Highway 59 (Oxford Street) to I-90 has a crash rate approximately 67 percent greater than the statewide rate and has a severity rate about 111 percent greater than the statewide rate.

Three of the high crash intersections are located along the segment of Highway 60 that has a crash rate and severity rate above the statewide average. This strongly suggests that improvements can be made along the segment of Highway 60 from Highway 59 (Oxford Street) to I-90 that will improve traffic safety.

Improved access control at the other two high crash locations may also provide safety benefits.


Access Management

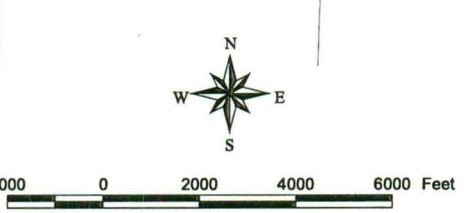
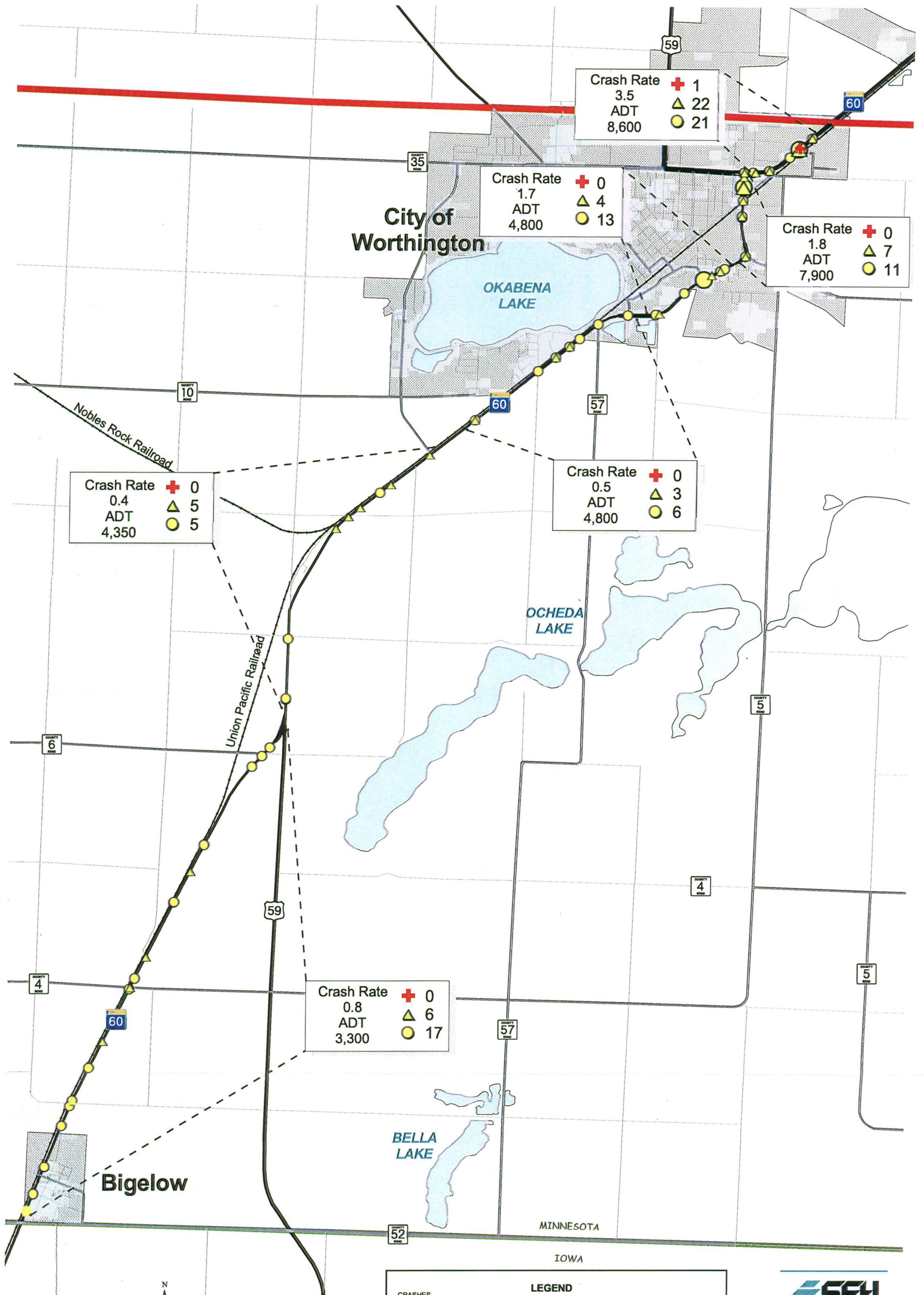
Mn/DOT has developed draft access spacing standards for roadways based on the functional classification of the roadway and the type or general land use pattern along the roadway.

**Table 6
Highway 60 Crashes, 1996-2000**

Road Segment	Length (mi.)	1998 ADT	Crashes 1/1/96 to 12/31/00				5-year Accident Rate		Statewide Average Accident Rate	
			Fatal	Personal Injury	Property Damage Only	Total	Crash Rate	Severity Rate	Crash Rate	Severity Rate
TH60: Minnesota/Iowa border to US 59	4.70	3300	0	6	17	23	0.8	1.4	0.9	2.0
TH60: US 59 to County Road 10	2.83	4350	0	5	5	10	0.4	1.1	0.9	2.0
TH60: County Road 10 to South Lake St.	2.05	4800	0	3	6	9	0.5	1.0	0.9	2.0
TH60: South Lake St. to County Road 35	1.14	4800	0	4	13	17	1.7	2.9	2.6	5.0
TH60: County Road 35 to Oxford St. (US 59)	0.68	7900	0	7	11	18	1.8	4.0	3.3	6.5
TH60: Oxford St. (US 59) to I-90	0.80	8600	1	22	21	44	3.5	9.5	2.1	4.5
		Totals	1	47	73	121				

- Notes: a) Crash rates are accidents per million vehicle miles.
b) Severity rates are weighted accidents per million vehicle miles. Weight factors are as follows: fatal = 10; personal injury = 4; property damage only = 1.
c) Statewide average accident rates are for comparable highway type and ADT. Statewide accidents rate data provided by Mn/DOT office of Traffic Engineering.

 Rates that exceed Statewide average rates.



CRASHES		ROAD		RAILROAD	
+	FATAL	Red line	INTERSTATE	Black line with cross-ticks	RAILROAD
▲	INJURY CRASH	Thick black line	US HIGHWAY	Thin black line with cross-ticks	MUNICIPALITY
▲	1 - 7	Thin black line	STATE HIGHWAY	Thin black line with cross-ticks	COUNTY
▲	8 - 15	Dashed black line	COUNTY ROAD	Thin black line with cross-ticks	ACCIDENT DATA FROM 1996 TO 2000
●	PROPERTY DAMAGE	Thin black line	CITY STREET	Thin black line with cross-ticks	
●	1 - 10	Thin black line	TOWNSHIP ROAD	Thin black line with cross-ticks	
●	11 - 20	Thin black line		Thin black line with cross-ticks	

SEH
 Short Elliott Hendrickson, Inc.
 3535 Vadnais Center Drive
 St. Paul, MN 55110

HIGHWAY 60 CRASHES

CRASH DATA PROVIDED BY MN/DOT OFFICE OF TRAFFIC ENGINEERING, REVISED BY DEPARTMENT OF PUBLIC SAFETY.

Highway 60 from I-90 to the Iowa border was reviewed, and IRC subcategory assignments were determined for the various segments, including the proposed Worthington bypass segment. The section of Highway 60 being studied falls into either Subcategory A or B. Highway 60 from County Road 10 to the Minnesota-Iowa border and the Worthington bypass were assigned to Subcategory A, and the section of Highway 60 from I-90 to County Road 10 was assigned to Subcategory B. The access standards for a medium priority IRC like Highway 60 are shown in Table 7.

Table 7
Access Guidelines for Medium Priority Interregional Corridors (Category 2)

Subcategory	Area or Facility Type	Typical Function Class	Intersection Spacing		Signal Spacing	Private Access
			Full Median Opening	Right-In/Right-Out		
A-F	Full Grade Separation	Principal Arterials	Interchange Access Only		∅	∅
A	Rural, Exurban, Bypass	Principal Arterials	1 mile	½ mile	STRONGLY DISCOURAGED By Deviation Only	By Exception or Deviation Only
B	Urban, Urbanizing	Principal Arterials	½ mile	¼ mile	STRONGLY DISCOURAGED By Deviation Only	By Exception or Deviation Only
C	Urban Core	Principal Arterials	300-660 feet dependent upon block length		¼-mile	Permitted Subject to Conditions

Source: Draft Access Category Guidelines Summary, Mn/DOT, 1/28/02

Iowa also has access control requirements that apply to Highway 60. These requirements allow full access every ¼-mile.

The existing public street intersections and private driveway access points along Highway 60 are shown in Figure 7. Existing access spacing along Highway 60 generally does not conform to the recommended access spacing guidelines, except for a short section of Highway 60 north of Bigelow.

As part of the proposed project, access points along Highway 60 will be closed, limited to right-in/right-out, realigned, or combined where possible to strive to meet the Mn/DOT guidelines. Within the City of Worthington, it is more challenging to meet the access needs of the community while limiting access according to the guidelines. Access points will be determined on an individual basis during preliminary design of the preferred alternative. Figures 3A-3D indicate a preliminary method for dealing with access.

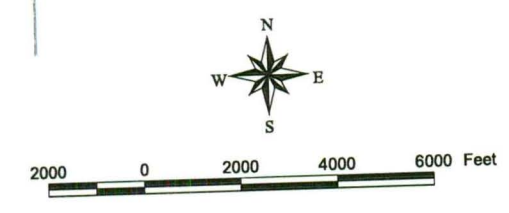
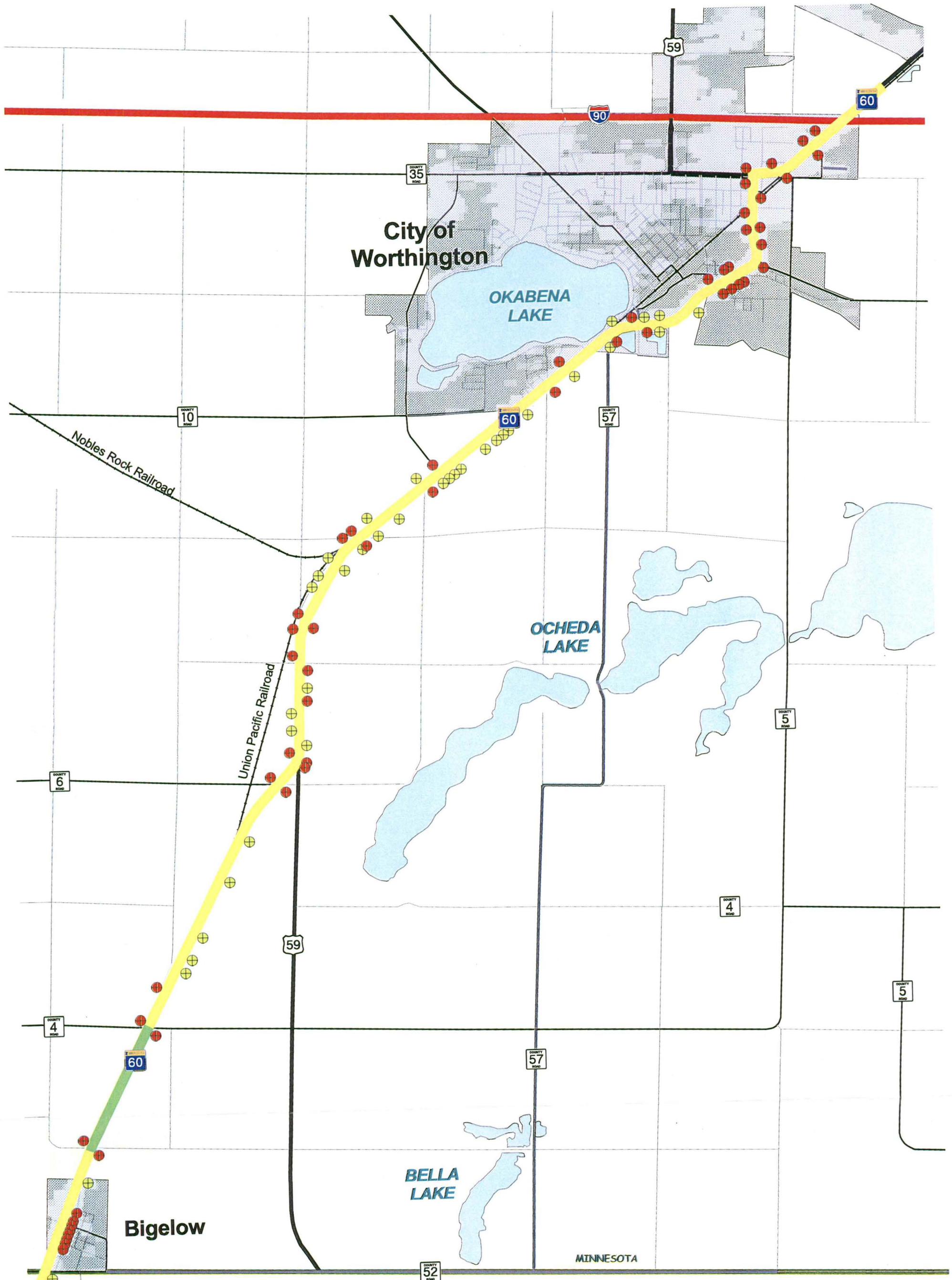
3.5 BENEFIT-COST ANALYSIS

A benefit-cost analysis has been conducted to quantify the relative benefits and costs of the seven Highway 60 alignment alternatives (Table 8).

The benefit-cost analysis results provide input for the ranking of the different alignment alternatives. Due to the level of detail of the calculations, the

magnitudes of the benefit-cost calculations are not as important as the relative differences between alternatives.

The preliminary results show that none of the alternatives have a benefit-cost ratio greater than one, and there is little difference among alternatives.



LEGEND		
ROAD ACCESS PUBLIC ACCESS	ROAD INTERSTATE	CITY STREET
ROAD ACCESS PRIVATE ACCESS	ROAD US HIGHWAY	TOWNSHIP ROAD
VIOLATION IN VIOLATION	ROAD STATE HIGHWAY	RAILROAD
VIOLATION NOT IN VIOLATION	ROAD COUNTY HIGHWAY	LAKE
	ROAD COUNTY ROAD	MUNICIPALITY
		COUNTY

Table 8
Benefit-Cost Ratio for the Highway 60 Alignment Alternatives.

	Alternative A	Alternative A1	Alternative B	Alternative B1	Alternative C	Alternative D
VMT & VHT Benefit	\$5,694,000	\$5,172,000	\$2,086,000	\$1,563,000	\$2,086,000	\$1,563,000
Crashes Benefit	\$2,757,000	\$2,676,000	\$2,424,000	\$2,247,000	\$1,832,000	\$1,751,000
O&M Benefit	\$11,800,000	\$11,728,000	\$11,353,000	\$11,280,000	\$11,832,000	\$11,759,000
Total Benefit*	\$20,251,000	\$19,576,000	\$15,863,000	\$15,090,000	\$15,750,000	\$15,073,000
Construction Cost	\$31,042,000	\$32,752,000	\$41,690,400	\$43,400,400	\$37,300,800	\$39,010,800
Bridge Cost	\$3,503,000	\$3,503,000	\$6,849,000	\$6,849,000	\$6,849,000	\$6,849,000
Drainage Cost	\$685,000	\$685,000	\$685,000	\$685,000	\$685,000	\$685,000
Signal Costs	\$200,000	\$200,000	\$450,000	\$450,000	\$350,000	\$350,000
Right-of-Way Cost	\$1,226,000	\$1,301,000	\$1,235,000	\$1,310,000	\$1,188,000	\$1,263,000
Residential Acquisition Costs	\$3,150,000	\$3,150,000	\$600,000	\$600,000	\$1,800,000	\$1,800,000
Commercial Acquisition Costs	\$2,250,000	\$750,000	\$1,500,000	\$0	\$2,250,000	\$750,000
Program Development and Delivery Contingency	\$7,086,000	\$7,428,000	\$9,935,000	\$10,277,000	\$9,037,000	\$9,379,000
Total Cost*	\$49,142,000	\$49,769,000	\$62,944,000	\$63,571,000	\$59,460,000	\$60,087,000
PV Total Cost*	\$33,068,000	\$33,490,000	\$42,355,000	\$42,777,000	\$40,011,000	\$40,433,000
Project Salvage Value*	\$6,681,000	\$6,994,000	\$9,346,000	\$9,659,000	\$8,580,000	\$8,893,000
PV Total Cost* - Salvage Value*	\$26,387,000	\$26,496,000	\$33,009,000	\$33,118,000	\$31,431,000	\$31,540,000
Benefit-Cost Ratio	0.77	0.74	0.48	0.46	0.50	0.48

*Rounded to nearest thousand

C1

4.0 SOCIAL, ECONOMIC, AND ENVIRONMENTAL IMPACTS – AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES

The purpose of this section is to present the impacts of the proposed alternatives on the social, economic, and natural environments. The relationship between local short-term uses of the human environment and the maintenance and enhancement of long-term productivity, as well as any irreversible and irretrievable commitments of resources involved in the proposed action, is addressed as appropriate throughout this section.

4.1 SOCIAL AND COMMUNITY IMPACTS

4.1.1 Land Use

Affected Environment

The project study area is approximately 14 miles in length and is located in Nobles County, Minnesota and Osceola County, Iowa. It extends from approximately 1.8 miles south of the Minnesota-Iowa border (120th Street) to I-90 in the City of Worthington, Minnesota. This area of southwest Minnesota is renowned for its agricultural production and prairie landscape. Land uses in the project area include agricultural uses, commercial uses, industrial uses, and residential uses (see Figures 8A and 8B).

Worthington serves as a regional center for the surrounding areas. A variety of important public and private services are centered in Worthington including retail, professional, and commercial services; county and municipal government offices; restaurants; parks and recreation facilities; and schools. Worthington also serves a regional center for employment.

The majority of non-urbanized land within the study area is used for agricultural purposes. The land is rural with sparse single-family residential units and farmsteads. A small unincorporated area known as Org is located between Worthington and Bigelow. Org is comprised of a few single-family homes and farmsteads.

Iowa

Land use in the Iowa portion of the project is primarily agricultural with a few single-family residences and is anticipated to be similar to rural Nobles County. For this reason, specific analysis of land use in Osceola County was not completed for this project. Impacts will be limited to wetlands and the conversion of farmland to highway uses.

Environmental Consequences

Consistency with Existing Land Use Plans

Nobles County Community Based Plan

The Nobles County Community Based Plan, which has not been officially adopted but is currently under state review, identifies the transportation

system as “important to both the economic well being of the area, as well as providing access for the residents.” The study of improvement options for Highway 60 is mentioned in the Infrastructure and County Facilities chapter of the plan, but no specific goals or preferences are identified.

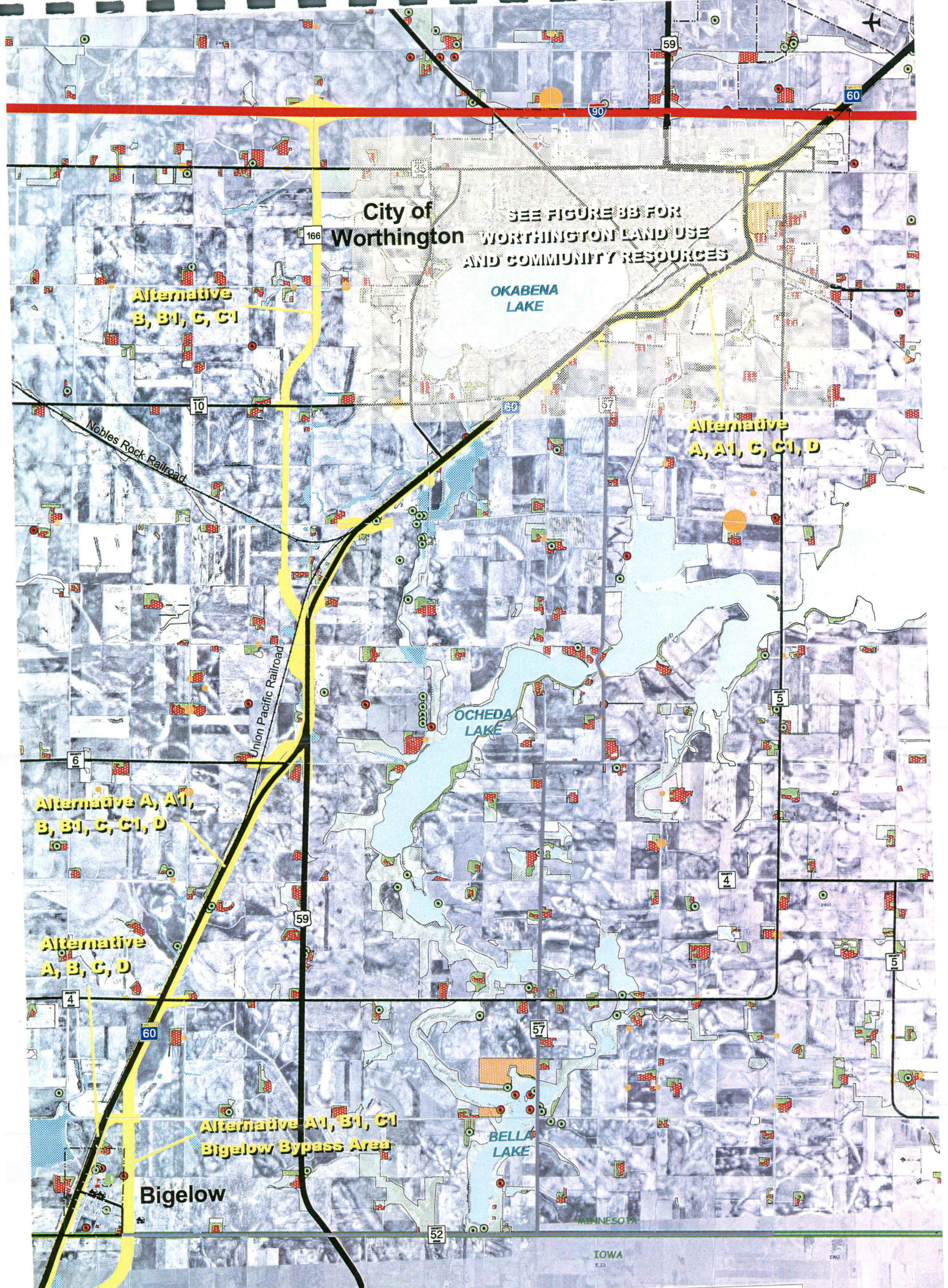
The chapter in the County Plan dedicated to Existing and Future Land Use identifies an Urban Growth Boundary (UGB) and buffer zone for the City of Worthington (see Figure 9). The UGB indicates that Worthington has chosen to direct its growth to the north, east, and west. The buffer zone was established to prevent poor planning in areas surrounding the community and protect land that is unlikely to be served by City utilities from being developed. The plan cites agricultural preservation as a major countywide goal, specifically to preserve agriculturally productive land as a vital resource to the County and to ensure minimal land use conflicts between basic farming operations, feedlots, and residential/urban land uses.

The decrease in agriculturally productive land under all build alternatives and the potential for induced development associated with the Worthington bypass are inconsistent with the Nobles County Community Based Plan’s land use goals.

City of Worthington Comprehensive Guide

The City of Worthington Comprehensive Guide (1980) has a transportation section that indicates the need to consider the future widening of Highway 60 for both capacity and safety reasons, but does not address specific alignments. A key concern regarding future improvement to Highway 60 involves maintaining access and connection to existing urban development, especially downtown Worthington and residential neighborhoods abutting the existing Highway 60 alignment.

The future land use chapter and map of the Worthington Comprehensive Guide indicates areas of the City where future development should occur (see Figure 9). The plan states that future residential areas will be encouraged to develop north of Highway 59 (Oxford Street) and west of the City. Commercial activities will become more concentrated along the three interchanges with I-90 and the area known as Gateway on south Highways 59 and 60. The future industrial area will be concentrated near existing facilities and generally in the east section of Worthington. The land use maps in the Comprehensive Guide do not reference the area of the proposed Worthington bypass.



City of Worthington SEE FIGURE BB FOR WORTHINGTON LAND USE AND COMMUNITY RESOURCES

Alternative B, B1, C, C1

Alternative A, A1, C, C1, D

Alternative A, A1, B, B1, C, C1, D

Alternative A, B, C, D

Alternative A1, B1, C1 Bigelow Bypass Area

Bigelow

2000 0 2000 4000 6000 Feet



LAND COVER - Land Cover data from Land Management Information Center, 1990.
 WELL INDEX - Well location data acquired from the Minnesota Geological Survey.
 Wells Not Verified are calculated from notes supplied by the driller and based on the Public Land Survey coordinates, 1998.
 FEED LOTS - Feed Lot data from Nobles County Environmental Services, 2000.

LAND COVER		WELLS VERIFIED		FEEDLOTS		ROAD	
	FARMSTEADS AND RURAL RESIDENCES, RURAL RESIDENTIAL DEVELOPMENT COMPLEX, OTHER RURAL DEVELOPMENTS		WELLS VERIFIED		1 - 500		INTERSTATE
	GRASSLAND, GRASSLAND-SHRUB-TREE (DECIDUOUS)		WELLS NOT VERIFIED		501 - 1000		US HIGHWAY
	DECIDUOUS FOREST		AIRPORT		1001 - 1500		STATE HIGHWAY
	SURVEYED WETLANDS		HISTORIC BUILDING		1501 - 2000		COUNTY HIGHWAY
	GRAVEL PITS AND OPEN MINES, EXPOSED SOIL, SANDBARS, AND SAND DUNES		PARK		2001 - 3200		COUNTY ROAD
	WATERFOWL PRODUCTION AREAS		MUNICIPALITIES		TOWNSHIP ROAD		CITY STREET
	FARM LAND		COUNTY		RAILROAD		



1000 0 1000 2000 3000 Feet

LAND COVER - Land Cover data from Land Management Information Center, 1990.
 WELL INDEX - Well location data acquired from the Minnesota Geological Survey.
 Wells Not Verified are calculated from notes supplied by the driller and based on the Public Land Survey coordinates, 1998.
 Facilities data from the Geographic Names Information System (GNIS) produced by the USGS.



FACILITIES		ROAD		LAND COVER	
	Cemetery		INTERSTATE		FARSTEADS AND RURAL RESIDENCES, RURAL RESIDENTIAL DEVELOPMENT
	Church		US HIGHWAY		GRASSLAND, GRASSLAND-SHRUB-TREE (DECIDUOUS)
	Park		STATE HIGHWAY		DECIDUOUS FOREST
	School		COUNTY HIGHWAY		SURVEYED WETLANDS
	Library		CITY STREET		WATERFOWL PRODUCTION AREAS
	Historic Sites		TOWNSHIP ROAD		100-YR FLOOD PLAIN
	County Court House		RAILROAD		
	LAKE		MUNICIPALITY		
	STREAMS				
	ALTERNATES				
	WELLS VERIFIED				
	WELLS NOT VERIFIED				

CITY OF WORTHINGTON - LAND USE AND COMMUNITY RESOURCES

The Comprehensive Guide identifies two goals for future land use:

- To protect existing land use areas from encroachment by incompatible land uses
- To focus development in areas currently served by sanitary sewer, storm sewer, and water or areas where extension of sanitary sewer, storm sewer, and water would not result in deleted or deferred assessments

Another key point of the Comprehensive Guide was staged growth. A key concern of the City is utilizing currently vacant land within the City before land outside the City is consumed for development. The construction of a Worthington bypass may create development pressure in areas outside of the City near the bypass, which is not consistent with the Comprehensive Guide.

Potential Impacts to Existing Land Uses

Alternative A – Existing Alignment

Right-of-way acquisition would impact several homes and commercial uses in Bigelow and Worthington. The right-of-way required to facilitate the four-lane highway on the existing alignment through Bigelow would likely need to be acquired on the east side of the highway. Opportunities to expand the highway to the west would be limited due to the close proximity of the grain elevator property and railroad right-of-way. The right-of-way required in Worthington would likely need to be acquired on both sides of existing Highway 60. There is the potential for the improved four-lane highway to attract additional development in the area. It is anticipated that development would occur along the portion of the corridor in the City of Worthington rather than in Bigelow. This alternative will also convert numerous acres of farmland and wetland to highway uses.

Alternative A1 – Existing Alignment with Bigelow Bypass

The construction of the Bigelow bypass will also require the acquisition of right-of-way; however, from a primarily rural area impacting farmland and farmsteads rather than residential and commercial areas in the City. The specific alignment of the Bigelow bypass may be adjusted during final design to minimize impacts to existing farmsteads and agricultural buildings. North of Bigelow, this alternative will have the same impacts as Alternative A.

Alternative B – Worthington Bypass

The expansion of right-of-way along the existing corridor and the proposed Worthington bypass would impact existing residential and commercial land uses in Bigelow, farmland, and wetlands. In order to bypass Worthington, several properties and the Minnesota Southern Railway may be impacted by the new alignment. Construction of the Worthington bypass, which would include a new interchange at I-90, may encourage development in a previously agricultural area. However, this area is not currently served by City utilities, and the City has expressed the desire to avoid this type of “leapfrog” development.

Alternative B1 – Worthington Bypass with Bigelow Bypass

The impacts of the Bigelow bypass under this alternative are the same as those described with Alternative A1. The rest of this alignment will have the same impacts as Alternative B.

Alternative C – Two-Lane Worthington Split

Between Bigelow and Org, this alternative will have the same impacts as Alternatives A and B. North of Org, the magnitude of the impacts along the Worthington bypass and existing alignment individually created by Alternative C will be less than Alternatives A and B, since only two lanes will be constructed. However, land uses along both corridors will be impacted.

Alternative C1 – Two-Lane Worthington Split with Bigelow Bypass

The impacts of the Bigelow bypass under this alternative will be the same as those described with Alternatives A1 and B1. The rest of this alignment will have the same impacts as Alternative C.

Alternative D – No-Build

The No-Build Alternative would have little impact on existing land use in the project area. Minor improvements could require some additional right-of-way; however, the No-Build Alternative would not create a substantial change in land use.

Highway 60 Travel Study

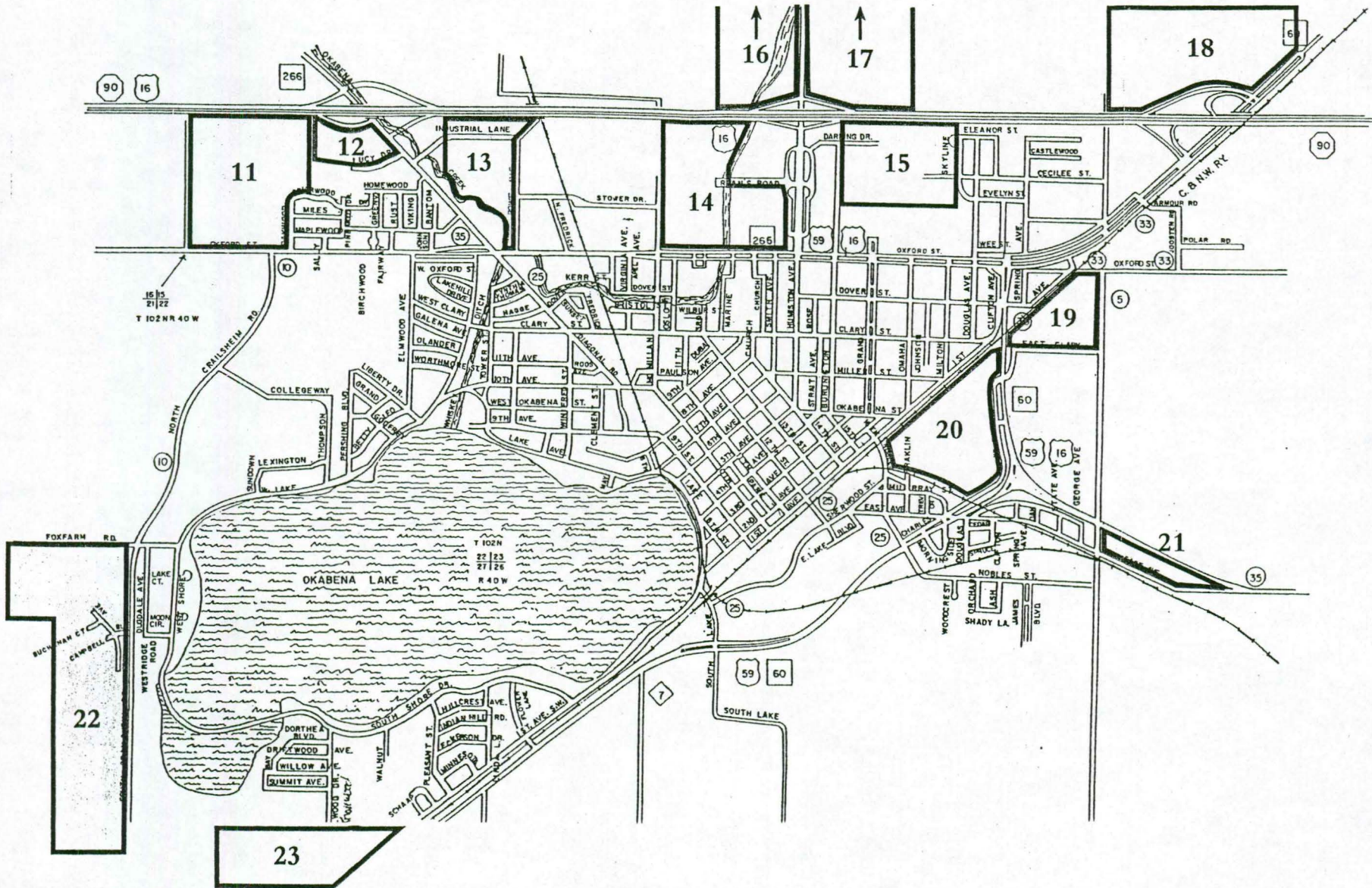
The Highway 60 Travel Study was prepared in June 2000. This study included future land use projections derived by assigning future development to traffic analysis zones (see Figure 10) that are related to future growth areas identified on the City of Worthington's Comprehensive Guide Future Land Use Map. Table 9 below indicates the amount of future development expected to occur in these zones.

**Table 9
Land Use Growth Projections**

Development Type	Sq. Feet/Units 2005	Acres/Units 2025	Zone(s)
Commercial	126,150	432,916	14, 15, and 17
Light Industrial	111,339	1,202,077	13 and 17-21
Single-Family Residential	81	366	11, 15, 22, and 23
Multiple Family Residential	47	115	11, 12, 14, and 15

Source: Highway 60 Travel Study – June, 2000

According to staff with the City of Worthington, the actual development potential is likely to be less than the projections shown in Table 9 and with more of the growth occurring after 2005. For the purposes of this EIS, the projections in Table 9 were used to represent the maximum impact of development on land use.



Source: Highway 60 Travel Study

Figure 10 Worthington Traffic Analysis Zones

Potential Future Land Use Impacts

With respect to the potential for urban growth, it appears that the future land use assumptions set forth in the City of Worthington's Comprehensive Guide remain valid. It is taking longer than anticipated for the areas slated for future growth in the City's plan to build out. However, the availability of public infrastructure and proximity to abutting urban development continue to support the long-range potential for urban development to occur in these areas.

The greatest potential impact on future land use relates to the possibility that current public development policies may substantially change if either Alternatives B or C (Worthington bypass) is selected. Pressure for urban growth may foster demands to serve properties situated along the Worthington bypass alignment with urban public services and to accommodate non-agricultural land uses.

Mitigation

Controlling the potential land use impacts of the proposed improvements would be accomplished primarily through local government zoning authority and through highway access management. All build alternatives would be constructed to limit access to Highway 60 to the extent practical and according to Mn/DOT Access Management Guidelines. Further discussions will occur with local units of government to outline future land use and transportation planning efforts and any mitigation commitments once the preferred alternative has been identified.

4.1.2 Social and Community Environment

Affected Environment

Population

The City of Worthington's population increased by approximately 13 percent from 9,977 to 11,283 between 1990 and 2000. During the same time period, Nobles County grew by 3.7 percent. City of Worthington officials have indicated that they believe the City will experience a modest rate of growth of 1 percent per year over the next 10 to 20 years.

**Table 10
Population**

	City of Bigelow	City of Worthington	Nobles County
1990 Population	232	9,977	20,098
2000 Population	231	11,283	20,832
% Change - 1990-2000	-0.4	13.0	3.7

Source: 1990 and 2000 U.S. Census Bureau Data

The reasons for this population growth are varied. There has been a large influx of minorities over the past 10 years in both Nobles County and the City of Worthington. In 1990, about 3 percent of the total population of Nobles

County was minority. The percentage of minority groups in the overall population increased to 23.2 according to the 2000 Census.

As noted above, substantial racial diversity is evident within the City of Worthington and Nobles County. Table 11 illustrates racial diversity of Nobles County, the City of Worthington, and the City of Bigelow as recorded by the 2000 Census.

**Table 11
Population by Race, 2000**

Population by Race	Bigelow		Worthington		Nobles County	
	Number	Percent	Number	Percent	Number	Percent
Total Population	231	100	11,283	100	20,832	100.0
One Race	231	100	11,045	97.9	20,535	98.6
White	214	92.6	8,667	76.8	18,019	86.5
Black or African American	0	0	215	1.9	223	1.1
American Indian and Alaska Native	1	0.4	55	0.5	64	0.3
Asian	2	0.9	797	7.1	830	4.0
Native Hawaiian and Other Pacific Islander	0	0	15	0.1	15	0.1
Some other race	14	6.1	1,296	11.5	1,384	6.6
Two or more races	0	0	238	2.1	297	1.4
Hispanic or Latino (of any race)	17	7.4	2,176	19.3	2,325	11.2

Source: U.S. Census, Census 2000

Housing

Table 12 provides a summary of current housing units and their occupancy status, according to the 2000 Census.

**Table 12
Housing Units and Occupancy**

	Bigelow	Worthington	Nobles County
Housing Units	96	4,573	8,465
Occupied (%)	91	94	94
Owner-occupied (% of occupied)	90	66	75
Renter-occupied (% of occupied)	10	34	25
Vacant (%)	9	6	6

Community Resources

The majority of the community resources in the area of the project are located within the City of Worthington (see Figures 8A and 8B). Community resources include schools, churches, cemeteries, libraries, hospitals, etc.

Iowa

The social and community environment of Osceola County, Iowa was not specifically included in this analysis given the rural nature of the project area. The two farmsteads will not be directly affected, and the remainder of the land is agricultural. As a result, none of the project alternatives will impact community resources in Iowa.

Environmental Consequences

Build Alternatives

The Worthington community has expressed concern regarding the proximity of Prairie Elementary School to a four-lane highway. The school is located south of Okabena Lake and between Pleasant Avenue and Knollwood Drive (see Figure 8B). Concerns have included increased noise, children walking up to the four-lane highway, and the ability of school buses to safely access Highway 60. Because the school is more than 600 feet from the existing highway and the roadway will be widened to the east, away from the school, the increase in noise is not expected to be substantial. It is unlikely that children will walk from the school up to the highway due to the distance, the fence around school property, and the railroad tracks. The ability of buses to make left turns onto Highway 60 will be more difficult if the roadway is reconstructed to four lanes since they will have to cross additional lanes of traffic and the median will not be wide enough to provide a refuge.

Alternative D – No-Build

The No-Build Alternative would have no affect on community resources. Indirect impacts to these resources could include decreased access and extended travel time between homes and community resources.

Mitigation

Upon selection of the preferred alternative, the routing of school buses to eliminate or minimize the need to turn left onto Highway 60 will be determined, if necessary.

4.1.3 Environmental Justice

This section has been prepared in accordance with the *Executive Order 12898, Federal Action to Address Environmental Justice in Minority and Low-Income Populations*, dated February 11, 1994. Executive Order 12898 requires each federal agency (e.g. FHWA), to the greatest extent practicable and permitted by law, and consistent with principals set forth in the report on the National Performance Review, to achieve environmental justice as part of its mission by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority populations and low-income populations.

Project Area Demographics

Demographic statistics from the 1990 and 2000 Census were compiled at the most refined level practical and used to characterize the population in the

Highway 60 project area. For purposes of the Environmental Justice assessment, the project study area was defined as everything within ½-mile of any of the improvement alternatives being addressed in the Draft EIS.

Data in the U.S. Census is presented at many different levels including tracts, block groups, and blocks. This assessment focused, where possible, on block level data that is the most refined available. When block level information was not available (i.e. income data), block group information was used. In many cases, the borders for the census block and block groups extend beyond the ½-mile study area boundaries. In these cases, the entire block or block group was included in the data compilation.

Table 13 presents the population and income data that was collected for the study area by each improvement alternative, as well as for Nobles County, the City of Worthington, and the City of Bigelow for comparative purposes.

As indicated by the data in the table, the majority of the population within each of the study corridors, as well as within Nobles County, Worthington, and Bigelow is white. However, it is clear that within Worthington and specifically along and within ½-mile of the existing Highway 60 alignment through Worthington (Alternatives A, A1, C, and C1), there is a higher percentage of non-white residents compared to Nobles County overall. For example, approximately 32 percent of the population along the study corridor through Worthington are non-white while approximately 28 percent of Worthington and 13 percent of Nobles County is non-white. Figures 11A and 11B show the percentage of minorities and Hispanics by block in the City of Worthington.

In terms of the income information, there are no substantial differences, aside from Bigelow, in the percent of residents below the poverty level between the various alternatives, Worthington, or Nobles County. Furthermore, the total percent of residents below the poverty level is comparable to the statewide average of 11 percent.

Public Involvement/Outreach

From the beginning of the project, Mn/DOT has been committed to public involvement efforts aimed at reaching all individuals and groups located within or having an interest in, the project area. These efforts have included the following.

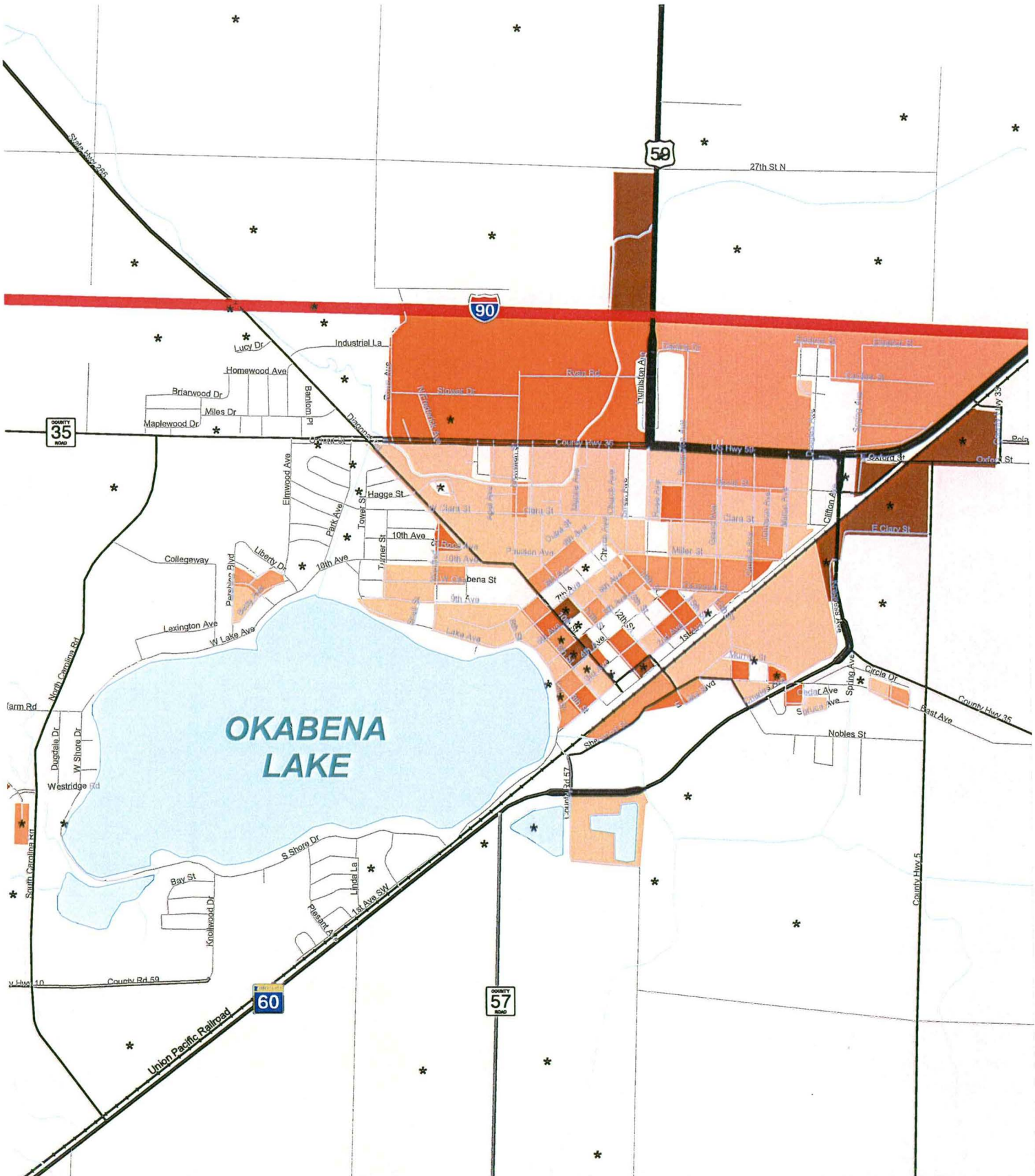
**Table 13
Demographics of the Project Study Area**

	Alt A	Alt A1	Alt B	Alt B1	Alt C	Alt C1	Nobles County	City of Worthington	City of Bigelow
Race Data (2000 Census)									
Total Population	4,378	4,616	344	582	4,526	4,764	20,832	11,283	231
White	3,828	4,063	342	577	3,974	4,209	18,019	8,667	214
Black or African American	149	149	0	0	149	149	223	215	0
American Indian and Alaska Native	11	12	0	1	11	12	64	55	1
Asian	385	387	2	4	387	389	830	797	2
Native Hawaiian or other Pacific Islander	0	0	0	0	0	0	15	15	0
Some other race	0	0	0	0	0	0	1,384	1,296	14
Two or more races	5	5	0	0	5	5	297	238	0
Hispanic or Latino	1,295	1,312	0	17	1,295	1,312	2,325	2,176	17
Income Data (1990 Census)									
Number of Households (HH)	3,515	3,817	3,787	4,089	3,787	4,089	758	4,020	95
Number of HH Below Poverty Level	419	461	484	526	484	526	954	451	12
Percent of HH Below Poverty Level	12%	12%	13%	13%	13%	13%	12%	11%	13%

All Census data from the U.S. Census Bureau

Census Blocks (for race data) and Block Groups (for income data) were selected within a ½-mile buffer of the proposed alternatives.

Poverty level based on 1989 HUD statistics



LEGEND

PERCENT MINORITY	ROAD	CITY STREET
0 - 20%	INTERSTATE	TOWNSHIP ROAD
20 - 40%	US HIGHWAY	LAKE
40 - 60%	STATE HIGHWAY	STREAMS
60 - 80%	COUNTY HIGHWAY	RAILROAD
80 - 100%	COUNTY ROAD	

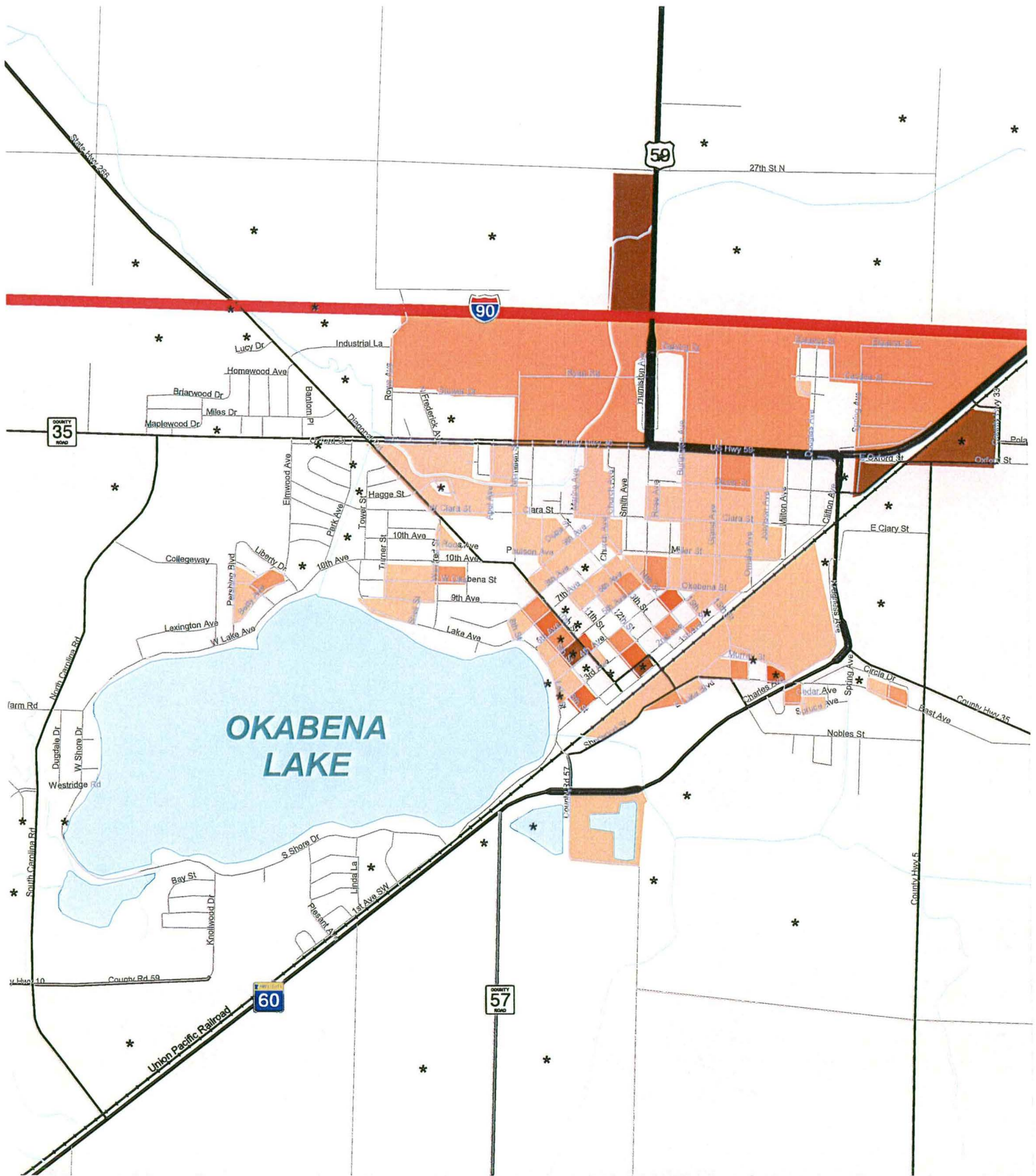
* = BLOCKS WITH LESS THAN 5 HOUSEHOLDS

WORTHINGTON POPULATION - PERCENT MINORITY
ENVIRONMENTAL IMPACT STATEMENT HIGHWAY 60

CENSUS DATA FROM THE 2000 CENSUS, U.S. CENSUS BUREAU, AMERICAN FACTFINDER

MINNESOTA DEPARTMENT OF TRANSPORTATION

06/24/02
 Date
 11A
 File Name



OKABENA LAKE

LEGEND

0 - 20%	ROAD	CITY STREET
20 - 40%	INTERSTATE	TOWNSHIP ROAD
40 - 60%	US HIGHWAY	LAKE
60 - 80%	STATE HIGHWAY	STREAMS
80 - 100%	COUNTY HIGHWAY	RAILROAD
	COUNTY ROAD	

* = BLOCKS WITH LESS THAN 5 HOUSEHOLDS

Project Advisory Committee (PAC)

The PAC was formed to establish a communication link with the affected communities, organizations, and agencies. The PAC for the EIS phase of the project is a combination of the TAC and PAC from the Scoping process. The committee represents a wide range of special interest groups that are able to communicate their concerns through their PAC representative to ensure that their community values/interests are being considered. Membership on the PAC includes a representative from the area's Asian community, as well as a representative of the area's Hispanic community; however, they have had little involvement. Increased effort to increase involvement will be made during the remainder of the project. A complete list of the PAC members is presented in Section 7 of this Draft EIS.

As of June 30, 2002, the PAC has met six times and is scheduled to meet every other month throughout the planning and preliminary design phase of the project. Although the PAC is an advisory committee, their input is an important part of the project development and decision making process.

Public Open Houses

On July 12, 2001, a kick-off open house meeting was held in the City of Worthington. The purpose of the meeting was to inform individuals of the upcoming planning efforts and opportunities to get involved in the Highway 60 project and to gather information from the public regarding the range of alignment alternatives. A second open house was held on April 18, 2002 to provide additional details on the alternatives evaluation and environmental review process. Water resources open houses were held in Bigelow and Worthington on August 27, 2001. Future public meetings will be conducted to provide up-to-date information on the project, receive verbal and written comments and suggestions, and answer questions from the public.

Project Newsletters

A series of informational newsletters have and will be prepared with the intent of providing project-related information to the public. To date, two newsletters have been distributed to a list of over 600 property owners and business owners in the project area.

Project Web Page

An informational project web page has been established on the World Wide Web at (<http://projects.dot.state.mn.us/seh/060/>). The site provides an additional means of distributing information and gathering input with an e-mail reply feature. The site is periodically updated to reflect project updates, planning/design changes, and to address new issues.

Environmental Justice Determination

To supplement the minority and economic information provided by the U.S. Census Bureau, direct contacts were made with local government offices to assist in determining if there are any readily identifiable minority or low-

income populations living in close geographic proximity of the project area. Contacts included the City of Worthington Community Development Department and the Nobles County Family Services Department.

As a result of the information obtained in the interviews with these offices and from the demographic statistics, it is reasonable to assume that the portion of the project study area within the City of Worthington contains identifiable minority and low-income populations.

It can also be concluded based on the information collected that the remainder of the study area outside of Worthington does not include any readily identifiable minority or low-income populations. Given this, the environmental justice assessment focuses solely on the portions of the proposed improvement alternatives (Alternatives A, A1, C, and C1) within the City of Worthington.

Though not all the individuals within the study corridor through Worthington are either minority or low-income classified, for purposes of this analysis, it has been assumed that any potential beneficial or adverse impacts to these areas could affect concentrations of minority and/or low-income populations.

Adverse and Beneficial Impact Assessment

Consistent with the Environmental Justice Executive Order, the assessment of the potential environmental justice impacts presented in this section addresses both adverse and beneficial social, economic, and environmental impacts. This section provides the basis for the determination as to whether any of the alternatives may result in adverse impacts being disproportionately borne by minority or low-income populations.

Noise

As documented in Section 4.2 of the Draft EIS, there is not a substantial difference in the noise impacts associated with each of the alternatives, including the No-Build. As expected, the greatest amount of residential noise impacts occurs through Worthington where there is the most development.

Alternatives B and B1, with the construction of the four-lane Worthington bypass, actually result in a very small decrease in noise impacts compared to the No-Build. Conversely, relative to the No-Build, Alternatives A and A1 generate slightly greater impacts under the daytime and nighttime conditions. Overall, it can be concluded that the noise impacts under each of the project alternatives are not concentrated in any specific residential area, but rather are spread along the corridor.

Aesthetics

The No-Build Alternative would result in no substantive change to the existing aesthetic environment over the existing condition. The Visual Resources Assessment documented in Section 4.2 concludes that visual impacts to neighbors and travelers would be less adverse and more beneficial if the current alignment was reconstructed through Worthington. Furthermore,

the opportunity to enhance the cultural order and highway coherence for neighbors and travelers is greater with improvements along the existing alignment.

Community Cohesion

Since the neighborhoods recognized as having a readily identifiable minority or low-income population are located along the portion of existing Highway 60 through Worthington that is currently four lanes, it is anticipated there will be little adverse impact related to community cohesion associated with the build alternatives. Elements such as intersections and pedestrian crossings could serve to enhance the cohesion between the neighborhoods along either side of the existing highway corridor.

Economic Development

As documented in the Economic Environment section of the Draft EIS, the acquisition of right-of-way through Worthington will impact commercial property and involve the relocation or loss of several businesses. Though this might marginally affect the overall tax base, as well as employment opportunities, the improved highway will likely attract new businesses that would compensate for such losses.

Relocation of Residents and Businesses

There would be between 4 and 21 residential acquisitions required dependent upon which build alternative is selected. Within Worthington, the impacts would be as high as 21 residences under Alternatives A or A1. The majority of these residential acquisitions are within a neighborhood that was not identified as having a readily identifiable minority or low-income population. None of the build alternatives require the acquisition or relocation of any mobile home structure in the trailer courts on either side of Highway 60 near the Highway 59 (Oxford Street) intersection.

Traffic Congestion

Increases related to traffic congestion would be most substantial with the No-Build Alternative. Continued growth in traffic along the existing highway through Worthington will increase the adverse impacts associated with traffic congestion. The increasing congestion will also adversely impact access to neighborhoods and businesses along the corridor. The congestion and accessibility issues would be resolved with the capacity improvements proposed under Alternatives A and A1. Construction of a Worthington bypass under Alternatives B, B1, C, and C1 would reduce traffic levels along Highway 60 through Worthington; however, the remaining traffic levels would be greater than the existing conditions.

Environmental Justice Findings

As noted previously, demographic statistics and local officials have concluded that minority and low-income populations are located in the project study area

within Worthington. As a result, there is the potential that any impacts, whether adverse or beneficial, could affect these population groups.

The impact assessment presented above concludes that the proposed project will result in a mix of adverse and beneficial impacts to the entire study corridor including the minority and low-income populations. For most of the issues, there is relatively little difference between the alternatives. For others, such as congestion and safety, the most substantial adverse affects on all populations, including minority and low-income, are related to the No-Build Alternative because these issues would not be addressed. Furthermore, it is reasonable to assume that at least a portion of the adverse impacts associated with any of the build alternatives will be addressed by various mitigation measures.

Given the information presented in this assessment, the following can be concluded:

- All population groups will experience a mix of beneficial and adverse impacts from each of the alternatives.
- Many of the adverse impacts will likely be minimized through various mitigation measures.
- Most of the adverse impacts are generally dispersed uniformly across the project.
- There will be no disproportionately high and adverse human health or environmental effects on minority populations or low-income populations due to any of the build alternatives.

4.1.4 Right-of-Way and Relocation

Affected Environment

The right-of-way acquisition needs for the build alternatives were determined by subtracting the existing right-of-way from the required right-of-way with the following assumptions:

- 300-foot width for four-lane rural section
- 250-foot width for four-lane urban section
- 160-foot width for two-lane rural section
- 200-foot width for two-lane urban section
- Existing Highway 60 right-of-way is approximately 150 feet
- The full right-of-way corridor would be required for locations where no right-of-way currently exists.

Environmental Consequences

Build Alternatives

The build alternatives will require additional right-of-way to accommodate the proposed improvements. The amount of right-of-way needed varies considerably among the build alternatives. Estimated right-of-way requirements for each alternative are presented in Table 14.

Table 14
Potential Right-of-Way Acquisition

Alternative	Additional Right-of-Way (Urban), acres	Additional Right-of-Way (Rural), acres
Alternative A – Existing Alignment	33	192
Alternative A1 – Existing Alignment with Bigelow Bypass	26	257
Alternative B – Worthington Bypass	7	365
Alternative B1 – Worthington Bypass with Bigelow Bypass	1	430
Alternative C – Two-lane Worthington Split	20	264
Alternative C1 – Two-lane Worthington Split with Bigelow Bypass	14	330
Alternative D – No-Build	1	0

Alternative D – No-Build

The No-Build Alternative will require 1 acre of additional urban right-of-way to accommodate the replacement of the railroad bridge in Worthington.

Relocation

Highway reconstruction often requires the relocation of residential, commercial, and farm properties. The acquisition of property is one of the most obvious impacts associated with highway construction. The identification of potential relocations was completed by overlaying the alternative alignments onto aerial photographs. The same right-of-way corridor widths were used, and only properties where the required right-of-way impacted the building itself were included.

Build Alternatives

The number of properties impacted and, consequently, the total acquisition and relocation costs, varies with each alternative. The alignment of the preferred alternative may be shifted in the design phase to limit these impacts. Table 15 presents an estimate of the properties impacted by each alternative. There are no commercial or residential acquisitions in Iowa under any alternative.

**Table 15
Potential Property Acquisitions**

Alternative	Commercial Acquisitions	Residential Acquisitions
Alternative A – Existing Alignment	9	21
Alternative A1 – Existing Alignment with Bigelow Bypass	3	21
Alternative B – Worthington Bypass	6	4
Alternative B1 – Worthington Bypass with Bigelow Bypass	0	4
Alternative C – Two-lane Worthington Split	9	12
Alternative C1 – Two-lane Worthington Split with Bigelow Bypass	3	12
Alternative D – No-Build	0	0

Alternative D – No-Build

There are no commercial or residential acquisitions associated with the No-Build Alternative.

Mitigation

The uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, as amended, and 49 CFR Part 24 provide that assistance be granted to persons, businesses, farms, and non-profit organizations that may be displaced by public improvements such as the Highway 60 Reconstruction Project.

Mn/DOT will provide relocation assistance for persons displaced by the Highway 60 project without discrimination. Advisors are available to explain relocation details, policies, and procedures with potentially displaced individuals. The advisors will work directly with property occupants to assist with their specific relocation plans.

Residential displacees are eligible for reimbursement of some of the costs associated with relocation, including moving costs and replacement housing costs. The method for computing a possible replacement housing payment is determined by the displacee's residential status as an owner or tenant. Comparable replacement housing, based on the number of rooms, amount of living space, location, etc., will be made available to each residential displacee. The replacement dwelling to which a displacee relocates must be "decent, safe, and sanitary," meaning it must meet all the minimum requirements established by federal regulations and conform to all housing and occupancy codes. If necessary, Last Resort Housing provisions will be implemented to ensure that comparable replacement housing is available to each displacee. These provisions may include increased replacement housing payments or other alternate methods based on reasonable costs.

Relocation assistance will also be made available to businesses, farms, and non-profit organizations. In addition to advisory services, payment may be made for:

- Moving costs
- Loss of tangible personal property as a result of relocation or discontinuance of a business
- Business reestablishment expenses
- Costs incurred in searching for a replacement site
- Fixed payment in lieu of moving and reestablishment costs

Compensation is available to all displaced people without discrimination.

The design phase of the preferred alternative will focus efforts to minimize relocation impacts to the extent possible.

4.1.5 Economic Environment

Affected Environment

Economy

Serving as the regional trade center and County Seat, Worthington is located between I-29 and I-35 directly off of I-90 and is a key contributor to the local economy. Additional transportation resources in the area include the Worthington Regional Airport and two railroads, the Minnesota Southern Railway and the UP Railroad. Excellent access to these various transportation resources supports a manufacturing based economy dependent on travel and transportation of goods to and from southwest Minnesota and northwest Iowa. Rich agricultural land, commercial businesses, and industrial areas characterize the corridor along Highway 60 from I-90 in Worthington into Iowa. Additional business establishments are located off the highway within the Cities of Worthington and Bigelow.

The economy of Worthington and Nobles County has grown modestly over the past two decades, led by the manufacturing and services industries. From 1980 to 1999, 2,664 non-farm jobs were added to the Nobles County economy. Total employment for Nobles County increased by 26 percent during this time. The largest industries in 1999 were nondurable goods manufacturing and services. An important factor in this growth was a major expansion of the Swift & Company meat packing plant in 1986.

Historically, Nobles County has been predominately dependent on the agricultural industry. In the last decade, farm employment levels have fallen due to the use of improved technology and machinery able to maintain larger farms. From 1989 to 1999, farming industry employment decreased by 29 percent; however, Nobles County has seen an increase in livestock production and processing. According to the 1997 Census of Agriculture, Nobles County

ranked 42nd out of all counties in the United States in terms of total hogs and pigs inventoried with 224,050. Nobles County also remains in the top 13 most productive counties in the state in terms of total bushels of produce per acre.

The UP Railroad runs parallel to existing Highway 60 and is an important community asset given the railroad transports grain to market for local farmers and businesses. The Minnesota Southern Railway connects to the UP Railroad in Org and provides an important link to the west.

Employment and Income

As seen in Tables 16 and 17, manufacturing jobs were the leading local employers in 1999, while farm related jobs had declined. A major factor in the growth of the manufacturing industry was the expansion of the Swift & Company meat packing plant. According to the Nobles County Community Based Plan, the average hourly wage at Swift, Bedford Industries, Highland Manufacturing, Intervet, and Newport Labs is \$11.00 per hour, which would be just under \$23,000 per year. Nobles County ranked 34th in Minnesota in 1999 for per capita income; however, 1989 per capita personal income was 11th in the state. During this time, Nobles County saw an average annual growth rate in per capita income of 3.4 percent, which was lower than the state and national average.

Table 16
Employment by Industry, Nobles County

	1980	1990	1995	1999	% Change 1980-1999
Farm	1,994	1,713	1,503	1,403	-29.60
Non-farm	10,067	12,709	11,653	12,731	26.50
Private	8,282	9,768	10,785	10,820	30.60
Ag. service, forestry, fishing, other	132	149	N/A	N/A	--
Mining	<10	12	N/A	N/A	--
Construction	540	388	524	589	9.10
Manufacturing	1,433	2,307	2,737	2,446	70.70
Transportation and Public Utilities	521	658	619	688	32.10
Wholesale Trade	1,021	1,038	1,033	870	-14.80
Retail Trade	2,302	2,370	2,595	2,510	9.00
Finance, Insurance, and Real Estate	589	592	600	681	15.60
Services	1,738	2,254	2,469	2,779	59.90
Government and Government Enterprises	1,785	1,885	1,924	1,911	7.10
Federal, civilian	115	124	108	92	-2.10
Military	105	114	89	76	-27.60
State and local	1,565	1,647	1,727	1,743	11.80
State	201	190	194	201	0
Local	1,354	1,457	1,542	1,542	13.90

N/A = Not Available

Source: U.S. Dept of Commerce Bureau of Economic Analysis.

Table 17
Major Employers, Nobles County, 2000

Company	Product or Service	Number of Full-time Employees
Swift & Company	Pork Processing	1,700
Worthington School District	Education (K-12)	500
Kraft Foods	Food Production	400
Worthington Regional Hospital	Health Care	195
Bedford Industries	Packaging Manufacturer	160
Highland Manufacturing	Manufactured Homes	155
Minnesota West Community College	Education	61
Intervet	Animal Health Vaccines	50
Newport Labs	Animal Health Vaccines	45

Source: Nobles County Community Based Plan

Iowa

The portion of the project in Osceola County, Iowa consists of agricultural land and two farmsteads. The economy of Osceola County was not specifically included in this analysis given the rural nature of the project area and the fact that no homes, farmsteads, or businesses will be acquired as a result of the project. Potential impacts in Iowa are discussed below along with potential impacts in Minnesota.

Environmental Consequences

Build Alternatives

The conversion of agricultural land to highway uses in both Iowa and Minnesota will impact the incomes of area farmers from crop production/sales and cash rentals. Landowners will be compensated for their land (see Right-of-Way and Relocation section of this Draft EIS), but the annual income from the land will be lost. The net effect of this transaction is dependent on several factors, as discussed in the Farmland section of this document, and will vary among landowners. Some landowners may experience a net gain, while others may see a net loss. The loss in tax receipts is expected to be minor relative to the county tax base.

The acquisition of right-of-way in Minnesota for the majority of the proposed build alternatives will impact commercial property and involve the relocation or loss of several businesses along the corridor. This could marginally affect the overall tax base, as well as employment opportunities. However, the improved highway may attract new businesses that would compensate for such losses.

Development of a Worthington bypass (Alternatives B, B1, C, C1) may generate pressure for premature extension of urban services for business sites along the new highway alignment. This may result in an increase in property taxes and/or utility fees for businesses in Worthington. Construction of a bypass may also impact businesses along the existing alignment that are dependent on drive-by traffic.

Minor indirect impacts to existing businesses may occur as a result of construction activities including delays and detours.

Alternative D – No-Build

The No-Build Alternative would have no direct economic impact in the project study area. Indirect impacts to the local economy may result from increased congestion and safety problems.

Mitigation

No mitigation measures are proposed.

4.1.6 Parks and Public Recreational Areas

Affected Environment

Okabena Lake, which lies within the City of Worthington, and its surrounding parks provide opportunities for boating, fishing, swimming, and picnicking. The Olson Park Trail and the Lakeshore Trail are paved, off-road pedestrian/bicycle trails that follow the Okabena Lake shoreline. The remainder of the route around the lake is accessible to pedestrians and bicyclists via sidewalks and wide streets with extended shoulders.

Also within Worthington is a United States Fish and Wildlife Service (USFWS) Waterfowl Production Area (WPA). The WPA is primarily intended for environmental education, and hunting is prohibited.

An 8-mile, hard surface, off-road trail for bicyclists, in-line skaters, and pedestrians was proposed to be built along County Road 35 in the next five years. The trail would be the first of three segments connecting Worthington, Rushmore, and Adrian to the west Nobles County line along a parallel path to County Road 35. This project is now on hold as alternative routes are being considered.

The Nobles County Community Based Plan (2000) encourages the development of trails and trailheads within the county, as well as connections with trails in neighboring counties. The Plan references the Southwest Minnesota Regional Trails Plan (2000), which identified the following potential trailheads near the project area:

- Bigelow
- 59/60 Travel Information Center
- Ocheda Lake
- Org
- Okabena Lake
- Worthington
- Prairie Expo

Nobles County has several Grant-in-Aid snowmobile trails covering over 100 miles. Existing Highway 60 intersects with one just north of Bigelow and

another about ½-mile north of County Road 10 in Worthington. Another trail runs north-south on the east side of existing T-166.

The City of Worthington has several parks (see Figure 8B) that provide opportunities for volleyball, basketball, tennis, and camping. Several soccer fields are also located on the west side of existing Highway 60 in the southern part of Worthington. The fields are used by area schools and local recreational teams.

Additional recreational areas near the project include a City park in Bigelow, Ocheda Lake, Bella Lake, and two golf courses.

Environmental Consequences

Build Alternatives

The only recreational resources potentially impacted by the proposed build alternatives are the snowmobile trails and the potential hiking/biking trail along County Road 35. Snowmobilers would potentially have to cross a four-lane highway rather than the existing two lanes (Alternatives A and A1), and the trail along T-166 may be impacted by the construction of a Worthington bypass (Alternatives B, B1, C, C1). If the hiking/biking trail along County Road 35 was constructed, it would require some type of trail crossing at its intersection with Highway 60 if a Worthington bypass was built (Alternatives B, B1, C, C1).

Alternative D – No-Build

The No-Build Alternative will have no impacts on parks or recreational areas.

Mitigation

Further evaluation of potential impacts to snowmobile trails and the potential hiking/biking trail will be completed upon selection of a preferred alternative and included in the Final EIS. The Final EIS will also propose mitigation measures for any adverse impacts.

4.1.7 Section 4(f)/6(f)

Affected Environment

The Section 4(f) legislation as established under the Department of Transportation Act of 1966 (49 USC 303, 23 USC 138) provides protection for publicly owned parks, recreation areas, historic sites, and wildlife and/or waterfowl refuges from conversion to other use. Additional protection is provided for outdoor recreational lands under the Section 6(f) legislation (16 USC 4602-8(f) (30)) where Land and Water Conservation (LAWCON) funds were used for the planning, acquisition, or development of the property.

Section 4(f)/6(f) properties in the vicinity of the project include the WPA, Lakeshore and Olson Park trails, and all public parks.

Environmental Consequences

The proposed project will not impact any properties eligible for protection under Section 4(f)/6(f) legislation.

Mitigation

No mitigation measures are required since the project will not impact any 4(f) or 6(f) properties.

4.1.8 Pedestrian and Bicycle Movements

Affected Environment

Besides the pedestrian/bicycle trails described in the Parks and Public Recreational Areas section of this Draft EIS, regular pedestrian and bicycle movements in the project area are limited to those associated with the Swift plant. Residents from the nearby neighborhoods and trailer courts are frequently seen walking to and from the Swift plant along and/or crossing Highway 60. Children on bicycles are also seen crossing Highway 60, many from the Morningside neighborhood.

Environmental Consequences

Build Alternatives

The proposed improvements may provide an opportunity to improve safety for pedestrian and bicycle movements. Widening Highway 60 through Worthington under Alternatives A and A1 will require pedestrians and bicyclists to cross a four-lane highway; however, the median would provide a refuge and allow them to cross one direction of traffic at a time. The alternatives including a Worthington bypass will draw some of the traffic, including truck traffic, off of the route through Worthington, perhaps improving safety.

Alternative D – No-Build

The No-Build Alternative will not have a direct effect on pedestrian and bicycle movements that currently exist in the project area. However, increased congestion and deterioration of highway safety may lead to further safety concerns for pedestrians and bicyclists.

Mitigation

Upon selection of the preferred alternative, the potential to enhance pedestrian and bicycle accessibility and safety in the project area will be considered. All pedestrian facilities will be designed in accordance with the Americans with Disabilities Act (ADA). Detailed mitigation measures will be further evaluated in the Final EIS.

4.1.9 Transit Services

Affected Environment

In 1999, Nobles County and the City of Worthington created the Nobles County Joint Powers Transit Authority to operate, promote, and manage

public transportation. The partnership controls both the Nobles County Heartland Express and the Worthington Taxi Service. The Transit Authority has created the Prairieland Transit System Central Dispatch, which offers fare discounts Monday through Friday for the Worthington Taxi Service. Also beginning in January 2002, expanded routes are available on the Heartland Express. The Heartland Express currently operates east and west routes two days a week. The new service will shorten the existing east and west routes, and add north and south routes.

Greyhound and Jefferson Lines each provide bus service twice a day to and from Worthington throughout the state.

Environmental Consequences

Build Alternatives

All of the build alternatives would potentially have a positive impact on the quality of transit service along the corridor and beyond as a result of improved traffic operations. Short-term adverse impacts to transit services may result from construction activities including minor detours or construction delays.

Alternative D – No-Build

The No-Build Alternative could have an indirect impact on transit services by not addressing existing and future safety and congestion problems.

Mitigation

Once the preferred alternative is selected, the effects of the highway improvements will be further evaluated to determine impacts to transit services. Measures to minimize any adverse impacts will be considered at that time.

4.1.10 Utilities

Affected Environment

There are several local and regional utility lines and distribution and/or transmission facilities within the project area. These utilities include local electric and telephone distribution lines, and natural gas pipelines. The following utility companies have been identified in the project area or have been issued permits to place utilities along side and/or across the existing Highway 60 alignment, including the area 2 miles south of the Minnesota-Iowa border:

- City of Bigelow
- GTE Fiber Optics
- GTE Minnesota
- Frontier Communications
- Heartland Telecommunications of Iowa
- McLeod USA
- Minnesota Department of Transportation
- Nobles Coop Electric

- Osceola County Rural Water
- Osceola Electric Cooperative, Inc.
- Peoples Natural Gas
- Qwest
- Sprint Local and Long Distance
- U.S. West Telephone
- Worthington Utilities

Environmental Consequences

Build Alternatives

To various degrees, all the build alternatives will require the relocation and disruption in service of some local and regional utility services.

Alternative D – No-Build

There would be no direct effects to utilities as a result of the No-Build Alternative.

Mitigation

Coordination and cooperation with the utility service providers will be established upon selection of a preferred alternative. These efforts will help minimize potential impacts from the roadway improvements.

4.1.11 Railroads

Affected Environment

There are two railroad lines in the project area, the UP Railroad and the Minnesota Southern Railway.

The UP Railroad operates the track that runs parallel to existing Highway 60 and operates approximately 8 trains per day at speeds up to 49 mph. They also operate a small rail yard in Worthington to support the local industries and to interchange traffic with the Minnesota Southern Railway. In Worthington, Highway 60 passes under Bridge #5466, built in 1941, which carries the UP Railroad. The bridge is on the north end of the railroad's Worthington yard and siding. There is also an industry turnout 400 feet north of the bridge.

The Structure Inventory Report does not contain the sufficiency rating for Bridge #5466 since it is owned by the UP Railroad. The length of the bridge is 180 feet, the width is 21 feet, the maximum vertical clearance is 13.8 feet, and the horizontal clearance is approximately 30 feet. The Bridge Inspection Report describes areas with heavy spalling and exposed rebar on the bridge.

The Minnesota Southern Railroad (formerly known as the Nobles Rock Railroad) operates a shortline railroad from Worthington/Org to Manley, Minnesota paralleling I-90. The railroad operates tri-weekly service to Worthington and serves several elevators and an ethanol plant. The normal train length is 10 cars with occasional 54 car grain trains and the maximum

speed is 10 mph. The Minnesota Southern Railroad believes that the future train use may increase.

Environmental Consequences

Build Alternatives

All alternatives involve the replacement of the UP Railroad bridge #5466 in Worthington to accommodate a four-lane roadway. The construction of Alternatives A or A1 may impact the local rail yard in Worthington. With the construction of the Worthington bypass under Alternatives B, B1, C, and C1, a new signalized at-grade crossing of the Minnesota Southern Railway and a new bridge over the UP Railroad will be constructed.

Alternative D – No-Build

Bridge #5466 in Worthington will be reconstructed to allow for a four-lane underpass.

Mitigation

No mitigation measures are proposed.

4.1.12 Secondary and Cumulative Effects

Background

This section is intended to account for an array of potential actions and their potential impacts that are unrelated to the proposed action, except to the extent that their impacts may, in combination with the impacts of the proposed action, result in adverse impacts. Secondary and Cumulative impacts are defined by the Council on Environmental Quality as the following:

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

Cumulative Effects: “Impacts on the environment that result from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (federal or non-federal) or person undertakes such other actions.” (40 CFR 1508.7)

Environmental Consequences

Build Alternatives

Potential secondary effects resulting from the proposed alternatives include:

- Impact on local economy of relocating existing businesses
- Loss of drive-by traffic for highway oriented businesses on existing Highway 60 if Worthington bypass is built

- Potential for induced development along Worthington bypass, especially at new I-90 interchange
- Short-term economic benefit of increased private sector income during construction

Other projects in the area that may contribute to cumulative effects include the future soybean plant in Brewster, the expansion of PM Beef Group in Windom, and the reconstruction of Highway 60 in Iowa. Increased amounts of impervious surfaces increase and accelerate the amount of runoff from a site. Runoff can introduce nutrients and sediment into lakes, streams, and wetlands affecting water quality. However, the required runoff treatment resulting from the project would likely improve water quality compared to the No-Build Alternative. Induced development could create further impacts to wetlands, vegetation, and farmland in the project area.

Alternative D – No-Build

No cumulative effects are anticipated under the No-Build Alternative. Indirect impacts may include the economic impacts of increased congestion and safety problems.

Mitigation

In the context of the existing regulatory framework and the mitigation activities for project impacts, the overall secondary and cumulative effects are expected to be minimal. Some potential secondary and cumulative effects may be avoided and/or minimized through land use controls and roadway access restrictions. Further avoidance and minimization of cumulative effects can be identified during the permitting and approval processes of individual projects.

4.2 NATURAL ENVIRONMENT

4.2.1 Farmland

Affected Environment

The Federal Farmland Protection and Policy Act (December 22, 1981) and the Minnesota Agricultural Land Preservation and Conservation Policy Act, Minnesota Statute §17.80-17.84, were enacted to ensure that impacts to agricultural lands and operations are integrated into the decision-making process at the EIS level. These laws are also intended to minimize, to the extent reasonable, actions that result in unnecessary and irreversible conversion of farmland to non-agricultural purposes.

Consultation with NRCS, State Agricultural Agencies and Local Farmland Owners

The NRCS Nobles County Field Office was contacted in July 2001 to discuss the project in general and to obtain information on the types and extent of prime and unique farmland in the project area. NRCS staff suggested that the vast majority of the farmland in the project area is classified as prime farmland. This was confirmed upon further evaluation of soils in the study

area and is discussed in more detail in the Highway 60 Farmland Special Study. Staff in the NRCS Nobles County Field Office was contacted on several subsequent occasions to obtain more detailed soils and farmland information and to verify the presence of prime farmland in the study area.

Staff in the NRCS Marshall Area Office was also contacted in July 2001 to discuss timing and processing of the Farmland Conversion Impact Rating form (Form AD1006). Typically, NRCS staff complete/process Form AD1006 for a single alignment on a proposed project. Due to the number of alternatives that exist for Highway 60 at this stage, Form AD1006 has not been completed. Form AD1006 will be completed following selection of a preferred alternative.

Staff of the Iowa NRCS was contacted in December 2001 to obtain information on prime farmland soils in areas of Osceola County that correspond to the portions of the study area south of Bigelow.

Minnesota Department of Agriculture (MDA) staff was contacted in August 2001 to identify additional farmland issues that MDA recommends be included as part of this study. MDA is interested in issues, such as triangulation of farmland, severance of farmland, and mitigation and avoidance options considered. In some cases, MDA also looks at induced development resulting from a project. For example, if the construction of an additional interchange at I-90 resulted in development of gas stations, convenience stores, or other businesses near the interchange, there are farmland losses in addition to the direct losses from right-of-way. The amount of farmland lost to induced development is expected to be minimal relative to the direct loss from the Highway 60 right-of-way. Triangulation, severance, and induced development impacts on farmland are discussed briefly in the following Environmental Consequences section.

Public open houses focusing on farmland and water resources impacts were held on August 27, 2001 in Bigelow and Worthington. The purpose of these meetings was to identify additional farmland impacts that had not been considered to date and to gather more specific information relating to the impacts to individual landowners and/or rural residents. Approximately 40 people attended the Worthington open house, and approximately 30 attended the Bigelow meeting. Many specific comments and questions related to farmland and farm business impacts were raised at the open house meetings and are summarized below. These comments are addressed to the extent possible at this stage of the project. Some of the specific issues raised were:

- Severing parcels with new right-of-way will create farming difficulties, especially with the 16 and 24-row implements
- Home and farm building relocations

- Access to farmland both during construction and after completion of construction
- Temporary impacts during construction such as loss of business that is heavily reliant on Highway 60 traffic
- Compensation for short- and long-term losses
- Drainage tile impacts from construction

Environmental Consequences

Farmland impacts associated with this project are separated into direct, indirect, secondary, and other impacts. Direct, indirect, and secondary impacts are based on established criteria and are consistent with the topics typically addressed in similar Draft EISs. The section on other impacts is intended to cover several specific topics raised at the open house meetings in more detail and additional issues that Mn/DOT identified as important to this study.

Direct Impacts: Farmland and Prime Farmland

For the purposes of this analysis, direct farmland impacts are defined as impacts that result in a direct loss of farmland in the project area. The project area was evaluated to identify the total amount of farmland, prime and unique farmland, and farmland of statewide and/or local importance as classified by the NRCS. The NRCS National Soil Survey Handbook, Title 430-VI, 1993, establishes definitions, purpose, rules, and policy for determining prime farmland soils.

The Nobles County Soil Survey (USDA, 1972) and Osceola County Soil Survey (sheets from Iowa NRCS) were consulted in conjunction with local NRCS staff to verify the presence of prime, unique, and important farmland soils in the study area. No unique, statewide, or local important farmlands are present in the study area. However, the vast majority, approximately 96 to 99 percent, of the farmland in the study area is classified as prime farmland.

The majority of the production farmland in the project area is cropped on a corn-soybean rotation. Relatively small areas of specialty crops also exist. For example, one landowner grows asparagus and pumpkins within the project area. Smaller tracts of small grains and grasses are also present.

It is worth noting that several soil types present in the study area are classified as prime farmland soils only under artificially drained conditions. Based on information from local NRCS staff, essentially all cropped farmland in the study area is tilled and drained. Therefore, for the purposes of this study, all soils classified as prime only under drained conditions were assumed to be prime farmland. A preliminary review of the study area soils identified only three soil types that are not classified as prime farmland soil. These three soil types encompass approximately 1 to 4 percent of the farmland areas in the project area.

The direct loss of farmland and prime farmland (in acres) in both Minnesota and Iowa is shown in Table 18 for each of the seven alignments in the study area. A more detailed spreadsheet is provided in the Highway 60 Farmland Special Study. Data listed in Table 18 were calculated by taking the difference between the existing and proposed right-of-way widths overlain on maps showing soils and land use. The existing right-of-way width was assumed as zero for areas where no road currently exists, 120 feet for T-166, and 150 feet for the existing portions of Highway 60. Proposed right-of-way widths were assumed to be 160 feet for a two-lane rural section, 200 feet for a two-lane urban section, 250 feet for a four-lane urban section, and 300 feet for a four-lane rural section.

Table 18
Summary of Direct Farmland Impacts

Alternative	Total Farmland Loss (acres)	Prime Farmland Loss (acres)
A	146	143
A1	218	214
B	252	249
B1	324	320
C	194	192
C1	266	263
D	0	0

Note: Farmland and prime farmland estimates for B, B1, C, and C1 include an estimated 20 acres from a new interchange at I-90.

Some additional farmland acreage losses will result from realignments of roads crossing Highway 60. These impacts were considered, but are not accounted for here because the locations and extent has not been finalized.

Indirect Impacts

For the purposes of this analysis, indirect farmland impacts are defined as impacts that extend beyond the actual agricultural land that is acquired for road construction and permanently lost to crop production. Typical indirect impacts include severance, triangulation and isolation of farmland, and relocation or displacement of home or farm structures. Each of these impacts was evaluated for the seven alternatives by overlaying the alignments on a land use map and aerial photograph of the project area.

Severed Farms

A severed farm is defined as a parcel of land that is split by the proposed roadway into separate parcels of farmland making it more difficult to farm, in part because an additional crossing or multiple crossings of the new roadway would be required for farm equipment. For the purposes of this analysis, the data reported in Table 19 represents only newly severed parcels. That is, if the farmland was already severed by a roadway and the proposed project simply moved the location of the severance, then this would not be considered a newly severed parcel. To the extent possible at this preliminary review phase,

realignments of county road crossings were also considered when evaluating severed farms.

Table 19
Summary of Indirect Farmland Impacts.

Alternative	Farms Severed	Farms Triangulated	Triangulated Prime Farmland acres lost	Farms Isolated	Structure Relocations	Farmstead/Homes Displaced
A	6	6	14	0	2	5
A1	11	4	14	3	4	7
B	13	7	34	1	3	2
B1	18	7	34	4	4	4
C	13	7	34	1	3	4
C1	18	7	34	4	4	6
D	0	0	0	0	0	0

Notes: Estimates include the impacts resulting from a new interchange at I-90.

Triangulated Farms

A triangulated farm is defined as a severed parcel that is too small to farm. It is common to consider a severed parcel of up to 3 acres as triangulated; however, based on comments obtained during the August 2001 farmland open houses, severed parcels up to 10 acres were considered triangulated for this project. The specific geometry of the parcel was also considered for this evaluation. For example, it may still be economically feasible to farm a 5-acre rectangular parcel using a 16-row implement, but not with a 24-row implement. Using the same 16-row or 24-row implement on a 9-acre triangular parcel would most likely not be feasible.

Based on input from several local crop farmers, the majority of cropped farmland in the area is farmed using 16 or 24-row implements. To the extent possible at this stage, realignments of county road crossings were considered when evaluating triangulated farms. Table 19 summarizes the impacts from triangulation for the various alignments.

Isolated Farms

Isolated farms occur when a farmstead is physically separated from its associated farmland. Essentially, the farm operator would need to cross the new roadway when traveling from the farmstead to the severed parcel. Cases where a four-lane alignment would require a landowner to cross to the opposite two-lane side of the highway and then cross again (back-track) to access their farmland were also considered isolated farmlands. Only newly isolated parcels were considered in this study. That is, if the farmland was already isolated from the farmstead and the proposed roadway simply changed the location of the isolation, it would not be considered a newly isolated parcel. Isolated farms resulting from the proposed alternatives are shown in Table 19.

Structure Relocations

Structure relocations result when the proposed right-of-way infringes on an existing building or farm structure that can physically be relocated. The data reported in Table 19 represents the number of farmsteads where relocation would be required and not the total number of structures at the farmsteads. For example, a farmstead with three structures within the proposed right-of-way is reported as a single relocation for the purposes of this study. In general, the alignments avoid existing farmsteads and homes where possible. To obtain a more accurate assessment of the actual number of structure relocations, further evaluation should be completed as the alternative alignments are refined.

Farmstead/Home Displacements

Home displacements result when the proposed right-of-way infringes on an existing home such that the home must be permanently removed or relocated on the existing site. Based on the land use and farmstead/home location information available, a minimum of two (Alternative B) and up to seven (Alternative A1) homes would be displaced (see Table 19). Two of these homes are located on the north side of I-90 and would be displaced by the right-of-way required for the eastbound entrance and exit ramps for alternatives having a Worthington bypass.

Secondary Impacts

Secondary impacts of the build alternatives can include the likelihood of the project to induce urban development in agricultural areas, farmers' loss of capital costs from installing property improvements, such as tiling systems, buildings and fencing, agricultural traffic safety, field access considerations, and temporary impacts resulting from construction activities.

Induced Development

Some induced development may occur as a result of any of the build alternatives. The Worthington bypass has the greatest potential for convenience stores, gas stations, or other businesses being established at the new intersection with I-90. Relative to the permanent farmland impacts, loss of farmland and other farm related impacts, due to induced development, are expected to be minimal.

Safety and Access

Safety and access issues are primarily a result of increased traffic speeds and volumes and the potential for additional crossings of the highway by agricultural vehicles to access fields. Safety and access related impacts have been evaluated relative to the existing conditions and are based, in part, on discussions with farmland owners at the August 2001 open house meetings.

The primary safety concerns are additional crossings of the highway to access fields and non-farm traffic passing farm traffic. For two-lane alternatives, access to fields is not expected to be considerably different than existing

conditions. Four-lane alternatives will create additional access difficulties and safety concerns for farmers with fields on both sides of the existing alignments, as farmers would be required to cross twice as many lanes to access the same field. Speed and passing impacts are expected to be more substantial for two-lane options compared to four-lane options. That is, for four-lane options, the additional lane in the northbound and southbound directions will allow non-farm traffic to more safely pass farm vehicles. To some extent, safety and access impacts for all options will be offset by improvements in sight distance and improved road crossings.

According to the manager of the Bigelow elevator, there are currently two or three "close calls" at the elevator each year. A Bigelow bypass option would likely reduce the number of close calls as the grain trucks would not be directly entering or exiting from the main traffic route. Access issues are not expected to be substantially different between the Bigelow bypass alternative compared to an alignment along the existing Highway 60.

The exact number and location of field access points and highway crossings is not known at this time. However, the number of access points and highway crossings is not expected to increase, but are generally expected to decrease in accordance with Mn/DOT standards. In general, a reduction in the number of access points will require farm machinery to travel greater distances to cross Highway 60, but safety at these crossings is expected to improve due to the additional right-of-way width available to enter the highway.

Temporary Impacts

Within the project area, construction activities could disrupt a portion of the farmland or farm businesses such that planting, growing, and/or harvesting of crops is temporarily impacted. Temporary impacts could also result from loss of productivity of croplands directly adjacent to construction activities or loss of customers to a farm-related business due to traffic detours during construction. Temporary impacts include soil compaction from construction equipment, removal and replacement of drainage tile, and the removal of crops and topsoil for staging areas and construction preparation. Clearly, some loss in yield will occur from soil compaction in these areas or from loss of drain tile efficiencies. Soil compaction impacts are expected to last no more than one to two years following completion of construction and field drain tile systems will be replaced or restored to pre-construction effectiveness. These impacts are considered minor relative to the permanent loss of cropland from new right-of-way. No substantial difference in the extent of temporary impacts is expected between the various alternative alignments.

Other Impacts

Other impacts considered include the economics of losses in farmland, impacts to the Bigelow grain elevator, and impacts to feedlots or livestock operations. Information on three other facilities (the PM Windom Cattle Haulers in Windom, the closed Campbell's facility in Worthington, and the

Minnesota Soybean Processors (MSBP) facility in Brewster) that may impact agricultural traffic volumes on Highway 60 is also provided.

Economics

This section is intended to provide information on economic impacts to farmers/landowners of farmland that is permanently lost and/or temporarily impacted by the Highway 60 project. This is not a detailed economic study of the anticipated farmland impacts. Because the income from cropland can be highly volatile and dependent on many external factors, only general conclusions regarding farmland economic impacts can be drawn across the study area. To obtain a more accurate representation of the economic impacts of farmland lost to right-of-way acquisition, a case-by-case evaluation would be needed that considers a wide range of factors including, but not limited to, the following:

Percentage of the Cropping Enterprise Lost

For a small operation that loses a substantial portion of their cropped land, the impacts would be much greater than for a large operation losing only a small portion of their land. The result in both cases is an increase in the percentage of overhead for the operation.

Crop Prices and Cash Rents

Based on data from the University of Minnesota Southwest Research and Outreach Center (SWROC), for the years 1996 to 2001, the average farmer (enrolled in the Southwest Farm Business Management Program) had an annual average net loss of \$26.54 per acre raising corn, had an average annual net profit of \$17.59 per acre raising soybeans, and had an average annual net profit of \$37.28 per acre for land rented out. These statistics do not include government emergency payments or government programs, such as Alternative Mortgage Transaction Parity Act.

The loss/profit situation looks somewhat different when factoring in government farm program payments. Preliminary data from 38 farm operations in Nobles County for 2001 show a net loss of \$78.30 per acre for corn without government payments and net loss of \$70.53 when government payments are included. For the same 38 farm operations, data show a net loss of \$1.20 per acre for soybeans without government payments and a net profit of \$11.45 when government payments are included. Comparing these 2001 data to the six-year average annual data highlights the volatile nature of cropping enterprises in southwest Minnesota.

According to data from the SWROC, cash rent paid for cropland in Nobles County in 2001 ranges between \$72/acre to \$115/acre, with an average of \$92/acre. More information on cash rents paid in southwest Minnesota is provided in the Highway 60 Farmland Special Study.

Tax Implications

Because the land transactions associated with the project will typically occur on a voluntary basis, capital gains taxes would apply. However, if the land was condemned, the gains could be postponed as described in Internal Revenue Service Publication 544 *Sales and Other Dispositions of Assets*.

Based on information from the Nobles County Assessors Office, losses in tax receipts by the County are expected to be minor relative to the county tax base as a result of the project.

Land Values

Several questions were raised at the August 2001 open houses related to how farmers and farmland owners will be compensated for losses of farmland, structure and home relocations, and rebuilding field tile systems. In general, Mn/DOT compensates owners of property lost to right-of-way acquisition based on the fair market value (FMV) of the property. Mn/DOT conducts an appraisal of the property and also encourages the owner to have an appraisal completed. If necessary, the differences in the appraisals are resolved through negotiation. Relocation assistance is also available for owners that will have home and/or building relocation costs.

Typical southwest Minnesota land prices, based on reported sales in the year 2001, ranged from \$400 to \$2,300 per acre. Land prices in Nobles County ranged from \$1,100 to \$1,800 per acre. Considering that most of the farmland in the study area is prime farmland, it is expected that land values in the study area will be at the higher end of the stated ranges.

Another factor relating to land values is the proximity of the land to Worthington. Land values will vary not only on the basis of crop production potential, but also on whether land closer to Worthington is more likely to see development pressure compared to more distant land.

Considering field drainage tile systems, they will be replaced and/or returned to pre-construction condition by Mn/DOT prior to completion of the project. Additional information relating to the general drainage system in the study area is provided in the Highway 60 Hydraulic Survey.

Given these considerations, the net economic effect of a farmer/landowner selling land to the State of Minnesota cannot be determined with any certainty. The result is not only dependent on the factors listed above, but also on what the landowner does with proceeds from the land sale. The ultimate effect is likely to be mixed. Some landowners will see a gain, while others a loss.

Based on personal communications with farmers/landowners on a similar project on Highway 60 near Heron Lake, farmers/landowners were generally pleased with how Mn/DOT compensated them for their land that was acquired for right-of-way. This appears to be a reasonable conclusion, assuming that they were offered FMV for their land as discussed above, and given the fact

that most of these landowners had a relatively small portion of their land impacted.

Bigelow Grain Elevator

There is some uncertainty regarding the future of the Bigelow grain elevator operated by United Farmers Coop. It has been suggested that its operation may be limited to the next few years due to recent consolidation of other elevators in Iowa, and the fact that the majority of grain from the surrounding area currently goes south to elevators in Iowa because of convenience and economics.

Information from the manager of the Bigelow elevator indicates that the facility intends to remain in operation as evident from recent capital improvements to the facility. The current manager could not foresee any substantial differences in impacts of the various alignments, but stated that safety has been a concern with existing Highway 60. According to the manager, access is not a concern as the facility currently has adequate turnaround access to the south and west.

Feedlots and Livestock Operations

Preliminary analysis identified four feedlots in the study area as potentially impacted by the Highway 60 project. All four are smaller than 500 animal units as identified in the Nobles County feedlot inventory data. Based on discussions with the Nobles County Feedlot Officer and review of the alignment alternatives, none of the feedlots are expected to be impacted substantially by any of the alternatives. Some minor relocation of fencing or facilities may be required. No feedlot or livestock impacts as expected in the Iowa portions of the project.

Minnesota Soybean Processors Facility – Brewster, Minnesota

The MSBP have submitted a preliminary Environmental Assessment Worksheet (EAW) to the MPCA that includes data regarding anticipated traffic types and volumes resulting from their facility in Brewster, Minnesota. Based on personal communication with representatives of MSBP and MPCA, preliminary estimates for the total annual truck volume on an in and out basis is 50,000 trucks per year. Truck traffic would consist of meal trucks, oil trucks, and haul trucks. In addition, the facility will house approximately seven to ten employees consisting of office personnel and shift workers. Two shifts per day are anticipated for up to seven employees.

Campbell's Facility – Worthington, Minnesota

Based on personal communication with representatives from the City of Worthington, currently there are no known plans, proposals, or ongoing discussions regarding future operations at the facility previously operated by Campbell's. The most recent attempt at operating the facility was by the Awra Doro Company. Further progress by Awra Doro is not anticipated as information from the City of Worthington indicates that the Awra Doro Company recently filed for bankruptcy.

PM Beef Group – Windom, Minnesota

The PM Windom facility is in the process of completing an expansion to their operations. Information from representatives of PM Windom, Cottonwood County, and City of Windom indicate that traffic volumes will include approximately 80 semi-trailers per day under full operation and approximately 600 employees. Traffic from the 600 will be distributed over three shifts with about 60 percent working the day shift, 30 percent on the second shift, and 10 percent on the third shift.

Farmland Impacts Rating – Form AD1006

Staff in the NRCS Marshall Area Office was contacted in July 2001 to discuss timing and processing of Form AD1006. NRCS staff complete/process a single Form AD1006 on each recommended alignment for a proposed project. Due to the number of alternatives that exist for Highway 60 at this stage, the NRCS was not asked to complete Form AD1006 at this time. Form AD1006 will be completed following the determination of a preferred alternative and will be included in the Final EIS.

Mitigation

Measures will be taken to minimize harm to farmland, especially through severance or triangulation. Safe and convenient access to farmland will be considered during the design of the preferred alternative. A Farmland Conversion Impact Rating Form (AD1006) will be completed for the preferred alternative and included in the Final EIS.

4.2.2 Noise

Affected Environment

Minnesota Noise Standards

Minnesota Rules Chapter 7030 provides the Minnesota standards for noise. These standards describe the limiting levels of sound established on the basis of present knowledge for the preservation of health and welfare. These standards are designed to be consistent with sleep, speech, annoyance, and hearing conversation requirements for receivers within areas grouped according to land use activities. Sound levels are expressed in dBA. A dBA is a unit of sound level expressed in decibels and weighted for the purpose of determining the human response to sound. The Minnesota standards are as follows:

Noise Area Classification	Daytime dBA		Nighttime dBA	
	7:00 a.m. to 10:00 p.m.		10:00 p.m. to 7:00 a.m.	
	L ₁₀ *	L ₅₀ **	L ₁₀ *	L ₅₀ **
NAC-1 (Residential)	65	60	55	50
NAC-2 (Commercial)	70	65	70	65
NAC-3 (Industrial)	80	75	80	75

* L₁₀ means the sound level that is exceeded for 10 percent of the time for a one-hour period.

** L₅₀ means the sound level that is exceeded 50 percent of the time for a one-hour period.

Federal Noise Abatement Criteria

Projects receiving federal funding are required to determine and analyze expected noise impacts and noise abatement criteria contained in 23 CFR Part 772. The rule provides procedures for noise studies and noise abatement measures to help protect the public health and welfare, describes noise abatement criteria, and establishes requirements for information to be given to local officials for use in planning and design.

Federal noise abatement criteria require mitigation to be considered when the post-development noise levels for nearby sensitive receptors approach or exceed 70 dBA. The modeled L₁₀ noise level for the worst case hour should be used for comparison to this standard.

Existing Traffic Noise

The existing noise levels were monitored in November 2001. The purpose of the monitoring is to establish base case conditions along Highway 60 and to assist in calibrating the noise prediction model. The five monitoring sites are shown on Figures 3A-3D.

Monitoring results for existing noise levels are provided in Table 20. Sound levels are expressed in dBA, which is a unit of sound level expressed in decibels and weighted for the purpose of determining the human response to sound.

Table 20
Monitored Noise Levels (dBA)

Site Number	Date	Time	L ₁₀	L ₅₀
1	11/13/01	9:40 p.m. – 10:41 p.m.	70.5	61.5
2	11/13/01	11:32 a.m. – 12:31 p.m.	64.5	51.5
3	11/13/01	2:01 p.m. – 3:01 p.m.	71.0	61.0
	11/14/01	8:48 a.m. – 9:57 a.m.	70.0	53.0
4	11/13/01	3:58 p.m. – 4:56 p.m.	55.5	49.5
5	11/14/01	10:38 a.m. – 10:58 a.m.	51.5	43.0

Iowa

The existing and potential future noise levels present along the portion of the project in Iowa are anticipated to be similar to noise levels in rural Minnesota as measured by Site 2 and modeled in Segment 5.

Environmental Consequences

The probable noise impacts of the alternatives under consideration have been analyzed and documented in the Highway 60 Preliminary Traffic Noise Analysis Report. This section will summarize the findings of that analysis. A copy of the complete report is available for review at the Mn/DOT District 7 Office in Mankato, Minnesota. A Highway 60 Final Traffic Noise Analysis Report will be prepared for the preferred alternative and presented in the Final EIS.

Due to the large number of alternatives at this stage, and to the varying traffic conditions along the existing corridor and the proposed new corridors, the modeling effort was limited to the maximum traffic conditions for each alternative. The possible configurations were divided into five segments, and the maximum noise impacts were computed for the affected segments in each alternative (see Figure 12).

Model Results

Noise levels were modeled for the year 2030 (based on projected 2030 traffic volumes) for the No-Build Alternative and all build alternatives. Noise levels for the build and No-Build alternatives were calculated for different distances from the roadway.

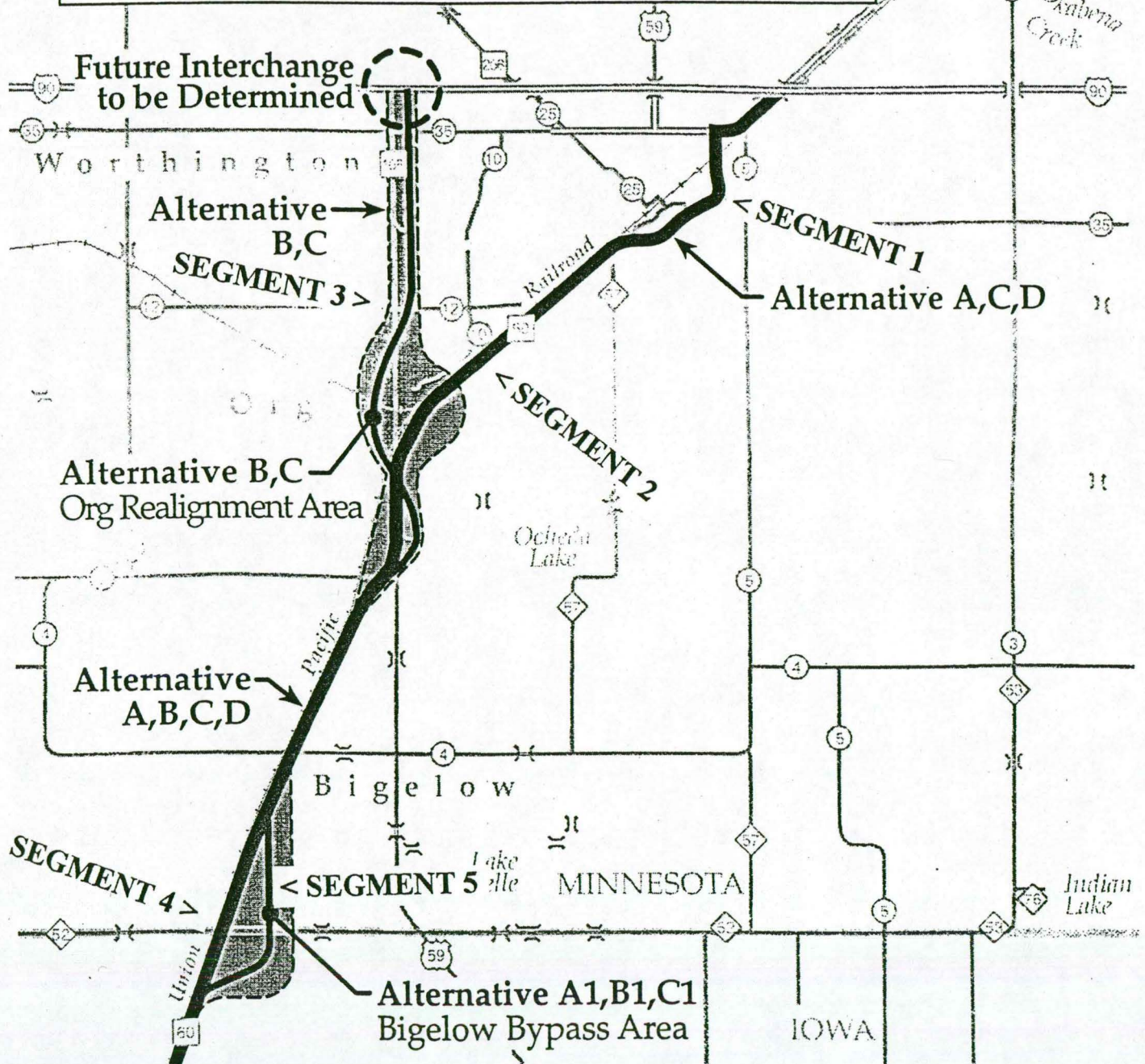
Note that the design and construction of the preferred alternative could change the distance between a receptor and that alternative. Therefore, the actual noise level experienced may be higher or lower depending on the design of the preferred alternative.

In an effort to assess potential impacts, a daytime noise contour (L_{10} is greater than or equal to 65 dBA) and a nighttime noise contour (L_{10} is greater than or equal to 55 dBA) were determined for the state standards and a federal noise contour was determined (L_{10} is greater than or equal to 73 dBA, the equivalent of the federal standard of L_{eq} of 70 dBA). As a means of documenting the number of potentially affected sensitive receivers, the noise contours were mapped on an aerial photograph of the project area, and the number of residential units within those contours were calculated including both Minnesota and Iowa residences. Potential impacts for Alternatives B and B1 included both the impacts that would occur along the new Worthington bypass, as well as the existing alignment through Worthington due to the high volume of traffic that would remain on this segment even if a bypass were constructed. Table 21 presents the projected maximum noise impacts on existing residential dwellings for both daytime and nighttime noise standards.

**Table 21
Residential Properties Where Noise Levels Would Exceed Federal,
Daytime, and/or Nighttime Standards (2030)**

Highway 60 Alternatives	Segment 1			Segment 2			Segment 3			Segment 4			Segment 5		
	Fed	State		Fed	State		Fed	State		Fed	State		Fed	State	
		Day	Night		Day	Night		Day	Night		Day	Night			
Alternative A	10	71	172	6	13	34	-	-	-	3	4	24	-	-	-
Alternative A1	10	71	172	6	13	34	-	-	-	-	-	-	1	5	7
Alternative B	7	59	140	0	13	28	0	0	3	3	4	24	-	-	-
Alternative B1	7	59	140	0	13	28	0	0	3	-	-	-	1	5	7
Alternative C	10	68	152	0	11	27	2	0	2	3	4	24	-	-	-
Alternative C1	10	68	152	0	11	27	2	0	2	-	-	-	1	5	7
Alternative D (No-Build)	0	60	165	11	11	29	-	-	-	0	4	23	-	-	-

- Alternative A - 4 Lanes on Existing Alignment
- Alternative A1 - 4 Lanes on Existing Alignment with Bigelow Bypass
- Alternative B - 4 Lanes on Existing Alignment with Worthington Bypass
- Alternative B1 - 4 Lanes on Existing Alignment with Worthington Bypass and Bigelow Bypass
- Alternative C - 4 Lanes on Existing Alignment and Splitting to 2-Lane Worthington Bypass and 2-Lane Major Reconstruction through Worthington
- Alternative C1 - 4 Lanes on Existing Alignment with Bigelow Bypass and Splitting to 2-Lane Worthington Bypass and 2-Lane Major Reconstruction through Worthington
- Alternative D - 2 Lanes on Existing Alignment with Minor Reconstruction Including General Maintenance, Turn Lane Improvements, Shoulder Widening, and Spot Safety Improvements (No Build Alternative)



Highway 60
Environmental
Impact Statement

Figure 12
Noise Analysis Segments



August 2001

The noise generated by a roadway is a function of many factors including:

- Mix of vehicles using the road (cars, heavy trucks, buses, motorcycles)
- Condition of those vehicles – is there an unusual number in disrepair?
- Speed of travel
- Condition of the road surface at speeds where tire noise is of consequence
- Traffic characteristics (platooning of vehicles due to traffic lights versus steady stream of traffic)
- Other characteristics of the surrounding environment (steep hills, valleys, bridges)

The propagation of sound from a roadway is a function of the following:

- Type of Roadway: Limited access roads (where sound decays at a rate of three decibels per doubling distance from the noise centerline of the roadway) versus arterial roadways (where sound decays six decibels for every doubling distance from the noise centerline of the road).
- Weather Conditions: Temperature inversions can bend the sound waves downwards, resulting in higher than normal noise levels for neighborhoods long distances from a roadway.
- Topography: Earth berms and buildings will block some of the noise from a roadway to neighbors on the opposite side.
- Ground Cover: A substantial distance of thick grass and bushes between the roadway and the adjacent properties will result in lower noise levels than paved surfaces. However, a single row of trees between the roadway and the adjacent developments has very little influence on the noise received from the roadway.

Mitigation

In areas where a potential noise impact is identified, the feasibility of providing noise mitigation must be investigated. The decision on whether or not noise mitigation is provided as part of the construction of the preferred alternative and what type of mitigation is appropriate is a function of several criteria. Following selection of a preferred alternative, a detailed noise mitigation plan will be developed. The following is a discussion of the criteria that will be used to determine if noise mitigation is feasible, and the alternative types of noise mitigation that will be considered.

Noise mitigation will be provided when noise impacts exist or will exist if it can be shown that the mitigation is feasible and reasonable. The feasibility of noise mitigation relates to engineering considerations – is it physically possible to construct or implement effective noise mitigation?

Reasonableness is a subjective criterion and may consider a number of factors including the following:

- Future Noise Level in Relation to Standards and Criteria: As identified in the noise impact analysis, there are a number of locations along the alignment alternatives where future noise levels are expected to exceed state noise standards, federal noise abatement criteria levels, or experience a substantial increase in noise levels. These are the primary areas where noise mitigation would be considered.
- Existing Noise Levels: The change in noise levels caused by the proposed project is a consideration in determining the reasonableness of noise mitigation. As described in the noise impact analysis, future noise levels are anticipated to exceed state and federal noise standards at several residential sites under all proposed alternatives, including the No-Build Alternative.
- Views of Affected Residents: Noise barriers may have a perceived negative visual or aesthetic impact. The views of the people who would be affected by barriers must be considered.
- Amount of Noise Reduction: Generally, noise mitigation will only be provided if a substantial noise reduction (5 dBA or more) can be provided to a number of sensitive receptors. In some cases, a substantial noise reduction may not be possible due to the physical relationship of the receptors to the highway. In general, a noise barrier must block the line of sight between the roadway and the receiver to achieve a substantial noise reduction. However, if the receiver is affected by multiple roadway noise sources or is relatively far from the roadway, blocking the line of sight may not provide substantial noise reduction.
- Number of Sensitive Receivers Protected: The reasonableness of noise mitigation is related to the number of sites protected by a particular noise mitigation measure.
- Cost: The cost of noise mitigation must be considered in relation to the potential benefits of the mitigation. The cost of constructing noise mitigation to protect a small number of receptors can be prohibitive and may not be considered reasonable. Mn/DOT cost effectiveness criteria is \$3,250 per dBA reduction per residence. A residence is used in the calculation only if the reduction due to the mitigation is 5 dBA or more.
- Zoning/Land Use Planning: The zoning and future land use development plan should be considered prior to constructing noise mitigation. A noise barrier blocking the view of the highway would generally not be considered desirable for commercial land uses dependent on highway visibility. In an area with mixed residential and commercial land uses, the expected future land use in the area should be considered when determining if noise mitigation is warranted.

The noise mitigation options are limited within the project area due to the close proximity of residences to the roadway, the sparsely spaced residents in rural areas, the limited roadway right-of-way, and the potential for multiple driveway and/or roadway access points. Typical noise mitigation and abatement options that can be considered by Mn/DOT include:

- Noise Barriers: Noise walls and/or earthen berms can be used to screen adjacent residential areas. Generally, noise walls are not cost effective in sparsely developed areas. Earthen berms require considerable right-of-way width for the side slopes. Also, to be effective, noise walls and earthen berms should be high enough to block the line of sight between the roadway and the receiver, and should be continuous with few gaps, which often conflicts with local property access needs.

Noise barriers will be considered in areas where noise levels exceed Minnesota Noise Standards or experience a substantial increase in noise. According to Mn/DOT's Noise Policy, a barrier must meet the cost effectiveness criteria, which require a minimum of five dBA reduction at a residence and shall not exceed \$3,250 per dBA per residence.

- Vegetation: Vegetative screens can have some effectiveness in reducing noise impacts, but they require a substantial amount of space. A stand of extremely dense vegetation 15 to 20 feet high and 100 feet wide with no line of sight to the roadway can reduce noise by approximately five dBA.
- Truck Bans: Medium and heavy trucks dominate the higher noise levels generated by roadways. However, this section of Highway 60 provides a major link between regional trade centers, as well as access to local businesses for shipping and receiving goods and services. A truck ban is not a practical option given that Highway 60 is designated an IRC.
- Speed Limits: There is a direct correlation between faster speeds and higher tire noise from vehicles. Speed limit postings will be determined for the preferred alternative following completion of the improvements to determine actual driver speeds. In general, speed limits are anticipated to be similar to existing conditions in Worthington and between 55 and 65 mph on the rest of the corridor.

Noise mitigation and abatement options that can be considered by local units of government include:

- Buffering Via Zoning Ordinance: Roadway right-of-way and building setback requirements can be used within zoning ordinances to increase the distance of development from the highway. This would help prevent future impacts; however, existing development would not benefit unless redevelopment occurred.
- Acoustical Site Planning: Site planning can be used for the arrangement of buildings to shield more sensitive land uses from noise impacts.

Residences can also be oriented away from the noise source. Acoustical construction techniques include installing triple-pane windows, designing floor layouts to place bedrooms away from exterior walls facing the highway, and reconstructing buildings to eliminate windows or other openings, and incorporating increased wall thickness.

- Coordination with Local Officials: The Highway 60 Preliminary Noise Analysis Report is available for review at Mn/DOT District 7 Offices in Mankato, Minnesota. Appropriate comments on this Draft EIS will be incorporated into the preliminary design plans for the selected alternative and into the Final EIS. Input will also be incorporated into the development of potential abatement plans and in the Final Noise Analysis Report, which address noise impacts and mitigation along the preferred alternative.

Potential mitigation and abatement sites will be defined for the preferred alternative in the Final EIS. Noise mitigation will be provided in areas where there are impacts and the noise mitigation is determined to be feasible and reasonable.

4.2.3 Wetlands

Affected Environment

Wetlands within Minnesota along the project corridor were identified from background information and field reconnaissance as part of a site visit along the alternative routes. Background information collected included the Natural Resource Conservation Service (NRCS) Soil Survey for Nobles County, National Wetland Inventory (NWI) maps, MNDNR Protected Waters Inventory map and local information such as aerial photographs.

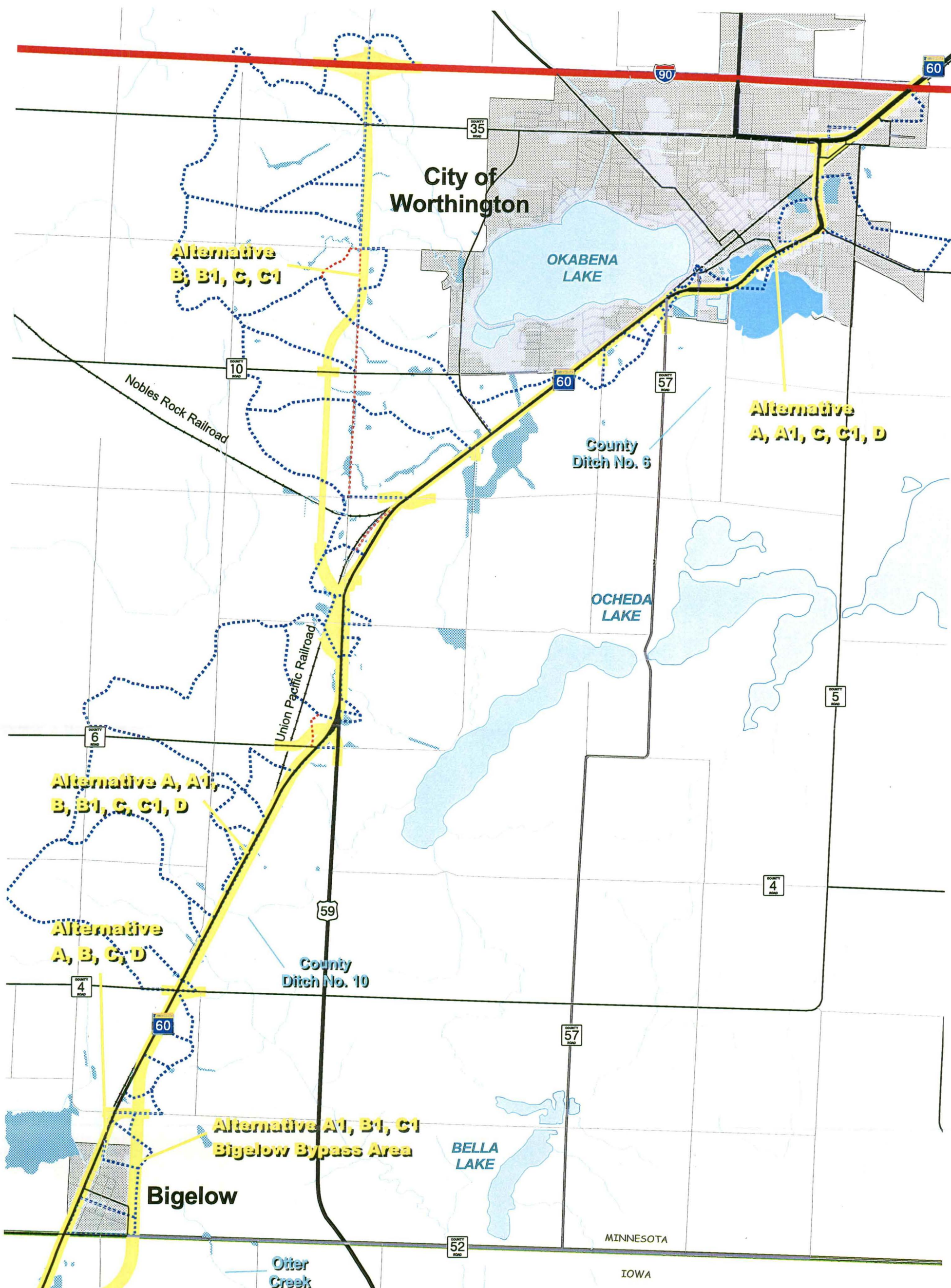
A site visit was conducted on June 21, 2001 to field verify the location, relative size, and type of wetlands within the alternative alignments. Approximate wetland boundaries were identified on recent (1995) NRCS sectional aerial photographs. Wetlands that potentially could be impacted by the six proposed build alternatives are shown in Figures 3A-3D and Figure 13. Boundary determinations were estimated based on the field assessment and estimated impacts from the wetlands within the alternative corridor. Wetland types identified included Types 1, 2, 3, 4, and 6. The following is a brief description of the wetland types.

Type 1 – Seasonally Flooded Basins

Soil is covered with water or is waterlogged during variable seasonal periods, but usually is well drained during much of the growing season.

Type 2 – Inland Fresh Meadows

Soil is usually without standing water during most of the growing season, but is waterlogged within at least a few inches of the surface.



LEGEND					
	LAKE		MAJOR DRAINAGE BOUNDARY		COUNTY HIGHWAY
	WETLANDS SURVEYED		MINOR DRAINAGE BOUNDARY		COUNTY ROAD
	100-YR FLOOD PLAIN		ROAD		CITY STREET
	STREAMS		INTERSTATE		TOWNSHIP ROAD
	ALTERNATIVES		US HIGHWAY		RAILROAD
			STATE HIGHWAY		



2000 0 2000 4000 6000 Feet

Surveyed Wetland data from SEH Inc. GPS survey. Dated 2001.

SURVEYED WETLANDS AND DRAINAGE BOUNDARIES

Type 3 – Inland Shallow Fresh Marshes

Soil is usually waterlogged during the growing season and is often covered with as much as 6 inches of water.

Type 4 – Inland Deep Freshwater Marshes

The soil is covered with 6 inches to 3 or more feet of water during the growing season.

Type 6 – Shrub Swamps

Soil is usually waterlogged during the growing season and is often covered with as much as 6 inches of water.

Iowa

Wetlands along the project corridor in Iowa were identified by IDOT using NRCS and NWI maps. Field reconnaissance will be conducted for the preferred alternative.

Environmental Consequences

Build Alternatives

All of the proposed build alternatives will impact wetlands in the project area. Table 22 shows estimates of the number of wetlands and acres of wetland impacted by each alternative.

Wetlands identified included the above listed types that were either disturbed, farmed, or were wet ditches. The majority of wetlands found were Types 1 and 2. The jurisdictional status of the wetlands identified was not determined during the field identification and mapping. Jurisdictional wetland delineation will be conducted once the preferred alternative is selected for the Final EIS. At this time, it will be determined whether individual farmed wetlands or wet ditches should be included in the impact analysis.

**Table 22
Wetland Impacts**

Alternative	Minnesota		Iowa	
	Number of Wetlands Impacted	Total Acres of Wetland Impacted	Number of Wetlands Impacted	Total Acres of Wetland Impacted
Alternative A – Existing Alignment	52	33.5	7	1.0
Alternative A1 – Existing Alignment with Bigelow Bypass	56	36.8	1	0.2
Alternative B – Worthington Bypass	42	29.4	7	1.0
Alternative B1 – Worthington Bypass with Bigelow Bypass	46	32.7	1	0.2
Alternative C – Worthington Split	55	36.0	7	1.0
Alternative C1 – Worthington Split with Bigelow Bypass	59	39.3	1	0.2
Alternative D – No-Build	0	0	0	0

Alternative D – No-Build

The No-Build Alternative will have no impacts on wetlands.

Mitigation

Wetland impact mitigation strategies will be addressed in the Final EIS when the preferred alternative has been selected. This task will be addressed through the formation of a Minnesota WCA Technical Evaluation Panel (TEP) and the completion of a wetland replacement plan. The designated WCA Local Government Unit (Mn/DOT) and the TEP will develop wetland mitigation solutions that will consider sequencing (avoidance and minimization), wetland functions and values, replacement site availability, unique local conditions, and other factors. Findings in portions of the Water Resources Special Study will provide guidance for some of this decision-making on wetland impact mitigation strategies.

For wetlands filled by this project in both Minnesota and Iowa, a Section 404 permit will be obtained from the USACE. Where possible, mitigation of wetlands will be coordinated between Iowa and Minnesota.

4.2.4 Floodplains

Project Description

The Federal Emergency Management Agency (FEMA) Flood Insurance Study (FIS) and associated floodway maps for the City of Worthington, Minnesota have been used for this analysis.

Highway 60 in Worthington currently crosses County Ditch No. 6. Alternatives A and A1 propose to widen the existing alignment to a four-lane divided highway.

This project will encroach on the following floodplain:

<u>Floodplain</u>	<u>Type of Encroachment</u>	<u>Length</u>
Judicial Ditch No. 6	Transverse	200 feet

Impact Analysis

1. There is no substantial potential for interruption of a transportation facility, since the roadway elevations are higher than the 100-year floodplain elevation. The 100-year flood elevation at County Ditch No. 6 is 1569.68 feet.
2. There are no substantial impacts on natural and beneficial floodplain values. Any impacts to the floodplain because of hydraulic losses resulting from an increase in the culvert lengths will be compensated for by resizing the culverts. Any temporary impacts due to construction will be minimized through appropriate erosion control measure including seeding, sodding, haybales, and silt fencing. The proposed box culverts will not increase velocities in the ditch. Therefore, fish movements should not be

affected. No threatened or endangered plants or animals have been identified in the floodplains.

3. There will be no increase in the risk of flooding as a result of this project. Headwater and tailwater elevations at the box culverts will not be substantially increased since the proposed structure will be sized to compensate for hydraulic losses resulting from the increased length of the box culvert.
4. The project will not involve any incompatible floodplain development, changing access, or development adjacent to the floodplain.
5. The encroachment to these areas is transverse. Avoidance of the floodplain under Alternatives A and A1 is not possible. Minimization of impacts can be achieved by maximizing side slopes in the floodplain areas to minimize the limits of fill.
6. Coordination with the MNDNR and the Okabena-Ocheda Watershed District will be necessary for any modification to the box culverts, and a MNDNR permit will be required.
7. Based on the above analysis, there are no substantial impacts to the floodplain.
8. A public hearing will be held, and notices will mention the non-substantial encroachment and the public availability of the floodplain analysis.

Summary

Based on the above floodplain assessment, no substantial floodplain impacts are expected.

4.2.5 Surface Water Drainage

Affected Environment

Lakes

Lakes in the area include Lake Okabena, Ocheda Lake, and Lake Bella. Lake Okabena is located hydrologically downstream of Alternatives B, B1, C, and C1. Lake Okabena is located hydrologically upstream of Alternatives A, A1, and D and would not be impacted by these alternatives. Ocheda Lake and Lake Bella fall hydrologically downstream of all of the alternatives.

Rivers and Creeks

County Ditch No. 6 (see Figure 13) is a stream that has flow year round. It originates at the Lake Okabena outlet and flows south to Ocheda Lake. The lake outlet structure does not have enough capacity to effectively control lake levels, and serious flood events have taken place as a result of this. Local officials have stated that any proposed development on County Ditch No. 6 should take into consideration the future improvements (increased discharge) of the lake outlet system.

County Ditch No. 10 (see Figure 13) is an intermittent stream originating from agricultural land surface and subsurface runoff. This watershed contains a

large drain tile system that discharges into County Ditch No. 10 about ¾-mile downstream of the Highway 60 crossing. County Ditch No. 10 drains into Ocheda Lake. The majority of the watershed runoff comes from agricultural land that consists primarily of row crops. A result of row crop farming is high peak flows and a substantial amount of erosion during rainfall events.

Otter Creek (see Figure 13) is hydrologically downstream of seven of the Highway 60 major crossings. Runoff to Otter Creek consists primarily of agricultural land runoff, but it also includes runoff from the City of Bigelow. A large amount of subsurface drainage (drain tile) makes its way to Otter Creek as well. Culvert crossing 100416a in Osceola County is the largest tributary to Otter Creek.

There are several other stream crossings located within the project corridor that are intermittent watercourses and are not designed as protected waters by the MNDNR.

The level of impact on the streams and water bodies will be minimal since all of the alternatives are along existing alignments. Since filling in flood prone areas may occur as a result of additional lanes and improved roadways, consideration should be given to maintaining or improving existing flood levels.

Watershed Areas and Surface Drainage

The location of the proposed roadway alternatives will act as watershed boundaries between watercourses and the downstream lakes, rivers, and streams. As a result of this, culverts and bridges need to be incorporated into the roadway design in order to allow the runoff from these watersheds to maintain their existing paths. Figure 13 shows drainage boundaries in the project area. More detailed information regarding surface drainage is available in the Highway 60 Water Resources Special Study and the Highway 60 Hydraulic Survey.

The proposed Bigelow bypass runs along a natural ridge. However, the existing land is extremely flat in this area, and culverts and drainage ditches will need to be properly placed and constructed.

Iowa

The unincorporated areas of Osceola County have not been officially identified with Flood Hazard Boundary Maps, and the county does not participate in the National Flood Insurance Program (NFIP). The Iowa Department of Natural Resources (IDNR) requires that a flood plan construction permit be obtained for stream or river crossings that have drainage areas greater than 100 square miles (259 square km) in rural areas. In Iowa, the corridor crossings will match the conveyance areas of existing structures. These crossings are Otter Creek tributaries with relatively small drainage areas.

Environmental Consequences

Build Alternatives

Each of the proposed alternatives for Highway 60 may affect some portion of the drainage system. Several new culverts and ditches would need to be constructed for the Bigelow and Worthington bypasses. Nearly all of the existing culverts would need some type of extension or replacement to accommodate wider roadways. Many of the existing culverts were determined to be undersized using the HY8 computer model and would need to be replaced by culverts with increased capacity in order to meet Mn/DOT criteria. Table 23 shows the number of culvert crossings and culverts requiring increased capacity for each build alternative.

In general, the proposed alternatives will have minimal impacts on the actual watershed areas and their boundaries. Storm water ponds will be used to maintain pre-development flow rates where economically feasible; however, some areas may experience higher peak flows at culvert crossings as a result of an increase in impervious surface.

Table 23
Culvert Impacts

Alternative	Total Culvert Crossings	Culverts Requiring Increased Capacity	Additional Culverts Required
Alternative A – Existing Alignment	48	30	No
Alternative A1 – Existing Alignment with Bigelow Bypass	44	26	Yes
Alternative B – Worthington Bypass	41	27	No
Alternative B1 – Worthington Bypass with Bigelow Bypass	37	23	Yes
Alternative C – Worthington Split	41	27	No
Alternative C1 – Worthington Split with Bigelow Bypass	37	23	Yes
Alternative D – No-Build	0	0	No

Alternative D – No-Build

This alternative would not address the existing capacity problem at County Ditch No. 6.

Mitigation

Increased capacity for the culverts could be achieved by larger or multiple culverts, increased grade on culverts, and/or more hydraulically efficient inlets. Any culvert improvements would need to consider stream slope, erosion potential, upstream and downstream conditions, and watercourse capacity.

Surface water drainage design details will not be completed for this corridor level analysis. However, the design of the preferred alternative is anticipated to include Best Management Practices (BMPs) such as detention ponds,

vegetated drainage swales that outlet into wetlands or treatment ponds, and curbs and catch basins in any urban design segments.

4.2.6 Water Quality

Affected Environment

Existing Watercourses and Water Bodies

The major watercourses and water bodies that could be impacted by this project include Okabena Creek, Lake Okabena, Ocheda Lake, Otter Creek, and the Ocheyedon River.

This project is unique because it is situated at the divide of two major watershed boundaries. The project involves two watershed districts (WSD), the Heron Lake WSD and the Okabena-Ocheda WSD. The Heron Lake WSD is part of the Mississippi River basin, and the Okabena-Ocheda WSD is part of the Missouri River basin. The project corridor is also within the St. Paul, Rock Island, and Omaha Districts of the USACE.

Both WSDs have established water quality and rate control goals for storm water. The goals for each WSD can be found in Appendix A of the Highway 60 Water Resources Special Study. The two WSDs are currently in the process of developing identical regulations.

The Iowa portion of the project falls within the Otter Creek watershed. There are no WSDs in Iowa that enforce rules or regulations regarding impacts. The NRCS and USACE regulate erosion and impacts to wetlands and streams.

Any watercourses that fall in the Otter Creek watershed (Bigelow area and Iowa) may be able to support the Topeka Shiner (a federally-listed endangered species), and therefore, would need to follow BMPs established by MNDNR and the USFWS during and after construction. Potential impacts to the Topeka Shiner are discussed in the Threatened and Endangered Species section of this Draft EIS.

Environmental Consequences

Alternative A

An elevated level of highway runoff and associated contaminants from sediments, nutrients, heavy metals, oil, grease, and deicing chemicals would result from this alternative. However, impacts from erosion and sedimentation would be addressed both during and after construction according to the requirements established by an NPDES permit.

The water quality of County Ditch No. 6 and County Ditch No. 10 could be impacted as a result of the additional impervious runoff and the chemicals associated with this type of runoff.

Alternative A1

Water quality impacts would be nearly the same as Alternative A. However, construction of the Bigelow bypass will increase the amount of erosion and sedimentation that would need to be controlled.

Alternative B

Water quality impacts along the existing portion of Highway 60 from 120th Street up to Org would be identical to Alternative A. The Worthington bypass would create elevated levels of runoff and would impact the water quality of the small intermittent streams that ultimately flow into Lake Okabena.

Alternative B1

The water quality impacts on this alternative are the same as Alternative B, with the exception of the Bigelow bypass area. Since a new road corridor must be cleared for the Bigelow bypass, erosion and sedimentation will need to be addressed.

Alternative C

The water quality impacts of this alternative are nearly the same as Alternatives A and B. Water quality impacts along the bypass would be slightly less than Alternative B because only two lanes would be constructed. Water quality impacts from Org to I-90 along the existing Highway 60 would also be minimal.

Alternative C1

The water quality impacts of this alternative are nearly the same as Alternative C. Since a new road corridor must be cleared for the Bigelow bypass, erosion and sedimentation will need to be addressed.

Alternative D – No-Build

This alternative will have no impacts on the water quality of the existing watercourses or water bodies.

Mitigation

Since this project disturbs one or more acres of land area, an NPDES permit will be obtained from the MPCA to ensure that potential damage from erosion and sedimentation will not impact water quality adversely. It is anticipated that this permit will cover water quality impacts in both Minnesota and Iowa.

Ponding will likely take place on partial parcels of land that become isolated because of limited access and size. Storm water ponds should be strategically placed in order to capture substantial amounts of the roadway runoff for treatment. Since it is a rural roadway section in most places, it is not feasible or economical to capture and treat all of the storm water from roadway. Additional impervious surfaces created by this project could have negative effects on the receiving waters, and mitigation for this should be accomplished at more feasible locations within the tributary watershed. More detailed

analysis of ponding and other water quality mitigation measures will be completed following the selection of the preferred alternative and will be documented in the Final EIS.

4.2.7 Geology/Groundwater/Aquifers

Affected Environment

The bedrock geology of the project area consists of till over Precambrian bedrock. The bedrock consists largely of Sioux Quartzite, which underlies much of the study area. The overlying till can range from 200 to 800 feet in thickness. The till was deposited from the Pleistocene epoch of the Quaternary Period and consists of deposits of the Bemis and younger phases of the Des Moines Lobe.

The depth to groundwater over the entire study area is approximately 50 feet, except in areas where surface waters or wetlands exist.

There is a large amount of subsurface drainage in the form of drain tile that would be affected by any of the project alternatives. Drain tile systems would need to be maintained during and after any construction.

Aquifers

The surficial geology of the study area contains glacial till consisting of loam to clay loam. Portions of the study area near Bigelow contain Bemis ice front deposits of sands and gravel deposited by glacial melt water.

The water table averages approximately 50 feet below ground surface throughout the study area. However, the water table exists in loam to clay loam material and is generally not considered suitable as an aquifer.

Water supplies are generally derived from glacial aquifers within the till. These aquifers can range from shallow (30 feet) to deep (greater than 300 feet). Additional water supplies are derived from wells extruding into the Sioux Quartzite bedrock. Wells in the project area are shown on Figures 8A and 8B.

Well data from Worthington indicates domestic (municipal) water sources are from surficial and buried sand and gravel aquifer ranging from approximately 60 to 80 feet below the surface. The majority of Worthington's potable water comes from the Bella Well Field. This water is pumped from the Ochededan Aquifer. This aquifer is recharged at a relatively rapid rate from Ocheda Lake.

Data from Bigelow indicates domestic water sources are developed in surficial sand and gravel at approximately 89 feet below the surface.

The sensitivity of surficial aquifers to pollution for the overall corridor is moderate, which indicates that it would take years to decades for surface contaminants to reach the water table. The effects and health risk of aquifer contamination is dependent on the properties and concentrations of potential pollutants.

Environmental Consequences

Build Alternatives

Impacts to aquifers from construction of these alternatives would be negligible due to the confining layers of loam to clay loam overlying the aquifers. Potential minor impacts could occur near areas where streams or other surface waters, such as wetlands, may have connections to surficial sand and gravel aquifers. It is also anticipated that all of the build alternatives would require the abandonment of private wells and impact drain tile systems as a result of right-of-way acquisitions and relocations.

Alternative D – No-Build

This alternative will not impact site geology or groundwater.

Mitigation

The abandonment of any wells will be conducted in accordance with Minnesota Department of Health requirements. Drain tile systems will be maintained during and after construction. Further mitigation measures will be described in the Final EIS for the preferred alternative if necessary.

4.2.8 Wild and Scenic Rivers

Affected Environment

There are no wild and scenic rivers in the project area.

Environmental Consequences

None of the proposed alternatives will impact wild and scenic rivers.

Mitigation

No mitigation measures are necessary since there are no wild and scenic rivers impacted by the proposed project.

4.2.9 State/Federal Threatened & Endangered Species

STATE

Affected Environment

Coordination

Threatened and Endangered (T & E) species review and coordination occurs under the provisions of the State of Minnesota Endangered Species Statute (Minnesota Statutes, Section 84.0895) and associated Rules (Minnesota Rules, Chapter 6134). The MNDNR coordinates and enforces the Minnesota Endangered Species Statute through the provisions of MEPA and/or a MNDNR Commissioner's Letter of Decision. Furthermore MEPA requires that all state agency projects review and coordinate for state T & E species. Typically, the initial project determination is accomplished through the MNDNR Natural Heritage Information System (NHIS) database and may proceed to additional coordination with the MNDNR and other interested agencies if the potential for effects is imminent. It should be mentioned that

all federal T & E species occurring in Minnesota are also listed as state T & E species.

T & E Species

Minnesota

Based on the MNDNR NHIS review, seven known occurrences of rare species or natural communities were identified in the project area in Minnesota. Four of these occurrences may be impacted by the proposed project. One of these occurrences is also a federal T & E species (Topeka shiner – *Notropis topeka*) and is discussed in the following federal T & E sections.

The remaining three occurrences are all mesic prairie remnants located between the existing Highway 60 and UP Railroad alignments north of the City of Bigelow (see Figures 3A and 3B). These mesic prairie remnants were inventoried by the MNDNR as the result of a 1997 directive by the Minnesota Legislature to identify prairie remnants along active railroad right-of-way. The Mn/DOT biologist and botanist conducted a follow-up inventory during the Highway 60 Scoping Study in the summer of 1999 to map the community boundaries with a Global Positioning System datalogger and assess the habitat quality of the remnants.

Iowa

There are no known occurrences of T & E species or critical habitat within the project area in Iowa.

Environmental Consequences

Build Alternatives

None of the build alternatives are anticipated to impact the mesic prairie remnants located along the west side of existing Highway 60 as right-of-way acquisition and all construction activities will be limited to the east side of the existing roadway.

Alternative D – No-Build

This alternative will have no effects on state T & E species.

FEDERAL

Affected Environment

Coordination

Federal T & E species coordination occurs under the provisions of the Federal Endangered Species Act of 1973 (ESA) as amended (16 USC 1531, 1544). The USFWS is responsible for review and authorization of actions related to federal T & E species. The FHWA, through the NEPA process, requires USFWS federal T & E species review and concurrence on all federally funded transportation projects. In addition, federal ESA Section 7 consultation guidance has been established and is utilized when potential federal T & E species impacts may occur on a federally funded transportation project. The USFWS may require preparation of a Biological Assessment to determine the

project's scope of effect on the subject T & E species, and the subsequent avoidance or mitigation solutions. Lastly, the USFWS issues guidance and thresholds for determining avoidance or mitigation strategies for particular federal T & E species (e.g. bald eagle nest protection zones).

T & E Species

Nobles County is within the distribution range of the Topeka shiner (*Notropis topeka* federal status – Endangered). One potential occurrence for this species is referenced in historical records from the 1950s. The occurrence is located in the unnamed creek channel that outfalls from Lake Okabena and is crossed by existing Highway 60.

The Topeka shiner is a recently listed federal T & E species. During the formal listing process in 1996/97, a work group was established to formulate a coordination process for this species in the southwest area of Minnesota. The work group was comprised of biologists and transportation interests from the USFWS, MNDNR, Mn/DOT, and municipal/county highway departments. This group established a set of guidelines that minimize or avoid impacts associated with construction projects that are proposed within the channels or stream courses where there are known or potential occurrences of this species. The guidelines were formalized through an interagency MOU.

Two experts, who are members of the work group, have concurred through personal communications (Dr. Greg Busacker, Mn/DOT Aquatic/Fisheries Coordinator, and Jay Hatch, University of Minnesota) that Topeka shiners or suitable habitat are likely lacking in the unnamed creek. These opinions were based on the intense channelization and urbanization that has occurred since the documented occurrence in the 1950s. These conditions were confirmed by the field inspection that Brad Kovach (Mn/DOT Wildlife Biologist) and Dr. Busacker conducted during the Scoping Study. Most of the creek channel was stabilized as a County ditch. Stream flow is sporadic, and there is little habitat for fish.

Environmental Consequences

Build Alternatives

The channel referenced above would potentially be affected by the proposed Alternatives A, A1, C, and C1; however, no impacts to Topeka shiners are anticipated due to lack of suitable habitat.

Alternative D – No-Build

No impacts to federal T & E species.

Mitigation

All construction and construction activities that would take place in the prairie areas under any of the build alternatives will be restricted to the east side of Highway 60 to avoid impacts to the prairie communities. Coordination with the MNDNR is ongoing to determine further avoidance, minimization, and mitigation solutions as necessary.

4.2.10 Fish & Wildlife

Affected Environment

Several state and federal regulations on fish and wildlife coordination for environmental review have implications for this project. At the federal level, 23 CFR 71 provides transportation project guidance and directs federal agencies to coordinate with USFWS under the Fish and Wildlife Coordination Act and the federal Migratory Bird Treaty Act to determine if the proposed action will require USFWS review. NEPA requires the determination of cumulative environmental impacts of the proposed project, which includes fish and wildlife and their habitats. At the state level, the Minnesota Environmental Quality Board MEPA Rules have established policies and guidance for coordination on fish and wildlife resources. The MNDNR administers these actions through environmental review and through protected waters permitting that requires mitigation for impacts when protected waters wetlands are involved. In addition, certain fish and wildlife are designated as state and/or federally listed threatened or endangered (T & E) species. For the purpose of this study, any state or federal T & E species issues are separately addressed in the Threatened and Endangered Species section of this document.

Fish habitats and spawning areas near the project occur in area lakes, but are not found within any of the project alternatives. Most of the stream courses are intermittent or exist as drainageways. Some spawning could occur in the intermittent streams during spring flows. The MNDNR Fisheries Division provided no comments on potential fish habitat or spawning area impacts in the MNDNR Questionnaire for this project (Appendix A). Dr. Greg Busacker (Mn/DOT Aquatic/Fisheries Coordinator) and Brad Kovach (Mn/DOT Wildlife Biologist) confirmed these conditions during the Scoping Study reconnaissance. All of the project alternatives were reviewed during the reconnaissance and were all included for review in the MNDNR Questionnaire.

Wildlife habitats in the project area are mostly comprised of farmland, farmsteads, and windbreaks; stream courses and wetlands; and urban land uses. The majority of the presettlement uplands have been converted to agricultural, residential, and commercial land uses. Agricultural properties enrolled in the U.S. Department of Agriculture Conservation Reserve Program (CRP) have provided improved habitat for wildlife since the program's inception in the 1980s, but most of these enrollments have expired in recent years, and the set aside lands have been converted back to cultivation. Few CRP parcels now exist in the project area. Wetland wildlife habitats are scattered throughout the project area. Stream habitats within the project alternatives are absent.

Public wildlife management areas in the vicinity of the project are limited to a USFWS WPA located in the City of Worthington on the east side of existing Highway 60 (see Figure 8B). Compared to other WPAs in the Upper Midwest,

this WPA is unique in its location and intended use. The WPA is in an urban setting where hunting is prohibited and its primary intended use is environmental education. WPAs are funded by LAWCON and are considered potential 4(f) and 6(f) impacts by the FHWA. All of the proposed alternatives avoid the WPA.

No other state or federal wildlife management areas, Nature Conservancy properties, or other unique wildlife resources are affected by the proposed alternatives. Protected flora and fauna issues are discussed in the Threatened and Endangered Species Section of this study.

Environmental Consequences

Build Alternatives

All of the proposed build alternatives will impact wetlands, likely impacting the associated wildlife habitats. County Ditch No. 6 would be impacted by Alternatives A and A1, which functions as a stream part of the year.

Alternative D – No-Build

The No-Build Alternative will have no impacts on fish and wildlife habitats.

Mitigation

Impacts to wetlands will be mitigated as described in the Wetlands section of this document. Mitigation of impacts to County Ditch No. 6 will be determined, if necessary, in the Final EIS.

4.2.11 Vegetation

Affected Environment

Vegetation is addressed in accordance with the Minnesota Environmental Policy Act (MEPA), NEPA, and several federal laws relating to the FHWA. Endangered species are discussed in the Threatened and Endangered Species section of this document.

The project setting is predominantly rural farmland with the exception of the urban areas in the Cities of Worthington and Bigelow. Much of the farmland in the area is classified as prime and/or unique farmland and is discussed in further detail in the Farmland section of this Draft EIS. Small mesic prairie remnants are located between the existing Highway 60 and UP Railroad alignments and restored upland prairie is found at the Travel Information Center. Prairie remnants with moderate species diversity are also found along Highway 60 and the UP Railroad in Osceola County, Iowa. The vegetation along the existing alignment is dominated by grasses, particularly smooth brome (*Bromus inermis*), reed canary grass (*Phalaris arundinacea*), and some areas of cattail (*Typha* ssp.) where water has accumulated. Large non-native spruce and pine trees occur in windbreaks on farmsteads. Formal plantings, except on private property, are rare. Uniformly planted stands of boulevard trees and shrub beds on the highway right-of-way are found only in Bigelow at the entrance into Minnesota and at the junction of Highway 60 and I-90.

Several wetlands are located along the corridor as discussed in the Wetlands section of this Draft EIS. Wetland vegetation is nearly monotypic cattail or reed canary grass. Few other species were observed during the initial wetland investigation. A majority (approximately 70 percent) of the wetlands observed are either plowed for row crops or used for pasture.

Environmental Consequences

Build Alternatives

The impact of the proposed alternatives on unique vegetation is minor. It is not anticipated that the prairie remnants or the upland prairie will be impacted by any of the build alternatives. Impacts to farmland and wetlands vary with the alternatives and are discussed in their respective sections.

The alternatives that stay on existing alignment through Bigelow would impact the row of trees planted along the east side of the highway.

Alternative D – No-Build

The No-Build Alternative will have no impacts on vegetation in the project area.

Mitigation

Impacts to vegetation will be minimized or avoided to the extent possible in the design phase of the preferred alternative. Right-of-way acquisition and all construction activities will be limited to the east side of existing Highway 60 in order to avoid impacts to the prairie remnants in both Minnesota and Iowa. Where necessary, further mitigation measures will be discussed in the Final EIS.

4.2.12 Air Quality

Affected Environment

The project is not located in an area in which conformity requirements apply.

Environmental Consequences

The scope of the project does not indicate that air quality impacts would be expected. Therefore, no further air quality analysis is necessary.

Mitigation

No mitigation measures are proposed since no air quality impacts are anticipated to result from the proposed project.

4.2.13 Energy

Affected Environment

Highway construction projects consume energy both directly and indirectly. Direct energy impacts consist of the fuel consumed by vehicles using the roadway, as well as fuel consumed using alternate routes in the vicinity. Fuel usage is affected by types of vehicles, roadway grades and geometric characteristics, speed, congestion, and queuing caused by high traffic volumes

and delays at cross-street intersections. Indirect impacts include the energy required to construct and maintain the road network, the energy required to manufacture and maintain vehicles using the system, and the energy required to convert land to transportation use. Energy models can typically predict energy impacts within an error margin of approximately 10 percent. Therefore, differences between alternatives of less than 10 percent are not considered to be substantial. A detailed energy analysis was not performed for this project because total energy differences between the total VMT in the project area is predicted to be within 10 percent for all alternatives. In fact, the difference in VMT is less than or equal to 6 percent for every alternative, including the No-Build Alternative.

Environmental Consequences

Build Alternatives

All the build alternatives are expected to consume less direct energy than the No-Build Alternative, due to the improved traffic flow, reduced delays, less queuing at intersections, and acceleration/deceleration reduction. However, this difference is expected to be less than 10 percent. In addition, differences in direct energy requirements between build alternatives are expected to be unsubstantial because the total number of VMT in the project area is predicted to be within 10 percent for all alternatives. The VMT difference among the build alternatives is between 0 and 6 percent.

Overall, direct operational energy savings for the build alternatives are expected to offset their initial indirect energy requirements, generally resulting in long-term net energy savings when averaged over the design life of the project. Predicted differences in overall energy consumption between alternatives are, therefore, not expected to be substantial.

Alternative D – No-Build

The No-Build Alternative would consume less indirect energy than any other alternative because no initial construction is required. Periodic roadway maintenance, such as resurfacing and patching, would occur over time. However, operational energy consumed would be greatest under the No-Build Alternative because of traffic congestion, increased vehicle delays, and inefficient operations at intersections. Alternatives A and A1 are expected to consume somewhat less indirect energy than the other build alternatives due to the fewer miles of new four-lane construction required. All the alternatives, however, would consume similar amounts of indirect energy for highway maintenance and for vehicle manufacture and maintenance.

Mitigation

Due to the fact that the energy differences among the alternatives are expected to be less than 10 percent, energy impacts are not considered to be substantial. Since all the build alternatives are expected to result in long-term net energy savings when averaged over the design life of the project, measures to mitigate energy impacts are not necessary.

4.2.14 Visual Quality

The Six-Step Visual Impact Assessment process developed by Mn/DOT and recommended by FHWA was utilized to determine the affected environment, environmental consequences, and mitigation for adverse impacts to visual quality that would be caused by the build alternatives, as well as the opportunity to enhance existing visual quality through reconstructing Highway 60.

Affected Environment

Natural Environment

The natural environment is composed of a gently rolling landscape covered primarily with farm fields. Wetlands and ponds occupy some depressions, but many depressions are now drained to create expansive areas for planting crops. Lake Okabena, a large lake that is located within the City limits of Worthington, can be glimpsed from the existing highway corridor. Trees, shrubs, and grasses occur where the land use does not allow farming – in cities, along roadways, railroads and fences, and next to farm buildings and wetlands. Large non-native spruce and pine trees occur in windbreaks on farmsteads and create dominant features of the natural environment, particularly in winter. Formal plantings, except on private property, are rare. Uniformly planted stands of boulevard trees and shrub beds on the highway right-of-way occur only in Bigelow at the entrance into Minnesota and at the junction of Highway 60 with I-90. Native animals other than birds are not easily observed and, except for a herd of llama, even domesticated farm animals are currently rare. Resources of the natural environment are more evident along the Bigelow and Worthington bypasses than the existing route.

Cultural Environment

The cultural environment is composed of agriculturally oriented structures. The largest structures are the grain elevators in Bigelow, the meat processing plant in Worthington, and I-90. Most other structures are two stories or less. Residential structures are clustered in cities or scattered as isolated farmhouses on the larger natural landscape. Many residential structures are single-story buildings, including most newer construction and factory-built portable homes. Older farmhouses and some houses in older residential neighborhoods, particularly in Worthington, tend to be larger two-story structures. Most houses are wood, except factory-built portable structures, which are typically metal.

Commercial structures show greater variation in size and materials used for construction. Grain elevators are towering concrete silos, such as those at Bigelow, or sheet metal covered wood structures, such as those in Org. In Worthington, single-story or story-and-a-half metal clad pole buildings dominate the commercial landscape that envelops existing Highway 60. Unlike downtown Worthington, these structures sit centered on their lots buffered by sometimes hundreds of feet of open yard between structures. The open yard is typically used for parking or storage of large agriculturally

oriented products or equipment. Several salvage yards, ineffectively screened, border the existing highway in Worthington where there are also some travel-oriented businesses, such as restaurants and gas stations. Resources of the cultural environment are less evident along the Bigelow and Worthington bypasses than the existing route.

Highway Environment

Visual resources of the highway environment are limited to those resources in the existing or proposed right-of-way that were created by highway authorities. The existing highway is a worn, two-lane, concrete structure with asphalt overlays, typically with gravel shoulders, and a grassy drainage swale. The only bridges on the existing alignment is an *art moderne* bridge that carries the UP Railroad over Highway 60 in Worthington and the utilitarian structures that form the interchange of Highway 60 with I-90. The highway geometrics appropriately reflect the design speed and function of the highway and are generally straight with large sweeping curves.

The existing highway environment also has several features that were designed to cater to the traveler. A new large Type I State Entrance Marker has recently been installed in Minnesota on the border. The entrance sign in Iowa is a less pronounced single metal sign. A small, Class IV Rest Area with picnic facilities is located near the southern junction of the proposed Worthington bypass. A modern Class I Rest Area with full amenities and Travel Information Center is located at the junction of Highway 60 and Highway 59. The rest area has an interpretive sign and one piece of public art, a sculpture. The sculpture was placed on an isolated corner of the rest area site behind a low ornamental fence to minimize contact with the traveling public.

The visual resources of the highway environment along the bypass alternatives vary. The majority of the Bigelow bypass is now composed of farmfields. A two-lane gravel road with no shoulders currently exists along most of the Worthington bypass.

Environmental Consequences

Build Alternatives

In Bigelow, visual impacts to neighbors and travelers would be less adverse and more beneficial if the current alignment was selected for improvement rather than a bypass. The sense of entry and the visual composition of Bigelow's community would be maintained by keeping the highway as close as possible to Bigelow's grain elevators. The creation of an urban section in Bigelow would accentuate the town as a gateway from and to rural Iowa. Visually, the best way to fit a four-lane highway between the elevators and the town would be to create an urban cross-section with four striped lanes, narrow shoulders, gutters, sidewalks, lights, and boulevard trees. A service road with well defined entrances and exits would be required for the grain elevators. It appears that some buildings east of the existing roadway may have to be removed to accomplish this concept, but visually this is preferable to the

adverse impacts that would occur to natural harmony and cultural order if the Bigelow bypass were constructed.

In Worthington, visual impacts to neighbors and travelers would be less adverse and more beneficial if the current alignment was selected for improvement rather than a bypass. The opportunity to enhance the cultural order and highway coherence for neighbors and travelers is greater if the existing alignment is selected. The adverse impacts to natural harmony for neighbors are much greater if the bypass alternative is selected. Although natural harmony for travelers would be better on the bypass alternative, opportunities for improving natural harmony on the existing alignment by creating views of desirable natural resources, such as Lake Okabena and corridor plantings, would also improve the perception of natural harmony by travelers. Although the existing route is essentially a bypass, it is not devoid of commercial activity and is visually part of greater Worthington. A new bypass through rural countryside would not appear as connected.

Alternative D – No-Build

The No-Build Alternative would have no impact, beneficial or adverse, on visual resources in the project area.

Mitigation

Bigelow

Visual quality could be enhanced and adverse impacts minimized if the existing alignment is selected. An urban corridor design plan should be developed as part of this project incorporating a service road for the elevators, four-striped main line lanes, narrow shoulders, curb and gutter, sidewalk, lighting, and boulevard plantings. The trees that currently form the entry planting should be relocated either along the highway or on-street boulevards in town. The existing Type I entrance marker can stay where it is located, although plantings would need to be reorganized and replanted. An entrance marker for Iowa should be developed and incorporated into the project by IDOT.

If the bypass alternative is selected, it will be necessary to move Minnesota's Type I entrance marker and develop an entrance marker for Iowa. To enhance visual quality, a corridor landscape plan for the entrance area should be coordinated between the states.

Rural Segment

Adverse impacts to natural harmony can be minimized by using standard grading techniques that blend the grading for the highway into the terrain of the surrounding countryside. The vegetation of the corridor could be enhanced through the use of native prairie plants. Highway cohesion at the Class I rest area could be enhanced by relocating the public art piece to a location where the public would be more likely to observe it, removing the protective fence, and providing an interpretive marker describing the artist and the meaning of the work. Additionally, an interpretive marker describing the innovative use of

wetlands to treat sewage at the rest area would increase appreciation of the usefulness of wetlands and the pioneering efforts of Mn/DOT.

Worthington

Visual quality could be enhanced and adverse impacts minimized if the existing alignment is selected. Along the existing alignment, the opportunity to improve the natural harmony, cultural order, and highway cohesion are substantial. Natural harmony could be enhanced by creating views of Lake Okabena and providing more uniform boulevard tree plantings along the route. Cultural order could be enhanced by screening disorderly commercial properties, using vegetation to frame adjacent parks, and developing gateways to downtown. The gateways should foreshadow the streetscape and monuments of downtown, introducing Worthington to the traveler. Gateways could occur at Highway 59 (Oxford Street), Nobles Street, and County Road 57, forming loops through downtown. Highway coherence could be enhanced by creating wayfinding for various destinations in Worthington, especially downtown.

The only adverse impact to visual quality caused by reconstructing the highway on the existing corridor are adverse impacts to highway coherence and natural harmony, which can be easily mitigated. In particular, reconstructing the highway on the existing alignment will cause the removal of the existing railroad bridge. Replacing the bridge with a minimally aesthetic structure would be appropriate. Removal of the highway plantings may also occur as a result of reconstruction. Replacing impacted vegetation is necessary and augmenting it with additional boulevard trees, vegetative screens, and flowering gateways would further enhance natural harmony.

Mitigating the adverse impacts to natural harmony and cultural order caused by the bypass alternative would require the creation of moderately aesthetic gateway interchanges and extensive corridor plantings. The secondary visual impacts of commercial development would need to be managed by new local regulations.

Upon selection of a preferred alternative, a plan for mitigation of impacts and enhancement of visual quality will be developed and included in the Final EIS.

4.2.15 Architectural and Archaeological Resources

Consultation

The part of the National Historic Preservation Act of 1966 (amended June 17, 1999) that requires federal agencies to take into account the effects of their undertakings on historic properties is commonly referred to as the Section 106 process. By definition, historic properties (including landmarks) are eligible for or listed on the National Register of Historic Places (NRHP). Federal undertakings refer to any federal involvement including funding, permitting, licensing, or approval. Section 106 sets up an orderly review process whereby a federal agency consults with the State Historic Preservation

Office (SHPO), other parties, and the public to identify, evaluate, assess effects, and mitigate any historic properties affected by their undertaking. Depending on the issues, the Advisory Council on Historic Preservation may become involved in the process.

Affected Environment (Area of Potential Effect)

Because a preferred alternative has not been identified, the Area of Potential Effect (APE) includes all the alternatives under consideration. The APE measured 200 feet from the centerline of the existing highway and the proposed alternatives. This width is adequate to include all properties near the roadway, as well as assessment of the visual and audible effects of the proposed improvements.

Architecture

Minnesota

Field examination of 124 properties and the St. Paul & Sioux City Railroad (now the UP Railroad) was completed, and no further work was recommended for 121 of these properties. The remaining three properties and the railroad were formally surveyed and inventoried (Phase I investigation) following the Secretary of the Interior's Standards and Guidelines.

Two properties (see Figures 3A-3D) merited Phase II evaluation for National Register eligibility: the Worthington Livestock Sale Company sale barn complex (NO-WOC-013) and the St. Paul & Sioux City Railroad (NO-BGT-002, NO-WOT-004, NO-LOR-001). Upon evaluation, both properties were recommended as eligible for listing in the NRHP. A more detailed report of the analysis and results can be found in the "Phase I & Phase II Cultural Resource Investigation." The Mn/DOT Cultural Resources Unit concurred with this finding (see Appendix B).

Discussion with the Mn/DOT Cultural Resources Unit determined that bridge #5466 carrying the UP Railroad over Highway 60 in Worthington was previously evaluated and determined as not eligible for listing in the NRHP.

Iowa

A previous Phase I Study completed in 1994 identified 20 architectural properties in Osceola County, three of which were recommended as eligible for listing on the NRHP. One of these properties, the Wubbena property (72-00073), is located along Highway 60, but was determined to be ineligible for listing in the NRHP and was not re-examined as part of this study.

Two previously unrecorded properties were identified and evaluated – the Yates Farmstead (72-00227 – 72-00229) and the Bering Farmstead (72-00230 – 72-00231). Upon evaluation, it was concluded neither of these properties is eligible for the NRHP

Archeology

Minnesota

A literature search was completed to assist in identifying potential historic archeological sites. Three potential sites were recommended for further analysis: H.J. Ludlow farm in Worthington Township, N.A. Call's hay warehouse and farm at Sioux Falls Junction (now Org), and the W.A. Dillman/Gustafson farmstead. Information provided by the literature review was analyzed in detail by Mn/DOT Cultural Resource Unit's historical archeologist to determine whether potentially intact and substantial sites are present within the project APE. The H.J. Ludlow farm was determined to be outside the APE of the reconstruction alternatives. The N.A. Call hay warehouse and farm was later covered by the rail stop of Org, which likely destroyed site integrity. The W.A. Dillman/Gustafson farmstead was not continuously inhabited by the same family, or by families of similar ethnic background, from an early period of agricultural development in the area. This history of occupation makes it unlikely that the farmstead would provide appropriate data for focused and important archeological research. Other properties documented in the literature review that exhibited better continuity of occupation are not associated with early periods of settlement and agricultural development in the area, but with later periods for which archeology is not likely to provide substantially different information than available documents. Based on the detailed analysis of the literature search, it was concluded that the proposed reconstruction alternatives are not likely to affect NRHP eligible historic archeological sites.

Iowa

Archeological investigation identified one historic archeological site (130A35) associated with the Yates Farmstead. The archeological investigations determined that the site is a low-density trash scatter associated with the existing Euro-american farmstead that has been occupied since the late 19th century. The site exhibits poor integrity, low artifact density and variety, and an absence of intact subsurface archeological deposits associated with cultural activities. This site is not recommended as eligible for inclusion in the NRHP.

The required Tribal Notification took place for the portion of Highway 60 from LeMars to the Minnesota-Iowa border in June 2001. Copies of the correspondence and the mailing list are included in Appendix C.

Environmental Consequences

Build Alternatives

None of the build alternatives are anticipated to impact either the Worthington Livestock Sale Company barn complex or the St. Paul & Sioux City Railroad, or other historic architectural or archeological properties. The Iowa SHPO has concurred with these findings (see Appendix D). Concurrence by the Minnesota SHPO is currently pending.

Alternative D – No-Build

The No-Build Alternative will have no impacts to architecture or archeology in the area.

Mitigation

The proposed alternatives will not affect any architecturally notable properties. If historical archeological sites are identified during subsequent stages of the project, the SHPO will be contacted and further study completed.

4.2.16 Contaminated Properties

Affected Environment

The presence of potentially contaminated properties (defined as properties where soil and/or groundwater is impacted with pollutants, contaminants, or hazardous wastes) is a concern in the development of highway projects because of potential liabilities associated with ownership of such properties, potential cleanup costs, and safety concerns associated with construction personnel encountering unsuspected wastes or contaminated soil or groundwater.

A Phase I Environmental Site Assessment (Phase I) provides information on potentially contaminated properties. These properties are identified through review of historic land use records and air photos, federal EPA, MPCA, and county/City records, as well as current property condition. Sites of potential concern identified by the Phase I are categorized into three areas: high, medium, and low environmental risk. In general, high environmental risk sites are properties that have a documented release of chemicals or other strong evidence of contamination, such as soil staining or storage of large volumes of petroleum or other chemicals. Medium environmental risk sites may include properties where relatively smaller volumes of petroleum, chemicals, or hazardous materials are stored, but there is no evidence of spills or releases, or properties with documented releases that have been “closed” (no further cleanup action deemed necessary) by the MPCA. A “closed” site is considered a medium risk because it may still have residual soil or groundwater contamination. Low environmental risk sites include properties where small volumes of chemicals or hazardous materials have been used or stored.

A Phase I of the project area is currently being completed. Copies of the Phase I report will be placed on file at the Mn/DOT District 7 office in Mankato, Minnesota.

Iowa

A review of potential regulated substances/contamination issues was performed for the portion of the project in Osceola County, Iowa. A petroleum product dispenser was observed to be present on the 1048 Redwing Avenue property, located on the north side of the metal shed, which is on the south side of the entrance drive. It does not appear to be functional (rusted, older

style) and may only be decorative in nature rather than an indication of the presence of an underground storage tank.

The remaining land in the Iowa portion of the project is agricultural.

Environmental Consequences

Contaminated materials encountered during highway construction projects must be properly handled and treated in accordance with state and federal regulations. Improper handling of contaminated materials can worsen their impact on the environment. Contaminated materials also cause adverse impacts to highway projects by increasing construction costs and causing construction delays, which also can increase project costs.

All known or potentially contaminated properties in the project area will be identified prior to completion of the Final EIS. The locations of sites that have a potential to be impacted by the project because of their proximity to the proposed project limits will be identified.

Any contaminated property with the potential to incur excessive cleanup costs or expose the purchaser to unacceptable environmental liability may need to be avoided if possible. Such properties will be further described in the Final EIS.

Mitigation

Potentially contaminated properties identified in the Phase I will be evaluated for their likelihood to be impacted by construction and/or acquired as right-of-way. Any properties with a potential to be impacted by the project will be drilled and sampled if necessary to determine the extent and magnitude of contaminated soil or groundwater in the areas of concern. The results of the drilling investigation will be used to determine if the contaminated materials can be avoided or the project's impacts to the properties minimized. If necessary, a plan will be developed for properly handling and treating contaminated soil and/or groundwater during construction.

Mn/DOT will work with the MPCA Voluntary Investigation and Cleanup Unit and the Voluntary Petroleum Investigation and Cleanup Unit as appropriate to obtain assurances that Mn/DOT's contaminated site cleanup work and/or contaminated site acquisition will not associate it with long-term environmental liability for the contamination.

4.3 CONSTRUCTION IMPACTS

All applicable precautions will be taken to limit impacts connected with highway and bridge construction activities. Major environmental effects associated with construction include traffic congestion, noise, soil erosion, water quality, traffic detours, economics, safety, borrow and excess materials, utility disruption, and emergency service response. A detailed discussion of potential construction impacts will be provided upon selection of the preferred alternative.

Traffic Congestion

It is expected that construction of the project will be in stages with each portion taking 2 to 3 years to complete. Construction of the proposed action is likely to cause traffic delays and make it more difficult to get to development adjacent to the highway during construction. This may result in added congestion within the project area while construction is being completed. A construction staging plan will be developed that will further assess potential traffic congestion problems associated with construction. The staging plan will attempt to balance the need for property access, while minimizing the total length of construction time.

Short-term adverse impacts to transit services may also result from construction activities.

Noise

Noise would be generated by construction equipment used in the construction of the highway improvements. Noise levels due to construction activities in the project area would vary depending on the types of equipment used, the location of the equipment, and the operating mode. During a typical work cycle, construction equipment may be idling, preparing to perform tasks, or operating under a full load. Equipment may be congregated in a specific location or spread out over a larger area. Some construction could potentially occur in close proximity to existing noise-sensitive land uses. Adverse impacts resulting from construction noise are expected to be localized and temporary. All construction equipment will be properly equipped to minimize potential construction noise impacts.

Air Quality

The project is not located in an area where conformity requirements apply, and the scope of the project does not indicate that air quality impacts would be expected. Therefore, no further air quality analysis is necessary.

Water Quality and Soil Erosion

The potential for soil erosion impacts on water quality are greatest at the time a project requires removal of vegetation and topsoil for initial clearing, grubbing, and grading activities. Areas adjacent to lakes, streams, and wetlands have the highest potential for adverse impacts. Erosion control measures, as suggested by the MPCA's "Protecting Water Quality in Urban Areas, Best Management Practices for Dealing with Storm Water Runoff from Urban, Suburban, and Developing Areas of Minnesota (March 2000)" and in conformance with Mn/DOT Standard Specifications, will be considered to minimize potential soil erosion impacts from construction activities. These practices may include, but are not limited to, the following: sedimentation basins, silt control devices (silt fences, hay bails), slope drains, and rapid revegetation of exposed construction areas. An erosion control plan will be developed as part of the final design plans of the preferred alternative.

Traffic Detours

A construction staging plan will be completed during the final design stage of the project, which will identify potential detours. This plan will attempt to minimize disruptions to traffic patterns while maximizing directness of detoured routes, which will minimize short-term impacts on emergency services (police, fire, rescue) and transit services throughout the project area.

Economic (Business Access)

The proposed project is expected to generate both direct construction jobs and indirect jobs to support construction related activities. The exact number of jobs cannot be determined at this time. Existing businesses within the project area may experience negative short-term impacts during construction. As part of the construction staging plan, efforts will be made to ensure that traffic movements and access to businesses would be maintained.

Borrow or Excess Material

Selection of borrow material that may be required for the construction of the proposed improvements will be the responsibility of the construction contractor, and possible sites will be identified in the contract special provisions. Any new borrow sites would be subject to environmental reviews under Minnesota Rule Chapter 4410.4300, Subp. 12 and may require an archeological survey of the site. Archeological reviews of these areas are conducted by the Cultural Resources Unit at Mn/DOT. The disposal of excess material will be conducted in accordance with Mn/DOT specifications and according to a project disposal plan that will be in accordance with WCA requirements.

Utility Disruption

Construction activities may result in temporary impacts to local utilities. Potential impacts cannot be evaluated until a preferred alternative is selected; however, it is anticipated that all the build alternatives will result in some temporary impacts to local utilities. Coordination and cooperation with the local service providers will be established and maintained throughout the design phase of the project.

Earthborne Vibrations

Earthborne vibrations are defined in the Mn/DOT Highway Project Development Process Manual as impacts that are caused by:

- Blasting
- Pile driving or heavy construction activities (e.g., pavement breaking, vibratory compacting) within 500 feet of buildings
- Structures (frail or historic) with high susceptibility to vibration damage

- Operations susceptible to vibrations (e.g., surgery in hospitals, lithography, computer use)

Potential for earthborne vibration impacts have been considered, but due to the nature of the planned work and affected environment, no substantial impacts are anticipated for any of the project alternatives.

5.0 PERMITS/APPROVALS/CONCURRENCE

- Section 404 Permit from the United States Army Corps of Engineers (USACE) – Minnesota and Iowa
- Section 401 Water Quality Certification from Minnesota Pollution Control Agency (MPCA) and Iowa Department of Natural Resources (IDNR)
- National Pollutant Discharge Elimination System (NPDES) permit from the MPCA and the Environmental Protection Agency (EPA)
- Section 106 Concurrence from the State Historic Preservation Officer (SHPO) – Minnesota and Iowa
- Minnesota Wetland Conservation Act (WCA) from Mn/DOT
- Municipal approval from the City of Worthington and the City of Bigelow (if required)
- Protected Waters Permit from the Minnesota Department of Natural Resources (MNDNR)

Other permits and approval required may include:

- Permits from watershed districts
- Approval from ditch authorities

6.0 PREPARERS

Agency/Organization and Name	Draft Environmental Impact Statement Responsibility
Federal Highway Administration	
Tamara Cameron (MN)	Review of Draft EIS; assure compliance with federal regulations
Minnesota Department of Transportation – District 7	
Peter Harff	Mn/DOT District 7 Project Manager
Larry Filter	Review of Draft EIS, special studies, and technical memoranda
Giles Abbe	Preparation and review of alternatives layouts
Minnesota Department of Transportation – Central Office	
Brian Kammikar	Project Liaison; review Draft EIS; assure compliance with Mn/DOT procedures
Craig Johnson	Historical and Cultural Resources; assure compliance with Section 106 regulations
Jackie Sluss	Historical and Cultural Resources; assure compliance with Section 106 regulations
Elizabeth Abel	Historical and Cultural Resources; assure compliance with Section 106 regulations
Greg Busacker	Preparation and review of water quality/natural resources sections
Jason Alcott	Preparation and review of water quality/natural resources sections
Nancy Radle	Contaminated properties
Iowa Department of Transportation	
Richard Michaelis	District 3 Engineer
James Rost	Director, Office of Location and Environment
Russell Sinram	Document Manager, Office of Location and Environment
Short Elliott Hendrickson Inc.	
Mark Benson	Consultant Project Manager
Jennifer Ulmer	Coordination
George Calebaugh	Traffic Analysis and Forecasting, Cost/Benefit Analysis
Jill Ovik	Energy, Utilities, Cost/Benefit Analysis, Railroad Alternatives, Microstation
Dave McKenzie	Railroad Alternatives
Todd Udvig	Wetlands, Vegetation
Deric Deuschle	Wetlands, Vegetation
Jeremy Walgrave	Hydraulic Survey, Floodplains, Water Quality, Surface Drainage, Geology/Groundwater/Aquifers
Ron Leaf	Farmlands
Brad Kovach	Wild/Scenic Rivers, Fish & Wildlife, State/Federal Threatened & Endangered Species
Craig Churchward	Visual Resources
Mike Wozniak	Economics, Land Use, Social and Community Impacts
Dan Jochum	Economics, Land Use, Social and Community Impacts
Chris Hiniker	Environmental Justice
Steve Hack	GIS: Alignment Impact Assessment, Graphics
Tammy Orf	Word Processing

Agency/Organization and Name	Draft Environmental Impact Statement Responsibility
Candis Nord-Sheptak	Graphics
Other Subconsultants	
SBP Associates Steve Platisha	Noise Monitoring and Modeling
AGC Developments Inc. Al Perez	Noise Monitoring and Modeling

8.0 COORDINATION

Mn/DOT is committed to public involvement/outreach at all levels in decision-making related to the Highway 60 Reconstruction Project. Mn/DOT will continue to engage community organizations, area property owners, business owners, residents, and local, county, regional, and state agencies in the development of the project. The public involvement/outreach efforts will include:

8.1 PROJECT ADVISORY COMMITTEE (PAC)

The PAC was formed to establish a communication link with the affected communities, organizations, and agencies. The PAC for the EIS phase of the project is a combination of the TAC and PAC from the Scoping process. The committee represents a wide range of special interest groups to communicate their concerns to the PAC through their representative to ensure that their community values/interests were expressed. The PAC comprises representatives from each of the following groups (*italics* indicates attendance at one or more PAC meetings):

- Nobles County – *David Benson, Steve Schnieder*
- Bigelow Township – *Brad Hoekstra*
- Worthington Township – *Keith Schroeder*
- Lorain Township – *Verne Correll*
- City of Bigelow – *Bruce Pass*
- City of Worthington – *Brad Chapulis*
- Worthington City Council – *Jim Elsing*
- Worthington Area Chamber – *Darlene Macklin*
- Mn/DOT District 7 – *Peter Harff, Randy Potts*
- IDOT – *Richard Michaelis, Mark Wright*
- DNR Region 4 – *Victoria Poage*
- Nobles County SWCD – *Dan Livdahl*
- Regional Development Commission – *Annette Bair*
- Worthington Travel Information Center – *Nan Karr, Diane Roth*
- Union Pacific Railroad – *Roger Gilbertson*
- Minnesota Southern Railway Inc. – *Brent Polanchek*
- Prins Trucking – *Gary Prins*
- Worthington Daily Globe – *Juan Montoya*
- Residents/Landowners – *Bob Shore, Stan Drietz, Lloyd Standafer, Sisoumang Rattanasitthi, Jim Martin, Juan Valencia, Jerry Toussaint, Wayne Klumper*
- Short Elliott Hendrickson Inc. – *Mark Benson*

To date, the PAC has met six times and is scheduled to meet every other month throughout the planning and preliminary design phase of the project.

Although the PAC is an advisory committee, their input is to be an important influence on the direction of the project.

8.2 SPECIALTY AREA SUBGROUPS

Due to the anticipated complexity and range of issues associated with the proposed improvements, several specialty area subgroups have been formed. These subgroups will focus specifically on the main project issues that have been identified by Mn/DOT and the PAC. The subgroups will become more active once a preferred alternative is selected and the specific issues of concern are further identified.

8.3 PUBLIC OPEN HOUSES

On July 12, 2001, a kick-off open house meeting was held in the City of Worthington. The purpose of the meeting was to inform individuals of the upcoming planning efforts and opportunities to get involved in an important transportation project in their area and to gather information from the public regarding the range of alignment alternatives. A second open house was held on April 18, 2002 to provide additional details on the alternatives, evaluation, and environmental review process. Future open house meetings will provide up-to-date information on the project, receive verbal and written comments and suggestions, and answer questions from the public.

8.4 PROJECT NEWSLETTERS

A series of informational newsletters will be prepared with the intent of providing project-related information to the public. To date, two newsletters have been distributed to property owners and business owners in the project area.

8.5 PROJECT WEB PAGE

An informational project web page has been established on the World Wide Web at (<http://projects.dot.state.mn.us/seh/060/>). The site provides an additional means of distributing information and gathering input with an e-mail reply feature. The site is periodically updated to reflect project updates, planning/design changes, and to address new issues.

8.6 SUMMARY OF PUBLIC INPUT

The following section provides a summary of public input regarding this project. Comments listed below are intended to present general thoughts and issues rather than the desire for a specific alternative.

- Large volume of truck traffic
- Safety for pedestrians, bicyclists, and school buses on a four-lane highway
- Increase in through traffic as a result of Iowa Highway 60 improvements
- Impacts to Morningside neighborhood, including access, noise, and acquisition of homes
- Local versus through traffic

- Decline in property value for rural residents
- Economic development/redevelopment opportunities
- Impacts to farming operations, including driving on and crossing a four-lane highway
- Loss of farmland
- Benefit-cost ratio
- Impacts to existing businesses, including highway exposure and acquisitions
- Visual appeal
- Water quality
- Division of community
- Solving existing problems, including pavement condition, intersection safety, and congestion
- Travel time and distance
- Maintenance

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List of Acronyms

ADT	Average Daily Traffic
APE	Area of Potential Effect
BMPs	Best Management Practices
CRP	Conservation Reserve Program
EAW	Environmental Assessment Worksheet
EIS	Environmental Impact Statement
EPA	Environmental Protection Agency
FEMA	Federal Emergency Management Agency
FHWA	Federal Highway Administration
FMV	Fair Market Value
IDOT	Iowa Department of Transportation
IRC	Interregional Corridor
LAWCON	Land and Water Conservation
LOS	Level of Service
MDA	Minnesota Department of Agriculture
MEPA	Minnesota Environmental Policy Act
MMUTCD	Minnesota Manual for Uniform Traffic Control Devices
MNDNR	Minnesota Department of Natural Resources
Mn/DOT	Minnesota Department of Transportation
MOU	Memorandum of Understanding
MPCA	Minnesota Pollution Control Agency
MSBP	Minnesota Soybean Processors
NEPA	National Environmental Protection Act
NHS	National Highway System
NHIS	Natural Heritage Information System
NPDES	National Pollutant Discharge Elimination System
NRCS	Natural Resource Conservation Service
NRHP	National Register of Historic Places
NWI	National Wetland Inventory
O & M	Operation & Maintenance
PAC	Project Advisory Committee
SDD	Scoping Decision Document
SHPO	State Historic Preservation Office
T & E	Threatened & Endangered
TAC	Technical Advisory Committee
TEP	Technical Evaluation Panel
UGB	Urban Growth Boundary
USACE	United States Army Corps of Engineers
USFWS	United States Fish and Wildlife Service
VHT	Vehicle Hours Traveled
VMT	Vehicle Miles Traveled
WCA	Wetland Conservation Act
WPA	Waterfowl Production Area
WSD	Watershed District

Appendix A
MNDNR Questionnaire



Minnesota Department of Natural Resources

500 Lafayette Road
St. Paul, Minnesota 55155-4020

June 12, 2001

Peter Harff
Minnesota Department of Transportation
District 7
P.O. Box 4039
Mankato, MN 56002-4039

Re: Natural and Recreational Resources Questionnaire for Reconstruction of TH 60 (S.P. 5305-51 & 5306-42) - Nobles County

Dear : Mr. Harff:

The Minnesota Department of Natural Resources (DNR) has completed the Natural and Recreational Resources Questionnaire concerning the above mentioned project in Nobles County. Attached is the questionnaire form from the Trails and Waterways Unit. The DNR Natural Heritage Program provided a comment memo, database printouts and a document entitled "Minnesota's Railroad Right-of-way Prairie: A report to the 1999 Legislature" that are included as attachments. The Regional Environmental Assessment Ecologist has provided a comment memo that is also included as an attachment. The Division of Waters did not provide comments. Other disciplines did not appear to be affected by the proposed project and were not asked to complete the Questionnaire. Please contact staff listed on the questionnaire or attachments, if you questions regarding their comments. If you have questions regarding this letter, please call me at (651) 296-0731.

Thank you for providing the opportunity for early coordination on this project.

Sincerely,

Gail G. Fox, Environmental Planner
Environmental Planning and Review Section
Office of Management and Budget Services

c. Cheryl Heide
Laurie Young

20000785-0002

Con Christianson
Victoria Poage

ER:TH60Q.wpd

Joe Oschwald
Sarah Hoffmann

DNR Information: 651-296-6157 • 1-888-646-6367 • TTY: 651-296-5484 • 1-800-657-3929

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DEPARTMENT OF NATURAL RESOURCES
Division of Fish and Wildlife

STATE OF MINNESOTA
OFFICE MEMORANDUM

DATE: May 22, 2001

PHONE: (507) 359-6073

TO: Gail Fox, Office of Management and Budget Services
St. Paul

FROM: Victoria Poage, Regional Environmental Assessment Ecologist
New Ulm

SUBJECT: TH 60 (S.P. 5305-51 & 5306-42), I-90 to State Line
ERDB #20000785

Region 4 staff have been involved with MnDOT staff in early phases of this project. We look forward to additional opportunities for DNR involvement. Our concerns at this phase of the project are as follows:

1. No Wildlife Management Areas occur along this portion of TH 60; however, roadsides are often a significant habitat element, particularly in agricultural areas. Prairie remnants along TH 60, the Union Pacific and the Nobles-Rock Railroad are well-documented and should be protected the greatest possible extent. As previously discussed with MnDOT staff, areas disturbed by construction should be revegetated via locally-obtained seed stock. A vegetative management plan is recommended, in coordination with DNR staff.
2. A detailed site plan for the Travel Information Center should be included as part of future project documentation. Size and locations of buildings, parking lots and other features should be shown. We recommend minimization of impervious surfaces, on-site treatment of stormwater and landscaping choices in keeping with the National Prairie Passages project.
3. All Alternative routes will likely involve impacts to wetlands, prairies remnants or both:
 - "Blue Route": overbuilds existing Twp 166; appears to avoid high-quality prairie remnants along both railroad ROWs and, according to a brief review of the NWI, may impact fewer acres of wetland; farmed and/or prior-converted wetlands were not identified; there are four crossings of DNR-protected streams; highway construction may be expected to induce development of the surrounding area
 - "Yellow Bypass": in the Bigelow area, the doesn't appear to impact sensitive natural features, but where it bypasses Org and the railroad intersection (Sec 33 & 34), it appears to impact prairie remnants, making it a less desirable alternative
 - "Red Route": appears to impact the most NWI wetlands, but estimation is not possible given the materials at hand; this route impacts a DNR-protected wetland (53-30W) and makes three crossings of DNR-protected streams
 - "Possible Realignment": this option needlessly encroaches on the railroad ROW, and disturbs heretofore unpaved land; obliteration and reseeding of the existing roadbed cannot mitigate for the loss of prairie remnants.

Hwy # 60
S.P. 5305-51, 5306-42

PART 5. Recreational Resources--Trails and Water Accesses

To be completed by the DNR Area Trails and Waterways Supervisor

1. Does the project cross, intersect or closely parallel an existing State Trail or Grant-In-Aid trail corridor?

Yes

No

If yes, please indicate the location of these trails in relation to the proposed highway project. *Intersects a GIA Snowmobile Trail at*

Bigelow and just south of Worthington approximately 1/2 mile north of C.R. 10-Hwy 60 intersection

2. Could the project impact recreational navigation of affected water resources?

Yes

No

If yes, please explain.

3. Could the project affect dispersed recreational sites, such as trail waysides or campsites, canoe-in campsites, canoe portages or rest areas, canoe pull-out or launch sites, or public water access facilities?

Yes

No

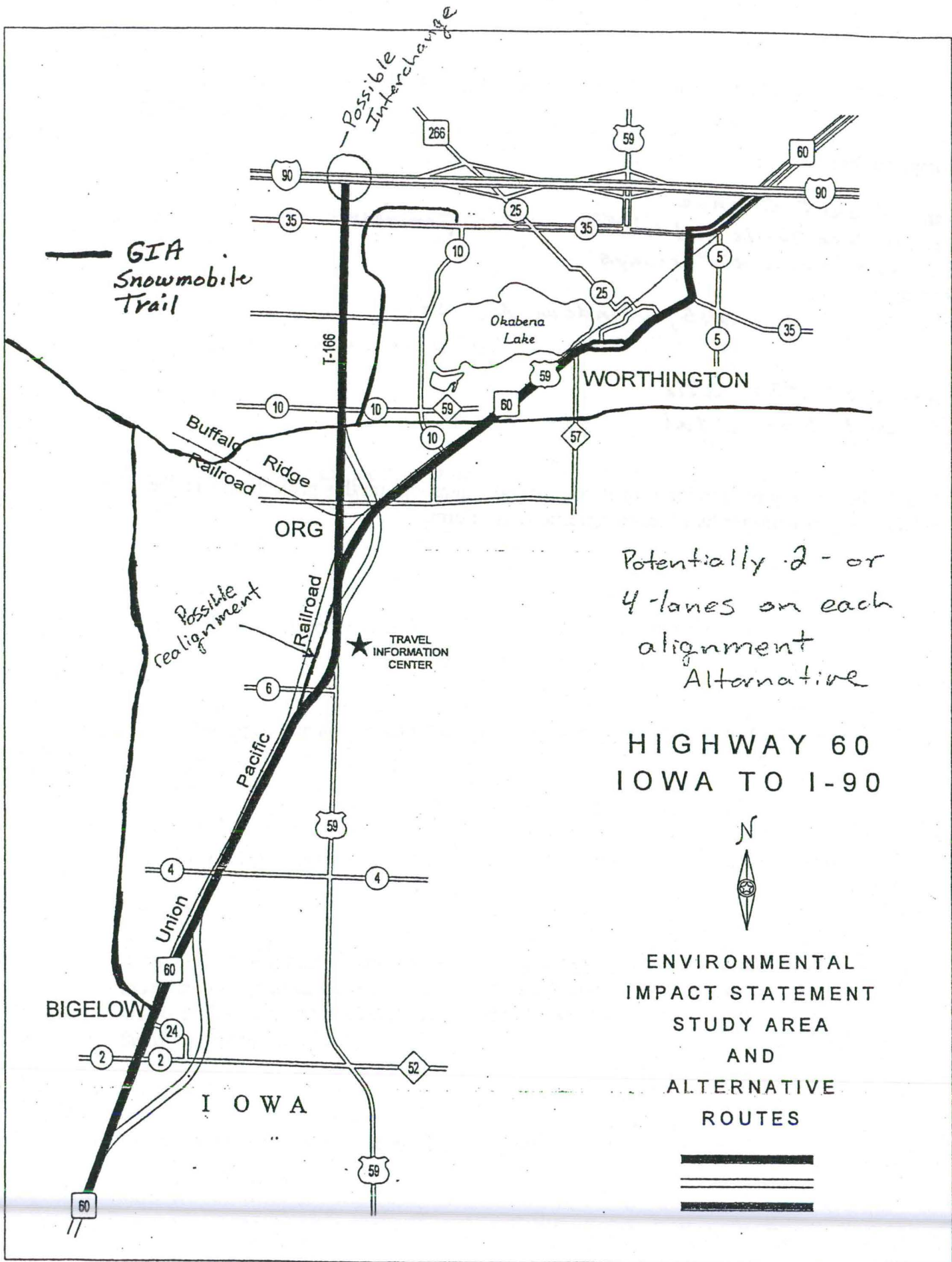
If yes, please indicate which recreational facilities may be affected by the project, the location of the facilities, and what affect the project may have on each facility.

4. Could the project affect plans for future trail development, land acquisition or public water access development plans?

Yes

No

If yes, please explain.



Potentially 2- or 4-lanes on each alignment Alternative

HIGHWAY 60 IOWA TO I-90



ENVIRONMENTAL IMPACT STATEMENT STUDY AREA AND ALTERNATIVE ROUTES



Appendix B

Mn/DOT Cultural Resources Letter



Minnesota Department of Transportation

Transportation Building
395 John Ireland Boulevard
Saint Paul, Minnesota 55155-1899

June 5, 2002

Mr. Dennis Gimmestad
Government Programs & Compliance Officer
State Historic Preservation Office
Minnesota Historical Society
345 Kellogg Blvd. W.
St. Paul, MN 55101

Re: TH 60, Iowa Border to Worthington, Nobles County
Report of Phase I & Phase II Cultural Resource Investigation
SP 5305-51

Dear Mr. Gimmestad:

Enclosed for your review please find two copies of *Phase I & Phase II Cultural Resource Investigation, Trunk Highway 60, from the Iowa Border to Worthington, Nobles County*, prepared for Mn/DOT by Barbara Henning of Rivercrest Associates, Inc. Also enclosed are unbound copies of the architecture/history inventory forms completed for the investigation.

Architectural History

A total of 124 properties were examined in the field during the survey; four of these were of sufficient age and retained sufficient integrity to merit formal Phase I survey and completion of Minnesota architecture/history inventory forms. Of the four properties formally surveyed, two were recommended potentially eligible for the National Register of Historic Places (NRHP) and subjected to Phase II evaluation. Both properties, the St. Paul & Sioux City Railroad line between Worthington and the Iowa border (NO-BGT-002, NO-WOT-004, NO-LOR-001) and the Worthington Livestock Sale Company sale barn complex (NO-WOC-013), are recommended eligible for the NRHP.

We concur with the recommendations that the St. Paul & Sioux City Railroad and the Worthington Livestock Sale Company sale barn complex are eligible for the NRHP. Because the project is still in the preliminary design stages, an assessment of effects to these properties will need to be completed when more detailed construction plans are available.

Archaeology

There are no known archaeological sites within the project area of potential effects (APE). Our staff archaeologist Craig Johnson reviewed the proposed project alternatives in consultation with Dr. Scott Anfinson, of your office, and determined that the project has low potential for impacting intact and significant precontact sites.

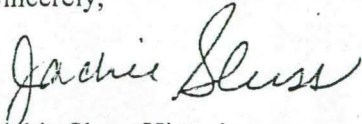
The Phase I and II cultural resource investigation included a literature search to assist in identifying potential historic archeological sites. Three potential sites were recommended for further analysis: the H. J. Ludlow farm in Worthington Township, N. A. Call's hay warehouse and farm at Sioux Falls Junction (now Org), and the W. A. Dillman/Gustafson farmstead. Our staff archaeologist Liz Abel has analyzed the information provided by the literature review in detail to determine whether potentially intact and significant sites are present within the project APE. The H. J. Ludlow farm appears to lie outside the archaeology APE, as it is depicted north of the railroad in the 1888 and 1914 plat maps (see report Figures 5 and 8), and all project alternatives are located south of the railroad (see report Figure 1). The N. A. Call hay warehouse and farm was later covered by the rail stop of Org, which likely destroyed site integrity (see report Figures 4 and 10). The W. A. Dillman/Gustafson farmstead was not continuously inhabited by the same family or by families of similar ethnic background from

an early period of agricultural development in the area. This history of occupation makes it unlikely that the farmstead would provide appropriate data for focused and important archeological research. Other properties documented in the literature review (see report Tables 2-9) that exhibited better continuity of occupation are not associated with early periods of settlement and agricultural development in the area, but with later periods for which archaeology is not likely to provide significantly different information than available documents. Therefore, we believe that the proposed reconstruction alternatives are not likely to affect NRHP-eligible historic archeological sites.

The project is still in the early design stage and a Draft Environmental Impact Statement is currently being prepared. We look forward to consulting and working with you as the project design is developed.

If you have any questions concerning this project, please call me at (651) 284-3244.

Sincerely,



Jackie Sluss, Historian
Cultural Resources Unit (CRU)

encs.

cc: Mark Dudzik, State Archaeologist
Joe Hudak, Mn/DOT CRU
Mn/DOT CO File
Mn/DOT CRU Project File

Appendix C

Iowa Tribal Notification Letter and Mailing List



U.S. Department
of Transportation
Federal Highway
Administration

Judy McDonald
FHWA - Iowa Division
105 6th Street
Ames, IA 50010

June 12, 2001

Ms. Marianne Long
Director of Tribal Operations
Iowa Tribe of Oklahoma
R1, Box 721
Perkins OK 74059

RECEIVED
JUN 14 2001
OFFICE OF ENVIRONMENTAL SERVICES

Dear Ms. Long:

In accordance with Section 106 of the National Historic Preservation Act and its implementing regulations in 36 CFR Part 800 (effective January 11, 2001), we are contacting you in regard to the development of a four-lane improvement to IA 60 from Le Mars to the Iowa/Minnesota boarder. Maps showing the project area are in the Appendix.

The 40-mile project corridor has been divided into segments:

Segment 1A - LeMars Bypass

Segment 1B - from LeMars Bypass to Alton, includes the bypasses along the west side of LeMars, Seney, Carns and Alton.

Segment 2 - from north of Alton to north of the O'Brien/Osceola County line. This segment includes the bypasses along the east side of Hospers and Sheldon.

Segment 3A - from north of the O'Brien/Osceola County line to just north of state highway IA 9. A 4-lane bypass will be constructed east of Ashton and east of Sibley.

Segment 3B - from north of IA 9 to the Iowa/Minnesota boarder. The south end of the Bigelow, Minnesota, bypass will be constructed within Iowa.

The *Summary of Cultural Resource Actions* in the Appendix describes the archaeological investigations that have been conducted and the findings. Archaeological investigations have been conducted in 1993, 1996, 1997 and 1999 resulting in the recording of sixty prehistoric sites. Twenty-five prehistoric sites were recorded in segment 1. Six sites underwent further testing to determine if they were eligible for the National Register and were determined not eligible for the National Register. Twenty-six prehistoric sites were recorded in segment 2 with six being tested for National Register eligibility and determined not eligible for the National Register. Segment 3 contained nine prehistoric sites. All nine were determined not eligible for the National Register. Attached is a list and map of all the prehistoric sites found. Additional archaeological surveys have been scheduled for alignment modifications, wetland mitigation areas and borrows.

If your tribe or organization has any concerns regarding recorded or unrecorded archaeological sites or traditional cultural properties within the construction area, please contact the following individuals:

Greg Heitmann
Federal Highway Administration
105 6th Street
Ames, Iowa 50010-6337

Judy McDonald
Iowa Department of Transportation
800 Lincoln Way
Ames, Iowa 50010

In order to keep this project on schedule, we ask to receive a response from you within 30 days of your receiving this letter. If we do not receive a response, we will assume that you have no concerns and will proceed with the project as planned. If you have questions, need further information, or should have any concerns in the future, please do not hesitate to contact Greg Heitmann at 515/233-7313 or Judy McDonald at 515/239-1795.

Thank you for your attention to this matter. The Federal Highway Administration and the Iowa Department of Transportation look forward to working with you to protect Iowa's cultural resources.

Sincerely yours,

Gregory L. Heitmann
Transportation Engineer

Enclosure

cc:
Doug Jones, Iowa SHPO w/enclosure
Richard Michaelis, Iowa DOT District 5
Judy McDonald, Iowa DOT
Steve Larson, Iowa DOT
Brenda Durbahn, Earth Tech

U.S. DEPARTMENT OF TRANSPORTATION
Federal Highway Administration
105 6th Street
Ames, IA 50010-6337

U.S. DEPARTMENT OF TRANSPORTATION
Federal Highway Administration
105 6th Street
Ames, IA 50010-6337

Tribal Chairperson
Sac & Fox Nation of Missouri
Tribal Council
Rural Route 1, Box 60
Reserve KS 66343-9723

Tribal Chairperson
Omaha Tribal Council
PO Box 368
Macy NE 68039

U.S. DEPARTMENT OF TRANSPORTATION
Federal Highway Administration
105 6th Street
Ames, IA 50010-6337

U.S. DEPARTMENT OF TRANSPORTATION
Federal Highway Administration
105 6th Street
Ames, IA 50010-6337

Ms. Deanne Bahr, NAGPRA Coordinator
Sac & Fox Nation of Missouri in
Kansas and Nebraska
RR 1, Box 60
Reserve KS 66434-9723

Tribal Chairperson
Otoe-Missouria Tribe
8151 Highway 177
Red Rock OK 74651

U.S. DEPARTMENT OF TRANSPORTATION
Federal Highway Administration
105 6th Street
Ames, IA 50010-6337

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Ms. Mildred Hudson, NAGPRA Coordinator
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Iowa Tribe of Oklahoma
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Sioux Community Center
PO Box 359
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Tribal Chairperson
Upper Sioux Tribe
PO Box 147
Granite Falls MN 56241

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Tribal Chairperson
Minnesota Mdcwakanton Sioux
Prairie Island Indian Community
1158 Island Boulevard
Welch MN 55089-9540

Appendix D

IDOT and SHPO Cultural Resources Letter



Iowa Department of Transportation

MAR 04 2002

800 Lincoln Way, Ames, Iowa 50010

515-239-1097
515-239-1726 FAX

February 28, 2002

Ref. No: NHS-60-1(16)-19-75
Osceola
Primary

Doug Jones
Ralph Christian
Review and Compliance
Bureau of Historic Preservation
State Historical Society of Iowa
600 East Locust
Des Moines, IA 50319

R&C# 940500100

Dear Doug and Ralph

**RE: Phase I Cultural Resource Investigations: Iowa Highway 60- Bigelow Bypass
Sections 9, 10 and 16, T100N-R41W**

Enclosed for your review is the Phase I Cultural Resource Investigation for the above-mentioned federal-funded project. This project proposes the construction of bypass along U.S. Highway 60 around the City of Bigelow, Minnesota. This survey examined the portion of the bypass project located within Iowa.

The Iowa portion examined encompasses an area of potential impact that begins in Section 10, 100th street and then moves southward for 0.3 miles before turning westward for approximately 0.5 miles into Section 10. For here, the corridor moves southward for approximately 0.6 miles where it terminates with Iowa Highway 60 in Section 16.

Four potential alignments are being considered for this project with one composite corridor examined for the purposes of this study. This composite corridor extends approximately 1.4 linear miles through new right of way and varies in width between approximately 1600-3300 ft. The widest area of this corridor is located along Iowa Highway 60. A total of 230 acres were investigated for this study.

The cultural resource investigation was conducted using an extensive archival / records search along with a pedestrian survey of the project area, Auger testing and soil probing. During the survey, one previously unrecorded historic archaeological site, 13OA35, was identified. In addition, two farmsteads were evaluated, the Yates Farmstead and the Beving Farmstead.

Historic archaeological site 13OA35, located in Section 10, T100N-R41W, represents a historic scatter associated with the Yates Farmstead. The site was determined not eligible for the National Register and no further work was recommended.

The Yates Farmstead (72-00227), located in Section 10, T100N-R41W, consists of a modern ranch house, a moved historic period house, a barn, and additional out buildings. The farmstead's historic period house has been moved for its original location and stands vacant. The modern ranch house now sits in its place. The farmstead was determined not to be eligible for the National Register.

The Beving Farmstead (72-00230), located in Section 9, T100N-R41W, consists a house, a pole barn, three silos and several outbuildings. The historic barn has been replaced with the modern pole barn. The outbuildings are ordinary examples of their type. The farmstead was determined not eligible for the National Register.

Based on the results of the survey, the determination is **No Historic Properties Affected**. If you concur, please sign the concurrence line below, add your comments and return this letter. If you have any questions, please do not hesitate to contact me.

Sincerely,



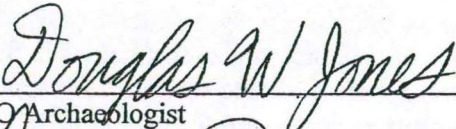
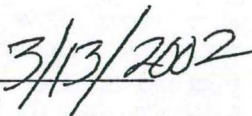
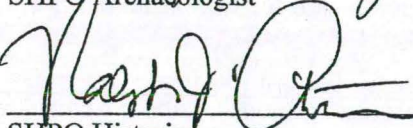
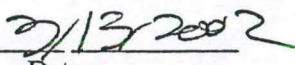
Matt Donovan
Office of Environmental Services
Matt.donovan@dot.state.ia.us

MJFD

Enclosure

cc: Rich Michaelis- District 3 Engineer
Kris Riesenbergs- Environmental Services
Thomas Synder- Oselola County Engineer
✓ Charles Rinehart / Camilla Deiber- Project Archaeologists: LBG

Concur:

 _____	 _____
SHPO Archaeologist	Date
 _____	 _____
SHPO Historian	Date

Comments:

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