

**BELLEVUE BRIDGE STUDY
MILLS COUNTY, IOWA, AND SARPY COUNTY, NEBRASKA**

Iowa DOT Project Number
NHSX-34-1(63)-19-65

DRAFT

ENVIRONMENTAL IMPACT STATEMENT

Submitted Pursuant to 42 U.S.C. 4332(2)(c)

By the

**U.S. Department of Transportation
Federal Highway Administration**

and

**IOWA DEPARTMENT OF TRANSPORTATION
Highway Division
Office of Location & Environment**

Cooperating Agencies

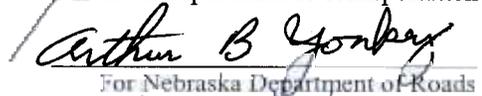
U.S. Coast Guard
U.S. Fish & Wildlife Service

Nov 1, 2004
Date of Approval

Oct 25, 2004
Date of Approval

11/15/2004
Date of Approval


For Iowa Department of Transportation


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The purpose of this Project is to improve connectivity and fulfill transportation needs of the region (the southern Omaha metropolitan area, including eastern Sarpy County and Bellevue, and western Mills County) by providing a safe and free-flowing connection across the Missouri River from U.S. 75 to I-29. The Draft Environmental Impact Statement evaluates alternatives for improvements to the existing Bellevue Bridge and associated roadway, non-construction alternatives, and new roadway corridors.

Comments on this Draft EIS are due by Feb. 28, 2005 and should be sent to the persons listed above.

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APPENDICES

Appendix A Agency Correspondence and Comment Letters

ACRONYMS, ABBREVIATIONS, AND SHORT FORMS

1996 Draft EIS	1996 Draft EIS for U.S. 34 Roadway and Bridge Improvement from I-29 in Mills County, Iowa, to U.S. 75 in Cass or Sarpy County, Nebraska
ACHP	Advisory Council on Historic Preservation
AFB	Air Force Base
APE	Area of Potential Effect
BA	Biological Assessment
BFD	Bellevue Fire Department
BMPs	best management practices
BNSF	Burlington Northern Santa Fe Railway
BPD	Bellevue Police Department
CAAA	Clean Air Act Amendments of 1990
CEQ	Council on Environmental Quality
CFR	Code of Federal Regulations
CIN	Commercial and Industrial Network
dB	decibel
dBA	A-weighted decibel
EDR	Environmental Data Resources, Inc.
EIS	environmental impact statement
EJ	Environmental Justice
EO	Executive Order
EPA	U.S. Environmental Protection Agency
ESA	Endangered Species Act of 1973
FAA	Federal Aviation Administration
FEMA	Federal Emergency Management Agency
FHWA	Federal Highway Administration
Form AD-1006	USDA Farmland Conversion Impact Rating Form
FR	Federal Register
HDR	HDR Engineering, Inc.
Highway 370	Nebraska and Iowa State Highway 370

HOV	high-occupancy vehicle
I-29	Interstate 29
Iowa 370	Iowa State Highway 370
Iowa DNR	Iowa Department of Natural Resources
Iowa DOT	Iowa Department of Transportation
ITS	intelligent transportation system
L_{eq}	energy equivalent sound level
LOMA	Letter of Map Amendment
LOMC	Letter of Map Change
LOMR	Letter of Map Revision
L RTP	Long Range Transportation Plan
LUST	leaking underground storage tank
MAPA	Omaha-Council Bluffs Metropolitan Area Planning Agency
MAT	Metro Area Transit
$\mu\text{g}/\text{m}^3$	micrograms per cubic meter
mg/m^3	milligrams per cubic meter
MIG	Minnesota IMPLAN Group, Inc.
MUD	Metropolitan Utilities District
MW	monitoring well
N-370	Nebraska State Highway 370
NAAQS	National Ambient Air Quality Standards
NAC	Noise Abatement Criteria
NASS	National Agricultural Statistics Service
NCRA	National Cooperative Refinery Association
NDEQ	Nebraska Department of Environmental Quality
NDOR	Nebraska Department of Roads
NEPA	National Environmental Policy Act of 1969
NGPC	Nebraska Game and Parks Commission
NHPA	National Historic Preservation Act of 1966
NNG	Northern Natural Gas
NOI	Notice of Intent
NPDES	National Pollutant Discharge Elimination System
NPPD	Nebraska Public Power District
NRCS	Natural Resources Conservation Service

NRD	Natural Resources District
NRHP	National Register of Historic Places
NSHS	Nebraska State Historical Society
NWI	National Wetlands Inventory
OMB	Office of Management and Budget
OPPD	Omaha Public Power District
PEM	palustrine emergent
PFO	palustrine forested
ppm	parts per million
Project	to improve the connectivity between the Omaha metropolitan area and southwest Iowa by maintaining, improving, or replacing with a new alignment, as necessary, the existing connection from U.S. 75 in Nebraska to I-29 in Iowa, including a bridge across the Missouri River
R2	riverine lower perennial
RBCA	Risk-Based Corrective Action
REC	recognized environmental condition
ROD	Record of Decision
ROW	right-of-way
RPMA _s	Recovery Priority Management Areas
SCS	Soil Conservation Service
SEA	Section of Environmental Analysis
SHPO	State Historic Preservation Office
Study Area	the area analyzed in this EIS
SWPPP	Stormwater Pollution Prevention Plan
T&E	threatened or endangered
TCE	trichloroethylene
TDM	travel demand management
TMDL	total maximum daily load
TNM	Traffic Noise Model
TSM	transportation system management
Uniform Act	Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970
UPRR	Union Pacific Railroad
U.S. 75	U.S. Highway 75
USACE	U.S. Army Corps of Engineers
USC	United States Code

USCG	U.S. Coast Guard
USDA	U.S. Department of Agriculture
USFWS	U.S. Fish & Wildlife Service
USGS	U.S. Geological Survey
WMA	Wildlife Management Area
Year 2030	the planning horizon for the Project

SUMMARY

SUMMARY

S.1 DESCRIPTION OF THE PROPOSED ACTION

The Federal Highway Administration (FHWA), in cooperation with the Iowa Department of Transportation (Iowa DOT) and the Nebraska Department of Roads (NDOR), is proposing to improve the connectivity between the Omaha metropolitan area and southwest Iowa by maintaining, improving, or replacing with a new alignment, as necessary, the existing connection from U.S. 75 in Nebraska to I-29 in Iowa, including a bridge across the Missouri River (the Project). The existing connecting route is Nebraska and Iowa State Highway 370 (Highway 370). Nebraska State Highway 370 is known as N-370, and Iowa State Highway 370 is known as Iowa 370.

The western terminus of the Project, at U.S. 75, and the eastern terminus, at I-29, represent logical points of connection to the primary regional highway and interstate facilities serving north-south travel in the southern Omaha, Nebraska, metropolitan area.¹ The Project would be approximately 6 miles in length.

The Study Area is located within Sarpy County, Nebraska, and Mills County, Iowa, and includes a portion of Bellevue. The general boundaries of the Study Area are U.S. 75 on the west, I-29 on the east, the Platte River on the south, and Fontenelle Forest and Nature Center on the north (see Figure S-1).

S.2 PURPOSE AND NEED

The purpose of this Project is to improve connectivity and fulfill transportation needs of the region (the southern Omaha metropolitan area, including eastern Sarpy County and Bellevue, and western Mills County) by providing a safe and free-flowing connection across the Missouri River from U.S. 75 to I-29.

The Project is based on the following needs:

- Substandard bridge – an existing Bellevue Bridge that does not meet current structural and functional design standards and has a limited life expectancy²
- Substandard roadway – an existing roadway between U.S. 75 and I-29 that does not meet current standards because of inconsistent segment geometry and speed and inadequate operating capacity
- System linkage – an existing roadway system that does not meet the regional transportation needs and allow free flow of traffic between U.S. 75 and I-29

¹ The Omaha metropolitan area consists of Douglas, Sarpy, Cass, and Washington counties in Nebraska and Pottawattamie County in Iowa.

² Repairs of the existing Bellevue Bridge are underway and are scheduled to be completed by October 18, 2004 (Omaha World Herald, 2004). Because of its narrowness, which affects its functionality, the repairs of the Bellevue Bridge would not bring the structure to a full sufficiency rating (TranSystems Corporation, September 2004).

- Compatibility with local land use – an existing roadway system that does not accommodate the planned growth in the southern Omaha metropolitan area

Chapter 1, Purpose of and Need for the Proposed Action, discusses these needs, including current and projected bridge and roadway problems that have been identified for resolution.

S.3 OTHER MAJOR ACTIONS

The scoping process used to identify and address key issues for the Project generated a list of other reasonably foreseeable projects that could occur in the Study Area. For a project to be reasonably foreseeable, it must have advanced far enough in the planning process that its implementation is likely. Chapter 4 lists key transportation projects planned in the Study Area (and documented in the 2025 Long-Range Transportation Plan (LRTP) of the Metropolitan Area Planning Agency (MAPA)) even if the Project were not constructed. The following major reasonably foreseeable Federal and state, and local projects within the Study Area have been identified as additional actions to be considered:

- Missouri River Master Water Control Manual – to guide the operation of the U.S. Army Corps of Engineers (USACE)'s Missouri River mainstem dams and reservoirs. This document describes the basic water control plan and objectives of the integrated operation of the mainstem reservoirs. The Missouri River Master Water Control Manual, Final Environmental Impact Statement, which identifies a preferred alternative, was published in March 2004. A Record of Decision (ROD) was signed on March 19, 2004, implementing the preferred alternative identified in the Final EIS as modified in the ROD.
- Missouri River Fish and Wildlife Mitigation Project – to acquire 118,650 acres to restore or enhance aquatic and terrestrial habitat. USACE would purchase land from willing sellers along the Missouri River from Sioux City, Iowa, to St. Louis, Missouri (735 miles). The Mills County Plan: A Comprehensive Plan for Mills County, Iowa, identifies a large park area adjacent to the Missouri River in an area known as St. Mary's Island³ (RDG Crose Gardner Shukert, August 2002). USACE has identified St. Mary's Island as a future conservation area and plans to begin purchasing land from willing sellers in 2004.
- Metropolitan Utilities District Platte West Water Production Facility wetland mitigation area – to create wetlands as mitigation for impacts on wetlands as a result of the Platte West Water Production Facility project in western Douglas County and eastern Saunders County, Nebraska. Four potential areas are being considered for mitigation, including a 187-acre parcel 1.1 miles east of La Platte, Nebraska within the Study Area. The location of the mitigation site and the amount of wetlands to be created is undetermined as a mitigation plan has not been finalized.
- La Platte Link Trail – to construct a pedestrian trail connecting to the existing Bellevue Loop Trail near Harlan Lewis Road. This link is planned south of Papillion Creek along the Missouri River levee, then westerly along the north side of the Platte River.
- Back to the River Trail – to construct a multi-dimensional project to enhance an ecological, recreational and historical corridor among the Missouri River in Nebraska and Iowa. Back to the River encompasses both sides of a 64-mile stretch from Mondamin, Iowa and Herman, Nebraska, to the mouth of the Platte River.

³ St. Mary's Island is a former oxbow on the Missouri River and is currently used as farmland.

- Bellevue Park System Improvements – to expand Haworth Park from north of the Bellevue Bridge. This includes approximately 100 acres of new passive recreation that consists of athletic fields and practice areas, picnic areas, group camp site, interpretive areas, and natural areas.

S.4 REASONABLE ALTERNATIVES CONSIDERED

Two build alternatives were carried forward for detailed study, analysis, and comparison to the No-Build Alternative (Alt. 1): one in the South of Offutt AFB Corridor (Alt. 2) and one in the Southern Sarpy County Corridor (Alt. 3).

S.4.1 Alternative 1 – No-Build

The No-Build Alternative would not meet the Project purpose and need and should be eliminated from further consideration. However, since it is required by the National Environmental Policy Act of 1969 (NEPA), as implemented through 40 Code of Federal Regulations (CFR) 1502.14, it was carried forward to serve as a baseline for comparison with the build alternatives.

S.4.2 Alternative 2 – South of Offutt Air Force Base

A representative alignment was developed for Alternative 2 using the transportation design criteria and the typical cross sections and considering known constraints within the corridor. Alternative 2 begins at the intersection of U.S. 75 with Fort Crook Road and Fairview Road, where the existing partial cloverleaf interchange at this location would be reconstructed as a diamond-type interchange.⁴ The alternative extends east on new right-of-way (ROW) across Papillion Creek and the Union Pacific Railroad (UPRR) rail line. Then it curves to the southeast to avoid Offutt AFB and crosses the Burlington Northern Santa Fe Railway (BNSF) rail line and spur track. The crossings of the UPRR and BNSF rail lines would be grade separated, with the proposed roadway on a bridge over each rail line. The bridge over the UPRR rail line would also span North 5th Street, providing an underpass for access to properties north of the proposed roadway. The alternative continues southeasterly to avoid several small lakes southeast of Offutt AFB. Then it curves toward the northeast and crosses the Missouri River nearly 2 miles north of the Papillion Creek confluence.

The Missouri River crossing would include a bridge that would begin west of the USACE flood control levee on the Nebraska bank and continue across the river to the east side of the USACE flood control levee on the Iowa bank. The preliminary bridge layout includes a seven-span Nebraska approach, three main spans, and a 10-span Iowa approach. One of the main spans would provide a minimum of 450 feet of horizontal clearance and 52 feet of vertical clearance for the navigation channel in the river. A preliminary pier layout for the bridge was developed in coordination with the U.S. Coast Guard (USCG) to minimize navigation impacts. The bridge does not infringe upon the air space envelope required for aircraft taking off from and landing at Offutt AFB.

From the east end of the bridge over the Missouri River, the alternative continues northeasterly for about 1.75 miles to a new diamond-type interchange with I-29, located about 1.5 miles north of the rest area and 4 miles north of the northern interchange of I-29 with U.S. 34 (the Glenwood, Iowa, exit).

⁴ The final configuration of the proposed interchange at this location may change due to modifications resulting from the NDOR U.S. 75 – Plattsmouth to Bellevue project that is currently being designed.

The total length of this alternative is approximately 5.9 miles. It would require 297 acres of new ROW. Alternative 2 would cost approximately 25 percent more to construct than Alternative 3, primarily because of the construction of an additional bridge over Papillion Creek and a new interchange on I-29.

S.4.3 Alternative 3 – Southern Sarpy County

A representative alignment was developed for Alternative 3 using the transportation design criteria and the typical cross sections and considering known constraints within the corridor. Alternative 3 begins at the east end of the U.S. 75 interchange with relocated Platteview Road proposed as part of the NDOR U.S. 75 – Plattsmouth to Bellevue project, which is programmed for construction in 2007 to 2009. This alternative includes upgrading elements of the U.S. 75 – Plattsmouth to Bellevue project as follows:

- Widening relocated Platteview Road from a two-lane roadway to a four-lane roadway from the east end of the proposed U.S. 75 interchange for about 1 mile to the east.
- Widening the proposed bridge over the UPRR and BNSF rail lines.

Alternative 3 continues southeast on new ROW from the point where relocated Platteview Road turns to the south all the way to the Missouri River crossing. It crosses the Missouri River approximately midway between the points where Papillion Creek and the Platte River flow into the Missouri River and south of the Iske Park residential area.

The Missouri River crossing would include a bridge that would begin west of the USACE flood control levee on the Nebraska bank and continue across the river to the east side of the USACE flood control levee on the Iowa bank. The preliminary bridge layout includes a three-span Nebraska approach, three main spans, and a 12-span Iowa approach. One of the main spans would provide a minimum of 450 feet of horizontal clearance and 52 feet of vertical clearance for the navigation channel in the river. A preliminary pier layout for the bridge was developed in coordination with USCG to minimize navigation impacts.

East of the Missouri River crossing, Alternative 3 curves to the south and then to the east for approximately 1.4 miles, to the northern U.S. 34 interchange with I-29 (the Glenwood exit). The trend of the alignment paralleling the Missouri River was modified from an initial version that was at an angle to the Missouri River and caused more diagonal severance. This alternative includes widening U.S. 34 from a two-lane roadway to a four-lane divided roadway through the existing interchange with I-29 (including construction of a new bridge) to connect with the four-lane section of U.S. 34 east of I-29.

The total length of this alternative is 6.7 miles. It would require 272 acres of new ROW. Alternative 3 would cost approximately 25 percent less to construct than Alternative 2.

S.4.4 Preferred Alternative

The Project applicants, Iowa DOT and NDOR, have reviewed all reasonable alternatives under consideration (including the No-Build Alternative) and have identified Alternative 3 as the preferred alternative. Between the publication of the Draft EIS and the Final EIS, FHWA, Iowa DOT, and NDOR will work together to determine the final preferred alternative.

S.5 POTENTIAL IMPACTS

Table S-1 lists the environmental impacts of this Project for each of the build alternatives. Qualitative impacts of the No-Build Alternative (Alt. 1) are also listed in the table. Because impacts of LRTP projects and repair of the existing Bellevue Bridge would likely occur to the

same extent under all alternatives analyzed, those impacts are not included in the summary table. Chapter 3, Affected Environment, describes the existing environment for each resource potentially affected by the Project. Chapter 4, Environmental Consequences, provides further details on the impacts of the proposed build alternatives.

**Table S-1
Summary of Potential Impacts**

Resource	Alternative 1 No-Build Alternative	Alternative 2 South of Offutt AFB	Alternative 3 Southern Saryp County
Right-of-Way New Right-of-Way (acres) Acquisitions ¹ (number) Displacements (number)	Expansion of existing roads, if needed, would likely involve ROW acquisition, and displacements could also occur.	297 1 3	272 1 0
Farmland Impacts Prime Farmland (acres)	Prime farmland is likely to be converted to roadway ROW as part of urban development and any expansion of existing roads.	309	221
Major Utility Relocations Electrical Transmission Lines Fiber Optic Lines Sludge Line Petroleum Pipelines	Utility relocations, if necessary for expansion of existing roads, would require coordination with utilities.	1 0 0 0	1 0 1 0
Recreational Trail (linear feet)	Impacts from any undetermined expansion of existing roads are unknown.	580	0
Impacted Noise Sensitive Receivers Residential Commercial	Traffic noise levels are likely to increase along Highway 370 and along any expanded roadway.	0 0	11 0
Waters of the U.S. Wetlands ² (acres) Waterways ³ (feet)	Impacts from any undetermined expansion of existing roads are unknown.	14.2 1,052	8.7 2,250
Floodplain (acres)	Impacts from any undetermined expansion of existing roads are unknown.	16.7	34.8
Fish and Wildlife Habitat Agricultural (cropland and pastureland acres) Forested Nonwetland (acres) ⁴ Rangeland Nonwetland (acres) Wetlands (emergent & forested acres) Missouri River (acres)	Impacts from any undetermined expansion of existing roads would minimally affect fish and wildlife habitat because most construction would likely occur within existing ROW.	347.3 14.6 26.5 14.2 4.4	234.5 4.0 51.1 8.7 4.7
Historic and Archaeological Resources Impacted	Impacts from any undetermined expansion of existing roads are unknown.	0	0
Section 4(f) Properties Impacted	Impacts from any undetermined expansion of existing roads are unknown.	1 ⁵	0
Regulated Materials Sites Impacted	Impacts from any undetermined expansion of existing roads are unknown.	0	2

Notes:

- ¹ *Displacements involve a residential relocation (purchase of a home and relocation assistance). Acquisitions involve acquisition of an entire land parcel that does not include a residence.*
- ² *Jurisdiction will be determined by USACE after final wetland delineations are completed.*
- ³ *Waterways are determined by the presence of a definable bed and bank.*
- ⁴ *Nonwetlands include uplands and lowland areas that are neither deepwater aquatic habitats, wetlands, nor other special aquatic sites. For this analysis, nonwetlands used for crops and pastures are reported separately.*
- ⁵ *The Bellevue Loop Trail is crossed by Alternative 2. Continuity of the trail would be temporarily disrupted during construction for several months, but the connectivity would be restored after completion of construction.*

S.6 OTHER FEDERAL ACTIONS REQUIRED

Known permits and approvals required to implement either Alternative 2 or 3 are summarized in Table S-2. Those permits or approvals needed from environmental resource agencies are further discussed in Chapter 4, Environmental Consequences.

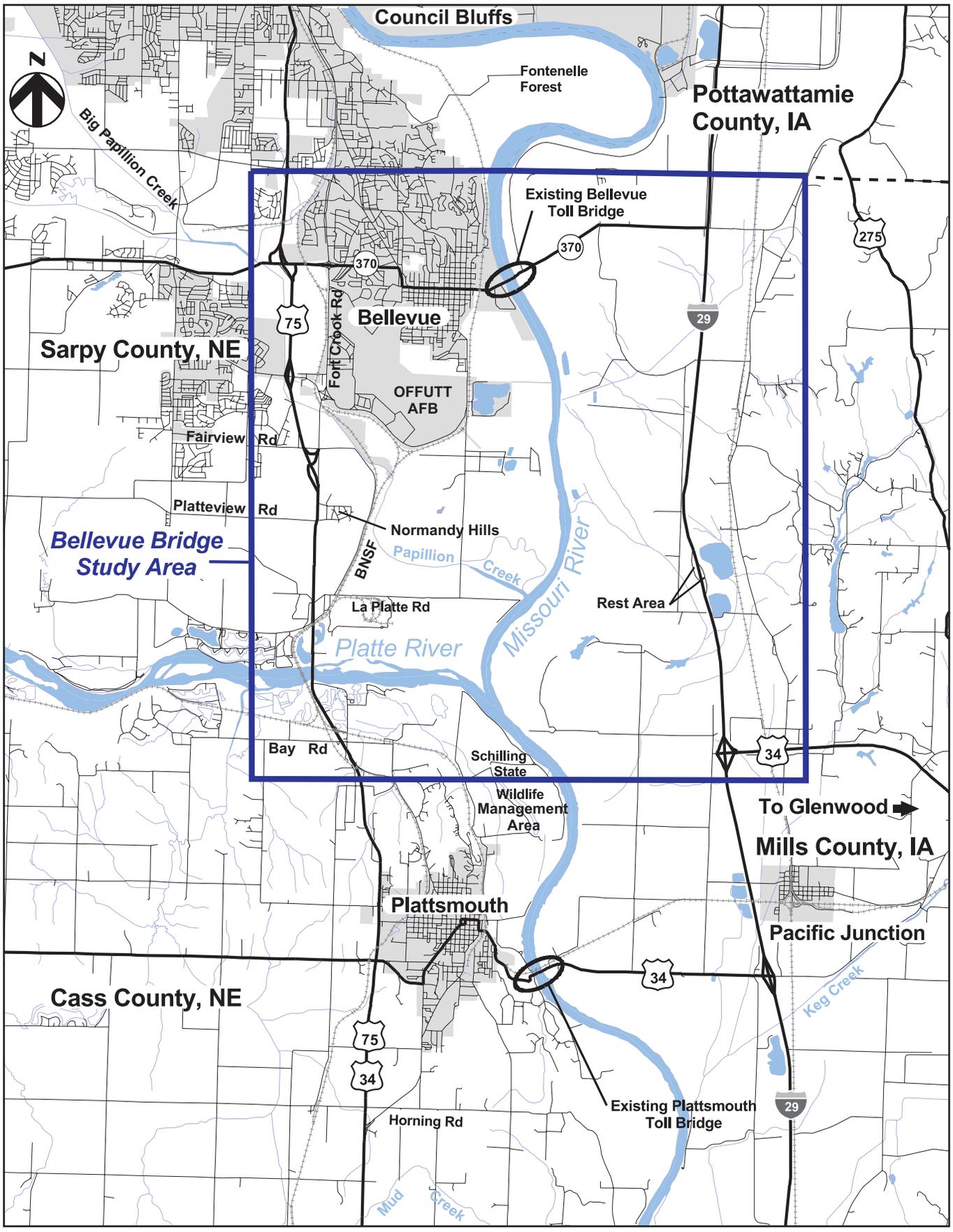
**Table S-2
Permits and Approvals**

Permit or Approval	Type	Granting Agency(ies)
General Bridge Act of 1946	Federal	U.S. Coast Guard
Section 9 of the Rivers and Harbors Act of 1899	Federal	U.S. Coast Guard
Section 10 of the Rivers and Harbors Act of 1899	Federal	U.S. Army Corps of Engineers
Section 404 Permit, Clean Water Act	Federal	U.S. Army Corps of Engineers U.S. Environmental Protection Agency
Section 7 of the Endangered Species Act	Federal	U.S. Fish & Wildlife Service
Interchange Justification Report	Federal	Federal Highway Administration
Location and design approval	Federal	Federal Highway Administration
EIS approval as a joint lead agency ¹	Federal	Federal Highway Administration
Record of Decision (ROD) ²	Federal	Federal Highway Administration
Form 7460, Notice of Proposed Construction or Alteration	Federal	Federal Aviation Administration
Joint Application Form (Sovereign Lands Construction Permits)	Federal/ State	U.S. Army Corps of Engineers Iowa Department of Natural Resources
EIS Adequacy Determination	State	Iowa Department of Transportation Nebraska Department of Roads
EIS Findings of Fact	State	Iowa Department of Transportation Nebraska Department of Roads
Corridor Location Approval	State	Iowa Department of Transportation Nebraska Department of Roads
Section 401 of the Clean Water Act – Water Quality Certification	State	Nebraska Department of Environmental Quality Iowa Department of Natural Resources
National Pollutant Discharge Elimination System (NPDES) General Stormwater Discharge Permit for Construction Activities, Clean Water Act	State	Nebraska Department of Environmental Quality Iowa Department of Natural Resources
Floodplain Development Permit, including no-rise certification	State/ Local	Iowa Department of Natural Resources Mills County Sarpy County Planning and Building Director
Permit for Occupation of Levee Right-of-Way	Local	Papio-Missouri River Natural Resources District

Notes:

¹ “‘Lead agency’ means the agency or agencies preparing or having taken primary responsibility for preparing the environmental impact statement” (40 CFR 1508.16).

² The ROD will explain the reasons for the decision regarding the Project addressed in this EIS.



Study Area

Bellevue Bridge Study
 Sarpy County, NE and Mills County, IA
 Environmental Impact Statement

Date
 Jan. 2004

Figure
 S-1



DRAFT

CHAPTER 1

PURPOSE OF AND NEED FOR THE PROPOSED ACTION

CHAPTER 1

PURPOSE OF AND NEED FOR THE PROPOSED ACTION

This Environmental Impact Statement (EIS) addresses the connecting route from U.S. Highway 75 (U.S. 75) in Nebraska to Interstate 29 (I-29) in Iowa, including the bridge crossing the Missouri River at the City of Bellevue (Bellevue), Nebraska. This EIS has been prepared in compliance with the requirements of the National Environmental Policy Act of 1969 (NEPA).¹ The purpose of this EIS is to provide a full and fair discussion of the significant environmental impacts of the proposed action and to inform decision makers and the public of the reasonable alternatives that would avoid or minimize adverse impacts or enhance the quality of the human environment.

This chapter describes the proposed action, the area analyzed in this EIS (the Study Area), and the purpose of the proposed action. It also presents relevant information useful in understanding the need for the proposed action based on the transportation issues that currently exist or are expected in the future. Sufficient detail is provided to allow the formulation of alternatives to solve the transportation issues identified.

Chapter 2 presents the range of alternatives evaluated and the screening process used in identifying the preferred alternative. Subsequent chapters address the affected environment, potential environmental consequences, mitigation measures, and agency coordination and public involvement efforts.

1.1 THE PROPOSED ACTION AND THE STUDY AREA

The Federal Highway Administration (FHWA), in cooperation with the Iowa Department of Transportation (Iowa DOT) and the Nebraska Department of Roads (NDOR), is proposing to improve the connectivity between the Omaha metropolitan area and southwest Iowa by maintaining, improving, or replacing with a new alignment, as necessary, the existing connection from U.S. 75 in Nebraska to I-29 in Iowa, including a bridge across the Missouri River (the Project). The existing connecting route is Nebraska and Iowa State Highway 370 (Highway 370). Nebraska State Highway 370 is known as N-370, and Iowa State Highway 370 is known as Iowa 370. Figure 1-1 shows the general location of the Project.

The western terminus of the Project, at U.S. 75, and the eastern terminus, at I-29, represent logical points of connection to the primary regional highway and interstate facilities serving north-south travel in the southern Omaha, Nebraska, metropolitan area.² The Project would be approximately 6 miles in length.

¹ NEPA (42 United States Code [USC] 4321-4347) is the foundation of environmental policy making in the U.S. The NEPA process is intended to help public officials make decisions based on an understanding of environmental consequences and take actions that protect, restore, and enhance the environment. It includes an environmental review process early in the planning for proposed actions.

² The Omaha metropolitan area consists of Douglas, Sarpy, Cass, and Washington counties in Nebraska and Pottawattamie County in Iowa.

The Study Area is located within Sarpy County, Nebraska, and Mills County, Iowa, and includes a portion of Bellevue. The general boundaries of the Study Area are U.S. 75 on the west, I-29 on the east, the Platte River on the south, and Fontenelle Forest and Nature Center on the north (see Figure 1-2).

The Study Area was defined by evaluating potential corridors³ for the proposed east-west roadway. Highway 370 traverses the Study Area and crosses the Missouri River over the Bellevue Bridge (also known as the Grand Army of the Republic Bridge). Corridors north of Highway 370 were eliminated because of Fontenelle Forest and Nature Center, existing dense development, and the proximity to the South Omaha Bridge (also known as the Veterans Memorial Bridge) on U.S. 275. Corridors south of the Platte River were eliminated because of the proximity to the Plattsmouth Bridge (located on U.S. 34, 9 miles south of the Bellevue Bridge).

1.2 PROJECT BACKGROUND

1.2.1 Project History

Efforts to improve the transportation system between Nebraska and Iowa in the southern Omaha metropolitan area, including consideration of a new Missouri River crossing, have been ongoing for a number of years. During the 1980s, a coalition of communities in southwest Iowa approached Iowa DOT and NDOR to study such an improvement. The following outlines key events and studies related to this Project.

1996 Draft EIS for U.S. 34 Roadway and Bridge Improvement, I-29 to U.S. 75

One-Bridge Concept

In December 1993, an EIS was initiated to evaluate potential Missouri River crossings to replace the U.S. 34 bridge crossing at Plattsmouth, Nebraska. This study culminated in publication of the 1996 Draft EIS for U.S. 34 Roadway and Bridge Improvement from I-29 in Mills County, Iowa, to U.S. 75 in Cass or Sarpy County, Nebraska (1996 Draft EIS), which outlined two potential corridors: (a) one corridor to meet the demonstrated regional travel demand between the Omaha metropolitan area and southwest Iowa; and (b) the other corridor to serve as a replacement to the Plattsmouth Bridge serving the local Plattsmouth and Cass County, Nebraska, area. The Bellevue Bridge was not part of this study.

The 1996 Draft EIS was discussed at a public hearing in April 1996. After the public hearing, several compromises were considered in an effort to reach consensus on a preferred corridor. One compromise solution evaluated consisted of a corridor through northern Cass County, just south of the Platte River, to serve both regional and local needs. This corridor was evaluated but deemed not reasonable because it would traverse the Schilling Wildlife Management Area (WMA) in Nebraska and would cross the Missouri River in a potentially sensitive area for protected fish species. Therefore, a preferred corridor could not be determined, and the EIS was never finalized.

³ A corridor is defined as the path of a transportation facility that already exists or may be built in the future.

Two-Bridge Concept

Ultimately, Iowa DOT and NDOR determined that two bridges were needed: a bridge to serve the local connectivity needs of Cass County, including Plattsmouth, and southwest Iowa as well as a bridge to serve regional transportation needs. To fulfill these needs, the two states signed an agreement in August 2000 to jointly pursue the development of two bridges. Therefore, efforts on the 1996 Draft EIS were formally terminated with the publication of a Notice of Intent (NOI) in January 2003 to rescind that study. Instead, this EIS was initiated as well as the Plattsmouth Bridge Study (see Section 1.2.2, Other Studies).

Congressional Designation

The Iowa and Nebraska congressional delegations jointly obtained designated Federal funding for the continued study and design of the two bridge projects. Funds were designated in both the 2002 and 2003 U.S. Department of Transportation appropriation bills.

MAPA 2025 Long Range Transportation Plan

The Omaha-Council Bluffs Metropolitan Area Planning Agency (MAPA)⁴ 2025 Long Range Transportation Plan (LRTP), published in September 2000, outlines the goals, policies, and actions needed to efficiently move goods and people within and through the region. The LRTP designates a new bridge-crossing corridor connecting U.S. 75 in southern Sarpy County, Nebraska, with I-29 in Mills County, Iowa.

1.2.2 Other Studies

A number of separate studies are related to the Project. The following are currently being prepared:

- The Plattsmouth Bridge Study – This EIS is being prepared to analyze the replacement of the 74-year-old two-lane bridge over the Missouri River at Plattsmouth (see the two-bridge concept discussion above) in response to the August 2000 agreement between Iowa DOT and NDOR that also initiated the Bellevue Bridge Study. Options are being considered to maintain, improve, or replace with a new alignment, as necessary, the existing connection along U.S. 34 from U.S. 75 in Nebraska to I-29 in Iowa, including a bridge over the Missouri River. The Plattsmouth Bridge is approximately 9 miles downstream of the Bellevue Bridge.
- The South Omaha Veterans Memorial Bridge Study – This EIS addresses the replacement of the U.S. 275 bridge (also known as the South Omaha Bridge or Veterans Memorial Bridge) over the Missouri River, located approximately 6 miles north of the Bellevue Bridge. The preliminary determination is to replace the two-lane bridge with a four-lane bridge and widen the roadway to four lanes between the Missouri River and I-29.
- The Council Bluffs Interstate System Improvements Project, a tiered EIS for the interstate system (I-80, I-480, and I-29) in Council Bluffs, Iowa, and Omaha – The southern part of this study area is located just north of the South Omaha Bridge. This study outlines a reconstruction concept plan for the entire system, including potential improvements to the I-80 bridge over the Missouri River.

⁴ MAPA is the agency responsible for transportation planning and traffic projections in the Omaha-Council Bluffs metropolitan planning area.

In addition, a supplemental EIS for U.S. 75 from Bellevue to Nebraska City, Nebraska (located south of the Study Area), was completed in 2000. This study determined that Kennedy Freeway (the portion of U.S. 75 from I-80 south to Fairview Road [see Figure 1-2]) should be extended south of the Platte River to Bay Road and that a four-lane at-grade expressway should be built from that point south to Nebraska City. A new interchange, located within the Study Area, was proposed south of the existing Platteview Road to provide access for the southeastern section of Sarpy County. The first segment (U.S. 75 – Plattsmouth to Bellevue) is currently being designed and is scheduled for construction beginning in 2007.

1.3 PURPOSE OF THE PROJECT

The purpose of this Project is to improve connectivity and fulfill transportation needs of the region (the southern Omaha metropolitan area, including eastern Sarpy County and Bellevue, and western Mills County) by providing a safe and free-flowing connection across the Missouri River from U.S. 75 to I-29.

1.4 NEED FOR THE PROJECT

The Project is based on the following needs:

- Substandard bridge – an existing Bellevue Bridge that does not meet current structural and functional design standards and has a limited life expectancy
- Substandard roadway – an existing roadway between U.S. 75 and I-29 that does not meet current standards because of inconsistent segment geometry and speed and inadequate operating capacity
- System linkage – an existing roadway system that does not meet the regional transportation needs and allow free flow of traffic between U.S. 75 and I-29
- Compatibility with local land use – an existing roadway system that does not accommodate the planned growth in the southern Omaha metropolitan area

The remainder of this section discusses these needs, including current and projected bridge and roadway problems that have been identified for resolution.

1.4.1 Substandard Bridge

The existing Bellevue Bridge is a 1,965-foot-long truss structure that was constructed in 1952. The bridge is operated by a local bridge commission (the Bellevue Bridge Commission) and thus is not under the control of either Iowa DOT or NDOR. The Bellevue Bridge Commission continues to collect tolls to pay the outstanding principle on the revenue bonds and to fund the operation and maintenance of the bridge.

The bridge is both structurally and functionally substandard for the following reasons:

- Corrosion and erosion – The most recent detailed bridge inspection and analysis, conducted in 2003, noted extensive corrosion of the bottom layer of the bridge deck in the joints and slab cantilevers. The east approach slab has settled about 4 inches, causing a noticeable bump to drivers. Erosion is evident on the top surface of the bridge deck (considered to be in poor condition), and there is minor erosion of the concrete piers (TranSystems Corporation, December 2003).

- Total width – The bridge has a total width of 22 feet. Current Iowa DOT and NDOR design standards for a two-lane bridge require two 12-foot lanes and 10-foot shoulders, for a total bridge width of 44 feet (Iowa DOT, December 31, 1997; NDOR, 2002).
- Load restriction – The bridge is load restricted, with a maximum safe load posting of 31 tons as opposed to the desired maximum load of 40 tons. As a result of the 2003 inspection, a recommendation has been made to further lower the posted weight limits for trucks to 10 tons for a single unit truck, 15 tons for a semi tractor trailer, and 16 tons for a tandem tractor trailer.

The bridge has a very low sufficiency rating of 35.9 on a scale of 1 (low) to 100. Sufficiency ratings are based on a formula that accounts for structural adequacy and safety, serviceability, and functional obsolescence. Sufficiency ratings of less than 50 denote that a bridge is eligible for Federal bridge replacement funding. Because of the weighting factors, even if a bridge is structurally sound, it may be functionally obsolete (too narrow, for example) and a candidate for replacement.

Minor repairs were made in 2001. The 2003 inspection report estimated that with continual upkeep and approximately \$1.5 million in repairs, the bridge can continue to carry traffic for approximately 25 to 30 years (TranSystems Corporation, December 2003). The Bellevue Bridge Commission indicated that it intends to make the necessary repairs to extend the life of the Bellevue Bridge (Bellevue Bridge Commission, June 21, 2004). Construction for deck and guardrail replacement commenced on June 28, 2004 and is scheduled to be completed by October 18, 2004 (Omaha World Herald, 2004). Most of the repairs have involved the deck, but there have been some repairs of the superstructure. After the repairs, there will be no weight restrictions and consequently no load posting is required. However, the bridge width is not being widened and would still be substandard. Because of its narrowness, which affects its functionality, the repairs of the Bellevue Bridge would not bring the structure to a full sufficiency rating (TranSystems Corporation, September 2004).

1.4.2 Substandard Roadway

The existing Highway 370 traverses downtown Bellevue along a low-speed corridor with two right-angle turns (see Figure 1-3, Highway 370 Roadway Characteristics). The route traverses established commercial, institutional, and residential areas. Along that route, the highway is designated by four different street names and has 10 traffic signals, including the ramp terminal intersections at the U.S. 75 interchange and a pedestrian signal west of Calhoun Street. Speed limits range from 25 to 55 mph. The cross section⁵ of the route varies from a two-lane rural to a four-lane, urban divided highway. On-street parallel parking exists in one segment.

As is evident in Figure 1-3, the existing route consists of numerous segments, each with unique roadway characteristics with respect to the cross section, signalization, speed limit, parking, and adjacent land uses. Although the segments are not individually substandard, the inconsistencies between segments serve to restrict the traffic-carrying capacity of the facility and generally violate driver expectancy.

The existing roadway is classified as an arterial⁶ but serves multiple and divergent functions: it serves as a regional roadway linking two major transportation facilities (U.S. 75 and I-29), yet it

⁵ The cross section elements include those specifying the attributes of the highway cross slope, pavement, and shoulder.

⁶ FHWA's Functional Classification defines an arterial as a highway that provides the highest level of service at the greatest speed for the longest uninterrupted distance, with some degree of access control.

also serves as a local street, providing access to adjacent businesses and single-family homes and provides much-needed parking in the downtown area. These divergent functions further restrict the operational efficiency of the existing roadway.

Based on projected traffic increases in Sarpy and Mills counties, an expressway-type facility⁷ is needed for a free-flow connection between U.S. 75 and I-29. Figure 1-4 depicts the existing daily traffic volumes for the key roadway segments along Highway 370 together with projected traffic volumes for the planning horizon for the Project (Year 2030), assuming the Project is not built. Traffic on the Bellevue Bridge is projected to double by 2030, with increases along other segments of Highway 370 ranging from approximately 20 percent to over 50 percent. Figure 1-4 also depicts peak-hour traffic volumes at the two key intersections along Highway 370. Figure 1-5 illustrates the same information for roadways in the region. The future traffic forecasts for the Year 2030 are based on the MAPA 2025 regional travel demand model.⁸

1.4.3 System Linkage

Figure 1-6 depicts the regional roadway network in the greater Omaha region. The proposed roadway, designated as U.S. 34, would become part of the National Highway System. The existing U.S. 34 is further designated as part of the Priority Commercial System in Nebraska and its equivalent in Iowa, the Commercial and Industrial Network (CIN). The Priority Commercial System, established in 1988, is “a network of routes designed to carry higher volumes, especially larger volumes of commercial vehicles” (NDOR, 1996). The CIN, established in 1989, is a network of primary highways to “improve the flow of commerce; make travel more convenient, safe and efficient; and better connect Iowa with regional, national and international markets” (Iowa DOT, 1999). Roadways on these systems serve as corridors that provide vital links for services and movement of raw materials and consumer goods.

I-29 through western Iowa has served as the principal north-south transportation corridor in this region for many years. In 1994, Kennedy Freeway replaced a four-lane, multi-signalized, over-capacity arterial highway and allowed southeast Sarpy County to develop in accordance with land use plans. It provides uninterrupted, high-speed traffic flow from I-80 south to Fairview Road (see Figure 1-2).

The existing connections between U.S. 75 and I-29 are inefficient, however. These major facilities are connected by three narrow, outdated two-lane bridges with slow-speed approaches through the downtown areas of South Omaha (U.S. 275), Bellevue (Highway 370), and Plattsmouth (U.S. 34). Therefore, a free-flowing transportation link is needed between these two major facilities to meet the goals of the Priority Commercial System and the CIN and to serve the future increased traffic demand. NEPA studies are underway for both the South Omaha Bridge and the Plattsmouth Bridge. The purpose of those two proposed actions is based on needs other than the system linkage need identified for this Project.

⁷ An expressway is a multi-lane divided highway with at-grade intersections, often in combination with interchanges at high-volume intersections and primary routes.

⁸ The MAPA model was modified to incorporate Year 2030 socioeconomic data, and further model detail was added to improve the accuracy and applicability of the traffic projections for this study. For the traffic projections, it was assumed that the I-80 and U.S. 275 bridges to the north would be improved and a Missouri River bridge would be retained in the vicinity of Plattsmouth.

The Sarpy County Comprehensive Development Plan (JEO and Daly, May 1993) identifies Platteview Road, shown in Figure 1-2, as a future highway corridor across the southern half of the county to connect I-80 on the west with U.S. 75 on the east. Although Platteview Road is not on the State Highway System, the county's inclusion of this highway in its comprehensive development plan is recognition that a regional corridor facility is required to meet its future land use needs. Developing a free-flow facility from U.S. 75 to I-29 would allow this system linkage to be extended across the entire southern Omaha metropolitan area; thereby, improving traffic movement between I-80 on the west and I-29 on the east.

Travel surveys were conducted to determine the travel demand patterns in the southern Sarpy County, eastern Cass County, and western Mills County region. Figure 1-7, based on an origin-destination study conducted in 1996, shows the proportion of traffic heading in particular directions (for example, southern Sarpy County traffic heading in the quadrant west to south, eastern Cass County traffic heading north to east, and western Mills County traffic heading north to west). To revalidate the previous origin-destination study, a travel survey was conducted in 2003 by interviewing motorists using the Bellevue Bridge. In addition, area businesses were interviewed regarding business and customer use of the Bellevue Bridge. The origin-destination study and the travel survey both indicated a strong travel demand in the southeast-to-northwest direction. This demand stems primarily from commuters from residential areas of western Mills County traveling to employment in the Omaha/Bellevue area. The travel demand patterns from southeast to northwest further demonstrate the need for an efficient roadway connection that crosses the Missouri River in the southern Omaha metropolitan area (that is, southern Bellevue).

The roadway configuration of Highway 370 and the weight limitations of the Bellevue Bridge result in a tendency to avoid traveling on these facilities. Trucks with loads above the bridge's posted maximum weights, which vary based on the number of axles, must take another route. The travel survey conducted in 2003 indicated that some commuters also avoid crossing the Bellevue Bridge because of the toll cost. Avoidance of the bridge leads to travel delays and out-of-distance travel costs associated with extra mileage on vehicles.

1.4.4 Compatibility with Local Land Use

MAPA growth forecasts for the region indicate population increases of 29 percent (0.86 percent annually) from 2000 to 2030 and 20 percent (0.59 percent annually) from 2030 to 2060. Land Use plans account for this increased growth by reflecting the conversion of agricultural and rural land to commercial and industrial uses. Figure 1-8 depicts a compilation of future land use maps from the comprehensive plans of communities and counties in the Study Area. The southern half of the Study Area within Nebraska is predominately zoned for commercial and industrial use. This area currently contains several large industrial facilities, with over 2,000 acres for potential industrial growth. MAPA has indicated that this is one of only two large-tract industrial areas that remain in the Omaha metropolitan area (the I-80 corridor in west Omaha is the other area). Several large manufacturing operations from outside the region have considered locating in this area in recent years.

Industrial facilities rely on convenient access to the regional transportation system. Sarpy County currently lacks efficient access to I-29, the north-south interstate serving the eastern Omaha metropolitan area. Large trucks therefore must use the inefficient connection through Bellevue (or possibly avoid the route because of weight limitations) or cross at either the South Omaha Bridge on U.S. 275 or the I-80 bridge. Several transportation companies in the area, contacted as part of the travel survey in 2003, indicated the importance of minimizing travel time and concern over the deteriorating condition of the Bellevue Bridge. Several shippers noted that they currently avoid the route. These concerns demonstrate that the Project is needed to provide transportation service to the current industry as well as future industry identified in local land use

plans. A northwest-to-southeast road functioning as an expressway connecting U.S. 75 and I-29 along an industrial corridor would allow a free-flow transfer of goods in a northwest-southeast direction between southeast Nebraska and southwest Iowa.

The Project is needed not only to efficiently serve the projected land use of the Study Area but also to route the highway through a corridor with complementary land uses. The existing corridor through Bellevue includes residential, schools, and parkland, which are not land uses compatible with a major highway corridor (see Figure 1-9, Future Land Use Plans Along Highway 370).

1.5 PURPOSE AND NEED SUMMARY

As described in this chapter, the existing connecting route between U.S. 75 and I-29, including the Bellevue Bridge, is substandard. The bridge does not meet current structural and functional design standards and has a limited life expectancy. Although bridge repairs are being made, the modified structure will still be substandard because of its narrowness. The roadway is also substandard, with inconsistent segment geometry and speed as well as inadequate operating capacity. The roadway does not provide adequate system linkage between two major north-south highway facilities and does not accommodate the growth planned for the southern Omaha metropolitan area. Consequently, the connectivity between the Omaha metropolitan area and southwest Iowa should be improved to provide a safe and free-flowing connection across the Missouri River from U.S. 75 to I-29 that fulfills the transportation needs of the region and the southern Omaha metropolitan area.



Project Location

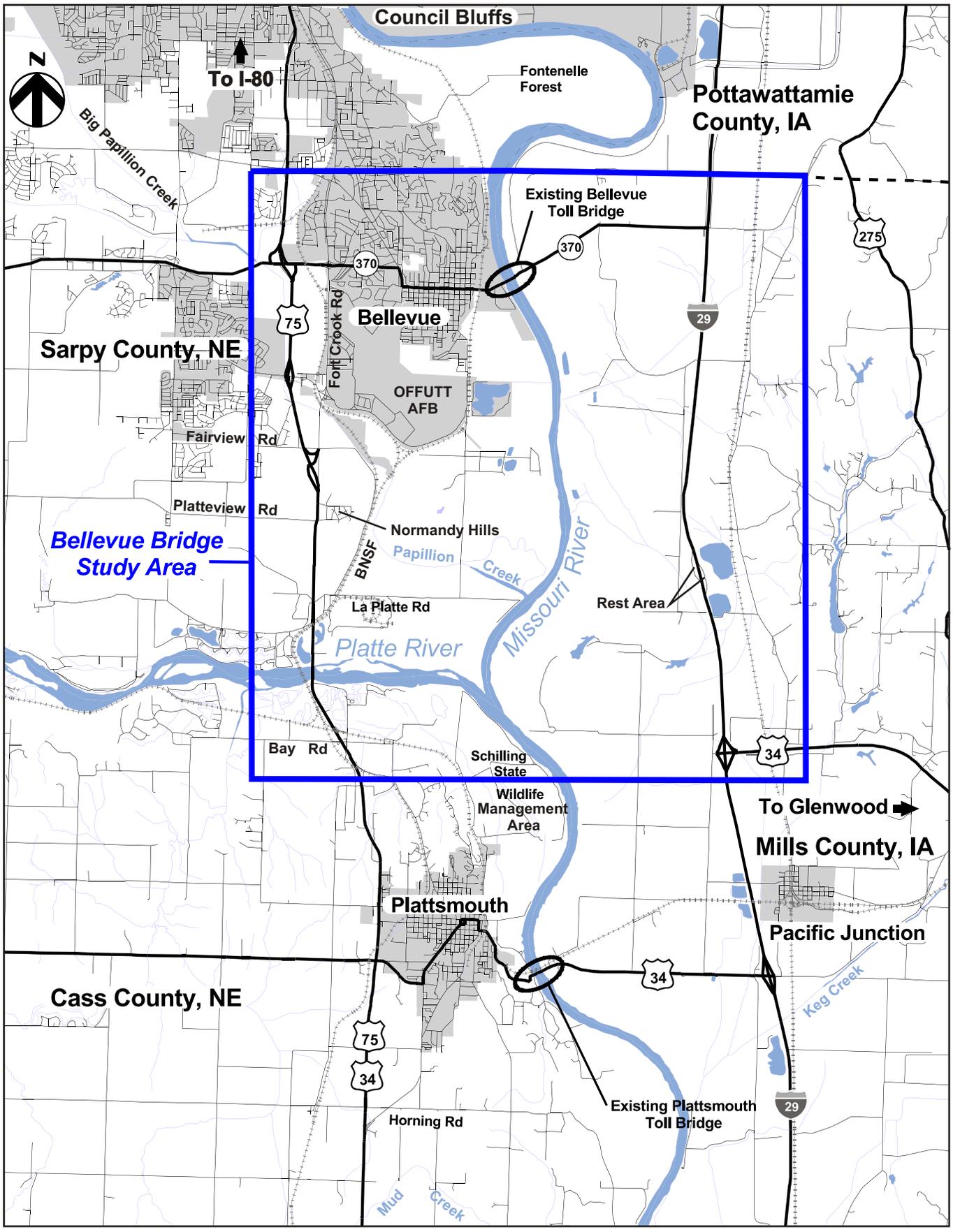
Bellevue Bridge Study
 Sarypy County, NE and Mills County, IA
 Environmental Impact Statement

Date
 Jan. 2004

Figure
 1-1



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Study Area

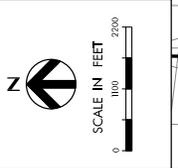
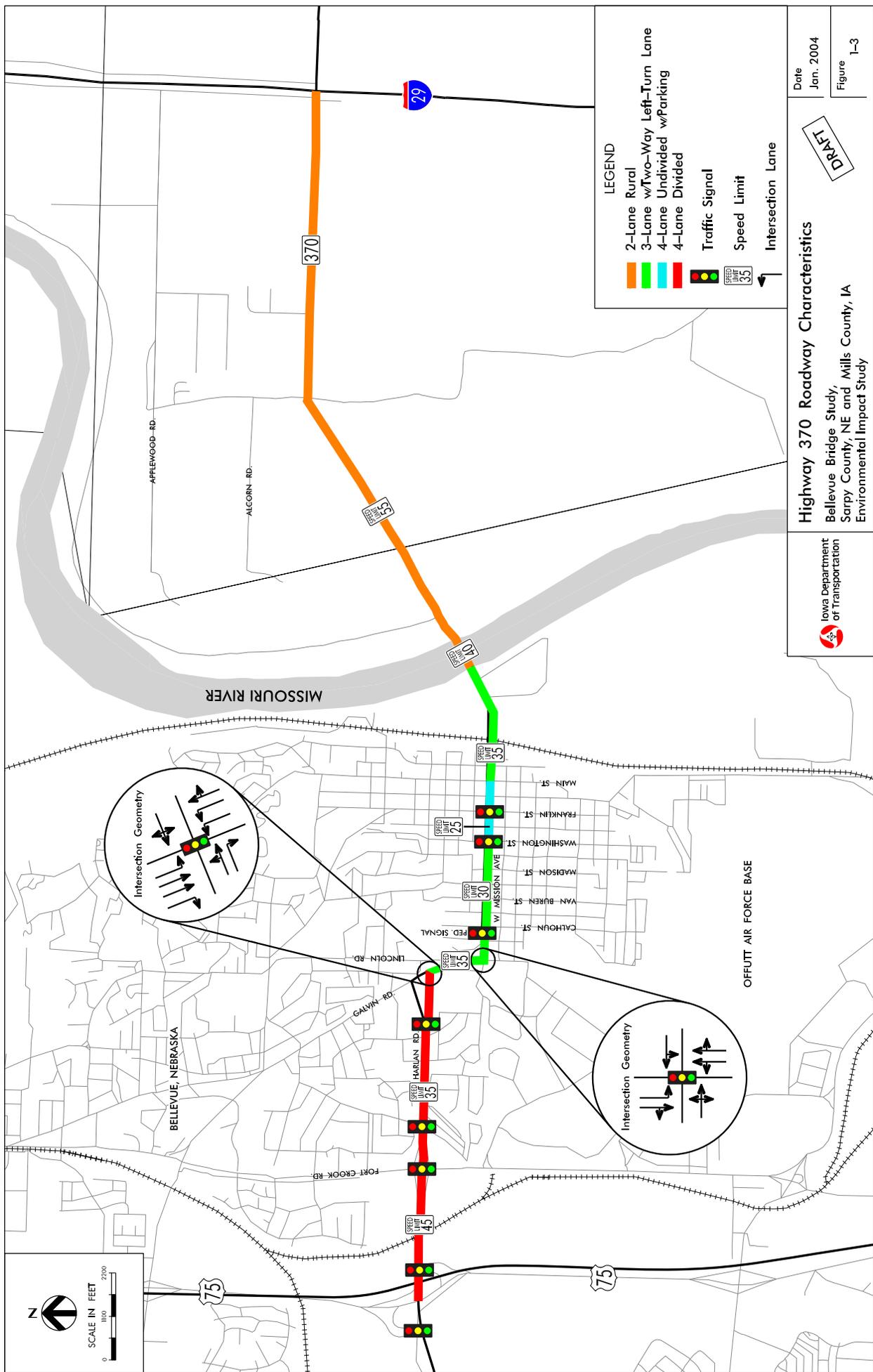
Bellevue Bridge Study
 Sarpy County, NE and Mills County, IA
 Environmental Impact Statement

Date
 Jan. 2004

Figure
 1-2



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LEGEND

	2-Lane Rural
	3-Lane w/Two-Way Left-Turn Lane
	4-Lane Undivided w/Parking
	4-Lane Divided
	Traffic Signal
	Speed Limit
	Intersection Lane

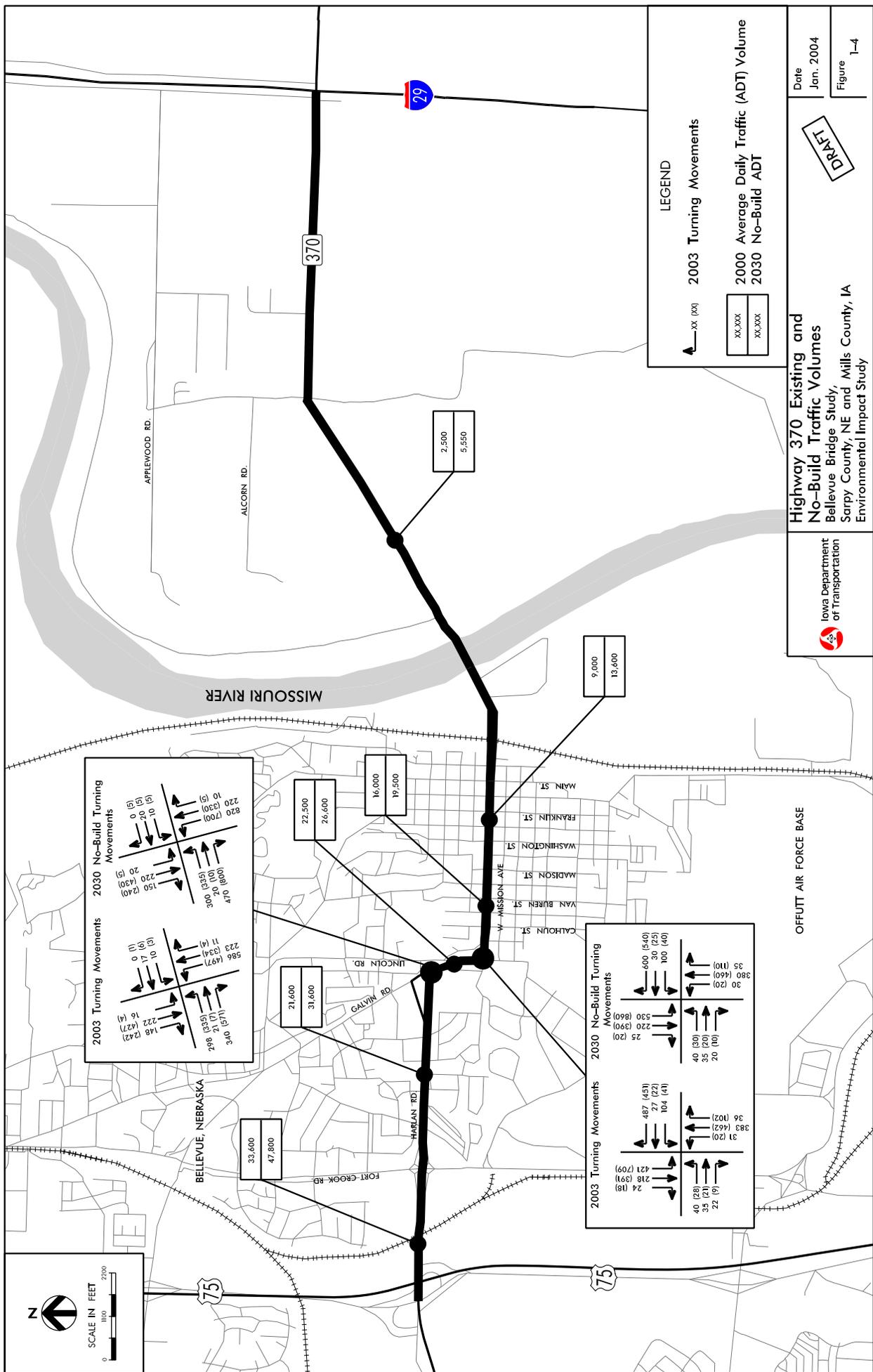
Iowa Department of Transportation

Highway 370 Roadway Characteristics

Bellevue Bridge Study, Sarpy County, NE and Mills County, IA
Environmental Impact Study

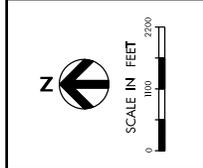
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2003 Turning Movements		2030 No-Build Turning Movements	
340 (571)	298 (527)	410 (800)	300 (635)
148 (242)	222 (427)	150 (240)	220 (430)
16 (4)	17 (3)	20 (5)	20 (5)
0 (0)	0 (0)	0 (0)	0 (0)
586 (497)	223 (344)	586 (497)	223 (344)
11 (4)	17 (3)	11 (4)	17 (3)

2003 Turning Movements		2030 No-Build Turning Movements	
24 (18)	421 (709)	25 (20)	530 (860)
35 (21)	218 (391)	40 (30)	220 (390)
40 (28)	36 (102)	35 (20)	20 (10)
22 (9)	31 (20)	20 (10)	20 (10)
35 (21)	383 (442)	30 (20)	530 (860)
22 (9)	36 (102)	30 (20)	220 (390)
35 (21)	31 (20)	40 (30)	20 (10)
22 (9)	27 (22)	35 (20)	20 (10)
40 (28)	487 (451)	40 (30)	20 (10)
35 (21)	27 (22)	35 (20)	20 (10)
22 (9)	104 (61)	20 (10)	20 (10)
35 (21)	30 (25)	30 (20)	100 (40)
22 (9)	600 (540)	30 (20)	30 (25)
35 (21)	35 (25)	35 (20)	30 (25)
22 (9)	35 (25)	35 (20)	30 (25)
35 (21)	30 (25)	35 (20)	30 (25)
22 (9)	30 (25)	35 (20)	30 (25)
35 (21)	30 (25)	35 (20)	30 (25)
22 (9)	30 (25)	35 (20)	30 (25)



LEGEND

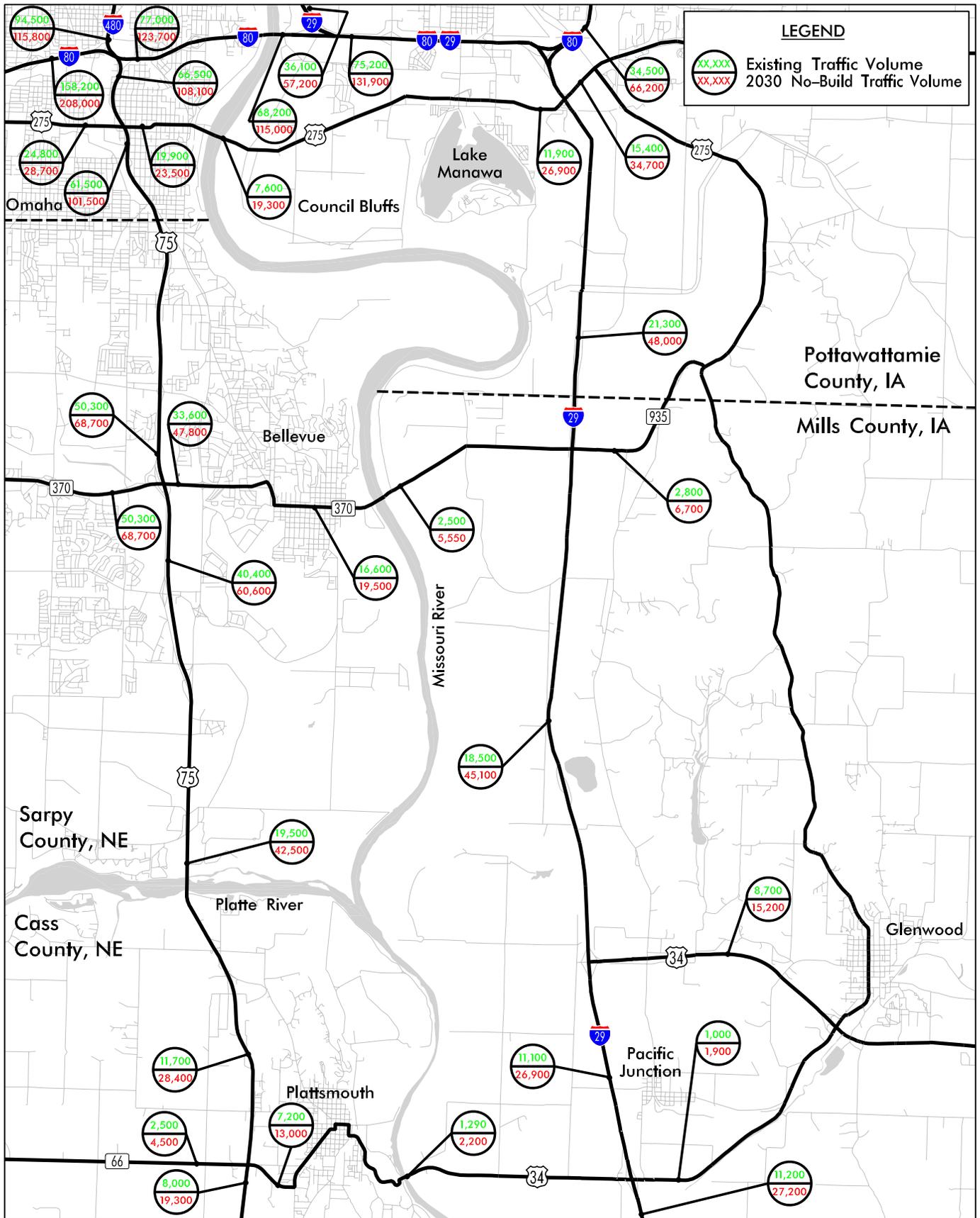
- ▲-XX (XX) 2003 Turning Movements
- XX,XXX 2000 Average Daily Traffic (ADT) Volume
- XX,XXX 2030 No-Build ADT

Iowa Department of Transportation

Highway 370 Existing and No-Build Traffic Volumes
 Bellevue Bridge Study, Sarpy County, NE and Mills County, IA
 Environmental Impact Study

Date: Jan. 2004
 Figure: 1-4

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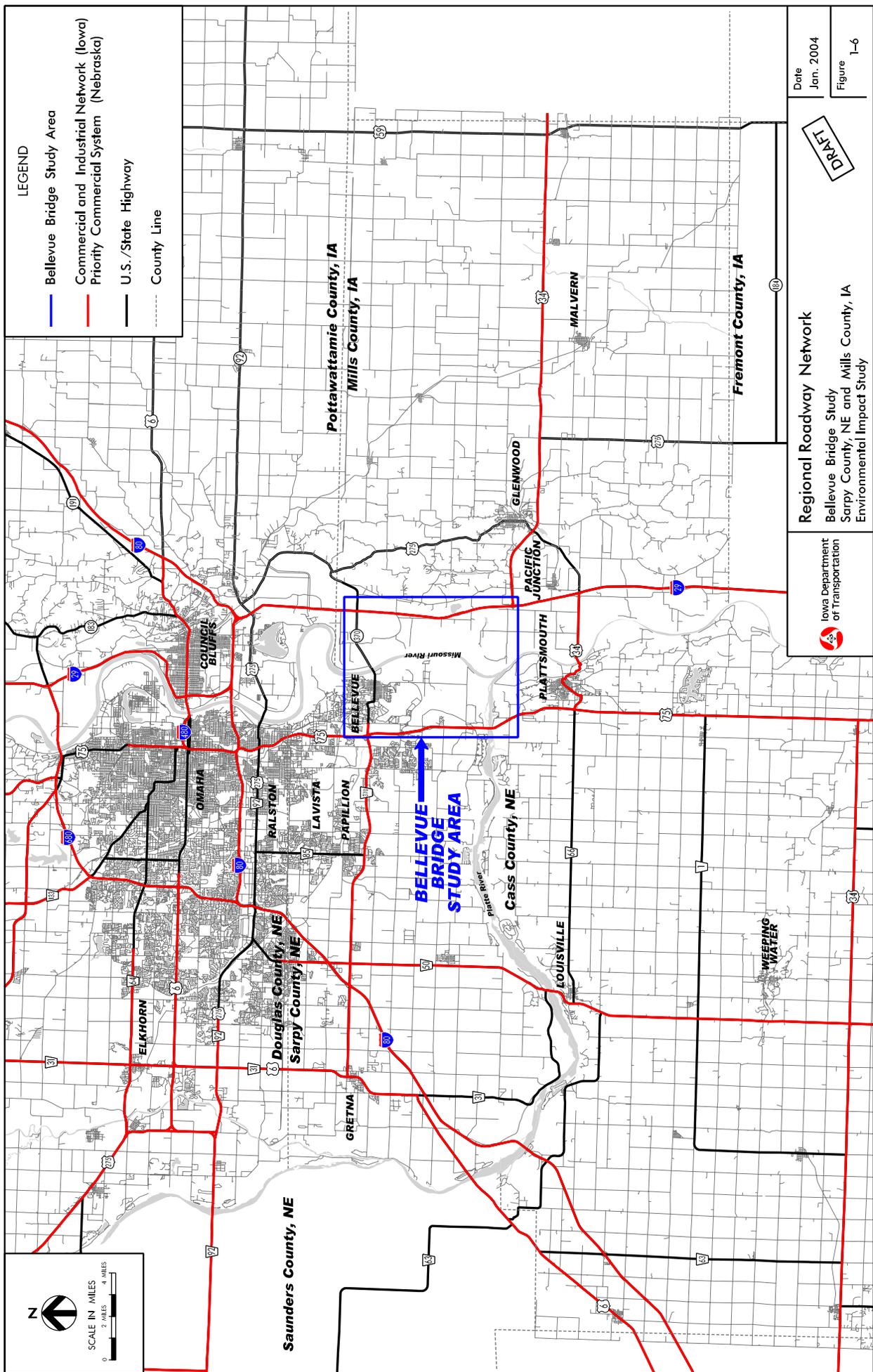
**Existing and 2030 No-Build
Regional Traffic Volumes
Bellevue Bridge Study
Sarpy County, NE and Mills County, IA
Environmental Impact Statement**



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Date
Jan. 2004

Figure
1-5



LEGEND

- Bellevue Bridge Study Area
- Commercial and Industrial Network (Iowa)
Priority Commercial System (Nebraska)
- U.S./State Highway
- County Line

SCALE IN MILES

0 1 2 3 4 5 MILES

N

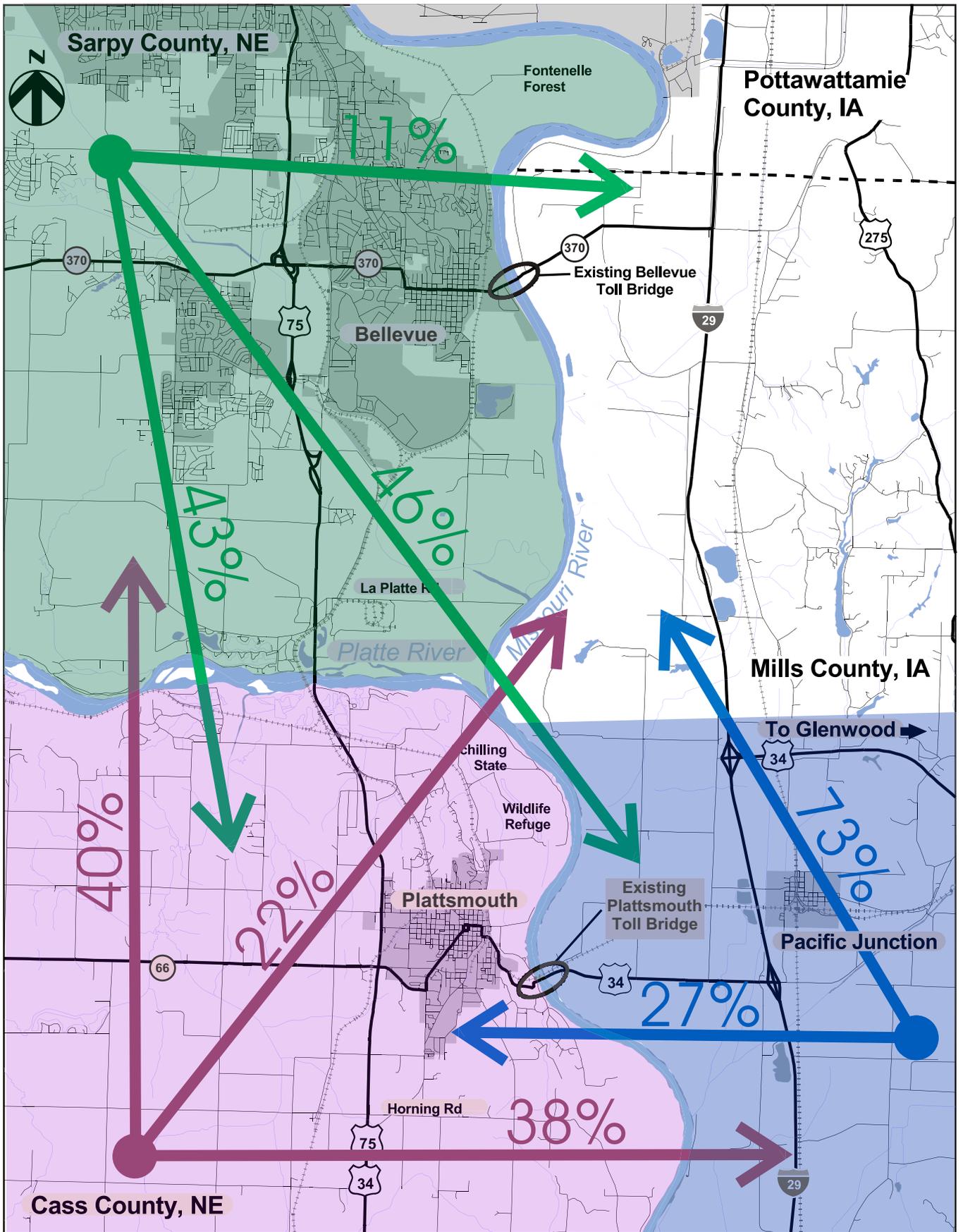
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Regional Roadway Network
Bellevue Bridge Study
Sarpy County, NE and Mills County, IA
Environmental Impact Study





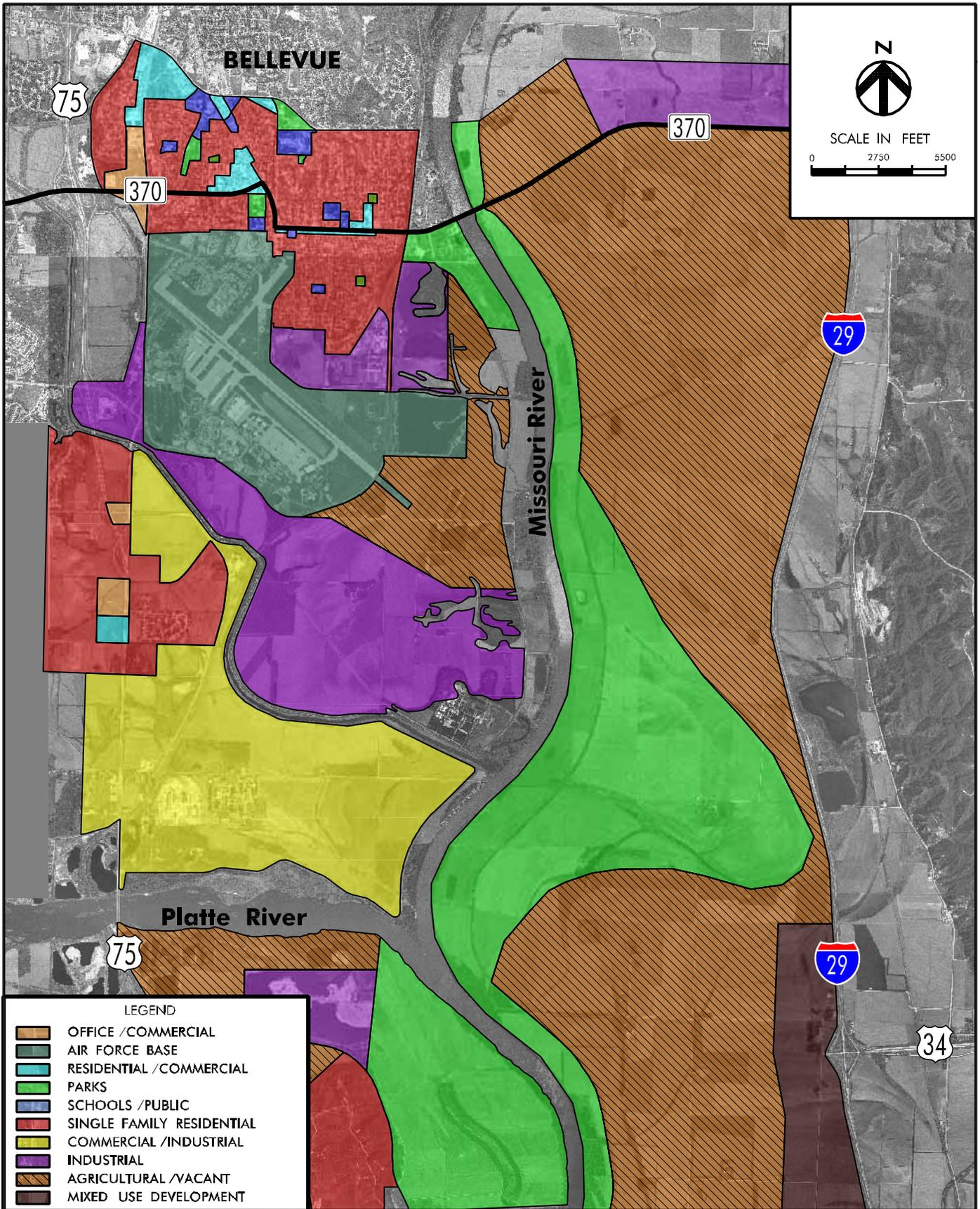
Regional Travel Patterns Across the Missouri and Platte Rivers
 Bellevue Bridge Study
 Sarpy County, NE and Mills County, IA
 Environmental Impact Statement

Date
 Jan. 2004

Figure
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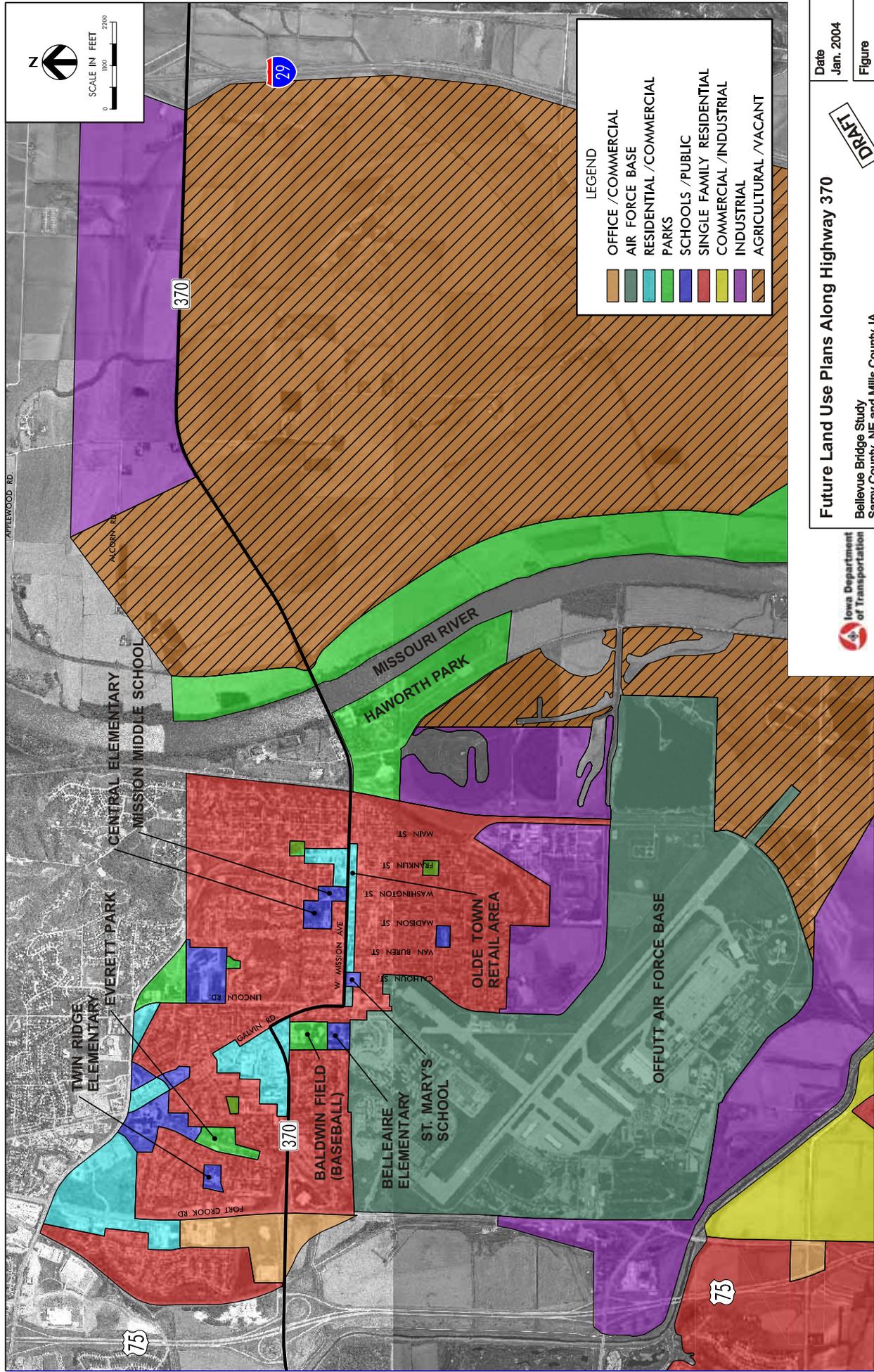
**Local and County Future Land Use Plans
in the Study Area**
Bellevue Bridge Study
Sary County, NE and Mills County, IA
Environmental Impact Statement

Date
Jan. 2004

Figure
1-8



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Date Jan. 2004
Figure 1-9

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Future Land Use Plans Along Highway 370

Bellevue Bridge Study
Sarpy County, NE and Mills County, IA
Environmental Impact Statement



CHAPTER 2

ALTERNATIVES

CHAPTER 2

ALTERNATIVES

This chapter addresses alternative solutions to meet the Project purpose and need, discussed in Chapter 1. Specifically, this chapter presents the process used to identify and screen alternatives, the range of alternatives considered, the process for eliminating alternatives and determining which alternatives to carry forward for detailed study in this EIS, and the rationale for identifying the Preferred Alternative. It also compares the potential impacts of implementing each of the alternatives studied in detail and discusses other reasonably foreseeable actions in the Study Area.

2.1 PROCESS OF IDENTIFYING AND SCREENING ALTERNATIVES

The following multi-step process was used to identify and screen alternatives based on information from previous studies as well as information developed for this EIS.

Step 1 Range of Alternatives

Develop a range of alternatives to consider. Review the corridors developed in the 1996 Draft EIS and related studies.¹ Determine if any of the 1996 corridors located in the current Study Area have unacceptable environmental, geotechnical, or engineering design or other circumstances that would prevent them from being constructed. Then identify additional build alternatives within the Study Area that may meet the Project purpose and need.

Step 2 Alternatives Eliminated from Further Consideration

Evaluate the range of alternatives with respect to the Project purpose and need and major environmental resources. Eliminate alternatives that do not meet the Project purpose and need or have unacceptable impacts.

Step 3 Alternatives Carried Forward

Identify the alternatives that meet the Project purpose and need and should be carried forward for detailed study. Develop preliminary alignments and other details for each build alternative carried forward.

Step 4 Preferred Alternative

Identify the preferred alternative based on engineering considerations, potential environmental impacts, input from regulatory agencies, and public opinion.

¹ In conjunction with the preparation of the 1996 Draft EIS, 29 technical memoranda were prepared to document the investigation of various engineering and environmental issues. In addition, three formal reports were prepared. Two of these reports dealt specifically with the development and documentation of alternatives: the *1994 U.S. 34: 1-29 to U.S. 75 Corridor Study Prelocation Document* and the *1996 U.S. 34 Corridor Location and Bridge Study*.

2.2 RANGE OF ALTERNATIVES

Initially, a wide range of alternatives was developed and considered, as shown and explained below.

- No-Build Alternative
- Improvements Not Requiring Major Construction
 - Transportation System Management
 - Travel Demand Management
 - Alternative Transportation Modes
- Improvements to the Existing Roadway and Bridge
- Corridors Identified in the 1996 Draft EIS and Related Studies
- New Roadway Corridors

2.2.1 No-Build Alternative

The No-Build Alternative represents the baseline conditions for the Study Area for Year 2030. It is the benchmark against which the impacts of other alternatives can be compared. Under the No-Build Alternative, the proposed improvements to the roadway connection between the southern Omaha metropolitan area and southwest Iowa would not be constructed. Instead, this connection would continue to be provided along existing Highway 370, including the existing structurally and functionally deficient Bellevue Bridge.²

In addition to the existing roadways, the No-Build Alternative includes the committed improvements in the Study Area that are identified in MAPA's LRTP. The following major projects in the Study Area are included in the LRTP:

- ① Widening of U.S. 75 to six lanes from N-370 to I-80 (north of Bellevue) (see Figure 2-2)
- ② Extension of U.S. 75 south of the Platte River to Bay Road, including construction of a new interchange at the relocated Platteview Road, north of the Platte River (see Figure 2-2)
- ③ Widening of portions of the following arterial streets: Capehart Road, Fairview Road, 25th Street, Platteview Road, and Harvel Drive (see Figure 2-2)
- ④ Widening of U.S. 275 to four lanes from the Missouri River to I-29, including replacement of the South Omaha Bridge (north of Bellevue)

The No-Build Alternative also includes ongoing minor maintenance activities throughout the Study Area.

Although there is no guarantee that all aspects of MAPA's LRTP will be implemented within the planning horizon for the Project, they are all reasonably foreseeable and consistent with assumed funding sources as mandated by surface transportation legislation. They would also likely be implemented under the other alternatives identified in Section 2.2 of this DEIS.

² The No-Build Alternative assumes that the Bellevue Bridge would be maintained and would remain in use for the duration of the planning horizon, regardless of cost and other factors. Ongoing repairs to the existing bridge are scheduled to be completed in October.

2.2.2 Improvements Not Requiring Major Construction

Strategies that focus primarily on low- or no-cost improvements, rather than major new construction, to reduce congestion on an existing roadway system include transportation system management (TSM), travel demand management (TDM), and alternative modes of transportation. These strategies, discussed below, are typically used in large metropolitan areas with a population greater than 200,000.

Transportation System Management

TSM strategies are designed to maximize the efficiency of the existing transportation system. TSM includes methods to reduce congestion and better manage traffic using existing facilities or low-cost improvements and minimal construction. Examples follow:

- Spot geometric improvements (such as widening to provide auxiliary turn lanes, installation or modification of traffic signals, resurfacing, street lighting, and traffic-calming techniques such as roundabouts)
- High-occupancy vehicle (HOV) lanes
- Improved coordination of traffic signals to manage arterial traffic flow
- Intelligent transportation system (ITS) strategies (such as traveler information services and incident detection and response)

Travel Demand Management

TDM strategies are designed to reduce the demand for transportation, thereby decreasing the number of vehicles using the system. Such strategies are typically aimed at reducing the number of single-occupancy-vehicle work trips during peak periods. Examples follow:

- Rideshare
- Park and ride facilities
- Alternative work hour programs (such as compressed work weeks, flextime, and telecommuting)
- Vanpool programs
- Transit incentives

Alternative Transportation Modes

Improvements to mass transit (bus service), pedestrian/bicycle facilities, and other alternative transportation modes can reduce the number of vehicles using the roadway system, thereby reducing congestion and improving the operation of the existing roadway system.

2.2.3 Improvements to the Existing Roadway and Bridge

This alternative consists of rehabilitating or replacing the existing bridge and improving the existing roadway (shown in Figure 2-2) in an attempt to meet the Project purpose and need.

Analysis of the existing bridge indicates that because of the narrow width (22 feet) and structure type (truss), it is not reasonable to rehabilitate the bridge to meet current design standards. Therefore, construction of a new four-lane bridge would be required to fulfill the Project purpose and need.

The existing roadway would also require widening to accommodate future traffic volumes and meet the Project purpose and need. In addition, the segment of N-370 from Harlan Drive to Mission Avenue (along Galvin Road) would need realignment to eliminate the right-angle turns in N-370. Table 2-1 summarizes the existing roadway width and the widening that would be required to provide an acceptable level of service for an arterial street for the projected Year 2030 traffic volumes.

**Table 2-1
Proposed Widening on Highway 370, by Segment**

Segment	Existing Roadway	Widened Roadway
U.S. 75 to Fort Crook Road ¹	4-lane divided	8-lane divided
Fort Crook Road to Galvin Road (Harlan Drive) ¹	4-lane divided	6-lane divided
Harlan Drive to Mission Avenue (Galvin Road) ¹	4-lane undivided	4-lane divided
Galvin Road to Missouri River (Mission Avenue)	2-lane, 3-lane, and 4-lane undivided	4-lane divided
Missouri River to I-29	2-lane rural	4-lane rural

Note:

¹ Sections of N-370 between U.S. 75 and Galvin Road are projected to be over capacity and would require widening under the no-build condition; however, no widening or capacity improvements are currently planned for this section. Therefore, the widening shown in the table is the total widening that would be required by 2030 to accommodate growth in the no-build traffic volumes as well as the additional traffic expected to use a replacement bridge.

2.2.4 Corridors Identified in the 1996 Draft EIS and Related Studies

The 1996 Draft EIS and related studies initially identified 64 potential alignments within 12 corridors in a study area that was bounded by Offutt Air Force Base (AFB) on the north, Mud Creek (south of Plattsmouth, Nebraska) and Keg Creek (south and east of Pacific Junction, Iowa) on the south, U.S. 75 on the west, and I-29 on the east. Preliminary screening reduced the number of potential corridors to seven based on unacceptable impacts or significant shortcomings.

During a second level of screening, the remaining seven corridors were evaluated with respect to a variety of engineering and environmental considerations. This screening resulted in two build alternatives: the North Alignment (in Corridor B) and the South Alignment (in Corridor H). These two build alternatives and the No-Build Alternative were evaluated in detail in the 1996 Draft EIS. As noted in Chapter 1, consensus on a preferred corridor could not be reached, and further work on the 1996 Draft EIS was therefore terminated.

For the Bellevue Bridge Study, all 12 of the corridors in the 1996 Draft EIS were reviewed to determine which could meet the Project purpose and need and were within the current Study Area. This review concluded that three of the 12 corridors (A, B, and C), shown in Figure 2-1, were within the Study Area and should be reviewed for inclusion in the initial range of alternatives considered for the Bellevue Bridge Study. Corridor C was eliminated from consideration because it would have impacts on the Schilling WMA and would not meet Section 4(f) requirements.³

³ Section 4(f) of the U.S. Department of Transportation Act of 1966 requires that public parks, recreation areas, wildlife or waterfowl refuges, and historic sites not be used for transportation projects unless there are no other “prudent and feasible alternatives to using that land” (49 USC 303).

2.2.5 New Roadway Corridors

Potential new roadway corridors within the Study Area are limited by a variety of constraints. Corridors traversing north of the existing connecting route are not reasonable since the corridors cross either the Fontenelle Forest and Nature Center or the developed core of Bellevue. Corridors in this area would result in significant impacts on the built human environment and/or impacts on public parks or recreation areas. Therefore, new corridors north of the existing connecting route were not considered.

Immediately south of the existing corridor is Offutt AFB, a 2-mile area (north to south) that new corridors could not traverse. Exclusion of this area leaves an approximately 3-mile area (north to south) between Offutt AFB and the Platte River in which new roadway corridors are possible. Because U.S. 75 and I-29 (the two termini of the Project) are access controlled and free flowing, the junctions at these highways must terminate at existing interchanges or meet minimum requirements⁴ for distance between new and existing interchanges. Two corridors identified between Offutt AFB and the Platte River would meet the interchange spacing criteria for both U.S. 75 and I-29 and are described below. Corridors south of the Platte River were not considered because of their proximity to the Plattsmouth Bridge and Schilling WMA.

South of Offutt Air Force Base Corridor

The South of Offutt AFB Corridor is similar to Corridor A in the 1996 Draft EIS (see Figure 2-1). This corridor is approximately 1 mile wide and traverses primarily agricultural land. The corridor begins at the existing interchange of U.S. 75 with Fort Crook Road and Fairview Road on the west. Between U.S. 75 and Papillion Creek, the corridor is bounded by Offutt AFB on the north and by the Normandy Hills residential area on the south. Between Papillion Creek and the Missouri River, the corridor curves to the southeast to avoid several small lakes southeast of Offutt AFB and then curves northeast between the Missouri River and I-29 to maximize spacing between a new I-29 interchange and the existing rest area south of the corridor.

Southern Sarpy County Corridor

The Southern Sarpy County Corridor is Corridor B (North Alignment) in the 1996 Draft EIS (see Figure 2-1). This corridor begins between U.S. 75 and the Burlington Northern Santa Fe Railway (BNSF) line, where it connects to the proposed interchange of U.S. 75 with relocated Platteview Road.⁵ The corridor is approximately 0.5 mile wide and parallel to Papillion Creek between the BNSF rail line and the Missouri River. East of the Missouri River, the corridor becomes approximately 1 mile wide and continues southeasterly to connect to the existing interchange of I-29 with U.S. 34. This corridor also traverses primarily agricultural land.

⁴ FHWA policy states that new interchanges on the interstate must be at least 2 miles from the nearest adjacent interchange in rural areas and at least 1 mile from the nearest adjacent interchange in urban areas. Similar spacing requirements are desirable for all freeways, even if they are not designated interstates.

⁵ A diamond interchange and realignment of Platteview Road are programmed for construction in 2007 to 2009 as part of the NDOR U.S. 75 – Plattsmouth to Bellevue project.

2.3 ALTERNATIVES ELIMINATED FROM FURTHER CONSIDERATION

As discussed in the Purpose and Need Summary in Chapter 1, the existing connecting route between U.S. 75 and I-29, including the Bellevue Bridge, is substandard. The bridge does not meet current structural and functional design standards and has a limited life expectancy. The roadway is also substandard; it has inconsistent segment geometry and speed limits as well as inadequate operating capacity. The roadway does not provide adequate system linkage between two major north-south highway facilities and does not accommodate the growth planned for the southern Omaha metropolitan area. Consequently, the connectivity between the Omaha metropolitan area and southwest Iowa should be improved to provide a safe and free-flowing connection across the Missouri River from U.S. 75 to I-29 that fulfills the transportation needs of the region and the southern Omaha metropolitan area.

When the range of alternatives was evaluated, any alternatives that did not meet the Project purpose and need were eliminated as explained in this section.

2.3.1 No-Build Alternative

The No-Build Alternative would not meet the Project purpose and need and should be eliminated from further consideration. However, since it is required by NEPA, as implemented through 40 Code of Federal Regulations (CFR) 1502.14, it was carried forward to serve as a baseline for comparison with the build alternatives (see Section 2.4.1).

2.3.2 Improvements Not Requiring Major Construction

Transportation System Management and Travel Demand Management

TSM and TDM strategies are typically used to improve the capacity of existing facilities and cannot address the physical condition and system linkage needs of the Project. Therefore, the TSM and TDM strategies alternatives were eliminated from further consideration as stand-alone alternatives; however, some portions of the TSM and TDM strategies may be incorporated as appropriate in the selected build alternative.

Alternative Transportation Modes

A key goal of public transit is to reduce single-occupancy vehicular traffic and thus reduce congestion and the need for roadway expansion. Metro Area Transit (MAT) is the transit provider for the City of Omaha and surrounding communities, including Council Bluffs and Bellevue. The Omaha metropolitan area, like many Midwestern cities of similar size and density, has a relatively low transit share,⁶ which is conveyed via buses. Southwestern Iowa does not have a transit system operating in the Study Area; the only bus connection between Nebraska and Iowa, provided by MAT, is along I-480.

Although MAPA's LRTP outlines continued expansion of the current bus-based system with emphasis on combined radial and cross-town routes (local and express), there are no plans to expand the system to outlying communities in southwest Iowa. The LRTP also notes that alternative modes (such as rail) are unlikely to replace the bus-based system in the foreseeable future unless socioeconomic conditions change.

⁶ The transit share of travel is the percentage of trips using public transit.

Bicycle and pedestrian facilities throughout the Study Area consist of various systems of sidewalks and trail facilities. The Papio-Missouri River Natural Resources District (NRD) maintains approximately 70 miles of mainline, connector, and spur trails in the Omaha metropolitan area, and has proposed an additional 140 miles of trails (MAPA, September 2000). Several trails exist or are planned in the Study Area.

The Federal government is placing greater emphasis on bicycles and walking as a means of transportation. Even with support from Federal policy and local governments, however, bicycling and walking are not expected to replace the automobile as the primary mode of transportation within the Study Area.

Mass transit and bicycle facilities are primarily intended to reduce congestion and cannot address the physical condition and system linkage needs of the Project. Therefore, the alternative transportation modes alternative was eliminated from further consideration.

2.3.3 Improvements to the Existing Roadway and Bridge

Improvements to the existing roadway and bridge would involve substantial widening and realignment of N-370 through Bellevue and complete replacement of the existing bridge. Such improvements would mitigate some of the capacity-restricting characteristics of the existing roadway, such as right-angle turns and low speed limits, which do not meet current standards. However, traffic signals, low-speed horizontal curves, and a large number of access points would remain, limiting the ability of the existing route to provide a free-flow facility to serve regional transportation needs.

In addition to not meeting primary elements of the Project purpose and need, the improvements to the existing roadway would have major impacts on adjacent properties. The widening would require extensive retaining walls, steepened driveway grades, acquisition of at least seven existing structures, and possible elimination of on-street parking along Mission Avenue in downtown Bellevue. This alternative also could have impacts on Haworth Park, Baldwin Fields (baseball diamonds), and the Fontenelle Bank, which is listed on the National Register of Historic Places (NRHP). These impacts would make this an unreasonable alternative. Therefore, the improvements to the existing roadway and bridge alternative was eliminated from further consideration.

2.4 ALTERNATIVES CARRIED FORWARD

Two build alternatives were carried forward for detailed study, analysis, and comparison to the No-Build Alternative (Alt. 1): one in the South of Offutt AFB Corridor (Alt. 2) and one in the Southern Sarpy County Corridor (Alt. 3).

Both build alternatives would meet all aspects of the Project purpose and need. Table 2-2 lists the design criteria established for the two build alternatives.

Figures 2-3 and 2-4 show typical cross sections of the four primary roadway segments in the build alternatives: the western terminus at U.S. 75 to the Missouri River, the bridge over the Missouri River, the Missouri River to west of I-29, and west of I-29 to the eastern terminus at the I-29 interchange. These figures include the widths of the lateral obstacle clearance,⁷ shoulders, driving lanes, and median.

⁷ Lateral obstacle clearance is the width of the area beyond the edge of the through driving lanes that is kept clear of tall vegetation and other obstructions in order to provide a recovery area for errant vehicles.

**Table 2-2
 Design Criteria for Both Build Alternatives Carried Forward¹**

Criteria	Nebraska Section	Iowa Section
Total Number of Driving Lanes	4	4
Lane Width	12 feet	12 feet
Expected Posted Speed Limit	45-55 mph	65 mph
Design Vehicle	Semi-tractor with 48-foot-long trailer	Semi-tractor with 48-foot-long trailer
Median Width/Type		
Rural	16 feet raised	64 feet depressed
Interchange	16 feet raised	23 feet raised

Note:

¹ Based on NDOR and Iowa DOT design guidelines.

2.4.1 Alternative 1 – No-Build

The No-Build Alternative was carried forward to serve as a baseline for comparison with the build alternatives. Under this alternative, as well as Alternatives 2 and 3, other projects such as repair of the existing Bellevue Bridge and those identified in the 2025 LRTP projects would proceed.

2.4.2 Alternative 2 – South of Offutt Air Force Base

A representative alignment was developed for Alternative 2, shown in Figure 2-5, using the transportation design criteria and the typical cross sections and considering known constraints within the corridor. Alternative 2 begins at the intersection of U.S. 75 with Fort Crook Road and Fairview Road, where the existing partial cloverleaf interchange at this location would be reconstructed as a diamond-type interchange.⁸ The alternative extends east on new right-of-way (ROW) across Papillion Creek and the Union Pacific Railroad (UPRR) rail line. Then it curves to the southeast to avoid Offutt AFB and crosses the BNSF rail line and spur track. The crossings of the UPRR and BNSF rail lines would be grade separated, with the proposed roadway on a bridge over each rail line. The bridge over the UPRR rail line would also span North 5th Street, providing an underpass for access to properties north of the proposed roadway. The alternative continues southeasterly to avoid several small lakes southeast of Offutt AFB. Then it curves toward the northeast and crosses the Missouri River nearly 2 miles north of the Papillion Creek confluence.

The Missouri River crossing would include a bridge that would begin west of the U.S. Army Corps of Engineers (USACE) flood control levee on the Nebraska bank and continue across the river to the east side of the USACE flood control levee on the Iowa bank. The preliminary bridge layout includes a seven-span Nebraska approach, three main spans, and a 10-span Iowa approach. One of the main spans would provide a minimum of 450 feet of horizontal clearance and 52 feet of vertical clearance for the navigation channel in the river. A preliminary pier layout for the bridge was developed in coordination with the U.S. Coast Guard (USCG) to minimize navigation impacts. The bridge does not infringe upon the air space envelope required for aircraft taking off from and landing at Offutt AFB.

⁸ The final configuration of the proposed interchange at this location may change due to modifications resulting from the NDOR U.S. 75 – Plattsmouth to Bellevue project that is currently being designed.

From the east end of the bridge over the Missouri River, the alternative continues northeasterly for about 1.75 miles to a new diamond-type interchange with I-29, located about 1.5 miles north of the rest area and 4 miles north of the northern interchange of I-29 with U.S. 34 (the Glenwood, Iowa, exit).

This alternative has priority III access control.⁹ Preliminary access locations are shown in Figure 2-5. The total length of this alternative is approximately 5.9 miles. It would require 297 acres of new ROW. Alternative 2 would cost approximately 25 percent more to construct than Alternative 3, primarily because of the construction of an additional bridge over Papillion Creek and a new interchange on I-29.

2.4.3 Alternative 3 – Southern Sarpy County

A representative alignment was developed for Alternative 3, shown in Figure 2-6, using the transportation design criteria and the typical cross sections and considering known constraints within the corridor. Alternative 3 begins at the east end of the U.S. 75 interchange with relocated Platteview Road proposed as part of the NDOR U.S. 75 – Plattsmouth to Bellevue project, which is programmed for construction in 2007 to 2009. This alternative includes upgrading elements of the U.S. 75 – Plattsmouth to Bellevue project as follows:

- Widening the proposed bridge over the UPRR and BNSF rail lines.
- Widening relocated Platteview Road from a two-lane roadway to a four-lane roadway from the east end of the proposed U.S. 75 interchange for about 1 mile to the east.

Alternative 3 continues southeast on new ROW from the point where relocated Platteview Road turns to the south all the way to the Missouri River crossing. It crosses the Missouri River approximately midway between the points where Papillion Creek and the Platte River flow into the Missouri River and south of the Iske Park residential area.

The Missouri River crossing would include a bridge that would begin west of the USACE flood control levee on the Nebraska bank and continue across the river to the east side of the USACE flood control levee on the Iowa bank. The preliminary bridge layout includes a three-span Nebraska approach, three main spans, and a 12-span Iowa approach. One of the main spans would provide a minimum of 450 feet of horizontal clearance and 52 feet of vertical clearance for the navigation channel in the river. A preliminary pier layout for the bridge was developed in coordination with USCG to minimize navigation impacts.

East of the Missouri River crossing, Alternative 3 curves to the south and then to the east for approximately 1.4 miles, to the northern U.S. 34 interchange with I-29 (the Glenwood exit). The trend of the alignment paralleling the Missouri River was modified from an initial version that was at an angle to the Missouri River and caused more diagonal severance. This alternative includes widening U.S. 34 from a two-lane roadway to a four-lane divided roadway through the existing interchange with I-29 (including construction of a new bridge) to connect with the four-lane section of U.S. 34 east of I-29.

This alternative has priority III access control. Preliminary access locations are shown in Figure 2-6. The total length of this alternative is 6.7 miles. It would require 272 acres of new ROW. Alternative 3 would cost approximately 25 percent less to construct than Alternative 2.

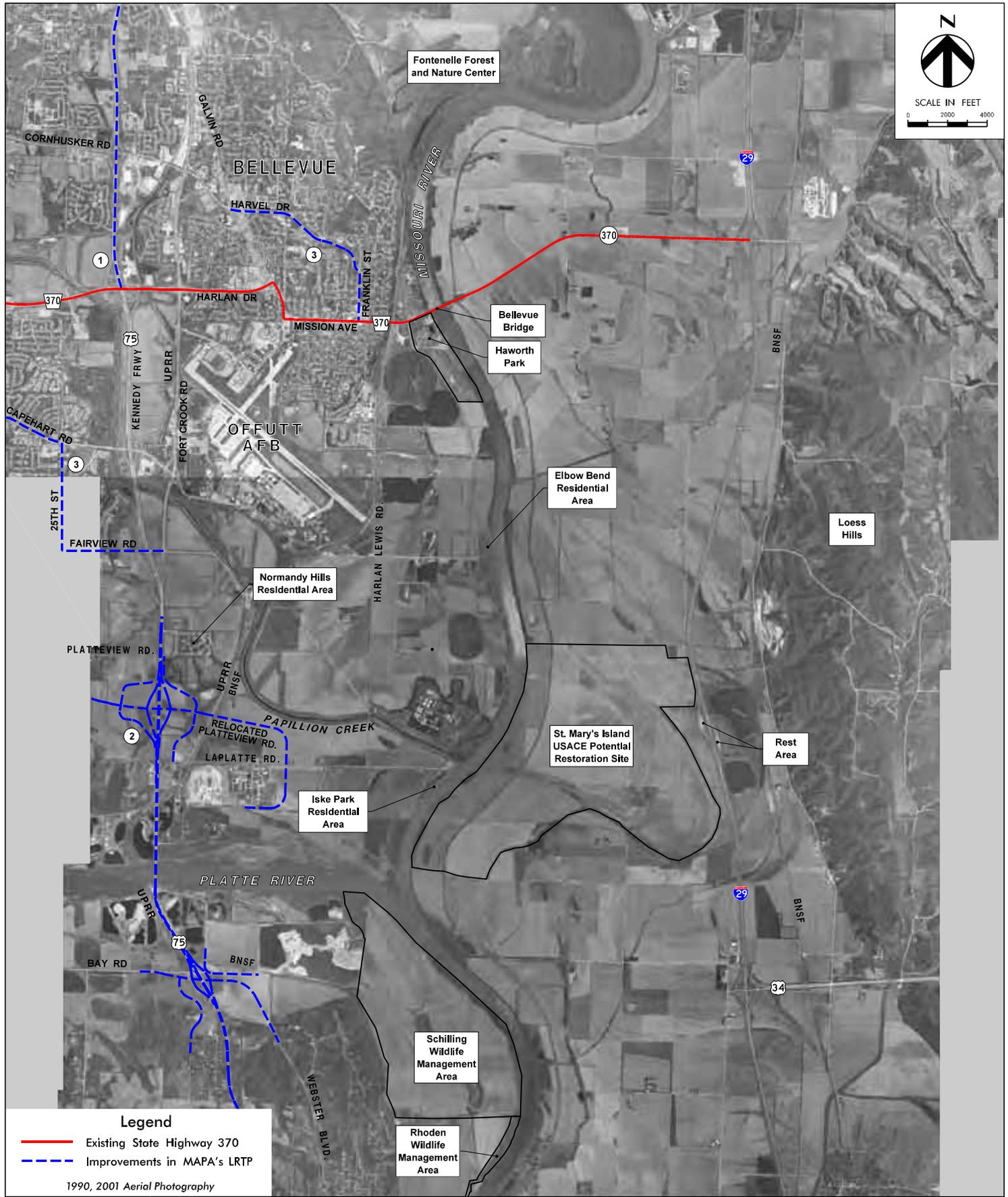
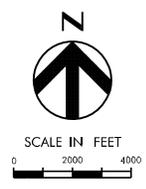
⁹ At-grade intersections would be allowed with a minimum spacing of 1,000 feet between intersections (Iowa DOT, July 1995).

2.5 PREFERRED ALTERNATIVE

The Project applicants, Iowa DOT and NDOR, have reviewed all reasonable alternatives under consideration (including the No-Build Alternative) and have identified Alternative 3 as the preferred alternative based on the following criteria: the Project purpose and need, potential impacts on the human and natural environments, and early coordination with resource agencies and the public.

Following publication of this Draft EIS, the final preferred alternative will be selected through a collaborative effort with FHWA (the sponsoring agency of this Project) and in consideration of public and agency comment on this Draft EIS. In selecting the final preferred alternative, FHWA is expected to consider the above criteria from a Federal responsibility perspective. FHWA will examine how the Project fits into a broader transportation network; whether the Project is consistent with national initiatives, such as Environmental Justice; and whether Federal dollars are being spent in a cost-effective manner. In addition, FHWA is required to give consideration to Project alternatives that minimize impacts on protected resources, such as historic properties. As a result, there is no assurance that the final preferred alternative would be the same as the preferred alternative identified in this Draft EIS.

Between the publication of the Draft EIS and the Final EIS, FHWA, Iowa DOT, and NDOR will work together to determine the final preferred alternative. The final selection of an alternative will not be made until the alternatives' impacts and comments on the Draft EIS, including those made at the public hearing, have been fully evaluated. The Final EIS will identify the selected alternative and include a comprehensive discussion of its determination.



Legend

- Existing State Highway 370
- - - Improvements in MAPA's L RTP

1990, 2001 Aerial Photography

Alternative 1 No-Build Alternative

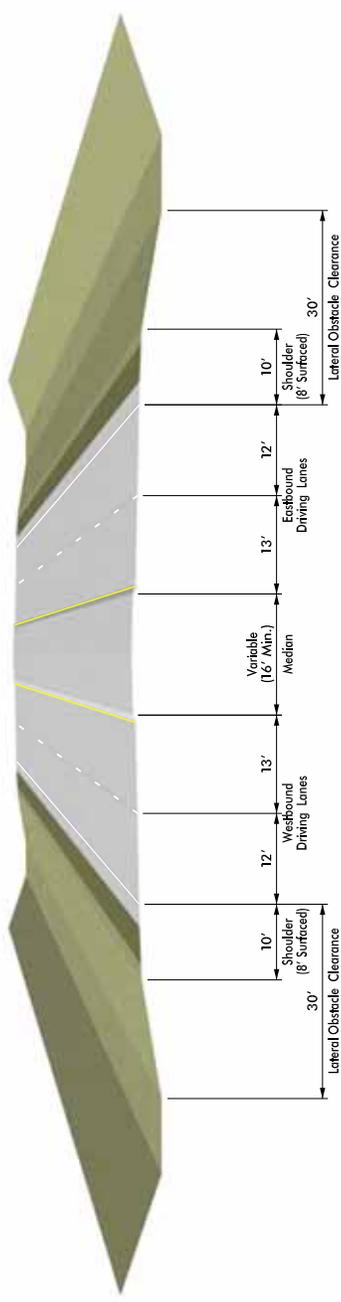
Bellevue Bridge Study
Sarpy County, NE and Mills County, IA
Environmental Impact Statement

DRAFT

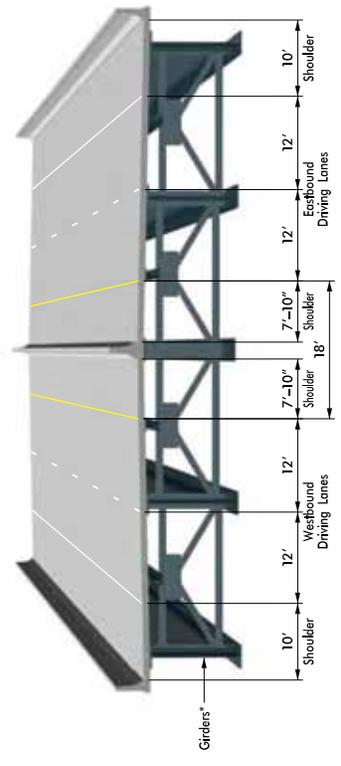
Date
Jan. 2004

Figure
2-2





**West Terminus at U.S. 75 to the Missouri River
(Nebraska)**



* Girder type and spacing have not been determined. Shown for illustration purposes only.

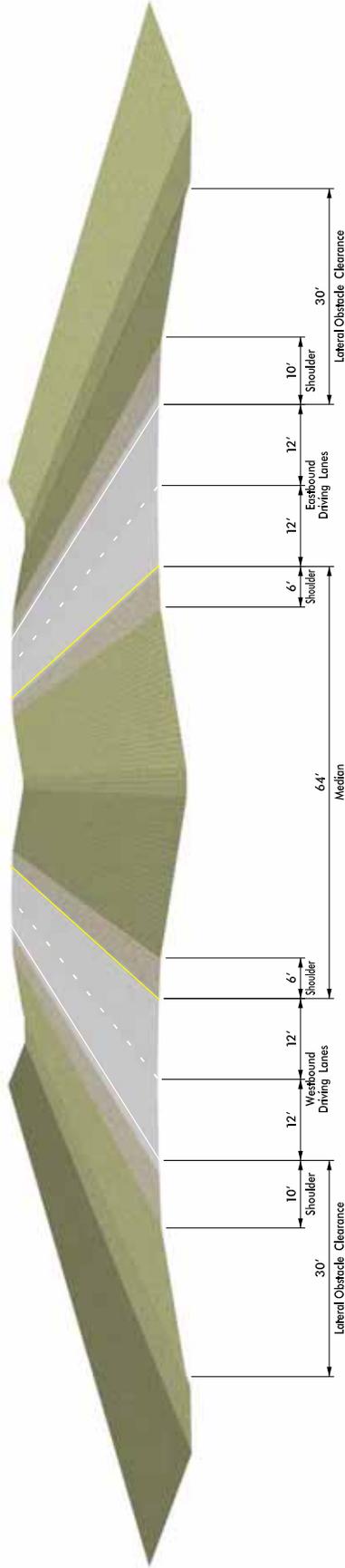
Bridge over the Missouri River

Typical Sections - Nebraska
 Bellevue Bridge Study
 Sarpy County, NE and Mills County, IA
 Environmental Impact Statement

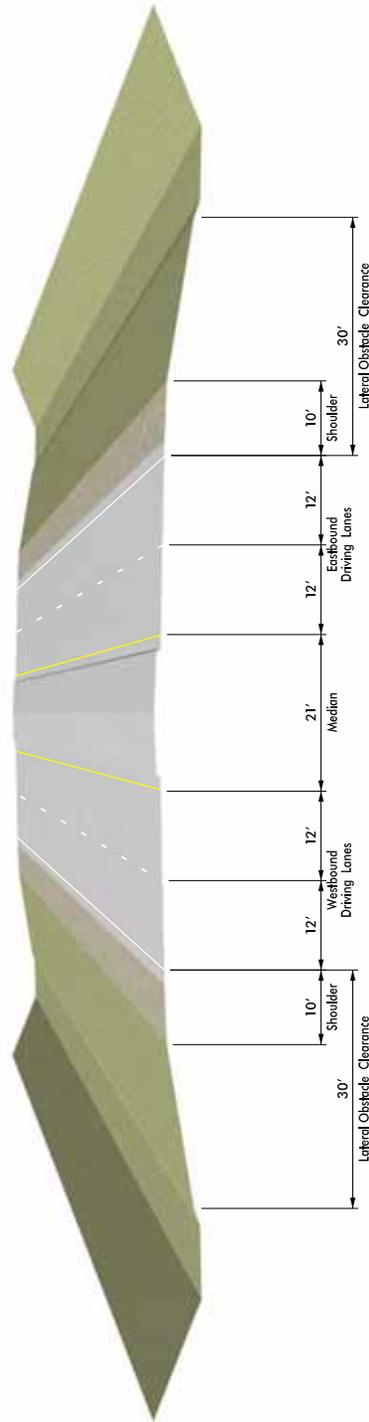
DRAFT

Date: Jan. 2004
 Figure: 2-3





**Missouri River to West of I-29
(Iowa)**



**West of I-29 to the East Terminus at I-29
(Iowa)**

Typical Sections - Iowa

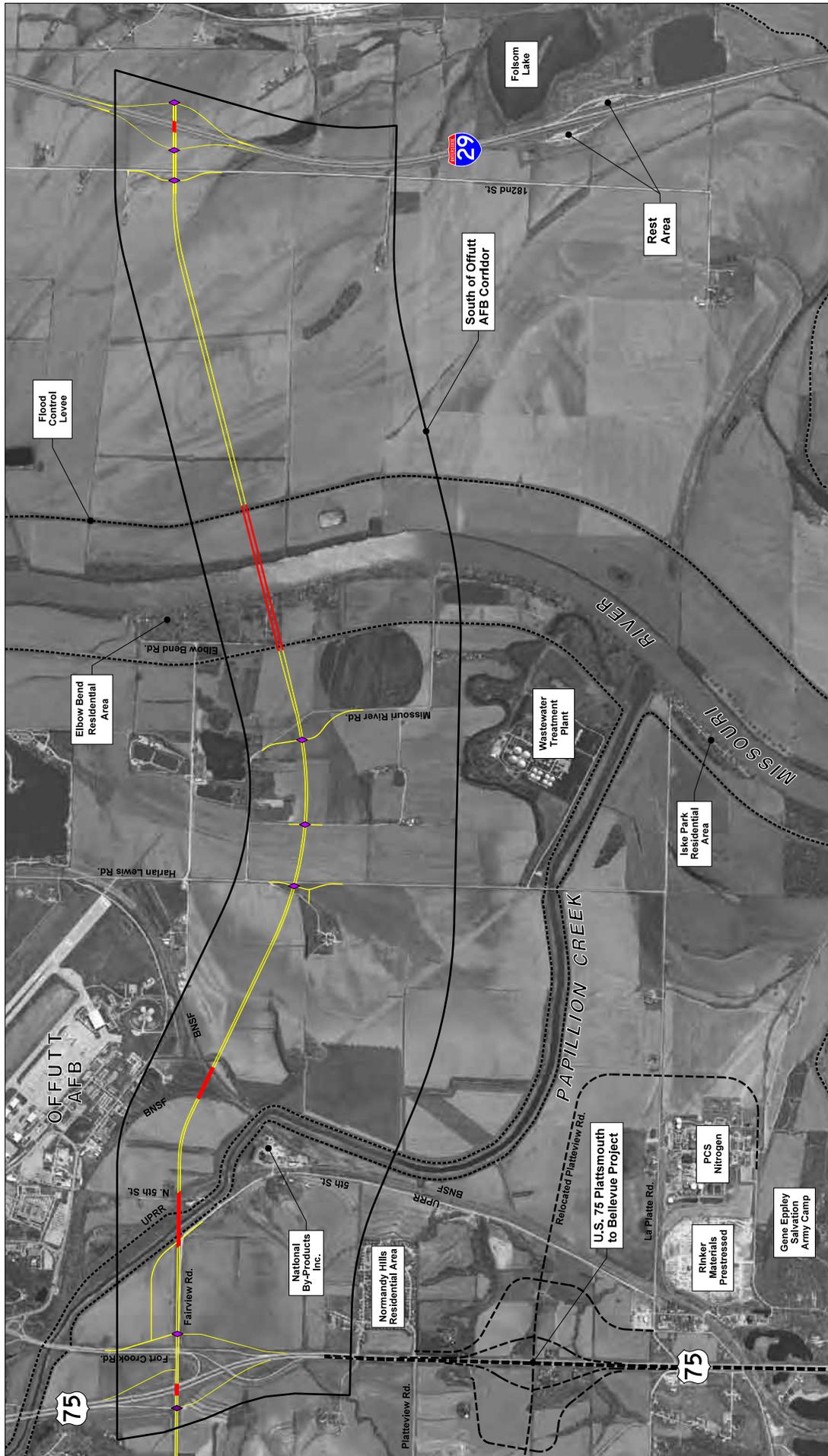


Bellevue Bridge Study
Sary County, NE and Mills County, IA
Environmental Impact Statement

DRAFT

Date
Jan. 2004

Figure
2-4



Alternative 2
South of Offutt Air Force Base Alternative
 Bellevue Bridge Study
 Sarpy County, NE and Mills County, IA
 Environmental Impact Statement

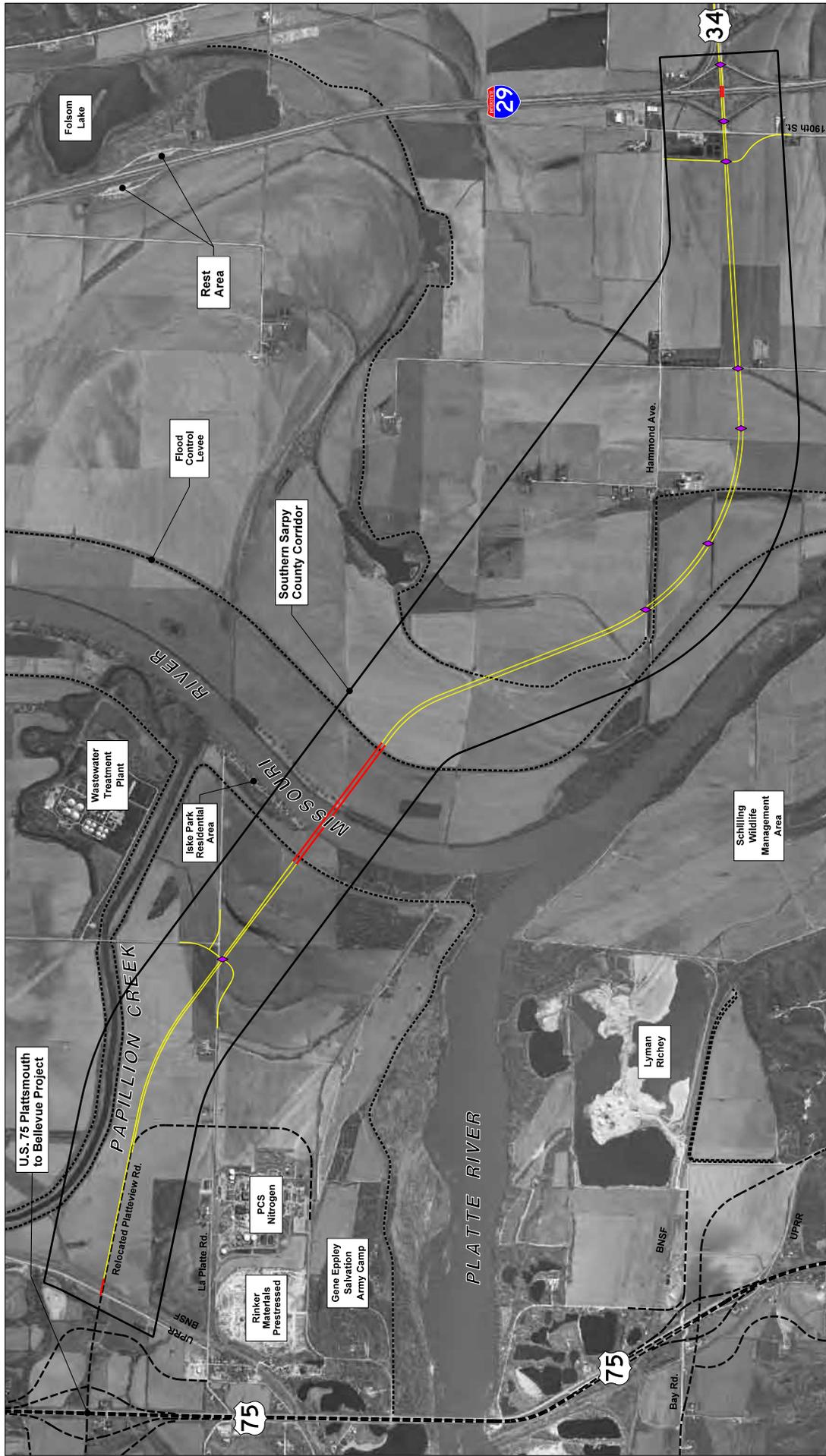
Legend
 Proposed Roadway Alignment
 Proposed Bridge
 Preliminary Access Locations
 Flood Control Levee

Source: Western Air Map 2001
 Aerial Photography

Scale: SCALE IN FEET
 0 100 200 2200

Date: Oct. 2004
Figure: 2-5

DRAFT



- Legend**
- Proposed Roadway Alignment
 - Proposed Bridge
 - Preliminary Access Locations
 - Flood Control Levee



Source: Western Air Map 2001
Aerial Photography



Alternative 3
Southern Sarpy County Alternative
 Bellevue Bridge Study
 Sarpy County, NE and Mills County, IA
 Environmental Impact Statement

DRAFT

Date Oct. 2004
 Figure 2-6

CHAPTER 3

AFFECTED ENVIRONMENT

CHAPTER 3

AFFECTED ENVIRONMENT

This chapter describes the existing environment for each resource potentially affected by the Project. The organization essentially follows FHWA's Guidance for Preparing and Processing Environmental and Section 4(f) Documents (Technical Advisory T 6640.8A) (FHWA, October 30, 1987), with some exceptions to facilitate the flow of information on this Project. The following resources do not exist within the Study Area and are not included in this or subsequent chapters: wild and scenic rivers, coastal barriers, and coastal zones. For a discussion of the potential social, economic, and environmental impacts that the alternatives under consideration would have on all potentially affected resources, see Chapter 4, Environmental Consequences.

3.1 LAND USE

3.1.1 Current and Future Land Use

The topography of the Study Area is floodplain landscape characterized by level to gently rolling terrain. Within the Study Area, Sarpy and Mills counties are predominantly rural in nature, consisting primarily of vacant and actively farmed agricultural land (Bucher, Willis & Ratliff, March 1992). These agricultural lands are mainly cropland, with limited areas of pastureland and livestock feeding areas. The most common row crops planted are corn and soybeans.

Farmsteads in the Study Area typically comprise a single-family residence along with barns and outbuildings for grain, livestock, and machinery storage. Farms in the area include both family farms, where the principal use of the land is agriculture, and hobby farms, where the principal use of the land is residential and for small livestock or boarded animals rather than for cash crop production.

Most of the residential development in the Study Area is concentrated in Bellevue, in the northwest section of the Study Area. Bellevue, the only city within the Study Area, makes up less than one-quarter of the entire Study Area. In addition, three small residential areas are located in the rural portions of the Study Area: the Normandy Hills residential development north of Platteview Road and the Iske Park and Elbow Bend residential areas along the Missouri River. The Papio-Missouri River NRD has purchased approximately half of the residences in the Elbow Bend area and has a standing offer to purchase the remaining residences as part of a floodplain management project; however, the Papio-Missouri River NRD has no plans for public use of the property (Papio-Missouri River NRD, October 2, 2003).

Commercial and industrial development within the Study Area is predominantly located within the incorporated limits of Bellevue, although there is some industrial development (such as Rinker Materials Prestressed and PCS Nitrogen, a former chemical plant) south of La Platte Road in Sarpy County. Offutt AFB, a facility of approximately 1,914 acres, is located in the northwest portion of the Study Area (southeast of Bellevue) and includes a runway for military and other designated aircraft. Offutt AFB is an air combat installation that is home to the 55th Combat Wing, U.S. Strategic Command (a joint Air Force-Navy command center), the Air Force Weather

Agency, and the U.S. Air Force Heartland of America Band. Public and semi-public¹ land uses include public buildings, community parks, and utilities located in Bellevue. Other public land uses within the Study Area include Folsom Lake, Haworth Park, Bellevue Marina, and Schilling WMA. Additionally, Metropolitan Utilities District (MUD) owns a parcel of land near the Missouri River between Papillion Creek and the Platte River that is one of four candidate sites for wetland mitigation for the Platte West water treatment plant. The treatment plant is currently being designed; however, a mitigation plan has not been finalized (MUD, February 22, 2003).

Future land use within the Study Area is identified in the Bellevue, Sarpy County, and Mills County comprehensive plans. The Bellevue Comprehensive Plan indicates that future land use is expected to be similar to current land use, with continued expansion of urban land uses south and west of Bellevue into rural areas of Sarpy County (Bucher, Willis & Ratliff, March 1992). The Sarpy County Comprehensive Development Plan indicates that the area bounded by U.S. 75, the Missouri River, the Platte River, and the Bellevue corporate limits is planned for future industrial development (JEO and Daly, May 1993). Within the Study Area, Mills County is expected to remain primarily agricultural, with a small area proposed for industrial development north of Highway 370 and a small area proposed for mixed-use development west of I-29, near the U.S. 34 Glenwood exit. In addition, The Mills County Plan: A Comprehensive Plan for Mills County, Iowa, identifies a large park area adjacent to the Missouri River in an area known as St. Mary's Island² (RDG Crose Gardner Shukert, August 2002). USACE has identified St. Mary's Island as a future conservation area for terrestrial³ wildlife. The area identified by USACE does not extend as far north or south as the park area in the Mills County Plan. USACE plans to begin purchasing land from willing sellers in 2004 (USACE, July 31, 2003). See Figure 1-9 for a map showing local and county future land use plans in the Study Area.

MAPA is responsible for planning transportation improvements in the Study Area. MAPA's LRTP includes a future roadway and bridge from U.S. 75 in Sarpy County to I-29 in Mills County. The Sarpy County Comprehensive Development Plan and the Mills County Plan also discuss a future bridge and roadway in this area.

3.1.2 Joint Development

Joint development represents opportunities to retain or enhance important values within communities affected by a proposed project. The joint development of a proposed roadway (including associated ROW) into a shared, multifunction facility serves to provide alternative uses of public land in addition to a transportation route. Such alternative uses may include housing developments, parking facilities, pedestrian/bicycle trails, underground utilities, and other infrastructure. The purpose of joint development is to preserve or enhance the affected area's social, economic, environmental, and visual values in a cost-effective manner and preserve or develop community areas.

3.2 FARMLAND

As discussed in Section 3.1, Land Use, the Study Area includes tracts of agricultural land interspersed with developed areas. Nearly all of the agricultural land in the South of Offutt AFB and Southern Sarpy County corridors is classified as prime farmland by the U.S. Department of

¹ Public land uses are those that are publicly owned; semi-public land uses are privately owned but are open for the general public's use.

² St. Mary's Island is a former oxbow on the Missouri River and is currently used as farmland.

³ Terrestrial means living or growing on land, as opposed to the sea or air.

Agriculture (USDA) Natural Resources Conservation Service⁴ (NRCS) but not as unique farmland. There are no unique or statewide or locally important farmlands within the Study Area.

Prime farmland is land that has the best combination of physical and chemical characteristics for producing food, feed, forage, fiber, and oilseed crops, and is also available for these uses (the land could be cropland, pastureland, rangeland, forestland, or other land, but not urban built-up land or water). It has the soil quality, growing season, and moisture supply needed to economically produce sustained high yields of crops when treated and managed, including water management, according to acceptable farming methods (USDA NRCS, 2001).

Prime farmland in the Study Area is generally found within the fertile alluvial floodplain of the Missouri River. The land not classified as prime farmland is less well defined but is typically located in the upland areas of the corridor. Farmlands in the South of Offutt AFB and Southern Sarpy County corridors are dedicated to row crop production, hay, and pasture. Corn and soybeans are the primary commercial crops grown.

3.2.1 Sarpy County

The portion of the South of Offutt AFB corridor within Sarpy County is predominately agricultural with an area of commercial/industrial use on the northwestern edge. The dominant soil types found are Colo and Kennebec and are considered prime farmland soils used for agricultural production (USDA SCS, 1975).

The portion of the Southern Sarpy County corridor within Sarpy County is largely rural and predominately a floodplain landscape. The dominant soil types found are Onawa and Cass and are considered prime farmland soils used for agricultural production (USDA SCS, 1975).

3.2.2 Mills County

The portion of the South of Offutt AFB corridor within Mills County is largely rural and predominately floodplain bottomland. The dominant soil types found are Haynie and Onawa and are considered prime farmland soils used for agricultural production. The agricultural land uses associated with these soils are corn and soybean row crops (USDA SCS, 1982).

The portion of the Southern Sarpy County corridor within Mills County is largely rural and predominately floodplain bottomland. The dominant soil types found in this section are Salix and Onawa. Both the Salix and Onawa soil types are classified as prime farmland, indicating high cropland productivity. The agricultural land uses associated with these soils are corn and soybean row crops (USDA SCS, 1982).

3.3 SOCIAL

This section describes the general social characteristics of the Study Area and surrounding region. The topics addressed are population; Environmental Justice; public services, facilities, and transportation; and community.

3.3.1 Population

The population information provided in this section is also used in the subsequent economic analysis (see Section 3.6, Economics). Both analyses pertain to the same region of economic influence, which encompasses six counties: Douglas, Sarpy, Cass, and Washington counties in

⁴ This was formerly the USDA Soil Conservation Service (SCS).

Nebraska and Pottawattamie and Mills counties in Iowa. Four of these counties are outside the Study Area.

Detailed Population Trends and Population Forecasts

The following describes the trends in population over the last three decades based on the 2000 Census as well as population growth projected to occur in the next two decades within the region of economic influence.

Population Trends

The total population for the six-county region of economic influence was 731,545 people, with 86 percent of the total population residing in Nebraska (see Table 3-1). Douglas County, with 463,585 people, had the highest population of the six counties. Sarpy County, with 122,595 people, had the second highest population, and Mills County, with 14,547 people, had the smallest population in 2000.

Four cities account for 68 percent of the total population of the region of economic influence. The three largest cities, in order of size, are Omaha, with a population of 390,007; Council Bluffs, with a population of 58,268; and Bellevue, with a population of 44,382 in the year 2000. Glenwood had a population of 5,358 in 2000.

Within the region of economic influence, Sarpy County was the fastest-growing county during each of the last three decades. From 1970 to 2000, the population of Sarpy County increased by over 85 percent, with average annual growth rates of 2.7 percent, 1.8 percent, and 1.8 percent, respectively, during the 1970s, 1980s, and 1990s. In comparison, the region of economic influence grew by approximately 25 percent during the same period, with average annual growth rates of 0.5 percent, 0.5 percent, and 1.1 percent, respectively. During the 1970s and 1980s, the other Nebraska counties in the region of economic influence experienced slow to moderate population growth, while the Iowa counties experienced zero to negative population growth. However, during the 1990s, all six counties in the region of economic influence experienced moderate growth, including a turnaround in population growth for both Mills and Pottawattamie counties in Iowa.

**Table 3-1
Population Trends (1970-2000)**

County	Population				Average Annual Growth Rate		
	1970	1980	1990	2000	1970-1980	1980-1990	1990-2000
Douglas	389,445	397,038	416,444	463,585	0.2 %	0.5 %	1.1 %
Sarpy	66,200	86,015	102,583	122,595	2.7 %	1.8 %	1.8 %
Cass	18,076	20,297	21,318	24,334	1.2 %	0.5 %	1.3 %
Washington	13,310	15,508	16,607	18,780	1.5 %	0.7 %	1.2 %
Pottawattamie	86,991	86,561	82,628	87,704	0.0 %	-0.5 %	0.6 %
Mills	13,406	13,202	13,180	14,547	-0.2 %	0.0 %	1.0 %
Total	587,428	618,621	652,760	731,545	0.5 %	0.5 %	1.1 %
City							
Omaha	346,929	314,255	335,255	390,007	-1.0 %	0.6 %	1.5 %
Bellevue	21,953	21,813	30,982	44,382	-0.1 %	3.6 %	3.7 %
Plattsmouth	6,371	6,295	6,412	6,887	-0.1 %	0.2 %	0.7 %
Council Bluffs	60,348	56,449	54,850	58,268	-0.7%	-0.3%	0.6%
Glenwood	4,421	5,280	4,960	5,358	1.8 %	-0.6 %	0.8 %

Sources: U.S. Census Bureau, 2000.

MAPA, which is the planning agency for five of the six counties in the region of economic influence (Cass County is not included in MAPA’s jurisdictional area), attributes the growth in its jurisdictional area in the 1990s to factors such as new commercial investments and an increase in the housing market. MAPA also notes that residential development in the loess hills area near Glenwood has increased as many people have “chosen to live ‘in the country and work in the city’” (MAPA, 2002).

Population Forecasts

Available data for the region of economic influence indicate a moderate increase in population, with continued strong growth in Sarpy County (see Table 3-2). The sources of the data used in this analysis⁵ forecast the population of the six-county region to grow to 929,656 in 2020, an increase of 27 percent. This correlates to an average annual growth rate of 1.2 percent per year for the region. This population increase is expected to result from natural increases and continued in-migration from surrounding rural agricultural areas to the Omaha metropolitan area.

In general, the majority of the population growth in the region of economic influence is forecast to occur in the Nebraska counties, with approximately 5 percent of the total growth of the region expected in the Iowa counties. Sarpy County will continue to grow and is forecast to have the largest annual growth rate, at 1.7 percent per year. Cass and Pottawattamie counties are forecast to have the smallest annual growth rates, at 1.0 and 0.3 percent per year, respectively. Mills County is forecast to grow at 1.1 percent per year.

**Table 3-2
Population Growth Forecasts**

County	Population		Average Annual Growth Rate
	2000	2020	Percentage
Douglas	463,585	589,659	1.2 %
Sarpy	122,595	173,032	1.7 %
Cass	24,334	29,452	1.0 %
Washington	18,780	25,404	1.5 %
Pottawattamie	87,704	93,880	0.3 %
Mills	14,547	18,229	1.1 %
Total	731,545	929,656	1.2 %

*Sources: University of Nebraska-Lincoln, College of Business Administration.
The Pottawattamie County Growth Alliance.
RDG Crose Gardner Shukert. August 2002.
U.S. Census Bureau, 2000.*

3.3.2 Environmental Justice

Environmental Justice (EJ) addresses equity in all Federally funded programs and activities in compliance with Title VI of the Civil Rights Act of 1964 (42 USC 2000d, et seq.) and Executive Order (EO) 12898 (59 Federal Register [FR] 7629). According to Title VI and EO 12898,

⁵ The sources are those listed under Table 3-2. Data for all counties in the region of economic influence are available only through 2020, not through Year 2030.

Federal agencies must identify and address the possible disproportionately high adverse environmental effects on minority and low-income populations, referred to as EJ populations, before permitting or approving a program or activity that uses Federal funds. To comply with the regulations of Title VI and EO 12898, the socioeconomic composition of the Study Area was examined to identify potential EJ populations.

Potential EJ populations with respect to race,⁶ ethnicity,⁷ and income were determined by absolute and relative population measures⁸ using county, city, and block group information from the 2000 Census.

Potential EJ populations were identified as follows:

- By absolute threshold if the population of the block group was greater than 50 percent minority or low income
- By relative threshold if the minority or low-income population of the block group was more than 10 percent greater than the corresponding population of the benchmark area selected as comparison for that block group⁹

The populations of Sarpy County (122,595), Mills County (14,547), the city of Bellevue (44,382), and the city of Glenwood (5,358) are listed in Table 3-3, together with the percentages of racial minorities, ethnic minorities, and households below the poverty level in 1999. Generally, Sarpy and Mills counties and the cities of Bellevue and Glenwood have predominantly Caucasian, non-Hispanic populations and minimal low-income populations.

⁶ The U.S. Census Bureau defines race as, “a self-identification data item in which respondents choose the race or races with which they most closely identify.” This study of racial minorities used data from the U.S. Census Bureau collected for the five minimum race categories as required by the Federal Office of Management and Budget (OMB): White alone, Black or African-American alone, American Indian or Alaska Native alone, Asian alone, and Native Hawaiian or other Pacific Islander alone. Two additional categories included by the U.S. Census Bureau for racial minorities, Some Other Race Alone and Two or More Races, were also used for this study.

⁷ In accordance with the Office of Management and Budget definition of ethnicity, the Census Bureau provides data for the basic categories in the OMB standards: Hispanic or Latino and Not Hispanic or Latino. Spanish/Hispanic/Latino is classified by the U.S. Census Bureau as “people whose origins are from Spain, the Spanish-speaking countries of Central or South America, the Caribbean, or those identifying themselves generally as Spanish, Spanish-American, etc” This study of ethnic minorities used data from the U.S. Census Bureau collected for Spanish, Hispanic, and Latino people of any race.

⁸ This analysis followed EJ guidelines established by FHWA to the extent possible, but because these guidelines lack quantitative measures and instead look at data on a case-by-case basis, it was determined that quantitative thresholds were needed for this analysis. Other transportation agencies’ guidance was reviewed to assess whether their EJ guidance was relevant and applicable to the Study Area. The most applicable quantitative guidance discovered was from the Surface Transportation Board’s Section of Environmental Analysis (SEA). The absolute and relative thresholds described in this section were used in several of SEA’s recent environmental documents.

⁹ Three benchmark areas were used in this analysis. Block groups within the city limits of Bellevue were compared to data for the City of Bellevue as a whole, block groups outside of the Bellevue city limits in the Nebraska portion of the Study Area were compared to data for Sarpy County as a whole, and block groups outside of the Glenwood city limits in the Iowa portion of the Study Area were compared to data for Mills County as a whole. There were no block groups located within the city limits of Glenwood; therefore, the data for Glenwood included in Tables 3-4 and 3-5 was not used as a benchmark area and is only included for informational purposes.

**Table 3-3
Demographics Overview**

County	Total Population	Racial Minorities ¹ (%)	Ethnic Minorities ² (%)	Households Below Poverty Level in 1999 (%)
Sarpy	122,595	8.5	4.4	4.0
Mills	14,547	1.6	1.2	7.8
City				
Bellevue	44,382	10.9	5.9	5.3
Glenwood	5,358	2.1	1.5	8.5

Source: U.S. Census Bureau, 2000.

Notes:

¹ Racial minorities were calculated using the following census race categories: White alone, Black or African-American alone, American Indian or Alaska Native alone, Asian alone, Native Hawaiian or other Pacific Islander alone, Some Other Race Alone, and Two or More Races.

² Ethnic minorities were calculated using census data collected for Spanish, Hispanic, and Latino people of any race.

Minority Populations

Potential EJ populations with respect to minorities were identified based on race and ethnicity, using the absolute and relative thresholds discussed above. Table 3-4 lists data regarding race and ethnicity for all of the block groups as well as the towns and counties within the Study Area. Figure 3-1, Potential EJ Populations in the Study Area, shows the locations of the block groups and shades those block groups that exceeded thresholds for racial or ethnic minorities.

Racial Minority Populations

None of the block groups within the Study Area in Sarpy or Mills counties exceeds the absolute threshold for potential EJ populations with respect to racial minorities. However, ten block groups within the portion of the Study Area located in Sarpy County exceed the relative threshold for potential EJ populations with respect to racial minorities. Nine of these block groups are located within the Bellevue city limits and include Offutt AFB and one is located in Sarpy County south of Bellevue and west of the Missouri River. One block group within the portion of the Study Area located in Mills County exceeds the relative threshold for potential EJ populations with respect to racial minorities. This block group is located north of Glenwood and west of I-29.

Ethnic Minority Populations

None of the block groups within the Study Area in Sarpy County exceeds the absolute threshold for potential EJ populations with respect to ethnic minorities. However, three block groups within the portion of the Study Area located in Sarpy County exceed the relative threshold for potential EJ populations with respect to ethnic minorities. These block groups are located within the Bellevue city limits and include Offutt AFB.

None of the block groups located in Mills County exceeds the absolute threshold or the relative threshold for potential EJ populations with respect to ethnic minorities.

**Table 3-4
Racial and Ethnic Minority Distribution in the Study Area**

Area	Total Population	Caucasian	Racial Minorities	Potential EJ Populations with Respect to Racial Minorities		Ethnic Minorities (Hispanic)	Potential EJ Populations with Respect to Ethnic Minorities	
				Absolute Threshold ¹	Relative Threshold ²		Absolute Threshold	Relative Threshold
Sarpy County, Nebraska	122,595	87.1%	8.5%	50.0%	9.3%	4.4%	50.0%	4.8%
Mills County, Iowa	14,547	97.2%	1.6%	50.0%	1.8%	1.2%	50.0%	1.4%
City of Bellevue, Nebraska	44,382	83.2%	10.9%	50.0%	12.0%	5.9%	50.0%	6.5%
City of Glenwood, Iowa	5,358	96.5%	2.1%	50.0%	2.3%	1.5%	50.0%	1.6%
Area Used as Census Tract-Block Group					Does Population Exceed Thresholds?			Does Population Exceed Thresholds?
City of Bellevue	1,165	91.3%	6.4%	N	N	2.2%	N	N
	829	87.0%	10.3%	N	N	2.8%	N	N
	1,259	92.4%	5.5%	N	N	2.1%	N	N
	967	90.3%	8.7%	N	N	1.0%	N	N
	1,070	77.0%	18.1%	N	Y	4.9%	N	N
	794	83.0%	12.6%	N	Y	4.4%	N	N
	844	87.9%	9.0%	N	N	3.1%	N	N
	1,456	76.0%	18.1%	N	Y	5.8%	N	N
	619	90.5%	6.6%	N	N	2.9%	N	N
	595	88.9%	8.2%	N	N	2.9%	N	N
	931	78.2%	17.8%	N	Y	4.0%	N	N
	1,112	81.4%	14.7%	N	Y	3.9%	N	N
	1,232	80.8%	15.2%	N	Y	4.0%	N	N
	764	84.4%	11.6%	N	N	3.9%	N	N
	1,460	71.0%	20.3%	N	Y	8.7%	N	Y
	7,468	76.1%	16.8%	N	Y	7.1%	N	Y
	1,313	82.5%	10.7%	N	N	6.9%	N	Y

**Table 3-4 (continued)
Racial and Ethnic Minority Distribution in the Study Area**

Area Used as Benchmark	Census Tract-Block Group	Total Population	Caucasian	Racial Minorities	Does Population Exceed Thresholds?		Ethnic Minorities (Hispanic)	Does Population Exceed Thresholds?	
	10401-2	1,128	77.0%	20.0%	N	Y	2.9%	N	N
	10401-3	535	86.4%	10.3%	N	N	3.4%	N	N
	10402-1	1,172	89.6%	6.8%	N	N	3.6%	N	N
	10402-2	1,249	83.9%	11.0%	N	N	5.1%	N	N
	10402-3	625	90.9%	7.0%	N	N	2.1%	N	N
	10402-4	1,355	84.0%	10.2%	N	N	5.8%	N	N
Sarpy County	10208-1	725	97.5%	1.0%	N	N	1.5%	N	N
	10208-2	1,146	85.6%	10.3%	N	Y	4.1%	N	N
Mills County	40201-1	950	96.4%	2.3%	N	Y	1.3%	N	N
	40202-1	1,695	98.0%	1.2%	N	N	0.8%	N	N

Source: U.S. Census Bureau, 2000.

Notes:

- 1 A potential EJ population was identified by absolute threshold if the population of the block group was greater than 50 percent minority.
- 2 A potential EJ population was identified by relative threshold if the minority population of the block group was more than 10 percent greater than the corresponding population of the city and county in which the block group was located.

Low-Income Populations

Low-income EJ populations were identified based on meeting two criteria, each evaluated with respect to the absolute and relative thresholds defined above:

- Criterion 1 – the percentage of households below poverty level in 1999.
- Criterion 2 – the median household income in 1999.

To be considered low income, a population must meet both threshold criteria. The reason is that a household's income may be below the poverty level for households but not necessarily fall below the median household income, and vice versa. For example, if a household consists of a large number of people, that household income may be below the poverty level even though it does not fall below the median. Conversely, the income of a household consisting of a single person may be below the median household income yet not fall below the poverty thresholds as determined by the U.S. Department of Health and Human Services for a household composed of one person. This was the case with block group 10103-4. The percentage of households below poverty level in 1999 for this block group is 6.2. This is higher than that of the benchmark area (Bellevue), which is 5.8 percent. But the median household income of block group 10103-4 is \$67,404, which is significantly higher than that of the benchmark area, which is \$42,481. This would indicate that the block group contains only pockets of low-income groups and would not overall be populated with low-income groups. Identifying this block group as a low-income block group would give an inaccurate representation of the whole population of the block-group. Therefore, it was assumed in this analysis that a block group contained a low-income population only if the block group exceeded the absolute or relative thresholds with respect to both criteria 1 and 2.

The absolute and relative thresholds were applied to these criteria to identify low-income EJ populations. The results are listed as follows:

- None of the block groups in the Study Area exceeds the absolute thresholds (that is, having greater than 50 percent of households below poverty level or having median household income 50 percent less than that of the city or county in which the block group is located) for criteria 1 and 2.
- Nine block groups in the Study Area exceed the relative threshold (that is, having 10 percent more households below the poverty level than the city or county in which the block group is located) for criterion 1.
- Ten block groups in the Study Area exceed the relative threshold for criterion 2 (that is, having a median household income 10 percent less than that of the city or county in which the block group is located).
- Only five block groups exceed thresholds for both criteria. All five of these block-groups are located within the Bellevue city limits in the Sarpy County portion of the Study Area. They are classified as low-income block groups and therefore, are considered potential low-income EJ populations.

Table 3-5 lists data regarding income for all of the block groups as well as the cities and counties within the Study Area. Figure 3-1, Potential EJ Populations in the Study Area, shows the locations of the block groups and shades those block groups that were determined to contain low-income populations.

Table 3-5
Low-Income Populations in the Study Area

Area	Total Households	Percentage of Households with 1999 Income Below Poverty Level	Threshold 1: Percentage of Households with 1999 Income Below Poverty Level		Median Household Income 1999	Threshold 2: Median Household Income in 1999		Potential EJ Populations with Respect to Low Income (Exceeds both Threshold Criteria 1 and 2)
			Absolute Threshold ¹	Relative Threshold ²		Absolute Threshold	Relative Threshold	
Sarpy County, Nebraska	43,495	4.0%	50.0%	4.4%	\$53,804	\$26,902	\$48,424	
Mills County, Iowa	5,336	7.8%	50.0%	8.6%	\$42,428	\$21,214	\$38,185	
City of Bellevue, Nebraska	17,007	5.3%	50.0%	5.8%	\$47,201	\$23,601	\$42,481	
City of Glenwood, Iowa	1,795	8.5%	50.0%	9.3%	\$39,682	\$19,841	\$35,714	
Area Used as Benchmark	Census Tract-Block Group		Does Population Exceed Thresholds?			Does Population Exceed Thresholds?		
City of Bellevue	10103-2	0.0%	N	N	\$73,942	N	N	N
	10103-3	1.3%	N	N	\$46,607	N	N	N
	10103-4	6.2%	N	Y	\$67,404	N	N	N
	10105-1	4.7%	N	N	\$57,679	N	N	N
	10105-3	9.8%	N	Y	\$36,500	N	Y	Y
	10106-1	0.0%	N	N	\$43,897	N	N	N
	10106-2	4.0%	N	N	\$36,842	N	Y	N
	10106-3	8.1%	N	Y	\$35,625	N	Y	Y
	10106-4	5.4%	N	N	\$34,274	N	Y	N
	10106-5	6.6%	N	Y	\$40,144	N	Y	Y
	10107-3	0.0%	N	N	\$70,074	N	N	N
	10108-3	0.0%	N	N	\$56,136	N	N	N
	10204-3	2.5%	N	N	\$70,625	N	N	N

**Table 3-5 (continued)
Low-Income Populations in the Study Area**

Area Used as Benchmark	Census Tract-Block Group	Total Households	Percentage of Households with 1999 Income Below Poverty Level	Does Population Exceed Thresholds?	Median Household Income 1999	Does Population Exceed Thresholds?	Potential EJ Populations with Respect to Low Income (Exceeds both Threshold Criteria 1 and 2)
	10207-1	384	4.2%	N	\$51,250	N	N
	10302-9	323	4.3%	N	\$27,306	N	Y
	10304-9	2,015	4.3%	N	\$39,518	N	Y
	10401-1	536	8.2%	N	\$45,313	N	N
	10401-2	424	5.9%	N	\$43,125	N	N
	10401-3	187	0.0%	N	\$55,982	N	N
	10402-1	485	8.7%	N	\$42,708	N	N
	10402-2	486	4.7%	N	\$38,875	N	Y
	10402-3	276	8.0%	N	\$34,722	N	Y
	10402-4	514	8.0%	N	\$32,768	N	Y
Sarpy County	10208-1	291	3.4%	N	\$49,844	N	N
	10208-2	407	2.2%	N	\$55,486	N	N
Mills County	40201-1	395	7.1%	N	\$41,169	N	N
	40202-1	558	5.4%	N	\$61,667	N	N

Source: U.S. Census Bureau, 2000.

Notes:

- ¹ A potential EJ population was identified by absolute threshold if the population of the block group was greater than 50 percent low income.
- ² A potential EJ population was identified by relative threshold if the low-income population of the block group was more than 10 percent greater than the corresponding population of the city and county in which the block group was located.

3.3.3 Public Services, Facilities, and Transportation

Public Services

Public services in the Nebraska portion of the Study Area are provided by the Bellevue Police Department (BPD), the Bellevue Fire Department (BFD), and the Sarpy County Sheriff's Office. The service area for the BPD includes all areas within the city limits of Bellevue as well as areas south (including the northernmost portion of the Study Area) and west of Bellevue. The service area does not extend into Iowa. However, the BPD will cross the Bellevue Bridge into Iowa during felony pursuits. The BPD ends pursuits involving misdemeanor incidents at the Missouri River. The Sarpy County Sheriff's Office provides service for the remainder of the Study Area in Sarpy County not covered by BPD and provides backup to the Bellevue emergency officials in Nebraska. The BFD has a service area extending farther south and west than that of the BPD. The BFD provides services extending south of the city limits of Bellevue to the Platte River (which includes all of the Study Area). The BFD assists fire departments in other Nebraska cities, including Omaha and Plattsmouth, and will assist in Iowa upon request (BPD, January 20, 2004). Public services in the Iowa portion of the Study Area are provided by the Mills County Sheriff and the Pacific Junction Fire Department. The Mills County Sheriff provides service in the Iowa portion of the Study Area. The service area of the Pacific Junction Fire Department spans north and south from the Pottawattamie County line to the Fremont County line and east from the Missouri River to I-29 (Glenwood Police Department, January 30, 2004).

The emergency evacuation plan for Fort Calhoun Nuclear Station,¹⁰ indicates that in the event of an emergency evacuation of the facility, employees are to proceed to Haworth Park in Bellevue via I-29 and the Bellevue Bridge (Sarpy County Emergency Management, January 23, 2004).

Public Facilities

Within the Study Area, there are a number of public and semi-public facilities located along or within the vicinity¹¹ of the No-Build (Highway 370) and build alternatives. These include educational and government buildings and churches.¹² Four school districts serve the Study Area, two in Nebraska and two in Iowa.

In Nebraska, the Bellevue Public School District serves the City of Bellevue and Offutt AFB. The Bellevue Public School District's western boundary extends to the west beyond U.S. 75. The district's southern boundary is located just south of Offutt AFB but north of Platteview Road (the southern boundary does not follow a major road in the Study Area). One parochial school, three public schools, an adult education center, and a Bellevue Public School District administration building are located within the vicinity of Highway 370 in the Bellevue Public School District. South Sarpy District #46 serves the remainder of the Nebraska portion of the Study Area. The boundaries of this district span from just north of Platteview Road, southward to the Platte River, eastward to the Missouri River, and westward beyond U.S. 75. There are no South Sarpy District #46 schools located within the Study Area.

¹⁰ Fort Calhoun Nuclear Station is an Omaha Public Power District facility located approximately 30 miles north of the Study Area near Blair, Nebraska.

¹¹ Facilities within approximately one-half mile north and south of both existing Highway 370 and the build alternatives were considered.

¹² Although some churches and religious organizations may have membership criteria and therefore are not open to all members of the public, they are included with public facilities because a large portion of the public accesses them.

In Iowa, the Lewis Central Community Schools district serves the southern part of the City of Council Bluffs and areas south spanning into the northeastern portion of the Study Area. The southern boundary of the district is located along a county road northwest of Folsom Lake. The eastern boundary of the district extends east of I-29. The western boundary is the Missouri River. There are no facilities associated with the Lewis Central Community Schools district located within the Study Area. The Glenwood Public Schools district serves the remainder of the Iowa portion of the Study Area. The boundaries of this district span from north of Folsom Lake southward beyond U.S. 34, eastward through the City of Glenwood, and westward to the Missouri River. There are no facilities associated with the Glenwood Public Schools district located within the Study Area.

In addition to Offutt AFB, several government facilities are located within the Study Area, including facilities associated with the City of Bellevue, Sarpy County, and the Federal Government. All of these facilities are located within the vicinity of Highway 370. Several churches are located within the Study Area. One church, La Platte Community Church, is located near the build alternatives. The other churches are located within the vicinity of Highway 370. All of the public facilities in the Study Area in the vicinity of Highway 370 or the build alternatives are listed in Table 3-6. Public recreation facilities are discussed in Section 3.8.

**Table 3-6
Public and Semi-Public Facilities in the Study Area**

Type of Facility	Name	Address
Education	Belleaire Elementary School	1200 West Mission Avenue
Education	Mission Middle School	2202 Washington Street
Education	Central Elementary School	510 West 22 nd Avenue
Education	St. Mary's Parochial School	903 West Mission Avenue
Education	Adult Education Services	2221 Main Street
Education	Bellevue Public School District Administrative Office-Board of Education	2009 Franklin Street
City Government	City of Bellevue Offices/City Hall	210 West Mission Avenue
City Government	City of Bellevue Fire Department	211 West 22 nd Avenue
City Government	City of Bellevue Police Department	102 West Mission Avenue
County Government	Sarpy County Tourism	112 West Mission Avenue
County Government	Sarpy County Historical Museum	2402 Clay Street
Federal Government	U.S. Post Office	204 West Mission Avenue
Church	Bellevue Christian Church	2409 Jackson Street
Church	Bellevue First Baptist Church	112 East 23 rd Avenue
Church	Bible Truth Ministries Fellowship	2402 Franklin Street
Church	Church of Christ-Bellevue	2311 Madison Street
Church	Church of Jesus Christ of Latter-Day Saints	2210 Harlan Drive
Church	Family Life Center	206 East 23 rd Avenue
Church	Heartland Baptist Church	312 West 20 th Avenue
Church	Living Word Church	2415 Lincoln Road
Church	New Beginnings Worship Center	2231 Jefferson Street
Church	New Testament Fellowship Church	2206 Franklin Street
Church	Revival Tabernacle	2226 Jefferson Street
Church	St. Mary's of Bellevue	2302 Crawford Street
Church	La Platte Community Church	16412 Main Street

Transportation

The major north-south transportation facilities within the Study Area are U.S. 75 and I-29. The only connection between these two primary facilities is Highway 370 and the Bellevue Bridge.

A survey of travelers using the Bellevue Bridge, completed by HDR Engineering, Inc. (HDR), indicated that many people use the bridge on a daily basis. The majority of those surveyed travel over the bridge to commute to work. The most common commute pattern is to the Omaha metropolitan area, including Bellevue and Offutt AFB, from towns in southwest Iowa, such as Glenwood, Pacific Junction, Council Bluffs, Red Oak, Tabor, Thurman, and Percival. However, many travelers from Bellevue also use the bridge to commute to work in Council Bluffs, Glenwood, and other towns in southwest Iowa. In addition to daily commuters, travelers use the bridge to go to social activities, restaurants, stores, and school activities, and to visit residents of other towns.

3.3.4 Community

Community cohesion is the unity that a group of inhabitants of a common geographic area gain as a result of their close proximity and common goals and objectives. Major roadways and natural features often act as barriers to cohesion, as they divide residents of a geographic area. However, major river bridges can counteract a natural river barrier and unite geographic areas, thereby promoting cohesion among communities. The Bellevue Bridge currently provides a means for interaction between the Omaha metropolitan area (including Bellevue), Glenwood, and the surrounding areas in Iowa that would otherwise be separated by the Missouri River.

As discussed above in Transportation, many residents of communities in southwest Iowa use the Bellevue Bridge to access the Omaha metropolitan area. These residents access the Omaha metropolitan area for purposes of work, shopping, and entertainment. The passageway that the Bellevue Bridge provides is one of few in the transportation system connecting southwest Iowa with the Omaha metropolitan area.

The Bellevue Bridge also promotes interaction between Bellevue and southwest Iowa. Motorists use the bridge to travel to work and to attend social and school activities. In addition, as discussed in the Public Services section, the bridge plays a minimal but important role in providing emergency services to the Study Area.

3.4 RIGHT-OF-WAY

The Study Area is in a primarily rural setting with flat to rolling terrain. Multiple property owners exist in the Study Area, with the majority of them being private landowners. ROW along county roads is typically 66 feet wide (including the road). ROW for rural highways and interstates, such as U.S. 75 and I-29, is a minimum of 200 feet wide in flat terrain and is wider in areas of rolling terrain with areas of cut and fill.

3.5 RAILROADS AND UTILITIES

Two rail companies have lines within the Study Area. The UPRR and BNSF rail lines enter the southwestern portion of the Study Area south of the Platte River, near U.S. 75. These lines are parallel to each other and curve to the northeast from U.S. 75 until they diverge just south of National By-Products Inc., a manufacturing plant. The UPRR rail line curves to the northwest and then turns to the north, passing through Bellevue as it heads toward the Omaha metropolitan area. The BNSF rail line curves to the northeast and then turns to the north, passing to the east of Offutt AFB and Bellevue as it heads toward the Omaha metropolitan area (NDOR, 1999); this line also serves Amtrak passenger service. South of Offutt AFB, a spur track, formerly serving

the AFB, curves to the northwest. An additional BNSF rail line is located in the easternmost portion of the Study Area. This north-south line is located east of I-29 at the base of the Loess Hills. Figures 4-1 and 4-3 show the locations of the rail lines traversing the Study Area.

The utility companies providing service to the Study Area are as follows:

- Omaha Public Power District (OPPD) provides electrical service in Nebraska and Mid-American Energy provides electrical service in Iowa.
- AT&T, Qwest, Alltel, Cox Communications, and Sprint provide communication services to both the Nebraska and Iowa portions of the Study Area.
- Aquila provides natural gas service to both the Nebraska and Iowa portions of the Study Area.
- MUD provides water service in Nebraska and the City of Glenwood provides water service in Iowa.
- The City of Bellevue provides sewer service and stormwater drainage service in Nebraska and the City of Glenwood provides sewer service and stormwater drainage service in Iowa.

OPPD has two substations located within the Study Area. One facility is located northwest of National By-Products Inc. on the northeast side of Papillion Creek. The other facility is located on LaPlatte Road, east of PCS Nitrogen.

In addition, several other utility companies have facilities within the Study Area, including: Enron/Northern Natural Gas (NNG), Nebraska Public Power District (NPPD), National Cooperative Refinery Association (NCRA), Level 3, and MCI World Communications. Generally, utility lines are located within the ROW of existing roads and rail lines. However, some utility lines are located on private property easements on undeveloped land.

3.6 ECONOMICS

The economic impacts of major transportation projects typically extend beyond the area immediately adjacent to the proposed project. Rather, economic impacts generally occur over a larger area based on the distribution of goods and services and the availability of labor and expertise in the immediate area. This larger area is defined as the region of economic influence, which for this Project includes Douglas, Sarpy, Cass, and Washington counties in Nebraska and Pottawattamie and Mills counties in Iowa.

The following sections provide detailed income and employment data for the six counties that make up the region of economic influence for this Project.

3.6.1 Income

Sarpy County has the highest median household income in the region of economic influence, \$53,804, which is 37 percent higher than the median household income for Nebraska (see Table 3-7). Pottawattamie County has the lowest median household income of the six counties, at \$40,089, which is 1.5 percent higher than the median household income for Iowa. The median household income for all six counties is higher than the median income for either state.

**Table 3-7
Median Household Income, 2000**

County	Income (\$)
Douglas	43,209
Sarpy	53,804
Cass	46,515
Washington	48,500
Pottawattamie	40,089
Mills	42,428
State	
Nebraska	39,250
Iowa	39,469

Source: U.S. Census Bureau, 2000.

3.6.2 Employment

The total number of employed civilian persons 16 years of age and older in the region of economic influence was 375,515 in 2000. This represents an increase of 52,850 jobs, or 16.4 percent, between 1990 and 2000, as shown in Table 3-8. Sarpy County experienced the largest growth in total employment, 33.7 percent between 1990 and 2000. The employment growth in Mills County was 22.1 percent, in the same decade. Douglas County had the largest share of jobs in the region in 2000, with 64 percent while Mills County had the smallest share with 2 percent.

**Table 3-8
Civilian Employment Trends, 1980-2000,
and Total Civilian Employment by County**

County	Employment		Unemployment Rate	Employment Change	
	1990	2000	2000	1990-2000	Percent Change
Douglas	211,964	239,418	4.1 %	27,454	13.0
Sarpy	45,877	61,347	3.0 %	15,470	33.7
Cass	9,877	12,573	2.7 %	2,696	27.3
Washington	8,567	10,146	3.3 %	1,579	18.4
Pottawattamie	40,343	44,658	4.3 %	4,315	10.7
Mills	6,037	7,373	5.0 %	1,336	22.1
Total	322,665	375,515	3.9 %	52,850	16.4

Sources: U.S. Census Bureau, 1990 and 2000.

The region of economic influence has a relatively diversified economy as a regional trade and services center and is a center for transporting and processing regional agriculture production (HDR, BRW, and Batheja, February 1996). As shown in Table 3-9, the largest employment sector in the region of economic influence in 2000 was finance, insurance, and real estate, with 41,399 jobs, or 10.8 percent of the total.¹³ The second largest employment sector was

¹³ Total number of jobs in 2000 in the region of economic influence was 382,594 (375,515 civilian jobs plus 7,079 armed forces jobs).

professional, scientific, management, administration, and waste, with 36,508 jobs, or 9.5 percent. Armed forces account for nearly 2 percent of all jobs in the region of economic influence, primarily due to the location of Offutt AFB in Sarpy County.

**Table 3-9
Top Employment Industries for the Total Region, 2000**

Total Six-County Region	Employment	Percentage of Workers
Finance, insurance, real estate, rental, and leasing	41,399	10.8
Professional, scientific, management, administrative, and waste management services	36,508	9.5
Manufacturing	35,300	9.2
Arts, entertainment, recreation, accommodation, and food services	28,759	7.5
Construction	24,434	6.4
Transportation and warehousing, and utilities	23,742	6.2
Other services	16,738	4.4
Wholesale trade	14,865	3.9
Information	11,770	3.1
Public administration	11,579	3.0
Armed Forces	7,079	1.9

Source: U.S. Census Bureau, 2000.

3.7 CONSIDERATIONS RELATING TO PEDESTRIANS AND BICYCLISTS

The Papio-Missouri River NRD and local jurisdictions have developed a system of various sidewalks and trail facilities throughout the Omaha metropolitan area that includes 70 miles of mainline, connector and spur trails linking major points of recreation. In addition, 140 miles of trails are proposed for construction in the Omaha metropolitan area by 2025. The 70 miles of existing trails includes a trail along the Papillion Creek levee system in the Study Area. Additionally, there are three proposed trails¹⁴ in the Study Area.

The Bellevue Loop Trail, part of the Keystone/Bellevue Loop/Big Papio Trail system that stretches from northwest Omaha to Bellevue, is a hard-surfaced trail that stretches for approximately 8.9 miles in Sarpy County. The trail begins near Kennedy Freeway (U.S. 75) in southwest Bellevue. It follows Papillion Creek until the creek drains into the Missouri River, south of Bellevue. The trail then turns north and follows the river to Haworth Park (see Figures 4-1 and 4-3). Although it is not a marked bike route, N-370 through Bellevue can be used to connect the two ends of this trail and make a complete loop. Primary uses of the trail include bicycle riding, walking, cross country skiing, and in-line skating. There are trailhead parking areas at Haworth Park, along Capehart Road west of U.S. 75, and east of Harlan Lewis Road.

In addition to the existing Bellevue Loop Trail, there are three proposed trails in the Study Area. The proposed La Platte Link would connect to the existing Bellevue Loop Trail near Harlan Lewis Road. This link is planned south of Papillion Creek along the Missouri River levee, then westerly along the north side of the Platte River (see Figures 4-1 and 4-3). A second proposed trail along the Iowa levee system has been identified as the Iowa Riverfront Trail in the Back to

¹⁴ A proposed trail is a trail included in the plans of a government agency or public group that has the ability to implement these plans. Implementation of proposed trails is unknown since funding for specific proposed trails has not been identified.

the River Project (see Section 3.8, Recreation, for additional information on Back to the River) and the Missouri River Trail in the Mills County Comprehensive Plan. This trail runs along the Iowa levee system and ends near the mouth of the Platte River for the Back to the River Project and continues southward along the levee in the Mills County Comprehensive Plan. The third proposed trail in the Study Area would utilize Bellevue Boulevard to connect the Nebraska Riverfront Trail with the Bellevue Loop Trail.

3.8 RECREATION

The Study Area includes several public recreational resources. The Missouri River provides opportunities for boating, fishing, and bird and wildlife viewing. The cities of Omaha, Council Bluffs, and Bellevue have developed areas specifically for camping, hiking, and fishing, such as NP Dodge Park, Haworth Park, and the Bellevue Marina, that offer direct access to the river. These areas attract visitors from various parts of the Midwest, resulting in a great deal of recreational use of the Missouri River in and near the Study Area. Master planning has been completed for the Back to the River Project. This multi-dimensional project aims to create an ecological, recreational, and historical corridor along a 64-mile stretch of Missouri River that includes the Study Area. The project would increase access, recreation, and natural habitat along the Missouri River. Public recreational resources in both the Nebraska and Iowa portions of the Study Area are summarized in Table 3-10.

**Table 3-10
Public Recreational Resources in the Study Area**

State	Resource	Activities/Facilities	Managing Agency
Nebraska, Iowa	Missouri River	Boating, fishing, bird and wildlife observation	U.S. Army Corps of Engineers U.S. Coast Guard
Nebraska	Platte River ¹	Fishing, wildlife observation	Nebraska Game and Parks Commission (NGPC)
Nebraska	Papillion Creek	Fishing	Papillion Creek Watershed Partnership
Nebraska	Haworth Park	Camping, picnicking, playground, tennis courts, ice rink	City of Bellevue Parks Department
Nebraska	Baldwin Field	Baseball fields	City of Bellevue Parks Department
Nebraska	Bellevue Marina	Boat docking	City of Bellevue Parks Department
Nebraska	Bellevue Loop Trail ²	Biking, walking, wildlife observation	Papio-Missouri River NRD
Nebraska	Schilling Wildlife Management Area	Fishing, hunting, picnicking, wildlife observation, hiking	NGPC
Iowa	Loess Hills	Hiking, wildlife observation	Iowa Department of Natural Resources (Iowa DNR)
Iowa	Folsom Lake	Swimming, fishing	Iowa DNR

Notes:

¹ Official public access points to the Platte River are not located in the Study Area; however, the public uses the area for fishing and wildlife observation. The official public access points to the Platte River located nearest the Study Area are Platte River State Park and Louisville State Recreation Area, both of which are located near Louisville, Nebraska. These public access points are managed by NGPC.

² Additional information about the Bellevue Loop Trail is located in Section 3.7, Considerations Relating to Pedestrians and Bicyclists.

In addition to public recreational resources, there are semi-public and private recreational resources in the Study Area. Offutt AFB is a semi-restricted public facility that contains various recreational resources such as a golf course, lake, and gymnasium. Access to these resources is limited to Offutt AFB personnel, contractors, and former U.S. Department of Defense employees. Cobra Field, a private recreational resource located northwest of the I-29 rest area in Iowa, is used for flying model airplanes. It is open only to members. The Gene Eppley Salvation Army Camp is a private recreational resource located east of U.S. 75 and north of the Platte River in Nebraska. The camp contains lodging and meeting facilities, food services, and outdoor recreation areas. Permission to use the camp is obtained through the Salvation Army.

3.9 AIR QUALITY

The Clean Air Act Amendments of 1990 (CAAA) and NEPA require that environmental documents address potential air quality impacts. The applicability and extent of the air quality analysis is based primarily on the status of the area studied with respect to Federal and state air quality standards. A geographic area that meets the primary National Ambient Air Quality Standards (NAAQS) established by the U.S. Environmental Protection Agency (EPA) to protect health and the environment is designated as an “attainment area.” Primary standards are established to protect public health and secondary standards are set to protect public welfare.

A geographic area is designated as a “nonattainment”¹⁵ area, if air pollution levels persistently exceed NAAQS for any of six criteria pollutants: carbon monoxide, nitrogen dioxide, sulfur dioxide, ozone, lead, and particulate matter. The units of measure for the standards (see Table 3-11) are parts per million (ppm) by volume, milligrams per cubic meter (mg/m^3) of air, and micrograms per cubic meter ($\mu\text{g}/\text{m}^3$) of air.

The climate of Sarpy and Mills counties is characterized by warm summers, cold winters, and moderate amounts of rainfall. Prevailing winds are from the north/northwest from January to April, and from the south/southeast from May to December (USDA SCS, 1975 and 1982; U.S. Department of Commerce, June 1968). This climate, combined with the topography and land use in the area, helps minimize the likelihood for an exceedance of the NAAQS. Sarpy and Mills counties are both in attainment for all criteria pollutants; thus, no conformity determination is required for the Project.

3.10 NOISE

Traffic noise consists of vehicular engine noise, exhaust noise, and tire noise from contact with the roadway surface. In general, noise can be defined as unwanted sound. Sound is produced by the vibration of sound pressure waves in the air, and sound pressure levels are expressed in units called decibels (dB). Sound also is composed of various frequencies.¹⁶ The human ear is efficient at blocking out very low- and high-frequency sound. Frequencies to which the human ear does not respond must be filtered out, or scaled, when evaluating traffic noise levels. The type of scale that best approximates the frequency response of the human ear is called the A-scale. Therefore, noise levels are measured as and reported in A-weighted decibels (dBA). Table 3-12 provides noise levels (in dBA) common to everyday activities.

¹⁵ A geographic area previously designated as “nonattainment” can be subsequently redesignated as “attainment with maintenance plan” because it meets the NAAQS over a prescribed time period. The redesignation is for a probationary period, and a maintenance plan is put in place to minimize emissions that caused the exceedance of NAAQS and the nonattainment designation.

¹⁶ Frequency refers to the number of sound waves produced in a given time period.

**Table 3-11
National Ambient Air Quality Standards**

Pollutant	Standard Value ¹	Standard Type ²
<i>Carbon Monoxide (CO)</i>		
8-hour Average	9 ppm (10 mg/m ³)	Primary
1-hour Average	35 ppm (40 mg/m ³)	Primary
<i>Nitrogen Dioxide (NO₂)</i>		
Annual Arithmetic Mean	0.053 ppm (100 µg/m ³)	Primary & Secondary
<i>Sulfur Dioxide (SO₂)</i>		
Annual Arithmetic Mean	0.030 ppm (80 µg/m ³)	Primary
24-hour Average	0.14 ppm (365 µg/m ³)	Primary
3-hour Average	0.50 ppm (1300 µg/m ³)	Secondary
<i>Ozone (O₃)</i>		
1-hour Average	0.12 ppm (235 µg/m ³)	Primary & Secondary
8-hour Average	0.08 ppm (157 µg/m ³)	Primary & Secondary
<i>Lead (Pb)</i>		
Quarterly Average	1.5 µg/m ³	Primary & Secondary
<i>Particulate (PM 2.5) – Particles with diameters of 2.5 micrometers or less</i>		
Annual Arithmetic Mean	15 µg/m ³	Primary & Secondary
24-hour Average	65 µg/m ³	Primary & Secondary
<i>Particulate (PM 10) – Particles with diameters of 10 micrometers or less</i>		
Annual Arithmetic Mean	50 µg/m ³	Primary & Secondary
24-hour Average	150 µg/m ³	Primary & Secondary

Source: EPA, April 10, 2003.

Notes:

- ¹ The value in parentheses is an approximately equivalent concentration.
- ² Primary standards set limits to protect public health, including the health of sensitive populations such as asthmatics, children, and the elderly. Secondary standards set limits to protect public welfare, including protection against decreased visibility and damage to animals, crops, vegetation, and buildings.

**Table 3-12
Common Noise Levels**

Activity/Distance	Noise Level (dBA)
Rock band at 16 ft.	110
Jet flyover at 984 ft.	105
Gas lawn mower at 3 ft.	95
Diesel truck at 49 ft.	85
Same truck at 108 ft.	80
Gas lawn mower at 98 ft.	70
Normal speech at 3 ft.	65
Birds chirping	50
Leaves rustling	40
Very quiet soft whisper	30
Threshold of hearing	0

FHWA has developed Noise Abatement Criteria (NAC) and procedures for use in the planning and design of highways. These criteria and procedures are set forth in 23 CFR 772. The NAC noise level is 67 dBA for residential dwellings and 72 dBA for commercial receivers. Impacts occur when the predicted traffic noise levels approach¹⁷ or exceed these levels or when they substantially exceed¹⁸ the existing noise levels, as discussed in Section 4.10, Noise, in Chapter 4, Environmental Consequences.

A noise study was performed as part of this Bellevue Bridge Study. The purpose of the study was to identify current noise levels in the Study Area and to quantify the impacts of the proposed alignments and roadway interchanges relative to the NAC noise levels. The current noise levels were determined as follows:

- No-Build Alternative – Noise monitoring was performed at representative noise receivers. Then computer-generated noise modeling was performed to develop existing noise levels along the existing route (Highway 370). For accuracy, the results were compared to the readings at the monitoring locations.
- Build alternatives – Noise monitoring was performed at representative noise receivers for each alternative to develop noise levels. Modeling was not necessary for an accurate determination of existing noise levels beyond the levels recorded by monitoring because there is currently no traffic on the build alternatives.

The following describes the existing noise levels along Highway 370 for the No-Build Alternative and along the build alternatives. (For the predicted future noise levels for each of these alternatives, see Section 4.10, Noise, in Chapter 4, Environmental Consequences.)

- No-Build Alternative – Existing noise levels range from 51 to 77 dBA, with an average of 65 dBA. The area is developed and includes both commercial and residential land uses.
- Alternative 2 – Existing noise levels range from 48 to 60 dBA. The area is primarily rural in nature. Higher noise levels occur along the Nebraska portion of this alternative because of the close proximity to aircraft operations of Offutt AFB.
- Alternative 3 – Existing noise levels are approximately 46 dBA as the area is predominately rural.

3.11 WATER QUALITY

3.11.1 Surface Water

Surface water quality is protected through several acts and regulations. Section 303(d) of the Clean Water Act requires states, territories, and authorized tribes to identify waters for which existing required pollution controls are not stringent enough to maintain applicable water quality standards and to establish total maximum daily loads (TMDLs) for the pollutants impairing those waters (33 USC 1251 et.seq.). Section 305(b) of the Clean Water Act requires states to submit a biannual report to EPA on the overall water quality status within their state and the degree in which waterbodies support their designated uses (Iowa DNR, 2003). The information maintained

¹⁷ Approach is defined as coming within 1 dBA of the NAC.

¹⁸ Substantially exceed is defined by Iowa DOT Noise Policy as a 10dBA increase above existing noise levels.

by states in accordance with Section 303(d) serves as a portion of the Section 305(b) water quality report.

Title 117 of the Nebraska Department of Environmental Quality's (NDEQ) guidelines, Nebraska Surface Water Quality Standards, lists waterbodies and their beneficial uses. Title 117 identifies numerical criteria that provide standards for protection of an assigned beneficial use and for quantifying allowable pollutant levels. Information maintained by Nebraska in accordance with Title 117 is used to meet the requirements of Section 303(d) (NDEQ, 2001).

Chapter 61 of the Iowa Administrative Code, Water Quality Standards, designates uses of the surface waters within Iowa and identifies criteria to be used to protect these waters. Iowa's credible data law, Iowa Code, Section 455B.194, Subsection 1, defines data quality objectives for the state's Section 303(d) listings. Together, these codes are used to meet the requirements of Section 303(d) for Iowa (Iowa DNR, February 12, 2003).

Existing Conditions

Three surface waters (and their associated drainageways) are located within the Study Area: the Missouri River, the Platte River, and Papillion Creek. The following paragraphs discuss the designated use and water quality of these surface waters.

Missouri River

The Missouri River is the state line between Nebraska and Iowa and as such, the waters of the river are subject to the jurisdiction of both states.

The segment of the Missouri River from the Big Sioux River¹⁹ to the Platte River confluence is classified by NDEQ as a State Resource Water Class A, which requires Tier III protection under the Anti-degradation Clause of Title 117. Tier III requires the existing quality of surface waters to be maintained and protected. Nebraska-designated uses for the Missouri River in this segment include aesthetics, warm water fishery, drinking water, recreation, agriculture, and industry. The segment of the Missouri River from the confluence with the Big Sioux River to the Iowa-Missouri border is classified by Iowa DNR as both A1 and B(WW) designated uses. An A1 designated use means primary contact recreation uses and B(WW) means wildlife and aquatic life uses and significant resource warm water. Iowa-designated uses for the river in this segment include high-quality state resource water, warm water fishery, drinking water, and recreation.

The Missouri River has saturated levels of dissolved oxygen and low nutrient and sediment levels north of the Study Area, but the water quality degrades downstream, with water temperature, nutrient levels, and biological oxygen-demanding materials increasing in segments including the Study Area, and peaking in the vicinity of Kansas City (USACE, August 2001a). Organic nitrogen, nitrate, total phosphorus, and ortho-phosphorus are the primary nutrient concentrations that increase in a downstream direction. Additionally, tributaries (for example, the Platte River, Papillion Creek, and smaller streams) provide an influx of warm, turbid²⁰ waters with elevated levels of nutrients and other oxygen-demanding minerals.

Nebraska's Section 305(b) water quality report indicates that siltation and pathogens are concerns in the segment of the Missouri River including the Study Area. This segment is classified as an impaired waterway on Nebraska's 2002 Section 303(d) list, which cites fecal coliform as the parameter of concern.

¹⁹ The Big Sioux River rises in northeast South Dakota and flows about 420 miles southward, partly along the South Dakota-Iowa border, to the Missouri River at Sioux City, Iowa.

²⁰ Turbid means having sediment or foreign particles stirred up or suspended.

Iowa's 2002 Section 303(d) list does not identify the segment the Missouri River above the mouth of the Platte River as an impaired waterway. But the segment of the river from the Platte River downstream to the Iowa-Missouri state border is listed for flow alterations that impair aquatic life.

Platte River

The segment of the Platte River from the Elkhorn River to the Missouri River is classified as a State Resource Water Class A. Nebraska-designated uses in this area include aesthetics, warm water fishery, drinking water, recreation, and agriculture. Nebraska's 2002 Section 303(d) list identifies this segment as an impaired waterway, citing fecal coliform as the parameter of concern.

Papillion Creek

The segment of Papillion Creek from Big Papillion Creek to the Missouri River is classified as a State Resource Water Class A. Nebraska-designated uses in this area include aesthetics, warm water fishery, and agriculture. Nebraska's 2002 Section 303(d) list does not identify this segment as an impaired waterway.

3.11.2 Groundwater

The underlying aquifer on both the Nebraska and Iowa sides of the Missouri River is a shallow sand and gravel deposit that generally has less than 100 feet in storage and is a source of potable water²¹ from private wells. The water table is near surface elevation. The groundwater on either side of the Missouri River in the Study Area has historically not had contamination problems. However, a Phase I Environmental Site Assessment conducted by HDR revealed six sites that are classified as moderate risk sites according to guidelines in Iowa DOT's Office of Location and Environment (OLE) Draft Procedures Manual. All of the sites have a potential to affect groundwater. Of these, Offutt AFB and PCS Nitrogen have reported spills causing groundwater contamination and are conducting long-term monitoring of local groundwater. A third site, Fast Break Amoco, has recently been identified as having groundwater contamination; a Tier 2 report²² has been filed with Iowa DNR but has not yet been reviewed. Corrective measures have not yet been developed for this site. The three remaining sites, National By-Products Inc., Falt Fisheries, and Hillside Service Company are on the NDEQ backlog and no work is currently ongoing at the sites. For a detailed discussion of these moderate risk sites, see the Phase I Environmental Site Assessment (HDR, November 2003a).²³

3.11.3 Water Treatment Facilities

Several wastewater and drinking water treatment facilities are located within or near the Study Area. These are discussed in the following sections.

Wastewater Treatment

Two wastewater treatment facilities are located within the Study Area. The City of Bellevue wastewater treatment plant is located adjacent to the Missouri River, north of East Mission Avenue, which is next to the Bellevue Bridge. The City of Bellevue maintains this facility. The

²¹ Potable water is water that is suitable for drinking.

²² The purpose of Tier 2 assessment is to collect additional site-specific data and to determine what actual and potential receptors could be affected by chemicals of concern.

²³ Contact Iowa DOT's Office of Location and Environment concerning document access for review.

Omaha Papillion Creek Wastewater Treatment Plant is located on Harlan Lewis Road adjacent to both Papillion Creek and the Missouri River, which is southeast of Offutt AFB. The City of Omaha's Department of Public Works and Engineering maintains the plant. One additional wastewater treatment facility is located north of the Study Area. The City of Omaha Missouri River Treatment Plant is located adjacent to the Missouri River on South 10th Street in Omaha. Because it is not within the Study Area, this facility will not be discussed again.

Potable Water Treatment

Two potable water treatment facilities are located near but outside of the Study Area. The Florence Water Treatment Plant is located in north Omaha (north of the Study Area) and treats Missouri River water. The Platte Water Treatment Plant is located in Sarpy County (west of the Study Area) and treats Platte River water from wells. Water from both treatment plants is blended in the distribution part of the system. MUD in Omaha maintains both facilities. MUD provides drinking water for nearly 179,000 customers within its service area, which includes the Study Area (MUD, February 6, 2004).

3.12 WETLANDS AND OTHER WATERS OF THE U.S.

Waters of the U.S., including wetlands, waterways, lakes, natural ponds, and impoundments are regulated by USACE under Section 404 of the Clean Water Act. A permit from USACE is required to authorize the discharge of dredged or fill material into waters of the U.S. Both Nebraska and Iowa also have regulatory jurisdiction over all waters within each state's respective boundaries. See Section 4.22, Permits and Approvals, in Chapter 4, Environmental Consequences, for a discussion of the permits required for the Project.

3.12.1 Wetlands

Wetlands are defined as "those areas that are inundated or saturated by surface or groundwater at frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions" (33 CFR 328). Wetlands within the Study Area were determined by NDOR and Iowa DOT through field verification of U.S. Fish & Wildlife Service (USFWS) National Wetlands Inventory (NWI) mapping. The NWI was used to provide information for identifying potential wetlands in the project corridor. The NWI uses wetland assessment methodologies largely based on remote sensing methods. Such methods are useful for rough assessments over large areas; however, field-based assessments are always more accurate on an individual wetland site level. Aerial photographs and U.S. Geological Survey (USGS) maps were plotted with the Study Area boundary, and an NWI layer was applied to identify potential wetlands. In addition, USDA soil surveys for Sarpy and Mills counties were used to determine hydric soil locations conducive to sustaining wetlands conditions. See Section 3.14, Fish and Wildlife, for a general discussion of wetland habitat.

Wetlands in the Study Area (see Figures 4-2 and 4-4) consist primarily of palustrine and riverine systems. Palustrine system wetlands include all nontidal wetlands dominated by trees, shrubs, persistent emergents,²⁴ and emergent mosses and lichens. Palustrine system wetlands are generally bounded by uplands or by any other type of wetland system (Cowardin et al, December 1979).

²⁴ Persistent emergents are emergent hydrophytes (see footnote 24) that normally remain standing at least until the beginning of the next growing season.

Two wetland classes within the palustrine system are present in the Study Area: emergent and forested. The following defines these two wetland classes (Cowardin et al, December 1979):

1. Palustrine emergent (PEM) – characterized by erect, rooted, herbaceous²⁵ hydrophytes,²⁶ excluding mosses and lichens. Emergent wetlands are commonly called marshes, wet meadows, and sloughs.
2. Palustrine forested (PFO) – characterized by woody vegetation that is 20 feet or taller. Forested wetlands include riparian, or streamside, areas adjacent to the Missouri River.

Riverine systems include all wetlands and deepwater habitats contained within a channel with the exception of wetlands dominated by trees, shrubs, persistent emergents, emergent mosses, or lichens (Cowardin et al, December 1979). The riverine system present in the corridors for both build alternatives is on the left bank of the Missouri River. The right and left banks refer to the side of the river looking downstream. Because the Missouri River is flowing south in this river segment, the right bank is the west bank (Nebraska) and the left bank is the east bank (Iowa). This particular riverine system has a low gradient (slope of channel), slow water velocity, and continual flow. This type of riverine system is defined as “lower perennial subsystem”²⁷ (R2).

3.12.2 Waterways

For the purpose of this discussion, waterways include rivers, streams, and intermittent streams. Under current USACE policy, aside from the definition of waters of the U.S. in 33 CFR 328, waterways are considered jurisdictional (that is, subject to jurisdiction) if a definable bed and bank is present.

Waterways within the Study Area were determined by NDOR and Iowa DOT by identifying perennial and intermittent waterways on USGS quadrangle topographical maps, aerial photography, and field observations. In Nebraska, Papillion Creek and the Missouri and Platte rivers meet the criterion for a jurisdictional water of the U.S. in that they all have a definable bed and bank. In Iowa, several small intermittent waterways exist within the Study Area that would be considered jurisdictional.

3.12.3 Lakes, Ponds, and Impoundments

Generally, lakes, ponds, and impoundments are subject to USACE jurisdiction provided that the waterbody is susceptible to interstate or foreign commerce (33 CFR 328). Within the Study Area, several lakes, commercial fisheries, and impoundments are present, including Base Lake near Offutt AFB in Nebraska and Folsom Lake in Iowa.

²⁵ Herbaceous is a modifier for plants with characteristics of an herb, having no persistent woody stem above ground.

²⁶ Hydrophytes are plants growing in water or on a substrate that is at least periodically deficient in oxygen as a result of excessive water content. Examples are rushes and sedges.

²⁷ In a lower perennial subsystem, the gradient is low and water velocity is slow. There is no tidal influence, and some water flows throughout the year. The substrate consists mainly of sand and mud. Oxygen deficits may sometimes occur, the fauna is composed mostly of species that reach their maximum abundance in still water, and true planktonic organisms are common. The gradient is lower than that of the upper perennial subsystem, and the floodplain is well developed (Cowardin et al, December 1979).

3.13 FLOODPLAINS

The Federal Emergency Management Agency (FEMA) has mapped the 100-year floodplain for the surface waters within the Study Area, which include Papillion Creek and the Missouri and Platte Rivers. FEMA has also identified the floodway²⁸ for these surface waters, which generally includes the area between the federal flood control levees on either side of Papillion Creek and the Missouri River. The Platte River floodway is bounded by a levee in Sarpy County but does not appear to be defined in Cass County. The build alternatives cross Papillion Creek and the Missouri River, their associated floodways, floodplains, and interior drainage areas (see Figures 4-1 and 4-3).

Several Federal levees offer flood protection within the Study Area. In Nebraska, levee R 616 borders the right bank of the Missouri River from within the city limits of Bellevue (adjacent to the river) southward to the confluence of Papillion Creek and the Missouri River. Levee R 613 borders the right bank of the Missouri River from the confluence of Papillion Creek and the Missouri River southward to the confluence of the Platte River and the Missouri River. Levee R 613 also borders the right and left banks of Papillion Creek toward the city limits of Bellevue near U.S. 75 and the left bank of the Platte River to U.S. 75. In Iowa, levees L 611 through 614 border the left bank of the Missouri River and span from near River Mile 606 to River Mile 588.

3.14 FISH AND WILDLIFE

The Missouri River, its associated waterways, and the adjacent floodplain provide diverse biological resources that support a variety of fish and wildlife populations. This section discusses the fish and wildlife habitats and the species common to these habitats within the Study Area. See Section 3.15 for information on threatened and endangered species and their associated habitat in the Study Area.

3.14.1 Fish

Impoundment, channelization, degradation, and unnatural hydrologic conditions have changed the fish species composition in many areas of the Missouri River. Within the Study Area, construction of dikes, revetments, and the navigation channel has made the main river channel narrow and deep, with a greater water velocity and lower sediment loads. As a result, much of the shallow-water habitat has been lost and replaced with turbid waters with many backwater and side channel habitats (USACE, March 2003a).

USFWS developed a list of 91 fish species that are currently found in the lower Missouri River, which includes the Study Area. The most common species include emerald shiner, river carpsucker, channel catfish, gizzard shad, red shiner, shorthead redhorse, and carp. Pallid sturgeon, shovelnose sturgeon, and paddlefish are also found in the lower Missouri River (USACE, March 2003a).

3.14.2 Wildlife

Agricultural practices and commercial and residential development have altered the natural habitat in various areas adjacent to the Missouri River, but some areas of native uplands and wetlands still remain. Much of the land within the Study Area has been disturbed by agricultural practices, making agricultural land one of the primary wildlife habitats in the Study Area.

²⁸ The floodway is that portion of the floodplain that includes the stream channel and overbank areas that must be reserved in order to discharge the 100-year flood without cumulatively increasing the 100-year water surface elevation more than 1 foot (FEMA, August 3, 1989).

Wildlife species found on the agricultural land in the Study Area are those that feed on crops. Examples are white-tailed deer, rabbits, mice, and avian species such as crows and pheasants (Iowa DNR, Biodiversity of Iowa). Agricultural land has a low carrying capacity for wildlife.²⁹

The other main wildlife habitat types within the Study Area are nonwetlands (uplands and lowlands) and wetlands. For this analysis, agricultural lands were identified separately and are uplands or lowlands that are used for crops or pasture. Upland and lowland areas are dry areas consisting of either forestland³⁰ or rangeland.³¹ Wildlife species common to forest areas include raccoon, white-tailed deer, striped skunk, fox squirrel, eastern chipmunk, bobcat, brown snake, wood turtle, and avian species such as eastern wild turkey, red-tailed hawk, and downy woodpecker (Iowa DNR, Habitat Rummy). Wildlife species common to rangeland include badger, coyote, eastern mole, whitetail jackrabbit, prairie rattlesnake, bull snake, and avian species such as grasshopper sparrow, American goldfinch, and western meadowlark (Iowa DNR, Habitat Rummy).

Wildlife species found in emergent and forested wetlands are similar. However, the presence of wildlife species in wetlands varies due to changes in wetland hydrology conditions from season to season. Wildlife species common to wetlands include beaver, mink, muskrat, plains garter snake, map turtle, bullfrog, tiger salamander, and avian species such as Canada goose, herring gull, peregrine falcon, and least tern (Iowa DNR, Habitat Rummy). For information regarding specific wetland types within the Study Area, see Section 3.12, Wetlands and Other Waters of the U.S.

Migratory birds³² are known to use the Study Area for nesting, which occurs primarily between April 1 and July 15. In addition, migratory birds may also nest on bridge structures. Migratory birds known to use the Study Area include dabbling duck species, such as the wood duck, mallard, northern shoveler, northern pintail, gadwall, blue-winged teal, green-winged teal, and American widgeon; species of diving ducks, such as ring-necked, lesser scaup, ruddy, redhead, common golden-eye, and bufflehead; and species of geese, such as Canada geese, snow geese, and white-fronted geese (USACE, March 2003a).

3.15 THREATENED OR ENDANGERED SPECIES

Threatened or endangered (T&E) species are protected under the Endangered Species Act of 1973 (ESA), as amended (16 USC 1531 et seq.). ESA provides for the protection of animal and plant species that have been determined to be in population decline and are in jeopardy of becoming extinct. USFWS has the authority of the Federal government to administer the protection of such species.

3.15.1 Potential Species in the Study Area

USFWS provided a list of Federally listed species that may exist in the Study Area (USFWS, April 16, 2003). NGPC also provided a list of Federally and state-listed species that may exist in

²⁹ Carrying capacity refers to the size of a population that can live indefinitely in an environment without degrading that environment.

³⁰ Forestland is defined as a land cover or use that is “at least 10 percent stocked by single stemmed forest trees of any size which will be at least 4 meters (13 feet) tall at maturity” (USDA NRCS, December 13, 2000).

³¹ Rangeland is defined as a land cover or use in which “the climax or potential plant cover is composed principally of native grasses, grasslike plants, forbs or shrubs suitable for grazing and browsing” (USDA NRCS, December 13, 2000).

³² Migratory birds are protected under the Migratory Bird Treaty Act (16 USC 703-712, as amended).

the Study Area (NGPC, March 3, 2003). Iowa DNR indicated that they have “no site-specific records of rare species or significant natural communities” within the Study Area (Iowa DNR, February 3, 2003). Table 3-13 lists the species identified by USFWS and NGPC, their threatened or endangered status, and their expected occurrence. Subsequent sections provide detailed information regarding each species listed.

**Table 3-13
Threatened and Endangered Species**

Common Name	Scientific Name	Status ¹	Expected Occurrence
<i>Birds</i>			
Bald eagle	<i>Haliaeetus leucocephalus</i>	Threatened	Migration, winter resident, nesting
Interior least tern	<i>Sterna anattillarum</i>	Endangered	Migration, nesting
Piping plover	<i>Charadrius melodus</i>	Threatened	Migration, nesting
<i>Fish</i>			
Pallid sturgeon	<i>Scaphirhynchus albus</i>	Endangered	Feeding, potential spawning, migration
Lake sturgeon	<i>Acipenser fulvescens</i>	Federal species of special concern ² , Nebraska listed as threatened, Iowa listed as endangered	Missouri River
Sturgeon chub	<i>Macrhybopsis gelida</i>	Federal species of special concern ² , Nebraska listed as endangered	Missouri River
<i>Plants</i>			
Western prairie fringed orchid	<i>Platanthera praeclara</i>	Threatened	Tallgrass prairie
Small white lady’s slipper	<i>Cypripedium candidum</i>	Federally listed as threatened, Nebraska listed as threatened, Iowa species of concern	Wet, boggy soil of meadows and prairies
American ginseng	<i>Panax quinquefolius</i>	Nebraska listed as threatened	Good-quality upland hardwood forests

Notes:

¹ Federal and state (Nebraska and Iowa) status unless otherwise noted.

² Species of Special Concern is an informal term that refers to those species that USFWS believes might be in need of concentrated conservation actions. Such conservation actions vary depending on the health of the populations and degree and types of threats. Species of concern receive no legal protection (USFWS, Endangered Species Glossary).

American Bald Eagle

The bald eagle (*Haliaeetus leucocephalus*) is a Federally, Nebraska-, and Iowa-listed threatened species. On July 6, 1999, USFWS submitted a proposal for delisting the bald eagle from threatened status. The proposal is currently in review.

Bald eagles can generally be found statewide in both Iowa and Nebraska but tend to occur most frequently along streams, rivers, and other permanent bodies of water, using mature riparian timber as perches for feeding and loafing.

Habitat supporting the bald eagle is characterized by aquatic ecosystems. The bald eagle must have access to lakes, reservoirs, major rivers, and selected seacoast habitats that have an abundant source of food, including fish, seagulls, and carrion, and that have adjacent riparian areas with large, mature trees suitable for nesting and roosting. There have been no critical habitat designations for the bald eagle. Consequently, none of the land within the Study Area is considered critical habitat.

In North America, eagles migrate both north and south during the yearly climatic changes associated with the seasons of the year. The distance of migration depends on the severity of the winter climatic conditions and subsequent available habitat for feeding. The bald eagle is associated with the Missouri River during annual migrations and throughout the winter where open water is present. The southward migration of bald eagles begins as early as October, and the wintering period extends from December to March.

During the winter, this species feeds on fish in open water areas created by dam tailwaters, the warm effluents of power plants and municipal/industrial discharges, or power plant cooling ponds. The Missouri River floodplain is a major wintering area for the bald eagle due to the presence of large dead or dying cottonwood trees located along the banks of the river. Wintering eagles are most abundant along the Missouri and Platte Rivers directly south of the Study Area (USFWS, April 16, 2003). The frequency and duration of bald eagle use of these areas depends on the weather conditions and presence of ice. Bald eagles nest in Nebraska and Iowa from mid-February through mid-August. They tend to nest in large trees with specific size and structure characteristics. Bald eagles usually nest in the same territories each year, often using the same nest repeatedly.

NGPC Midwinter Bald Eagle Survey results indicate that bald eagles occur on a frequent and regular basis within and near the Study Area. The survey counts numbers of individuals along the Missouri River at a target date (January 1 through 15) and segments the river stretch by major landmarks (usually bridges). Although the numbers of bald eagles within the survey area³³ have fluctuated, the total numbers of bald eagles observed upstream and downstream of Highway 370 show an increasing trend since 1990. This area annually supports an average of 25 wintering bald eagles. Because the Missouri River area is mainly used during migration and winter roosting, the number of bald eagles is dependent on the conditions such as ice cover, water levels, and available roosting habitat. NGPC survey results for the last 14 years vary from 11 to 60 individual eagles spotted (NGPC, January 2004).

According to the National Biological Information Infrastructure (NBII) Midwinter Bald Eagle Count website, from 1986 to 2000, the wintering population of bald eagles in the State of Nebraska has increased an estimated 5.9 percent. This local trend of increasing population is also observed on a national scale.

According to the USFWS Bald Eagle Population Chart (1963-2000), eagle pair populations have dramatically increased in the ten-year period from 3,035 pair in 1990 to 6,471 pair in 2000 (USFWS, How Many Bald Eagles are There? [USFWS website]).

³³ For the purpose of this analysis, the survey area is approximately 25 miles upstream and downstream from Highway 370 along the Missouri River. The upstream (north) portion of the survey area begins at I-680 south to Highway 370 and the downstream (south) portion stretches from Union, Nebraska, north to Highway 370.

Interior Least Tern and Piping Plover

The interior least tern (*Sterna anatillarum*) is a Federally, Nebraska-, and Iowa-listed endangered species and the piping plover (*Charadrius melodus*) is a Federally, Nebraska-, and Iowa-listed threatened species. Both species may occur in the Study Area. The interior least tern and piping plovers nest from mid-April to mid-August on sparsely vegetated sandbars in rivers and on sand piles resulting from sand- and gravel-mining operations. In Nebraska, the highest concentrations of these species occur along the Platte River. The Nebraska riverine nesting sites of the interior least tern and piping plover along the Platte River and near the mouth of the Platte River are sparsely vegetated sand and gravel bars within a wide, unobstructed river channels. The home range of the tern during the breeding season is usually limited to the reach of the river near the sandbar nesting site.

Although interior least terns and piping plovers may use the Missouri River corridor during migration, windshield surveys of the Missouri River in the vicinity of the alternatives did not locate any terns or plovers and confirmed that the Study Area does not currently contain suitable habitat for these species. No critical habitat has been designated for either species within or surrounding the Study Area.

Pallid Sturgeon and Lake Sturgeon

The pallid sturgeon (*Scaphirhynchus albus*) is a Federally, Nebraska-, and Iowa-listed endangered species. The lake sturgeon (*Acipenser fulvescens*) is a Federal species of special concern and a Nebraska-listed threatened and Iowa-listed endangered species. Because it is not a Federally listed threatened or endangered species, the presence or absence of the lake sturgeon is not subject to Section 7 requirements for consultation with USFWS. Pallid and lake sturgeon are found in the Missouri River and the lower Platte River. Floodplains, backwaters, chutes, sloughs, islands, sandbars, and main channel waters form a large river ecosystem that provides microhabitat requirements for the pallid sturgeon. Historically, pallid and lake sturgeon habitat was subject to constant change due to influences from the natural hydrograph³⁴ and sediment runoff inputs from a large watershed spanning portions of 10 states and Canada. Navigation, channelization, and bank stabilization as well as hydropower generation projects have altered the natural hydrograph and caused a widespread habitat loss and decline of the sturgeon in the Missouri River.

Pallid sturgeon feed on small fish and invertebrates and can be found in association with riverine sandbars. Often, the pallid sturgeon is found near confluences, islands, and downstream margins of sandbars. Sandbar pools, bankline margins, and side channels with complex cover are important habitat for sturgeons. It is believed that the species spends some time in the Missouri River and annually returns to the Platte River to spawn or possibly over winter.

Lake sturgeon feed on invertebrates and small fish. They can be found at the downstream margins of islands and river confluences.

The Project is located within one of the six Recovery Priority Management Areas (RPMAs) designated for the pallid sturgeon in the Mississippi and Missouri river basins. The RPMA in the Study Area extends 20 miles upstream and downstream from the confluence of the Platte and Missouri rivers. USFWS selected the RPMAs based on the most recent records of occurrence and on the probability that these areas still provide suitable habitat for the pallid sturgeon and have significant potential to contribute to the restoration and recovery of the species (USFWS, April 16, 2003). The confluence areas of major tributaries, such as the Platte River, were

³⁴ The stage, flow, velocity, or other property of water with respect to time.

emphasized in selecting the RPMA's because of their importance in providing feeding and nursery habitats for the pallid sturgeon.

Sturgeon Chub

The sturgeon chub (*Macrhybopsis gelida*) a Federal species of special concern and is listed as endangered in Nebraska but is not a listed species in Iowa. Because it is not a Federally listed threatened or endangered species, the presence or absence of the sturgeon chub is not subject to Section 7 requirements for consultation with USFWS. The sturgeon chub is associated with fast-flowing water and a gravel riverbed and feeds on invertebrates. In the main Missouri River channel, only shallow areas found along the outermost banks of the river would be suitable for these fish. The species has been collected in side chutes and backwaters that may provide suitable spawning habitat for these fish. Alterations to the natural hydrograph, flow depletions, and river channelization have caused a decline of the sturgeon chub.

Western Prairie Fringed Orchid

The western prairie fringed orchid is a Federally, Nebraska-, and Iowa-listed threatened species. The range of the western prairie fringed orchid extends from the Mississippi River westward to the Sandhills of Nebraska. The orchid grows as far north as Manitoba, Canada, and as far south as Oklahoma. The western prairie fringed orchid is a long-lived perennial that emerges in May and blooms in late June to early July. The western prairie fringed orchid is native to tallgrass calcareous silt loam, moist sand prairies, sedge and hay meadows, wet uplands, and river bottom prairies and meadows with exposure to full sunlight (USFWS, 1996). A common feature of many sites is sub-irrigation by nearby groundwater. The likelihood of the western prairie fringed orchid being present is determined by the presence of native grasses such as switchgrass (*Panicum virgatum*), Indian grass (*Sorghastrum nutans*), big bluestem (*Andropogon gerardii*), and little bluestem (*Schizachyrium scoparium*). On occasion, areas where these native grasses are hayed would be prime habitat (Nature Conservancy, June 1996).

Surveys completed in 1996 by USFWS for the Western Prairie Fringed Orchid Recovery Plan documented known populations in six counties in Nebraska and 15 counties in Iowa. There is one known population of orchids in Sarpy County and one population in Mills County. Individual occurrences of the orchids have also been documented in two other Mills County locations (USFWS, 1996). All of these known populations and individuals occur outside the Study Area.

Small White Lady's Slipper

The small white lady's slipper orchid is a Federally and Nebraska-listed threatened species and an Iowa species of special concern. The small white lady's slipper orchid is a typical prairie species and grows in the wet, boggy soil of meadows and prairies and in wet open areas of tamarack and spruce sphagnum bogs. This orchid can also be found along forest margins, clearings, and boggy or swampy woodland areas. It is a sun-loving plant that also thrives in partial shade, but it is considered a shade-intolerant species and is rarely found growing in full shade. The small white lady's slipper requires rich, highly calcareous soil and prefers alkaline soil (pH >7) and a southerly exposure with the opportunity for full sun. It often grows in the company of another closely related species, the yellow lady's slipper (Smith, 2000). There are no known populations of small white lady's slipper in the Study Area.

American Ginseng

American ginseng is a Nebraska-listed threatened species; however, it is not a Federally or Iowa-listed species. Because it is not a Federally listed threatened or endangered species, the presence or absence of this species is not subject to Section 7 requirements for consultation with USFWS.

American ginseng occurs primarily in rich, mesic woods, often on slopes, over a limestone or marble parent material. Ginseng can be found in bluff areas with high canopy, typically with bur oak (*Quercus macrocarpa*) and green ash (*Fraxinus pennsylvanica*) and a well-shaded understory with adequate moisture (NGPC, June 13, 2003). Other associated species include bloodroot (*Sanguinaria canadensis*), black cohosh (*Cimicifuga spp*), maidenhair fern (*Adiantum pedatum*), and yellow lady's slipper (*Cypripedium pubescens*). American ginseng occurs from Maine west to the Province of Ontario and perhaps Manitoba, and south to Florida, Alabama, Louisiana, and Kansas. It is most characteristic of the Appalachian and Ozark regions (George-Bernard, 2000). There are no known populations of American ginseng in the Study Area.

3.15.2 Threatened and Endangered Species Field Survey

Initial contact with USFWS, NGPC, and Iowa DNR was completed as part of the 1996 Draft EIS. A field survey was performed in 1995 to determine whether the western prairie fringed orchid was present in the Study Area. The western prairie fringed orchid was not observed during this field survey.

In 2001, during the re-scoping process for the Project, NGPC requested an updated survey for the western prairie fringed orchid. In subsequent correspondence with NGPC, the need for additional surveys to assess the potential of encountering other T&E species within the current Study Area was identified.

Based on the evaluation and recommendations from NGPC, surveys for the western prairie fringed orchid, small white lady's slipper, and American ginseng were conducted from July 1-3, 2003, to evaluate potential habitat identified along the corridors for the two build alternatives.

Several forested, herbaceous upland, and transitional areas with calcareous soil are present in the corridors. These areas have been classified as potential habitat for western prairie fringed orchid, small white lady's slipper, and American ginseng. The areas were identified through desktop analysis and were visited in the field. Most areas have been subject to frequent disturbance and contain marginal habitat dominated by invasive species such as smooth brome and reed canary grass.

No individuals or populations of western prairie fringed orchid, small white lady's slipper, or American ginseng were identified in the corridors for the build alternatives. The field survey concluded that populations of the western prairie fringed orchid, small white lady's slipper, and American ginseng are not present in the surveyed portions of the corridors. Potential habitat areas along the preferred alternative where survey access was denied would need to be surveyed after acquisition and prior to construction.

3.16 HISTORIC AND ARCHAEOLOGICAL PRESERVATION

Section 106 of the National Historic Preservation Act of 1966 (NHPA) requires Federal agencies to determine whether their undertakings have adverse impacts on historic properties (any site, structure, or other property listed in or eligible for listing on the NRHP) and to afford the Advisory Council on Historic Preservation (ACHP) a reasonable opportunity to comment in the event that there is disagreement on adverse effect determination made by the Federal agency and reviewed by a State Historic Preservation Office (SHPO). Historic properties include historic structures and archaeological sites. Surveys and background research were conducted for the 1996 Draft EIS, and this information was supplemented for this EIS by additional intensive-level surveys within the designated corridors that included the build alternatives.

For this Project, the Area of Potential Effect (APE) for archaeological sites included the preliminary ROW and an area 250 feet (minimum) on either side of the centerline for each build alternative in Nebraska. In Iowa, the APE for archaeological sites included the preliminary ROW and an area 500 feet on either side of the centerline for each build alternative. For historic properties, the APE included the preliminary ROW and a 0.5-mile-wide area centered on the centerline of each build alternative in both Iowa and Nebraska, excluding properties on Offutt AFB.

The Nebraska State Historical Society (NSHS) conducted archaeological research supplemented by a field survey for the APE in Nebraska (NSHS, January 16, 2004). Tallgrass Historians L.C. performed an archaeological survey for the APE in Iowa and historic structure surveys for the APE in Nebraska and Iowa (Tallgrass Historians L.C., January 2004, November 2003b, and November 2003a). Because an alternative was initially considered that involved rehabilitation of the Bellevue Bridge, the bridge was evaluated for eligibility for listing on the NRHP (The Louis Berger Group, Inc., November 26, 2002).

3.16.1 Historic Properties

The Bellevue Bridge was determined ineligible for listing on the NRHP (The Louis Berger Group, Inc., November 26, 2002). The Iowa SHPO has concurred with the ineligibility determination of the Bellevue Bridge (Iowa DOT, April 22, 2003), as has the Nebraska SHPO (NDOR, July 23, 2003). Both concurrence letters are reproduced in Appendix A.

A total of 22 properties (all in Nebraska and none in Iowa), some with multiple individual resources, were evaluated in the APE for Alternative 2. Of that total, 10 properties had at least one principal building that appeared to be 50 years of age or older, while the remaining buildings were modern and appeared to be less than 50 years old. None of these properties were determined eligible for listing on the NRHP.

A total of 13 properties (3 in Nebraska and 10 in Iowa), some with multiple individual resources, were evaluated in the APE for Alternative 3. Of the principal buildings on these 13 properties, 9 were of modern construction and appeared less than 50 years old. Only one property had at least one principal resource 50 years of age or older. The Rahn farmstead (#NE 02) at 708 La Platte Road includes an I-house variation that represents a rare regional example of this folk form and is excellent evidence of the persistence of the I-house west of the Missouri River and into the Great Plains. The I-house is considered eligible for listing on the NRHP under Criterion C for its architecture. The other structures at the Rahn property were determined not individually eligible for listing on the NRHP and the farmstead was not determined eligible as a whole because of the wide range of construction dates.

3.16.2 Archaeological Resources

In Nebraska, fieldwork along portions of the build alternative corridors has been completed intermittently since the early 1990s and has resulted in the identification of 17 archaeological sites in the vicinity of the build alternatives. Only one site (25SY80) meets the minimum significance and integrity criteria for listing on the NRHP and this site is outside the APE (NSHS, January 16, 2004). Two ineligible sites (25SY347 and 25SY115) are within the APE for Alternative 2 (see Table 3-14), and two ineligible sites (25SY89 and 25SY90) are within the APE for Alternative 3 (see Table 3-15). Site 25SY80 is located outside of the APE and approximately 1,200 feet north of the centerline of Alternative 3.

In Iowa, two sites (13ML164 and 13ML599) previously recorded were reexamined during this study and seven previously unrecorded sites were identified and evaluated. The seven new sites were all within the APE for Alternative 3. Site 13ML164, the former townsite of St. Mary, is

predominately south of the APE for Alternative 2. While this site is potentially eligible for listing on the NRHP, no archaeological evidence at the platted townsite location was found within the APE (see Table 3-14). Site 13ML599 was identified in the 1996 Draft EIS as potentially eligible for listing on the NRHP and was recommended for further evaluation. The intensive reevaluation found the site to be much larger than originally recorded, but the site was determined ineligible for listing on the NRHP because of insufficient integrity. Site 13ML599 is within the APE for Alternative 3.

Of the seven new sites recorded within the APE for Alternative 3 (13ML623-629), all but 13ML626 were determined to be ineligible for listing on the NRHP for lack of sufficient integrity or significance (see Table 3-15). Site 13ML626 was considered potentially eligible for listing on the NRHP.

The Alternative 2 APE has a low potential for containing intact boat wrecks of significance, and no further investigation related to this property type is necessary (Tallgrass Historians L.C., January 2004). Compared to the Alternative 2 APE, the Alternative 3 APE includes areas that experienced a lesser degree of major river channel fluctuations in the late 19th and early 20th centuries and consequently has a higher potential for buried boat wrecks.

Table 3-14
Archaeological Resources Near Alternative 2

Site ID	Cultural Affiliation	Description	Physical Integrity	Significance	NRHP Eligible	Recommendation
<i>Nebraska</i>						
25SY115	Native American, unassigned	Sparse scatter of chipped stone debris	Low	Low	No	No further work.
25SY347	Native American, unassigned	Sparse scatter of chipped stone debris	Low	Low	No	No further work.
<i>Iowa</i>						
13ML164	Euro-American	Historic town site	No artifacts detected	High	Potential	Further work if to be impacted. Currently located outside ROW.

Sources: Nebraska sites: NSHS, January 16, 2004. Iowa sites: Tallgrass Historians L.C., January 2004.

**Table 3-15
Archaeological Resources Near Alternative 3**

Site ID	Cultural Affiliation	Description	Physical Integrity	Significance	NRHP Eligible	Recommendation
<i>Nebraska</i>						
25SY80 (located outside of the APE)	Native American, Middle-Late Archaic	Dense scatter of fire-cracked rock (FCR), and chipped stone debris and tools	Moderate	High	Yes	No further work.
25SY89	Native American, unassigned	Sparse scatter of chipped stone debris	Low	Low	No	No further work.
25SY90	Native American, Early Archaic	One projectile and one piece of FCR	Low	Low	No	No further work.
<i>Iowa</i>						
13ML599	Euro-American	Historic habitation site	Low	Low	No	No further work.
13ML623	Suspected Historic Era	Buried faunal remains	Moderate	Low	No	No further work.
13ML624	Euro-American	Historic habitation site	Low	Low	No	No further work.
13ML625	Euro-American	Historic habitation site	Low	Low	No	No further work.
13ML626	Euro-American	Historic habitation site	Moderate	Moderate	Potential	Further work if to be impacted. Currently located outside ROW.
13ML627	Euro-American	Historic scatter	Low	Low	No	No further work.
13ML628	Euro-American	Isolated horse burial	High	Low	No	No further work.
13ML629	Suspected Historic Era	Buried faunal remains	Moderate	Low	No	No further work.

Sources: Nebraska sites: NSHS, January 16, 2004. Iowa sites: Tallgrass Historians L.C., January 2004.

3.17 SECTION 4(f) PROPERTIES

Section 4(f) of the U.S. Department of Transportation Act of 1966 states in part:

It is the policy of the United States Government that special effort be made to preserve the natural beauty of the countryside and public park and recreation lands, wildlife and waterfowl refuges, and historic sites. (49 USC 303)

In accordance with this national policy, Section 4(f) properties must be closely evaluated before they can be used in a transportation project. In order for FHWA to approve the use of Section 4(f) properties, there must be no feasible and prudent³⁵ alternative to the use and all possible planning must have been included to minimize harm resulting from such use.

Section 4(f) properties are:

- Public recreation areas
- Parks
- Wildlife and/or waterfowl refuges
- Significant historic properties, excluding those properties only eligible for listing on the NRHP under criterion D (these same resources are also considered under Section 106 of the NHPA)

The Study Area contains the following public recreation areas that have the potential to be Section 4(f) properties if impacted by the Project: Haworth Park, Bellevue Marina, Baldwin Field, Bellevue Loop Trail, Schilling WMA, and Folsom Lake (see Section 3.8, Recreation, for additional information on these public recreational areas).

3.18 REGULATED MATERIALS

Properties in the Study Area where hazardous materials have been stored may present a future risk if spills or leaks have occurred. Contaminated or potentially contaminated properties are of concern for transportation projects because of the associated liability of acquiring the property through ROW, the potential cleanup costs, and the safety concerns related to exposure to contaminated soil, surface water, or groundwater.

A survey of the Study Area was conducted using Phase I Environmental Site Assessment methods to identify sites with recognized environmental conditions (RECs).³⁶ Environmental Data Resources, Inc. (EDR) conducted a file search for a 110-square-mile area that included both the Bellevue Bridge Study Area and the Plattsmouth Bridge Study Area. The results of this search were compiled in two reports, one including sites in Sarpy County (EDR, April 29, 2003) and one including sites in Mills County (EDR, April 28, 2003). The sites identified were plotted on an aerial photograph with preliminary alignments considered for the Project. Next, the sites within one-half mile on either side of each preliminary alignment were identified. Visual inspection was performed for the sites within or near the 1-mile corridor, and any other properties or conditions of concern not identified in the EDR reports were noted as well. Finally, interviews

³⁵ In order for an alternative to be considered “feasible and prudent,” it must not create any “truly unique problems (defined as costs or community disruption of extraordinary magnitude or an accumulation of truly unique or unusual factors).

³⁶ According to the American Society for Testing and Materials, a REC is the presence or likely presence of hazardous substances or petroleum products that may release into structures on a property or into the ground, groundwater, or surface water of that property.

were conducted with property owners, operators, lessees, tenants, or other individuals with knowledge of the environmental conditions of those properties identified by the EDR reports or during the visual inspection as potential environmental concerns.

A review of the findings shows six sites with RECs near the build alternatives (see Figures 4-1 and 4-3); the remaining sites identified are not reported because they are not likely to pose a risk due to their distance from the build alternatives.

There are four sites near Alternative 2. The Offutt AFB property line is approximately 675 feet north of the centerline of Alternative 2. Offutt AFB is associated with several database listings, including a trichloroethylene (TCE) groundwater plume extending from the southeast portion of the base and located at least one-quarter mile north of the centerline of Alternative 2. The property line of the Falt Fisheries³⁷ property that contains a leaking underground storage tank (LUST) is located approximately 2,400 feet north of the centerline of Alternative 2. The National By-Products Inc. property line is located approximately 1,300 feet south of the centerline of Alternative 2 and has a LUST. An observed unnamed Debris Site (which appears to be an inactive dump site) is located approximately 3,700 feet south of the centerline of Alternative 2 (not shown on figures due to distance) on land owned by the Papio-Missouri River NRD (the property line of the parcel on which the Debris Site is located is 900 feet south of the centerline of Alternative 2).

Two sites are near Alternative 3. The northeast corner of PCS Nitrogen's property is crossed by Alternative 3. PCS Nitrogen is associated with several database reports, including soil and groundwater contamination as the result of a fertilizer spill. Fast Break Amoco is located approximately 400 feet from the centerline of Alternative 3 and has a LUST and three waste stabilization lagoons.

3.19 VISUAL

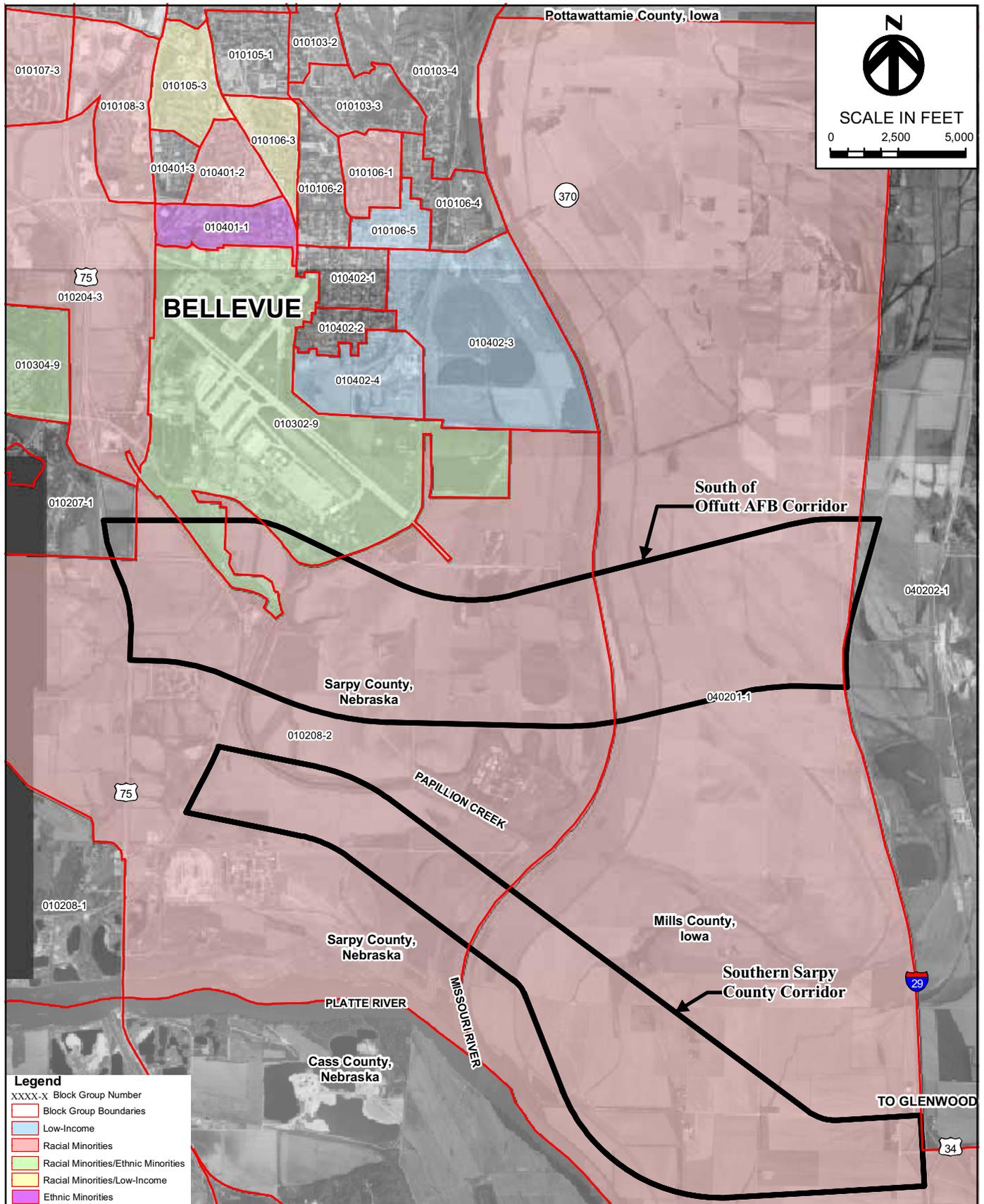
Visual landscape characteristics are observed objects that affect the aesthetic value of an environment. They can be natural, such as trees or rivers, or manmade, such as roadways and utility poles. They can also be permanent, such as a house, or temporary, such as a moving vehicle. A variety of natural and manmade features contribute to the visual resources of an area.

In Sarpy and Mills counties, the properties adjacent to both build alternatives are primarily agricultural. The corridors for the build alternatives consist of a blend of agricultural areas along with low-density residential and light commercial areas. The generally open nature of the terrain allows for a panoramic view from many vantage points. The following natural and manmade features are present in the Study Area in Nebraska and Iowa: cropland, fences, utility poles, the Missouri River and its floodplain and levees, two-lane roads with signs, vegetation patterns altered by land use and management practices, and wildlife.

In addition to the aforementioned natural and manmade features, Sarpy and Mills counties include other visual features. Sarpy County includes the following visual features in the vicinity of both build alternatives: U.S. 75, UPRR and BNSF rail lines, Papillion Creek and associated levees, farmsteads and farm structures, and Omaha Papillion Creek Wastewater Treatment Plant. Both build alternatives through Mills County also include views of the proposed St Mary's Island USACE restoration site and I-29 as well as the interchange of I-29 with U.S. 34.

³⁷ Falt Fisheries also owns property adjacent to the Alternative 2 ROW that is not identified as a regulated materials site.

Alternative 2 is near two low-density residential areas in Sarpy County and the southern boundary of Offutt AFB. Alternative 3 is near C.S.R. Wilson Concrete, PCS Nitrogen (former Allied Chemical plant), Gene Eppley Salvation Army Camp, and a proposed MUD mitigation site; all of these are in Sarpy County. Alternative 3 also is near several farmsteads and farm structures in Mills County.



SCALE IN FEET
0 2,500 5,000

Legend

- XXXX-X Block Group Number
- Block Group Boundaries
- Low-Income
- Racial Minorities
- Racial Minorities/Ethnic Minorities
- Racial Minorities/Low-Income
- Ethnic Minorities



Potential EJ Populations in Study Area

Bellevue Bridge Study
Environmental Impact Statement
Sarpy County, NE and Mills County, IA

DRAFT

Date
Jan. 2004

Figure
3-1

CHAPTER 4

ENVIRONMENTAL CONSEQUENCES

CHAPTER 4

ENVIRONMENTAL CONSEQUENCES

This chapter analyzes the probable beneficial and adverse social, economic, and environmental effects of implementing the alternatives under consideration for the Project. (For a description of the alternatives, see Chapter 2.) The information is presented by type of resource, corresponding to the organization of Chapter 3, Affected Environment. In addition, the following categories of potential impacts are included: navigation, bridge, permits and approvals, energy, construction, short-term uses of the environment vs. long-term productivity, irreversible and irretrievable commitment of resources, and cumulative impacts.

Each section includes an analysis of the impacts of the three alternatives carried forward for detailed study: Alternative 1 – No-Build Alternative; Alternative 2 – South of Offutt AFB Alternative; and Alternative 3 – Southern Sarpy County Alternative. The affected area varies by resource and is described briefly with the approach for evaluating impacts. Both direct effects¹ and indirect effects² are included in the description of impacts. Each resource section ends with measures proposed to avoid, minimize, and mitigate adverse impacts, as applicable. Figures 4-1 and 4-2 illustrate the Project ROW for Alternative 2 on an aerial photograph and topographic map base, respectively. Figures 4-3 and 4-4 illustrate the Project ROW for Alternative 3 on an aerial photograph and USGS topographic map base, respectively.

As described in Section 2.2.2, projects within MAPA's LRTP could occur, and were assumed to occur, regardless of this Project. Consequently, all alternatives carried forward for this Project would have impacts caused by the LRTP projects, and the focus of evaluation is the segments of these projects within the Study Area. Impacts of the No-Build Alternative are addressed in a qualitative manner because detailed impacts of all the LRTP projects are not known. Impacts of the LRTP projects and other reasonably foreseeable projects are considered in Section 4.27, Cumulative Impacts.

4.1 LAND USE

Evaluation of land use as it relates to transportation projects refers to the determination of direct effects on existing land uses, such as agricultural, residential, commercial/industrial, and public/semi-public, as well as consistency with regional development and land use planning.

Direct effects on existing land uses occur through acquisition of new ROW for highway construction. The Project ROW is the area of effect for land use impacts. Such impacts include the disruption of activities and conversion of land uses, such as by the acquisition of front yards from residences. Direct effects were determined by identifying existing land uses within the Study Area via windshield survey and by reviewing aerial photography and local land use plans.

¹ Direct effects are those that “are caused by the action and occur at the same time and place” (40 CFR 1508.8).

² Indirect effects are those that “are caused by the action and are later in time or farther removed in distance but are still reasonably foreseeable” (40 CFR 1508.8). Indirect impacts “may include growth-inducing effects and other effects related to induced changes in the pattern of land use, population density, or growth rate, and related effects on air and water and other natural systems...” (40 CFR 1508.8).

Indirect effects were considered by evaluating access restrictions and their impact on causing out-of-distance travel.

The alternatives were also reviewed for consistency with future land use plans for Bellevue and for Sarpy and Mills counties (see Figure 1-8).

4.1.1 Alternative 1 – No-Build

The No-Build Alternative represents the base conditions for the Study Area. It includes maintenance of the existing Highway 370 roadway corridor and Bellevue Bridge as well as the transportation improvement projects identified in Section 2.2.2, No-Build Alternative.

Regardless of the transportation improvements that occur, land uses along Highway 370 from U.S. 75 through Bellevue to the Missouri River are expected to remain unchanged, with primarily residential and commercial uses consistent with a low-speed urban arterial. Land uses from the Missouri River to I-29 along Highway 370 are expected to remain primarily agricultural, although limited industrial development may occur in this area as it is identified for future industrial development in the Mills County Plan (RDG Crose Gardner Shukert, August 2002).

As the Omaha metropolitan area continues to expand to the south, areas of Sarpy County south of the developed core of Bellevue, particularly along U.S. 75 and relocated Platteview Road, are expected to continue to be converted from undeveloped/agricultural land uses to urban land uses, consistent with future land use plans. Regardless of the alternative selected, the NDOR U.S. 75 – Plattsmouth to Bellevue project is the only transportation improvement identified in MAPA's LRTP that would be built in this area to serve the planned expansion of the urban area. Although the U.S. 75 – Plattsmouth to Bellevue project provides part of the transportation infrastructure needed in this area, it does not serve future industrial land uses all the way to the Missouri River, nor does it provide needed transportation infrastructure in Iowa.

Land use in the Mills County portion of the Study Area is expected to remain primarily agricultural, with limited development in the vicinity of the existing I-29 interchanges.

The No-Build Alternative is inconsistent with future land use plans. It does not provide the transportation infrastructure (a new roadway and bridge across the Missouri River to connect Sarpy and Mills counties) that is identified in MAPA's LRTP, the Sarpy County Comprehensive Development Plan, and the Mills County Plan and that is needed to serve the planned commercial and industrial land uses in southern Sarpy County.

4.1.2 Alternative 2 – South of Offutt AFB

The majority of the Study Area in the vicinity of Alternative 2 is undeveloped or used for agricultural purposes, with the exception of the Elbow Bend residential area near the Missouri River. Land uses within the ROW for Alternative 2 are summarized in Table 4-1. As noted in the table, there is some existing ROW within the estimated ROW required for Alternative 2; consequently, the land use for existing ROW would not change.

The Papio-Missouri River NRD property is located in the Elbow Bend residential area and was acquired for floodplain management. The property is not currently used for conservation or other public uses. The Papio-Missouri River NRD has standing offers for acquisition of the remaining residences in Elbow Bend as part of a floodplain management program and does not have any plans for public use of the property it owns in this area (Papio-Missouri River NRD, October 2, 2003).

Alternative 2 would require relocation of three single-family residences, as discussed in Section 4.4, Right-of-Way Acquisition and Relocations (see Figure 4-1).

**Table 4-1
ROW by Land Use Category for Alternative 2**

County	Land Use	Acres
Sarpy	Agricultural	175
	Residential	6
	Papio-Missouri River NRD Property	2
	Existing ROW	80
	Total	263
Mills	Agricultural	114
	Existing ROW	30
	Total	144

The Bellevue Comprehensive Plan and the Sarpy County Comprehensive Development Plan, the current land use plans that address Sarpy County, recommend commercial and industrial development with continued agricultural practices in the southwestern portion of the county, including the area traversed by Alternative 2 (Bucher, Willis & Ratliff, March 1992; JEO and Daly, May 1993). Alternative 2 would facilitate the development of these commercial and industrial areas. Thus, Alternative 2 is consistent with these two land use plans.

The Mills County Plan primarily recommends continued agricultural land uses in the vicinity of Alternative 2 (RDG Crose Gardner Shukert, August 2002). Alternative 2 is consistent with continued agricultural practices in Mills County.

Sarpy and Mills counties have the authority to manage the location and type of growth through their local zoning jurisdiction, and future land uses already account for potential development within the Study Area. Any changes in plans would need to be recommended by each county's planning board and approved by the county commissions. Therefore, future development, and subsequent indirect impacts, would only occur if each county deems the land use changes acceptable.

Alternative 2 also crosses two areas identified as future public greenway/parks (on land not publicly owned at this time) in the Mills County Plan:

- A potential greenway area proposed along the Missouri River, primarily west of the levee, with a bike trail on the levee throughout the entire county – The Alternative 2 bridge over the Missouri River would cross this proposed greenway/trail (see Section 4.7, Considerations Relating to Pedestrians and Bicyclists). Because the greenway/trail would be bridged, Alternative 2 is compatible with this proposed greenway/trail.
- A potential large park area (approximately 3,050 acres) that includes the majority of the proposed St. Mary's Island (approximately 2,488 acres), a potential USACE restoration site for terrestrial wildlife – Alternative 2 would cross the northern tip of the proposed park site, requiring approximately 24 acres, but does not impact the USACE restoration site. Alternative 2 is compatible with this future land use because the park area is not currently being developed and because the Project would not preclude future development of this area for conservation and open space. Figures 4-1B and 4-2B show the boundary of the proposed site relative to the ROW for Alternative 2.

MAPA's LRTP, the Sarpy County Comprehensive Development Plan, and the Mills County Plan all discuss a new Missouri River crossing and connecting roadway near the Platte River confluence. Though north of the crossing discussed in these plans, the Alternative 2 river

crossing is consistent with the concept of an additional Missouri River crossing in Sarpy and Mills counties.

Indirect impacts on existing development are typically in the form of out-of-distance travel for landowners due to a change in access as a result of the Project. No road closures of U.S. or state highways are anticipated for Alternative 2. Portions of some local roads would be realigned for better intersections with the new roadway. There may be some out-of-distance travel associated with the realignments, but it is anticipated to be minimal. However, the travel time for longer trips would likely be less because of the new road system.

Under Alternative 2, indirect impacts relating to future development could occur at the intersection with U.S. 75 and with a new interchange at I-29. While development is expected to occur in the vicinity of U.S. 75 over time under the No-Build Alternative, a new interchange with I-29 as part of the Project would create valuable property for development in Iowa.

For a discussion of impacts of Alternative 2 on the floodplains of Papillion Creek and the Missouri River, see Section 4.13, Floodplains.

4.1.3 Alternative 3 – Southern Sarpy County

The majority of the Study Area in the vicinity of Alternative 3 is also undeveloped or used for agricultural purposes, with the exception of commercial land uses adjacent to the existing U.S. 34 interchange with I-29 (the Glenwood exit). Land uses within the ROW for Alternative 3 are summarized in Table 4-2. As noted in the table, there is some existing ROW within the estimated ROW required for Alternative 3; consequently, the land use for existing ROW would not change.

**Table 4-2
ROW by Land Use Category for Alternative 3**

County	Land Use	Acres
Sarpy	Agricultural	92
	Existing ROW	3
	Total	95
Mills	Agricultural	177
	Commercial	3
	Existing ROW	28
	Total	208

Alternative 3 would not require any relocations (see Section 4.4, Right-of-Way Acquisition and Relocations).

The Sarpy County Comprehensive Development Plan, the current land use plan that addresses southern Sarpy County, recommends commercial and industrial development, with continued agricultural practices in the southwestern portion of the county, including the area traversed by Alternative 3 (JEO and Daly, May 1993). Alternative 3 would facilitate the development of these commercial and industrial areas. Thus, Alternative 3 is consistent with Sarpy County's land use plan.

Alternative 3 also crosses the MUD 187-acre parcel that is a candidate for wetland mitigation for its Platte West water production facility. Approximately 31 acres of this proposed site would be acquired for ROW; however, MUD has indicated that the total area required for mitigation could be accommodated on the remainder of the parcel if this area is approved by USACE for mitigation (MUD, February 22, 2003). Therefore, Alternative 3 is compatible with this future land use.

Alternative 3 also crosses the proposed La Platte Link Trail on the Missouri River levee in Sarpy County (see Section 4.7, Considerations Relating to Pedestrians and Bicyclists). The Alternative 3 bridge over the Missouri River would span this proposed trail. Therefore, Alternative 3 is compatible with the proposed trail.

The Mills County Plan primarily recommends continued agricultural land uses in the vicinity of Alternative 3 (RDG Crose Gardner Shukert, August 2002). Alternative 3 is consistent with continued agricultural practices in Mills County.

Sarpy and Mills counties have the authority to manage the location and type of growth through their local zoning jurisdiction, and future land uses already account for potential development within the Study Area. Any changes in plans would need to be recommended by each county's planning board and approved by the county commissions. Therefore, future development, and subsequent indirect impacts, would only occur if each county deems the land use changes acceptable.

Like Alternative 2, this alternative crosses two areas identified as future public greenway/parks in the Mills County Plan and would result in similar impacts:

- A potential greenway area and bicycle trail proposed along the Missouri River – Because the greenway/trail would be bridged, Alternative 3 is compatible with this proposed greenway/trail.
- A potential large park area in St. Mary's Island – Alternative 3 would cross the southern tip of the proposed park (including the USACE potential restoration site), requiring approximately 38 acres. Alternative 3 is compatible with this future land use because plans for the park are not currently being developed and plans for the restoration area are not finalized. The Project would not preclude future development of this area for conservation and open space. Figures 4-3B and 4-4B show the boundary of the proposed site relative to the ROW for Alternative 3.

MAPA's LRTP, the Sarpy County Comprehensive Development Plan, and the Mills County Plan all discuss a new Missouri River crossing and connecting roadway near the Platte River confluence. Alternative 3 is consistent with the concept of an additional Missouri River crossing in Sarpy and Mills counties.

No road closures of U.S. or state highways are anticipated for Alternative 3. Portions of some local roads would be realigned for better intersections with the new roadway. There may be some out-of-distance travel associated with the realignments, but it is anticipated to be minimal. However, the travel time for longer trips would likely be less because of the new road system.

Under Alternative 3, indirect impacts relating to future development could occur at the intersection with U.S. 75. This intersection will be constructed as part of the U.S. 75 – Plattsmouth to Bellevue project (see Section 4.27.2) but has a capability to support development. An interchange already exists at I-29, but traffic volumes for this interchange would increase under Alternative 3. As services already exist at this interchange, however, the land use pattern would not change.

For a discussion of the potential impacts of Alternative 3 on the Missouri River floodplain, see Section 4.13, Floodplains.

4.1.4 Joint Development

The joint development of proposed roadway ROW into a shared, multifunction facility provides alternative uses of public land in addition to the service of a basic transportation route. The purpose of joint development is to restore or enhance the affected area's social, economic,

environmental, and visual values, typically garnering the most success in urban areas. Examples of such alternative uses are parking facilities over or under roadways for access to bicycle trails and denotation of historic or landmark features along trails that are unique to the area.

There are potential joint development options to integrate alternative uses into the Project. The most prominent natural resource in the Study Area is the Missouri River, with its associated riparian areas and uplands. The overall setting of the Missouri River forms a pleasing view. Such a view could be maximized by developing a scenic roadside overlook in conjunction with the existing Bellevue Loop Trail or proposed La Platte Link Trail in Sarpy County or the proposed Missouri River Trail/Iowa Riverfront Trail in Mills County (see Section 4.7, Considerations Relating to Pedestrians and Bicyclists, for clarification on trail names). Other potential joint development options include identifying the locations of historically significant Native American and early settler areas along trail routes or providing parking facilities for access to the proposed park and greenway areas in Mills County. Final joint development alternatives will be evaluated in consultation with NDOR, Iowa DOT, and various Nebraska and Iowa state and local authorities during latter stages of project development. Funding for joint development projects would not necessarily be part of this Project. Joint development would result in beneficial impacts from maximizing the functionality of land use along a transportation corridor.

4.1.5 Avoidance, Minimization, and Mitigation

As detailed design plans are developed for the preferred alternative, Iowa DOT will continue to coordinate with MUD and USACE regarding plans for their proposed wetland mitigation and restoration sites. The detailed design will consider minimizing the area of impact. Both of the proposed build alternatives are consistent with future land use plans in the Study Area; therefore, no additional mitigation with respect to land use would be required.

4.2 FARMLAND

The Farmland Protection Policy Act of 1981 (7 CFR 658) requires that Federal projects minimize the conversion of farmland to nonagricultural uses. To the extent practicable, state and local farmland policies are to be considered. Specially classified farmlands receive particularly close scrutiny under this act and are addressed in the remainder of this section.

For purposes of this study, agricultural farmland areas within the corridors of the build alternatives were inventoried to determine the potential farmland impacts of each alternative. Direct impacts on farmland were identified using the Sarpy County and Mills County soil surveys and state farmland lists. The USDA Farmland Conversion Impact Rating Form (Form AD-1006) was completed for each of the build alternatives to determine the significance of impacts. Figure 4-5 shows prime farmland in the Study Area and within the study corridors for Alternatives 2 and 3.

4.2.1 Alternative 1 – No-Build

Under the No-Build Alternative, land use would continue to be converted from agricultural to urban uses, potentially including the conversion of prime farmland. For example, U.S. 75 improvements would affect some farmland under this alternative as well as others. It is possible that existing road systems would need to be expanded to handle additional traffic if the proposed project would not be constructed; the amount of farmland that would be consequently converted is unknown. As the Omaha metropolitan area continues to expand, the conversion of agricultural land to urban uses is expected regardless of whether the Project is implemented, although specifics are not known at this time.

4.2.2 Alternative 2 – South of Offutt AFB

In addition to potential farmland conversion under the No-Build Alternative, Alternative 2 would require 263 acres of ROW in Sarpy County, including areas of existing ROW. For purposes of completing Form AD-1006 and determining the significance of farmland impacts, the entire 263 acres was assumed to be farmland that would be converted to roadway ROW (as noted in Section 4.1, Land Use, the actual amount of agricultural land that would be converted is 175 acres). Of these 263 acres, USDA classifies 206 acres as prime farmland. The assumed acreage converted represents approximately 0.3 percent of the farmland within Sarpy County (USDA National Agricultural Statistics Service [NASS]). The NRCS office in York County determined a score of 155 points out of 260 possible points, indicating that Alternative 2 would not exceed the threshold (160 points) that would classify it as having a significant impact on farmland.

In Mills County, Alternative 2 would require 144 acres of ROW, including areas of existing ROW. For purposes of completing Form AD-1006 and determining the significance of farmland impacts, the entire 144 acres was assumed to be farmland that would be converted to roadway ROW (as noted in Section 4.1, Land Use, the actual amount of agricultural land that would be converted is 114 acres). Of these 144 acres, USDA classifies 103 acres as prime farmland. The assumed acreage converted represents approximately 0.06 percent of the farmland within Mills County (USDA NASS). The NRCS office in Atlantic, Iowa, determined a score of 143 points out of 260 possible points, indicating that Alternative 2 would not exceed the threshold (160 points) that would classify it as having a significant impact on farmland.

Alternative 2 would not create any areas of nonfarmable land due to diagonal severance³ within either county, although diagonal severance occurs on several individual parcels. All of the severed areas could continue to be farmed by the current owner or could be acquired and farmed by adjacent property owners. For discussion of impacts to property owners from diagonal severance, see Section 4.4, Right-of-Way Acquisition and Relocations.

Alternative 2 would not have a significant impact on prime farmland in Sarpy or Mills counties based on the score in Form AD-1006. As indicated in Section 3.2, Farmland, no unique or statewide or locally important farmland is present in the corridor.

4.2.3 Alternative 3 – Southern Sarpy County

In Sarpy County, Alternative 3 would require 95 acres of ROW, including areas of existing ROW. For purposes of completing Form AD-1006 and determining the significance of farmland impacts, the entire 95 acres was assumed to be farmland that would be converted to roadway ROW (as noted in Section 4.1, Land Use, the actual amount of agricultural land that would be converted is 92 acres). Of these 95 acres, USDA classifies 75 acres as prime farmland. The assumed acreage converted represents approximately 0.09 percent of the farmland within Sarpy County (USDA NASS). The NRCS office in York County determined a score of 156 points out of 260 possible points, indicating that Alternative 3 would not exceed the threshold (160 points) that would classify it as having a significant impact on farmland.

In Mills County, Alternative 3 would require 208 acres of ROW, including areas of existing ROW. For purposes of completing Form AD-1006 and determining the significance of farmland impacts, the entire 208 acres was assumed to be farmland that would be converted to roadway ROW (as noted in Section 4.1, Land Use, the actual amount of agricultural land that would be

³ Diagonal severance is the crossing of a parcel by the ROW, including the mainline and access roads, in a manner that leaves unusable or inefficient parcels of land.

converted is 177 acres). Of these 208 acres, USDA classifies 146 acres as prime farmland. The assumed acreage converted represents approximately 0.09 percent of the farmland within Mills County (USDA NASS). The NRCS office in Atlantic, Iowa, determined a score of 148 points out of 260 possible points, indicating that Alternative 3 would not exceed the threshold (160 points) that would classify it as having a significant impact on farmland.

Alternative 3 would not create any areas of nonfarmable land due to diagonal severance within either county, although diagonal severance occurs on several individual parcels. All of the severed areas could continue to be farmed by the current owner or could be acquired and farmed by adjacent property owners. For discussion of impacts to property owners from diagonal severance, see Section 4.4, Right-of-Way Acquisition and Relocations.

Alternative 3 would not have a significant impact on farmland in Sarpy or Mills counties based on the score in Form AD-1006. As indicated in Section 3.2, Farmland, no unique or statewide or locally important farmland is present in the corridor.

4.2.4 Avoidance, Minimization, and Mitigation

Based on the constraints of establishing viable alternative corridors in the Study Area, farmland could not be avoided. Preliminary design involved consideration of diagonal severance to minimize potential farmland impacts. Neither build alternative would have a significant impact on farmland based on the score in Form AD-1006 as determined by NRCS. In addition, the corridors for the build alternatives do not contain unique or statewide or locally important farmland. Therefore, no mitigation with respect to farmland would be required for either build alternative.

4.3 SOCIAL

Section 3.3 introduced and described general social characteristics for the Study Area. Potential impacts to the human environment are addressed in the same order as presented in Section 3.3 and were evaluated based on a comparison of projected changes, with or without the Project. The area affected for social impacts essentially includes the boundaries of the Study Area. Statistics used for the analysis were sometimes based on a larger area (such as an entire county), but the evaluation of impacts was focused on the area along and within potential alignments. The magnitude of projected change was evaluated and described for the social characteristics considered.

4.3.1 Population

The population of the counties within the region of economic influence⁴ for the Project is expected to increase by nearly 200,000 persons by Year 2020, with an average growth rate for the region of economic influence of 1.2 percent per year. Every county within the region is expected to experience population increase, with Sarpy County projected to have the highest growth rate at 1.7 percent per year. The projected population growth rate for Mills County is 1.1 percent per year.

No-Build Alternative

Population projections within the area of economic influence are not expected to change under the No-Build Alternative.

⁴ As discussed in Section 3.3, Social, the region of economic influence consists of Douglas, Sarpy, Cass, and Washington counties in Nebraska and Mills and Pottawattamie counties in Iowa.

Build Alternatives

Population projections within the area of economic influence are not expected to change under either of the build alternatives.

4.3.2 Environmental Justice

EJ populations have been identified in the majority of the block groups located within and south of the city limits of Bellevue as well as the block group encompassing the majority of the Study Area in Mills County (see Figure 3-1). EJ populations have been identified, and the potential for disproportionate effects or significant adverse human health effects was evaluated for each alternative.

Alternative 1 – No-Build

Under this alternative and other alternatives analyzed, MAPA's LRTP projects identified within the Study Area would not likely cause any disproportionate effects or significant adverse human health effects to minority or low-income populations because they are planned improvements along existing transportation corridors. It is possible that existing road systems would need to be expanded to handle additional traffic if the proposed project would not be constructed. It is not likely that the No-Build Alternative would specifically benefit or harm minority or low-income persons.

Alternative 2 – South of Offutt AFB

Alternative 2 would not have disproportionate impacts on EJ populations. The analysis presented in Section 3.3.1 indicated that the three block groups in which the Alternative 2 corridor is located contain EJ populations, one with respect to racial and ethnic minorities (10302-9) and two with respect to racial minorities (10208-2 and 40201-1).

Block group 10302-9 encompasses Offutt AFB, and the majority of it is located primarily outside the Alternative 2 corridor; however, a small portion of this block group extends into the northwestern portion of the corridor, as shown in Figure 3-1. Although ROW acquisition would be required from properties located in this block group, no residential or business relocations would be required. In addition, noise levels and air quality within block group 10302-9 would not be affected. Therefore, this block group (compared with other block groups in the corridor) would not bear a disproportionate amount of impacts associated with the Project.

Because block groups 10208-2 and 40201-1 cover such a large geographic area that includes most of the area in which the proposed build alternatives are located, the individual blocks comprising these block groups were evaluated to determine where within these block groups the EJ populations are located. The Alternative 2 corridor only contained one block with an EJ population within these two block groups. However, this block is not located within the ROW for Alternative 2 and would not be impacted by this alternative. Therefore this alternative would not disproportionately affect or result in significant adverse human health effects to EJ populations.

Alternative 3 – Southern Sarpy County

Alternative 3 would not have disproportionate impacts on EJ populations. The two block groups that are located within the ROW for Alternative 3 (10208-2 and 40201-1) are the same two that were studied on the block level, as discussed above (see Figure 3-1). None of the blocks located within the Alternative 3 corridor contained an EJ population. Therefore this alternative would not disproportionately affect or result in significant adverse human health effects to EJ populations.

4.3.3 Public Services, Facilities, and Transportation

Alternative 1 – No-Build

Under this alternative and other alternatives analyzed, MAPA's LRTP projects identified in Section 2.2.2 would temporarily impact public services and access to facilities in the Study Area. The existing Bellevue Bridge would remain in use (after repairs are finished), continuing to provide access to public facilities and for the provision of emergency services. It is possible that existing road systems would need to be expanded to handle additional traffic if the proposed project would not be constructed. Portions of roads would likely either be closed or operate under reduced capacity as the LRTP and potentially other projects are constructed, which may increase response time for emergency vehicles and access time for public facilities. As a result of the projects, however, long-term access would be improved.

The No-Build Alternative would not improve the existing problems with free-flowing traffic between southeast Nebraska and southwest Iowa. Although the Bellevue Bridge would remain in use, it is narrow and would require operators of some wide or heavy vehicles to find alternate routes to cross the Missouri River.

Alternative 2 – South of Offutt AFB

In addition to the impacts of LRTP projects, Alternative 2 would not specifically improve or reduce access to existing public facilities, as none are located within the vicinity of this alternative.

Alternative 2 would have beneficial impacts on public services by providing better access to areas within the Study Area, thereby decreasing response time for emergency services.

Alternative 2 would impact the school districts in the Study Area to the extent that property tax revenues are decreased in the short term (see Section 4.6, Economics, for discussion of fiscal impacts of ROW acquisition).

No existing roadways would be closed under Alternative 2; however, some existing roadways would be realigned to provide better intersection geometrics with the proposed roadways, causing minimal out-of-distance travel. Traffic volumes on existing roadways connected to Alternative 2 would likely increase, but the increase would not adversely affect traffic operations on these roadways. Harlan Lewis Road provides a connection from Alternative 2 to downtown Bellevue and would also see an increase in traffic; this roadway could easily handle the additional traffic, and the existing at-grade rail line (BNSF) crossing near Offutt AFB's Base Lake would not likely require a grade separation.

Alternative 3 – Southern Sarpy County

In addition to the impacts of LRTP projects, Alternative 3 would provide better access to the one public facility located within the vicinity of this alternative: La Platte Community Church, located just south of La Platte Road and east of U.S. 75. Alternative 3 would provide better access to this facility for people traveling from areas in Sarpy County near the Missouri River and for travelers from Iowa.

Alternative 3 would have beneficial impacts on public services in the Study Area in the same way and for the same reasons as identified under Alternative 2.

Alternative 3 would impact school districts in the Study Area in the same way and for the same reasons as identified under Alternative 2 (see Section 4.6, Economics, for discussion of fiscal impacts of ROW acquisition).

No existing roadway closures would be required for Alternative 3; however, minimal realignment of some existing roadways would be required to provide better intersection geometrics with the proposed roadway. Similar to Alternative 2, traffic would increase along Harlan Lewis Road, but the roadway capacity would be sufficient to handle the increase. In addition, a grade separation of the rail line crossing near Base Lake would not be required at Harlan Lewis Road.

4.3.4 Community Cohesion

Alternative 1 – No-Build

Under this alternative and other alternatives analyzed, MAPA's LRTP projects involve expansion of roadways with additional ROW and potential acquisition of residences along existing ROW. Consequently, division of communities is not anticipated to occur. The No-Build Alternative would not have any adverse or beneficial effects on the cohesion of the communities within the Study Area as long as the Bellevue Bridge remains in operation.

Alternative 2 – South of Offutt AFB

Alternative 2 would have a beneficial impact on the cohesion of the communities within the Study Area. A new bridge and the connecting roadway would provide an additional route for safe and reliable travel to the Omaha metropolitan area. This would serve the transportation needs of the growing populations in the Study Area and would promote greater interaction among the communities within the Study Area and between these communities and the Omaha metropolitan area (see Section 4.6, Economics, for discussion of economic impacts).

Alternative 3 – Southern Sarpy County

Alternative 3 would have beneficial impacts on the affected communities in Nebraska and Iowa and the cohesion among those communities for the same reasons identified under Alternative 2.

4.4 RIGHT-OF-WAY ACQUISITION AND RELOCATIONS

To assess the potential impacts associated with the build alternatives, ROW acquisition and property relocations were evaluated based on the preliminary design.

4.4.1 Alternative 1 – No-Build

Under this alternative and other alternatives analyzed, MAPA's LRTP projects would likely require an unknown amount of ROW acquisition and some relocations for properties located along existing ROW. It is possible that existing road systems would need to be expanded to handle additional traffic if the proposed project would not be constructed. Expansion of existing roads would likely involve an unknown amount of ROW acquisition, and displacements could also occur.

4.4.2 Alternative 2 – South of Offutt AFB

In addition to ROW acquisition and potential relocations under the LRTP projects, Alternative 2 would require the acquisition of ROW from private landowners for construction of the roadway. Approximately 297 acres of new ROW would be required for this alternative. The ROW necessary for the Project is shown on an aerial image in Figure 4-1 and on a topographic map in Figure 4-2.

Alternative 2 would require the relocation of residences in Sarpy County: a farmstead containing two residences located south of Offutt AFB near Papillion Creek and a residence in the Elbow Bend residential area located adjacent to the Missouri River. Alternative 2 would also require the

complete acquisition of one parcel in the Elbow Bend residential area that does not contain a residence.

There appears to be sufficient acreage within the farmstead to support either relocation of the two residences or new construction. However, if the owners needed to relocate to existing residences, the Bellevue area has a 3 percent vacancy rate (U.S. Census Bureau, 2000) with sufficient housing in a variety of values for the relocation. As noted in Section 3.1.1, the Papio-Missouri River NRD is conducting floodplain management by making standing offers to acquire properties in the Elbow Bend area; approximately half the properties have been acquired by the NRD. Existing structures are demolished after acquisition (Papio-Missouri River NRD, 2003). Based on a review of the parcel dimensions and current access roads, the residence in the Elbow Bend area could be moved or a new residence could be constructed within the parcel.

The acquisition of ROW would result in diagonal severance of some properties. The estimated diagonal severance for Alternative 2 is 3.9 miles and would affect 6 properties. Compensation to farm owners affected by diagonal severance is determined upon review of each case. No feasible alternatives exist that would allow Alternative 2 to be built without causing diagonal severance.

4.4.3 Alternative 3 – Southern Sarpy County

In addition to ROW acquisition and potential relocations from LRTP projects, Alternative 3 would also require the acquisition of ROW from private landowners for construction of the roadway. Approximately 272 acres of new ROW would be required. Alternative 3 would require the complete acquisition of one parcel that does not contain a residence near the I-29 interchange. No residences or businesses would be displaced. The ROW necessary for the Project is shown on an aerial image in Figure 4-3 and on a topographic map in Figure 4-4.

The acquisition of ROW would also result in diagonal severance of some properties. The estimated diagonal severance for Alternative 3 is 4.0 miles and would affect 9 properties. Compensation to farm owners affected by diagonal severance is determined upon review of each case. No feasible alternatives exist that would allow Alternative 3 to be built without causing diagonal severance.

4.4.4 Avoidance, Minimization, and Mitigation

Preliminary design considered many constraints, including existing property boundaries and locations of structures, in avoidance and minimization of impacts. However, following property boundaries is not always possible given constraints such as the curvature of the Missouri River and the limitations on connections to U.S. highways and interstates. ROW acquisition with Federal funding could commence after completion of the environmental review process (that is, after the Record of Decision [ROD] is signed). An acquisition and relocation program would be conducted in accordance with the Federal Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 (Uniform Act), as amended (42 USC 4601 et seq.), the Nebraska Relocation Assistance Act (Neb. Rev. Stat. Section 76-1214 et seq.), and the Iowa relocation assistance law (Iowa Code, Chapter 316).

The Uniform Act provides important protections and benefits for people affected by Federal and Federally assisted projects. Its purpose is to provide for uniform and equitable treatment of all persons relocated from their homes, businesses, and farms, without discrimination on any basis. The Uniform Act ensures fair compensation of property owners for their residential structures. It requires that the sponsor of a project provide financial and technical relocation assistance for relocated residents. The Uniform Act also contains allowances for renters. A one-time rental assistance payment is available for the tenant to find a decent, sanitary, safe dwelling for a period of 42 months. The guidelines used by NDOR for carrying out the provisions in the Uniform Act

are contained in NDOR's Right of Way Manual (NDOR, August 19, 2003). The guidelines used by Iowa DOT for carrying out the provisions contained in the Uniform Act are contained in Iowa DOT's Relocation Assistance and Advisory Services brochure (Iowa DOT, May 13, 1999).

4.5 RAILROADS AND UTILITIES

The Project has the potential to affect existing railroads and utilities in the Study Area. These effects were evaluated with respect to railroads and major utilities crossed by the roadway ROW for each alternative. Figures 4-1 and 4-2 show the Alternative 2 ROW superimposed on railroads and utilities, and Figures 4-3 and 4-4 show the Alternative 3 ROW superimposed on railroads and utilities.

4.5.1 Alternative 1 – No-Build

Under this alternative and Alternatives 2 and 3, MAPA's LRTP projects would likely cross utilities, and the NDOR U.S. 75 – Plattsmouth to Bellevue project intersects a rail line south of La Platte, Nebraska. It is possible that existing road systems would need to be expanded to handle additional traffic if the proposed project would not be constructed. The projects would be coordinated with the railroads and utilities to minimize any disruption of service.

4.5.2 Alternative 2 – South of Offutt AFB

In addition to the LRTP projects crossing a UPRR rail line, Alternative 2 would require a crossing of the UPRR rail line near Papillion Creek and a crossing of the BNSF rail lines south of Offutt AFB. The crossings would be grade-separated, with the proposed roadway on a bridge over the rail lines. The existing at-grade crossing of the BNSF rail line at Harlan Lewis Road would be maintained as an at-grade crossing. During the design and construction phases of the Project, Iowa DOT would coordinate with UPRR and BNSF to minimize impacts on railroad operations throughout construction.

Alternative 2 would not likely cause direct impacts to the OPPD substation located northwest of National By-Products Inc., as the substation is situated south of the ROW. However, Alternative 2 would cross the transmission lines that connect to the substation, possibly requiring adjustment of the lines. NDOR would coordinate with OPPD regarding appropriate required clearance to avoid the transmission lines and confirm that the substation would not be directly impacted during the final design and construction phases of the Project.

In addition, Alternative 2 would cross fiber optic lines owned by Sprint, Qwest, and Level 3, but these would not be impacted as they are located in railway ROW and would be bridged. Alternative 2 would also cross one fiber optic line owned by AT&T and one petroleum pipeline owned by National Cooperative Refinery Association (NCRA). The AT&T fiber optic line is located near U.S. 75 in existing ROW. Construction of Alternative 2 would not require relocation of this line; however, up to 5 feet of fill material would be placed on top of this line in several locations. Construction of Alternative 2 would not require relocation of the NCRA petroleum pipeline, which is located west of I-29; however, 20 to 25 feet of fill material would be placed on top of it. Section 4.5.4 addresses potential mitigation measures to protect the utilities.

4.5.3 Alternative 3 – Southern Sarpy County

Alternative 3 would require one crossing of the adjacent UPRR and BNSF rail lines near the U.S. 75 interchange with relocated Platteview Road. This interchange, along with a portion of relocated Platteview Road, will be constructed as part of the NDOR U.S. 75 – Plattsmouth to Bellevue project, which is programmed for construction in 2007 to 2009. The proposed NDOR

project includes construction of a two-lane bridge over the UPRR and BNSF rail lines. Alternative 3 would require widening this bridge to accommodate four lanes of traffic. Iowa DOT would coordinate with NDOR regarding improvements to the structure during the design phase of the Project. In addition, NDOR would coordinate with UPRR and BNSF to minimize impacts on rail line operations throughout construction.

Alternative 3 would cross transmission lines spanning northward from the OPPD substation located south of La Platte Road. It is not anticipated that the transmission lines would be affected; however, coordination with OPPD regarding appropriate clearance to avoid the transmission lines would occur during the final design and construction phases of the Project.

In addition, Alternative 3 would cross fiber optic lines owned by Sprint, Qwest, and Level 3; petroleum pipelines owned by NCRA, Aquila, and Enron/Northern Natural Gas (NNG); and a MUD sludge line. Construction of Alternative 3 would have no impact on the Sprint, Qwest, and Level 3 fiber optic lines as they are located in railway ROW and would be bridged. Alternative 3 would not require relocation of the Aquila, NCRA, or Enron/NNG petroleum pipelines; however, fill material would be placed on top of these lines. The estimated depth of fill on top of these gas lines ranges from 1 to 12 feet. In addition, approximately 2,600 feet of the MUD sludge line in the vicinity of La Platte Road would require relocation. Section 4.5.4 addresses potential mitigation measures to protect the utilities.

4.5.4 Avoidance, Minimization, and Mitigation

Because of key constraints such as avoiding Offutt AFB and crossing the Missouri River at a 90-degree angle, railroads and utilities could not be avoided. Impacts to rail lines would be minimized by construction of bridges over the lines. Generally, the fiber optic lines and pipelines affected by the Project are perpendicular to the proposed roadway (thus minimizing the potential area affected). Specific mitigation to minimize disruption of service on the MUD sludge line, BNSF and UPRR rail lines, and the OPPD substation, transmission lines, and other utilities would be determined during the design and construction phases of the Project.

4.6 ECONOMICS

The economic analysis has identified direct and indirect impacts of the alternatives, including economic benefits extending to the region of economic influence.⁵ The effects associated with the build alternatives are described to the degree possible and include the following:

- Impacts on existing businesses after construction
- Fiscal impacts of ROW acquisition
- Regional benefits of an improved transportation system

All dollar figures presented in this section are in 2003 dollars. Impacts on local business during construction and regional economic benefits due to construction are addressed in Section 4.24.1.

4.6.1 Alternative 1 – No-Build

Under the No-Build Alternative, a new bridge would not be constructed, but other MAPA LRTP projects would occur, including the NDOR U.S. 75 – Plattsmouth to Bellevue project (see Section 2.2.2 for additional information on other projects in the Study Area). The structure of the

⁵ As discussed in Section 3.3, Social, the region of economic influence consists of Douglas, Sarpy, Cass, and Washington counties in Nebraska and Mills and Pottawattamie counties in Iowa.

existing Bellevue Bridge was deemed sound for the next 30 years based on the most recent bridge inspection (TranSystems Corporation, December 2003) and would remain in place, with maintenance as needed. The existing Bellevue Bridge is currently being repaired (Section 1.4.1 provides additional information). Since the Bellevue Bridge is controlled and managed by the Bellevue Bridge Commission, all decisions regarding its future use would be determined by the Commission. Use of the existing route would continue to increase. Over time, however, the inadequate capacity of the Bellevue Bridge resulting from its narrow width and limited ability to handle wide vehicles could affect Bellevue’s ability to attract new businesses. This could translate into lower productivity with respect to the movement of goods, services, and the labor force.

4.6.2 Alternative 2 – South of Offutt AFB

Impacts on Existing Businesses after Construction

For this study, generalizations have been made regarding business impacts by dividing the businesses affected into two general categories:

- Impulse – Businesses with a high percentage of impulse-oriented customers are those providing a type of service or product offered at one or more alternative sites, such as a convenience store. These businesses benefit from high volumes of drive-by traffic. Impulse-type businesses are the most likely to be affected by road construction.
- Destination – Businesses with a high percentage of destination-oriented customers are those that have regular customers who are intent on stopping at a specific, specialized business, such as a tire store or bank. Destination businesses traditionally suffer the fewest impacts due to road construction.

The Bellevue Bridge would also be maintained by the Bellevue Bridge Commission under Alternative 2. Traffic projections for Year 2030 indicate that the construction of Alternative 2 would reduce traffic volumes on the Bellevue Bridge. Table 4-3 shows the traffic projections for the Bellevue Bridge and account for other LRTP projects. For comparison purposes, the table includes the existing (Year 2000) traffic and the projected traffic under the No-Build scenario.

**Table 4-3
Year 2030 Traffic Projections for the Existing Bridge
under the Build Alternatives (Average Daily Traffic)**

Alternative	Bellevue Bridge Traffic
Existing (Year 2000)	2,500
No-Build	5,550
Alternative 2	2,000
Alternative 3	2,300

For Bellevue, this decline in traffic under Alternative 2 would result in a permanent loss of tollbooth revenue and a reduction in drive-by traffic along Highway 370 through Bellevue. The businesses along Highway 370 are primarily destination businesses and would be minimally affected by these reductions in traffic volume. However, impulse businesses along Highway 370 may be negatively impacted by reduced traffic.

Fiscal Impacts of ROW Acquisition

Table 4-4 illustrates the fiscal impact for Alternative 2 of converting land to ROW, thereby removing it from the tax base. Alternative 2 would represent a loss of \$4,139 in yearly property tax collection. However, an indirect effect could include development with higher valuations along the ROW, which could offset the loss from ROW conversion.

**Table 4-4
Fiscal Impacts of ROW Acquisition for Alternative 2**

Alternative	County	Estimated Acres of Land	Estimated Yearly Property Tax Loss
Alternative 2 – South of Offutt AFB	Sarpy	183	\$2,848
	Mills	114	\$1,291
	Total	297	\$4,139

Regional Benefits of an Improved Transportation System

Alternative 2 would benefit the region of economic influence through improved transportation infrastructure, which would lead to better transportation access for businesses in Omaha and surrounding communities and would improve employment opportunities for those in southeast Nebraska and southwest Iowa due to the improved connectivity between their communities and the Omaha metropolitan area. The increased employment opportunities afforded by the Project to rural residents would help their communities remain economically viable despite changes in the structure of the agricultural industry.

In addition, the Project would facilitate more orderly growth in the Omaha metropolitan area by establishing long-term traffic patterns and roadway capacity. These characteristics would be incorporated into the comprehensive plans of the various affected jurisdictions and would ultimately support planned future development and infill of currently developed areas.

4.6.3 Alternative 3 – Southern Sarpy County

Impacts on Existing Businesses after Construction

The Bellevue Bridge would also be maintained by the Bellevue Bridge Commission under Alternative 3. As shown in Table 4-3, traffic projections for Year 2030 (accounting for the new bridge and LRTP projects) indicate that construction of Alternative 3 would reduce traffic using the Bellevue Bridge. This decline in traffic would result in a permanent loss of tollbooth revenue and a reduction in drive-by traffic along Highway 370 through Bellevue. The businesses along Highway 370 are primarily destination businesses and would be minimally affected by reductions in traffic volume. However, impulse businesses along Highway 370 may be negatively impacted by reduced traffic.

Alternative 3 would ultimately benefit the businesses located at the I-29 interchange with U.S. 34 as these businesses are primarily impulse businesses and revenue is expected to be positively affected by increased east-west traffic.

Fiscal Impacts of ROW Acquisition

As shown in Table 4-5, Alternative 3 would represent a loss of \$4,872 in yearly property tax collection. However, this loss of tax revenue may be offset by future new land uses. The relatively high levels of traffic over the new bridge and roadway may initiate conversion of adjacent lands to more intensive land uses, such as commercial uses and services, with corresponding increases in taxable value.

Regional Benefits of an Improved Transportation System

Alternative 3 would have similar beneficial impacts to the region of economic influence as those described for Alternative 2.

**Table 4-5
Fiscal Impacts of ROW Acquisition for Alternative 3**

Alternative	County	Estimated Acres of Land	Estimated Yearly Property Tax Loss
Alternative 3 – Southern Sarpy County	Sarpy	92	\$1,805
	Mills	180	\$3,067
	Total	272	\$4,872

4.7 CONSIDERATIONS RELATING TO PEDESTRIANS AND BICYCLISTS

The Project alternatives were investigated in relation to existing and planned trails within the Study Area, as identified in Section 3.7, Considerations Relating to Pedestrians and Bicyclists.

4.7.1 Alternative 1 – No Build

The No-Build Alternative (Alt. 1) would not affect existing pedestrian and bicycle trails in the Study Area. Construction on U.S. 75 is not projected to occur in the area where it crosses over the Bellevue Loop Trail/Keystone Trail. Improvements or routine maintenance within the Highway 370 corridor near the Bellevue Bridge would not likely affect an existing portion of the Bellevue Loop Trail on the south shoulder of the bridge approach. It is possible that existing road systems would need to be expanded to handle additional traffic if the proposed project would not be constructed; the effect on existing pedestrian and bicycle trails is unknown.

4.7.2 Alternative 2 – South of Offutt AFB

Alternative 2 would cross the Bellevue Loop Trail near Papillion Creek and again on the west side of the Missouri River, where the trail is located on top of the Papio-Missouri River NRD levee (see Figure 4-1). Both of these crossings of the Bellevue Loop Trail would be grade-separated, with the proposed roadway on a bridge over the trail. The total length of trail crossed by Alternative 2 would be 580 linear feet.

Alternative 2 would also cross a proposed trail along the levee on the Iowa side of the Missouri River. This trail is proposed as the Missouri River Trail in the Mills County Plan and as the Iowa Riverfront Trail as part of the Back to the River Project, but funding for this trail has not been identified. Therefore, it is not known if or when this trail will be completed. The proposed trail would be located on a levee system owned by M&P Missouri River Maintenance. Nevertheless, the proposed bridge over the Missouri River would span the levee (with a pier in the Missouri River and piers on land between the levee and the river) and would provide adequate clearance for the trail if it were eventually constructed.

Use of the right shoulder of the bridge and roadway for pedestrian and bicycle traffic would be allowed in both directions.

4.7.3 Alternative 3 – Southern Sarpy County

Alternative 3 would not directly impact any existing pedestrian and bicycle trails (see Figure 4-3). Alternative 3 would cross the proposed La Platte Link Trail on the levee near the Missouri River

in Sarpy County (Papio-Missouri River NRD has an easement for the levee) and also would cross the proposed Missouri River Trail along the M&P Missouri River Maintenance levee on the Iowa side of the Missouri River. The proposed Iowa Riverfront Trail does not extend south of the proposed bridge. However, the proposed bridge over the Missouri River would span the levees (with a pier in the Missouri River and piers on land between the levee and the river) and would provide adequate clearance for the trails if they were eventually constructed.

Use of the right shoulder of the bridge and roadway for pedestrian and bicycle traffic would be allowed in both directions.

4.7.4 Avoidance, Minimization, and Mitigation

Based on the location of the Bellevue Loop Trail, it could not be avoided by Alternative 2. Permanent impacts on the Bellevue Loop Trail have been minimized by grade-separating the roadway and the trail, thus maintaining the trail in its current location and eliminating potential conflicts with vehicles.

Alternative 3 could not avoid the proposed La Platte Link Trail and proposed Missouri River Trail/Iowa Riverfront Trail. Grade-separating the roadway and the proposed trails would minimize permanent impacts on the trails. This would maintain the trails in their proposed locations and eliminate potential conflicts with vehicles.

A discussion on avoidance, minimization, and mitigation of construction impacts on existing and potential trails is addressed in Section 4.24.2.

4.8 RECREATION

A variety of public recreational resources exist within the Study Area. These resources were evaluated with respect to their distance from the alternatives to determine potential effects.

4.8.1 Alternative 1 – No-Build

The No-Build Alternative (Alt. 1) would not specifically benefit or harm the recreational resources within the Study Area. Projects in MAPA's LRTP under this alternative and other analyzed alternatives would not directly affect existing recreational resources. It is possible that existing road systems would need to be expanded to handle additional traffic if the proposed project would not be constructed; the effect on existing recreational resources is unknown. However, access to recreational facilities may be subject to some delays during construction.

4.8.2 Alternative 2 – South of Offutt AFB

Alternative 2 would not specifically benefit or harm several of the recreational resources identified within the Study Area, including the Platte River, Haworth Park, Baldwin Field, the Bellevue Marina, Schilling WMA, the Loess Hills, and Folsom Lake. Alternative 2 would not impact access to the Missouri River for recreational purposes at the areas identified in Section 3.8, Recreation, allowing boating, fishing, and wildlife viewing to continue.

Alternative 2 would result in minimal permanent impacts on the recreational use of the Missouri River by the boating population. The pier associated with the proposed bridge would affect the navigational patterns of the boating population. This impact would be minimal because boaters would be able to continue using this portion of the Missouri River by simply altering their navigational patterns. Recreational users of the Missouri River would experience a less natural environment in the river corridor in the vicinity of the Project due to traffic noise.

Impacts on the Bellevue Loop Trail and on a proposed trail on the Iowa side of the Missouri River, which would both be crossed by Alternative 2, are discussed in Section 4.7, Considerations Relating to Pedestrians and Bicyclists.

4.8.3 Alternative 3 – Southern Sarpy County

Alternative 3 would affect recreational resources similar to Alternative 2, with the exception that it would not affect the Bellevue Loop Trail. Impacts on proposed trails in Sarpy and Mills counties that would be crossed by Alternative 3 are discussed in Section 4.7, Considerations Relating to Pedestrians and Bicyclists.

4.9 AIR QUALITY

Air quality impacts are determined based on an area's attainment status with respect to the six criteria pollutants identified in Section 3.9, Air Quality, and on the Project's likelihood to affect that status.

4.9.1 No-Build Alternative

Under the No-Build Alternative (Alt. 1), traffic volumes on roadways within the Study Area (including those improved as part of MAPA's LRTP) are expected to increase. However, the Study Area is expected to remain in attainment for all criteria pollutants.

4.9.2 Build Alternatives

Similar to the No-Build Alternative (Alt. 1), traffic volumes are projected to increase but be distributed slightly differently. Transportation conformity rules⁶ apply in areas that are designated as "nonattainment" or have a maintenance plan for the transportation-related criteria pollutants, listed in Section 3.9, Air Quality (40 CFR 93.102). Neither Sarpy nor Mills county is designated as "nonattainment" or has a maintenance plan in effect for any criteria pollutants. Therefore, transportation conformity rules do not apply to the Project.

The Project is not expected to significantly impact air quality, regardless of whether Alternative 2 or 3 were adopted. The moderate traffic volumes projected for both build alternatives, combined with low population density and limited industrial activity in the area, minimize the potential for exceeding the NAAQS. The build alternatives would likely result in fewer traffic emissions because the distance for commuters between southeast Nebraska and southwest Iowa would likely be reduced with another bridge between the Bellevue and Plattsmouth bridges. Also, the build alternatives would cause traffic emissions to be less concentrated in a particular area.

4.10 NOISE

The impacts evaluation provided below, and for which the Iowa DOT Noise Analysis and Abatement Policy is developed, is for impacts to the inhabited structures in the human environment. While the Iowa DOT Noise Analysis and Abatement Policy does not address the natural environment, noise levels on the Missouri River would increase in the location of the new bridge for both alternatives and would result in a change in the environment in this area. Any specific noise impacts on the natural environment, such as wildlife and habitat, or on other human environment resources, such as recreation, are discussed in those respective sections.

⁶ Transportation conformity is a way to ensure that Federal funding and approval are given to those transportation activities that are consistent with air quality goals.

FHWA has developed NAC and procedures to use in planning and designing highways, as discussed in Section 3.10, Noise. The noise study performed as part of this Project identified current noise levels in the Study Area and quantified the impacts of the build alternatives.

Traffic noise levels were estimated using the FHWA Traffic Noise Model (TNM) Version 2.1 based on traffic volumes forecast for the “peak hour” in Year 2030 because these volumes would correspond to the highest projected noise levels. The guidelines set forth by FHWA and Iowa DOT indicate a noise impact when the following occur:

- The predicted noise levels at an adjacent noise-sensitive receiver approach or exceed the NAC of 67 dBA for residences and 72 dBA for commercial receivers. “Approaching” is defined as coming within 1 dBA of the NAC (that is, 66 dBA for residences and 71 dBA for commercial receivers) (23 CFR 772).
- Future build noise levels substantially exceed existing noise levels by the NAC of 10 dBA (Iowa DOT, April 21, 1997).

4.10.1 Alternative 1 – No-Build

MAPA’s LRTP projects would widen existing roadways. It is possible that existing road systems would need to be expanded to handle additional traffic if the proposed project would not be constructed. Increasing noise levels along those roadways would result from increasing traffic volumes over a period of time. The No-Build condition would ultimately result in increased noise levels along existing Highway 370 through Bellevue. Without the construction of Alternative 2 or 3, noise levels along Highway 370 through Bellevue would be 1 to 5 dBA higher than under the build condition of either alternative. This is because traffic would not be diverted from existing Highway 370 if Alternative 2 or 3 were not built.

4.10.2 Alternative 2 – South of Offutt AFB

Future traffic and noise along the Highway 370 corridor would be less than if the Project were not built. The predicted reduction in traffic noise along the Highway 370 corridor is attributed to a slower increase in traffic due to some current users of the Bellevue Bridge using the alternative bridge. Noise modeling results showed that noise levels in the vicinity of the Alternative 2 alignment would increase due to traffic-related noise from the roadway. Figure 4-1 shows the computed 66-dBA contour, which represents the approximate distance from the Alternative 2 alignment where traffic noise levels would likely approach the NAC of 67 dBA. Table 4-6 lists noise levels by receivers near the Alternative 2 alignment. The table includes the monitored representative noise levels for existing (Year 2000) conditions, the no-build condition in Year 2030, and the computed noise levels for the build condition in Year 2030. The existing conditions are assumed to be the same as the no-build condition as existing and future land uses for the no-build condition are expected to be similar. The computed noise levels are also compared to the NAC approach and substantially exceed levels in the guidelines for determining noise impacts (23 CFR 772). The shaded rows note receivers that have projected Year 2030 noise levels approaching or exceeding NAC. The noise levels and NAC approach levels are expressed as hourly equivalent sound level (L_{eq})⁷ dBA.

Alternative 2 would potentially impact two receivers (301 and 302) north of Alternative 2, near Papillion Creek. Noise levels for receiver 303 were not projected because the location is within

⁷ The L_{eq} is the energy equivalent sound level, in decibels, for any time period under consideration (in this case, hourly) that contains the same sound energy as the actual monitoring sound that is fluctuating in level over the measurement period.

the project ROW (see Table 4-6). However, no noise impacts would exist under this alternative because receivers 301, 302, and 303 are proposed for relocation as a result of the Project (see Figure 4-1).

**Table 4-6
Predicted Noise Levels at Receivers Near Alternative 2**

Receiver ID	Residential/ Commercial	Existing Noise Level in 2000 (hourly L _{eq} dBA)	No-Build Noise Level in 2030 (hourly L _{eq} dBA)	Build Noise Level in 2030 (hourly L _{eq} dBA)	Predicted Increase ¹ (dBA)	Approaches or Substantially Exceeds NAC in 2030
301	Residential	48	48	61	13	Yes
302	Residential	48	48	62	14	Yes
303	Residential	48	48	NA ²	--	--
304	Residential	60	60	65	5	No
305	Residential	55	55	63	8	No
306	Residential	54	54	62	8	No
307	Residential	54	54	61	7	No

Notes:

- ¹ The predicted increase is the difference between existing noise levels and those in the build condition. The noise levels were determined to 0.1, but the numbers were rounded for presentation purposes. Therefore, direct calculations using the rounded numbers may appear to be inaccurate.
- ² The future build noise level was unable to be predicted at receiver 303 because it is located in the roadway footprint.

4.10.3 Alternative 3 – Southern Sarpy County

Future traffic and noise along the Highway 370 corridor would be less than if the Project were not built. The predicted reduction in traffic noise along the Highway 370 corridor is attributed to a slower increase in traffic due to some current users of the Bellevue Bridge using the alternative bridge. Projected noise levels in the vicinity of the Alternative 3 alignment would increase due to traffic-related noise from the roadway. Table 4-7 lists the predicted noise levels at receivers along Alternative 3. The shaded rows note receivers that have projected Year 2030 noise levels approaching or exceeding NAC.

Analysis results indicate that Alternative 3 would impact 11 residential receivers (404 to 407, and 415 to 421) in Sarpy County because the predicted future noise levels would exceed existing noise levels by 10 dBA or greater. The locations of the impacted noise receivers (identified by the numbers in the first column of Table 4-7) and a computed 66-dBA noise contour are shown in Figure 4-3. These contour lines represent the approximate distance from Alternative 3 where traffic noise levels are likely to approach the NAC of 67 dBA.

4.10.4 Avoidance, Minimization, and Mitigation

Preliminary roadway design considered various constraints, including proximity to existing residences and businesses, in determining reasonable alternatives. Residential and business structures were avoided to the maximum extent possible in consideration of requirements for nearly perpendicular approaches at U.S. 75 and I-29 and at intersections with railroad lines and rivers.

**Table 4-7
Predicted Noise Levels at Receivers Near Alternative 3**

Receiver ID	Residential/ Commercial	Existing Noise Level in 2000 (hourly Leq dBA)	No-Build Noise Level in 2030 (hourly Leq dBA)	Build Noise Level in 2030 (hourly Leq dBA)	Predicted Increase ¹ (dBA)	Approaches or Substantially Exceeds NAC in 2030
404 ²	Residential	46	46	63	18	Yes
405	Residential	46	46	63	18	Yes
406	Residential	46	46	63	17	Yes
407	Residential	46	46	61	16	Yes
408	Residential	61	61	62	0	No
409	Residential	60	60	57	-3	No
410	Commercial	60	60	59	-1	No
411	Residential	61	61	61	-1	No
412	Residential	60	60	59	-1	No
413	Residential	61	61	61	-1	No
414	Residential	61	61	64	3	No
415	Residential	46	46	60	14	Yes
416	Residential	46	46	59	13	Yes
417	Residential	46	46	58	12	Yes
418	Residential	46	46	57	12	Yes
419	Residential	46	46	56	11	Yes
420	Residential	46	46	56	10	Yes
421	Residential	46	46	56	11	Yes
422	Residential	46	46	55	9	No
423	Residential	46	46	54	9	No
424	Residential	46	46	54	8	No
425	Residential	46	46	53	8	No
426	Residential	46	46	53	7	No
427	Residential	46	46	51	6	No

Note:

- ¹ The predicted increase is the difference between existing noise levels and those in the build condition. The noise levels were determined to 0.1, but the numbers were rounded for presentation purposes. Therefore, direct calculations using the rounded numbers may appear to be inaccurate.
- ² Receiver locations 401, 402, and 403 were not used.

Potential Abatement Measures

Traffic noise mitigation consisting of noise abatement measures is considered where predicted traffic noise levels approach or exceed the NAC or where the predicted traffic noise levels substantially exceed the existing noise levels. Abatement measures will be considered for impacted noise receivers in accordance with Iowa DOT guidelines. As no impacts would occur under Alternatives 1 and 2, noise abatement measures were only evaluated in relation to the impacted noise receivers under Alternative 3.

Determining the reasonableness and feasibility of noise abatement involves professional judgment to weigh, on a case-by-case basis, the overall benefits of noise abatement against the overall adverse social, economic, and environmental effects of noise abatement.

The following abatement measures were considered for Alternative 3:

- Buffer zones – To create buffer zones, which are undeveloped, open spaces that border a highway, a highway agency purchases land or development rights in addition to the normal ROW. This prevents future dwellings from being constructed close to the highway, where the noise level from nearby highway traffic would be excessive. An additional benefit is that buffer zones often improve the roadside appearance. For Alternative 3, however, creating a buffer zone is not reasonable because of the tremendous amount of land that would need to be purchased and because dwellings already border the proposed alignment.
- Alteration of the horizontal and vertical alignment – This noise abatement measure can be incorporated into a project to reduce traffic noise impacts where the receivers are typically on one side of the project or where the elevation is relatively constant. Since sound intensity decreases with distance, shifting the centerline away from the receivers may reduce noise levels. For Alternative 3, however, shifting the alignment horizontally is not feasible or reasonable because receivers and other constraints are present on both sides of the new alignment and a horizontal shift of the alignment would cause impacts on other noise-sensitive receivers. Altering the vertical alignment is not feasible or reasonable for Alternative 3 because the noise impacts occur in an area where the vertical alignment is set due to navigation requirements for the Missouri River.
- Traffic management measures – Controlling traffic can sometimes reduce noise problems. For example, trucks can be prohibited from certain streets and roads, or they can be permitted to use certain streets and roads only during daylight hours. This type of abatement measure is not reasonable for Alternative 3, however, because this would be a state highway built to carry all types of vehicles, including heavy commercial vehicles.
- Acoustical insulation of houses – This noise abatement measure would not affect the noise impacts from Alternative 3 because according to Iowa DOT standards, the impacts apply only to the exterior of a receiver. In addition, FHWA guidelines recommend that only noise-sensitive public buildings such as schools and hospitals be considered for acoustical insulation. Therefore, this measure is not feasible or reasonable for Alternative 3.
- Noise barriers – Noise barriers are considered to mitigate noise impacts on existing receivers. To be effective, a noise barrier must be continuous and have substantial length and height. Noise barriers are not proposed unless a single barrier on a feasible location can effectively reduce traffic noise at several affected residences for a reasonable cost. According to Iowa DOT policy, noise barriers are feasible when terrain, access, safety, or other physical constraints do not preclude them and where they can provide at least an average 5 dBA noise reduction. A reasonable cost per benefited receiver is \$24,000 (Iowa DOT, April 17, 2003). Noise barriers were considered for Alternative 3.

Noise Barrier Analysis

A noise barrier that would shield receivers 404 through 407 and 415 through 421 was considered. The noise barrier would be located on the bridge structure over the Missouri River, with the western portion of the barrier located on the bridge embankment. The barrier would be 3,497 feet long and 8 feet high and would cost \$559,453.⁸ It would reduce noise levels at 17 receivers, but only 11 receivers would experience a reduction of 5 dBA or more and thus be considered

⁸ Total barrier cost is based on a barrier unit cost of \$20.00/ft².

benefited. The cost of abatement per benefited receiver is \$50,860. This exceeds Iowa DOT's reasonable cost per benefited receiver of \$24,000. Therefore, the noise barrier is not considered reasonable.

As discussed above, no reasonable and feasible measures exist to mitigate the noise impacts of Alternative 3.

4.11 WATER QUALITY

The Project has the potential to affect surface water and groundwater in the Study Area. Currently, the Missouri and Platte rivers are classified as impaired waters (see Section 3.11.1), and groundwater contamination has also been documented near the sites for the proposed roadway and bridges. Water quality issues related to surface water were evaluated primarily through consideration of runoff and siltation impacts during construction as well as long-term use of the transportation facility.

4.11.1 No-Build Alternative

Under the No-Build Alternative and other analyzed alternatives, MAPA's LRTP projects would involve expansion of existing pavement, thus causing more runoff and less surface area for groundwater infiltration. It is possible that existing road systems would need to be expanded to handle additional traffic if the proposed project would not be constructed. Runoff from the completed roadways would eventually enter the Missouri River. NDOR's U.S. 75 – Plattsmouth to Bellevue project involves a crossing of the Platte River and construction of a new northbound bridge. Runoff from the bridge would enter the Platte River and could contain roadway pollutants, such as oil, soil, and metals. A portion of the existing northbound bridge would be demolished, but the existing substructure would be used as much as possible. Demolition debris would likely fall into the river, but as much of the debris as possible would be removed. Maintenance activities on the Bellevue Bridge, separate from this Project, are anticipated to be focused on deck repair, with no direct disturbance to the Missouri River. The Study Area does not have a history of groundwater quality issues (Papio-Missouri River NRD, November 21, 2003). Monitoring of groundwater plumes from Offutt AFB and PCS Nitrogen facilities (see Section 4.18, Regulated Materials) would continue.

4.11.2 Build Alternatives

The same surface water and groundwater impacts associated with the LRTP and existing Bellevue Bridge projects described for the No-Build Alternative (Alt. 1) would also occur for the build alternatives. Both build alternatives would cause additional impacts from new roadways and bridge crossings. Alternative 2 would require new bridge crossings at Papillion Creek and the Missouri River, and Alternative 3 would require a new bridge crossing at the Missouri River.

The build alternatives would minimally affect water resources after road construction (see Section 4.24.6 for a discussion of water quality impacts during construction). During operation of the roadway system under either build alternative, various pollutants (such as oil, soil, and metals) would be deposited on the roadway. Because the levees include conduits for interior drainage flowing towards Papillion Creek and the Missouri River, runoff from the roadway would eventually drain into these surface waters during storm events. Under Alternative 2, no pollutants would be deposited directly to the Platte River because any southward moving sedimentation carried by runoff would drain into Papillion Creek. For Alternative 3, any contribution of sediment to the Platte River would be negligible due to the distance to the river. Runoff from the bridges would fall directly into the surface waters, and runoff from the roadway would be

directed through grass-covered drainage ditches. The ditches would help filter potential contaminants prior to any runoff reaching surface waters.

Runoff impacts caused by the build alternatives would be no greater than runoff impacts caused by other roadways in the southern Omaha metropolitan area. Less surface area would be available for groundwater recharge due to increased impermeable surfaces, but the impact is minimized because roadside ditches, as part of controlling runoff, would assist in allowing surface water to gradually recharge groundwater.

Ongoing monitoring of the TCE groundwater plume from Offutt AFB would continue and would not be affected by the Project; the closest monitoring well (MW) is located 1,000 feet north of the Alternative 2 alignment. A monitoring well pair (MW-20) that is part of the PCS Nitrogen groundwater monitoring system appears to be outside but adjacent to the Alternative 3 ROW. Consequently, the MW-20 well pair would not be directly impacted by the Project. No significant contamination has been found in the wells. The closest significant contamination has been detected in MW-16 (NDEQ, March 1, 2004) located approximately 1,800 feet to the west of MW-20. The impact of placing a roadway adjacent to the monitoring well pair would likely have a negligible effect on the groundwater plume.

The installation of a pier in the Missouri River could cause displacement of river channel sediment. Construction impacts are addressed in Section 4.24.6.

Wastewater treatment plants and water treatment plants would not be affected by the Project due to the minimal impacts on water quality and the location of the plants relative to either of the build alternatives.

4.11.3 Avoidance, Minimization, and Mitigation

Because a river crossing is required for the Project, surface water impacts could not be avoided. Revegetation of exposed soils after construction would minimize erosion and assist in filtering roadway contaminants prior to reaching surface waters in the Study Area. The states of Nebraska and Iowa would be responsible for maintaining vegetation along roadway drainage ditches to minimize erosion. Future roadway maintenance would be conducted using existing policies.

Although the MW-20 well pair appears to be outside the ROW of Alternative 3 and direct impacts would be avoided, indirect effects to the groundwater table could occur by placing fill near the well pair. The roadway would be slightly elevated (approximately 6 feet) compared to the surrounding ground surface, and the groundwater table would be negligibly affected by adding fill to the area and introducing an impermeable roadway surface. No mitigation is proposed for the groundwater monitoring well system of PCS Nitrogen.

4.12 WETLANDS AND OTHER WATERS OF THE U.S.

EO 11990, Protection of Wetlands, requires Federal agencies (including FHWA) to implement “no net loss” measures for wetlands (42 FR 26961). These no net loss measures include a phased approach of wetland impact avoidance, then minimization of impacts if wetlands cannot be avoided, and finally mitigation.

Wetlands observed in the Study Area are primarily within the historic floodplain of the Missouri River, adjacent to the Missouri River, and along other waterways including Papillion Creek, and their tributaries. NDOR and Iowa DOT determined wetlands and waters of the U.S. within the Study Area through field verification of USFWS National Wetland Inventory mapping, statewide geographic information for waterways, and general field observations (see Section 3.12 for additional information).

Impacts to waters of the U.S. were determined based on evaluation of geographic data reviewed in the field. A formal wetland delineation would need to be performed in accordance with the 1987 *Corps of Engineers Wetlands Delineation Manual* (Environmental Laboratory, January 1987) to verify the presence of wetlands and other waters of the U.S. within the limits of construction to comply with Section 404 of the Clean Water Act.

4.12.1 Alternative 1 – No-Build

Under the No-Build Alternative and other analyzed alternatives, MAPA’s LRTP projects could possibly affect wetlands in areas where road expansion is planned. NDOR’s U.S. 75 – Plattsmouth to Bellevue project would involve crossing a water of the U.S. via a new northbound bridge over the Platte River. Improvements to the existing Bellevue Bridge are occurring separate from this Project and should not affect wetlands or other waters of the U.S. because the improvements would primarily involve deck repair. It is possible that existing road systems would need to be expanded to handle additional traffic if the proposed project would not be constructed; the effect on wetlands is unknown. Any construction-related impacts would be temporary in nature and would be required to comply with Section 404 of the Clean Water Act. It is unknown if other LRTP projects may affect lakes, ponds, or impoundments.

4.12.2 Alternative 2 – South of Offutt AFB

Any wetlands, waterways, lakes, ponds, or impoundments that would be affected under the existing Bellevue Bridge project and LRTP projects would also be affected under Alternative 2. The following sections discuss the direct effects of Alternative 2 on wetlands, waterways, lakes, ponds, and impoundments.

Wetlands

Table 4-8 indicates the impacts on wetlands that would result under Alternative 2 assuming all wetlands within the ROW would be affected. In reality, the new bridge over the Missouri River would be above some wetlands between the levees and would not affect them. A total of approximately 14.2 acres of wetlands within the ROW could be disturbed, but 3.3 acres would be spanned (see Section 4.12.4 for further details). The estimated acreage of wetlands affected is based on preliminary determinations.

**Table 4-8
Wetlands in ROW of Alternative 2**

Type	Nebraska (acres)	Iowa (acres)	Total (acres)
PEM ¹	1.0	9.3	10.3
PFO ²	1.0	1.5	2.5
R2 ³	0.0	1.4	1.4
Total	2.0	12.2	14.2

Notes:

- ¹ PEM = palustrine emergent.
- ² PFO = palustrine forested.
- ³ R2 = riverine lower perennial subsystem.

Waterways

Alternative 2 would include a bridge over Papillion Creek and a bridge over the Missouri River. Neither of these two waters of the U.S. would experience permanent effects. This alternative would involve three crossings (excluding Papillion Creek and the Missouri River) and affect a

total of approximately 1,052 feet of intermittent and perennial waterways in Iowa as a result of replacing existing natural channel with an unnatural channel (a concrete box culvert or corrugated metal pipe, for example) for conveyance underneath the new roadway.

Lakes, Ponds, and Impoundments

Construction of a new bridge and roadway along the Alternative 2 alignment would affect no lakes, ponds, or impoundments.

4.12.3 Alternative 3 – Southern Sarpy County

Any wetlands, waterways, lakes, ponds, or impoundments that would be affected under the existing Bellevue Bridge and LRTP projects would also be affected under Alternative 3. The following sections discuss the direct effects of Alternative 3 on wetlands, waterways, lakes, ponds, and impoundments.

Wetlands

Table 4-9 indicates the impacts on wetlands that would result under Alternative 3 assuming all wetlands within the ROW would be affected. In reality, the bridge over the Missouri River would be above some wetlands between the levees and would not affect them. A total of approximately 8.7 acres of wetlands in the ROW could be disturbed based on preliminary determinations, but 2.8 acres would be spanned (see Section 4.12.4 for further details).

Waterways

Alternative 3 would include a bridge over the Missouri River; no impacts are anticipated for this water of the U.S. This alternative would involve seven crossings (excluding the Missouri River) and would affect a total of approximately 2,250 feet of intermittent and perennial waterways in Iowa as a result of replacing existing natural channel with an unnatural channel (a concrete box culvert or corrugated metal pipe, for example) for conveyance underneath the new roadway.

**Table 4-9
Wetlands in ROW of Alternative 3**

Type	Nebraska (acres)	Iowa (acres)	Total (acres)
PEM ¹	3.3	1.5	4.8
PFO ²	0.0	2.9	2.9
R2 ³	0.0	1.0	1.0
Total	3.3	5.4	8.7

Notes:

- ¹ PEM = palustrine emergent.
- ² PFO = palustrine forested.
- ³ R2 = riverine lower perennial subsystem.

Lakes, Ponds, and Impoundments

Construction of a new bridge and roadway along the Alternative 3 alignment would affect no lakes, ponds, or impoundments.

4.12.4 Avoidance, Minimization, and Mitigation

Efforts were made to refine the alignments of both build alternatives to avoid wetlands and waterways and minimize impacts. Both Alternatives 2 and 3 would avoid some permanent wetland impacts by bridging the Missouri River from the Nebraska levee system to the Iowa levee system, although impacts may occur at pier locations. Wetland impact calculations noted above accounted for all wetlands between the levees for both alternatives. Bridging the river from levee to levee would avoid wetlands as follows:

- Alternative 2 – up to 0.4 acre of PFO wetlands in Nebraska and 1.5 acres of PFO and 1.4 acres of R2 wetlands in Iowa.
- Alternative 3 – up to 1.8 acres of PFO and 1.0 acre of R2 wetlands in Iowa.

At this stage in the Project, the potential alignment of the roadway and bridge was evaluated based on preliminary design with the knowledge that adjustments can be made later in the process to minimize impacts to the natural and human environment. During final design, potential minimization of wetland impacts for either alternative would be evaluated subsequent to wetland delineation, and design alterations would be made to minimize wetland impacts where practical. The Section 404 permit application would illustrate the proposed design and show the efforts to minimize impacts to wetlands and other waters of the U.S.

Where wetland impacts cannot be avoided or further minimized, including potential impacts at bridge pier locations, Iowa DOT would propose ratios for mitigation. Final mitigation would occur at ratios determined by USACE (ratios can differ for PEM, PFO, and R2 wetlands) and at locations approved by USACE. Mitigation ratios would be at a minimum ratio of 1:1 in Nebraska and 1.5:1 in Iowa, and are determined based on the type and location of mitigation proposed for the affected wetlands. Mitigation can be performed at either on- or off-site locations or at approved wetland mitigation banks.⁹ On-site wetlands would be located within Project ROW, while off-site wetlands are typically located as close to the affected area as possible within the same watershed. An initial inventory would identify potential sites. A preliminary analysis of suitable sites, including mitigation banks, would be performed and included as part of the mitigation concept for the USACE Section 404 permit and Nebraska and Iowa Section 401 Water Quality Certification for the selected alternative. This permit and certification process would occur after completion of the NEPA process.

In Nebraska, NDOR has an established wetland mitigation bank (Lincoln Bend in Nemaha County) that would be proposed for mitigation of wetland impacts, provided that suitable mitigation credits are available. Iowa DOT does not currently have a wetland mitigation bank available for use for the Project but could use private mitigation banks or state-owned banks if available at the time that impacts would occur.

For impacts during construction, see Section 4.24.7.

4.13 FLOODPLAINS

EO 11988, Floodplain Management (42 FR 26951), requires that Federal agencies identify potential floodplain encroachment of projects they fund and that they assess the impact of this

⁹ A wetland mitigation bank is the development of a site and establishment of wetland mitigation credits through wetland and upland restoration, creation, enhancement, and/or preservation in advance of wetland impacts. Mitigation credits are determined based on the amounts and types of habitat (wetland and upland) present within the wetland mitigation bank. Credits are then used to offset the unavoidable loss of wetlands due to other projects.

encroachment on human health, safety, and welfare and on the natural and beneficial values of the floodplain. For purposes of the EO, floodplain is synonymous with the 100-year floodplain.

FEMA requires that construction within a floodway not increase the base 100-year flood elevation. Structures placed within a floodway may be designed in one of two manners to satisfy FEMA requirements. The first method is to design a structure that will not result in any increase in flood levels during the occurrence of the base (100-year) flood discharge. Alternatively, if it is not possible to obtain a “no-rise” certification¹⁰ from FEMA, a Letter of Map Change (LOMC)¹¹ may be obtained. This requires coordination among all affected parties and must show good cause for the community.

FEMA requirements for construction within the floodplain outside of the floodway are less stringent, allowing up to a 1-foot rise in the 100-year flood elevation. FEMA requirements are enforced by local jurisdictions (cities and counties) in order to maintain participation in the FEMA National Flood Insurance Program. Sarpy and Mills counties both participate in this program.

As discussed in Section 3.13, Floodplains, FEMA has mapped the 100-year floodplain (which includes the floodway) for the surface waters in the Study Area, which include Papillion Creek, the Platte River, and the Missouri River. Figures 4-1 and 4-3 show the surface waters, their associated floodplains, interior drainage areas, and the proposed build alternatives. Floodplain impacts are identified with respect to floodways and floodplains.

4.13.1 Alternative 1 – No-Build

NDOR’s U.S. 75 – Plattsmouth to Bellevue project involves crossing the Platte River and would affect an existing floodplain and its floodway. Work on the Bellevue Bridge separate from this Project could occur but would not likely result in any floodplain impacts. It is possible that existing road systems would need to be expanded to handle additional traffic if the proposed project would not be constructed; the effect on floodplains is unknown.

4.13.2 Alternative 2 – South of Offutt AFB

In addition to the U.S. 75 – Plattsmouth to Bellevue project crossing of the Platte River described under the No-Build Alternative (Alt. 1), Alternative 2 would have minor impacts due to crossings of the Papillion Creek and Missouri River floodplains and interior drainage areas. This alternative would require new bridge crossings at both surface waters.

The Papillion Creek crossing would consist of a single, multi-span bridge with piers on each overbank¹² of the creek; no fill would be placed between the Papillion Creek levees or in the channel. This construction would require either a no-rise certification or a LOMC and approval of a floodplain development permit from the Sarpy County Planning and Building Director. See Section 4.22, Permits and Approvals, for further information on floodplain permits. It is

¹⁰ Before any building, grading, or development permits involving activities in a regulatory floodway can be issued, it is necessary to obtain “no-rise” certification, stating that the proposed development will not impact the pre-project base flood elevations (100-year flood), floodway elevations, or floodway widths.

¹¹ A LOMC is “a letter issued in response to a request of FEMA to revise or amend its effective flood map to remove a property or reflect changed flooding conditions on the effective map” (FEMA, January 30, 2003). A LOMC can consist of a Letter of Map Revision (LOMR) or a Letter of Map Amendment (LOMA).

¹² An overbank is the land area between a levee and a surface water channel. For this Project, the overbank includes the floodway portion of the floodplain.

anticipated that a no-rise certification would be obtained; therefore, Alternative 2 would not have a significant impact on the Papillion Creek floodplain.

The Missouri River crossing would include a bridge, as described in Section 2.4.2, Alternative 2 – South of Offutt AFB. A foundation and pier would be placed within the Missouri River channel, with additional piers placed in the overbank between the levees. Construction of these structures would cause temporary impacts on the surface waters (see Section 4.24.6 for additional information). Concrete abutments would be required at either end of the bridge over the Missouri River and would be positioned landward of the levees.

Although no fill would be placed between the levees, preliminary hydraulic analyses indicate that a slight rise in the regulatory water surface elevation would occur due to construction of a pier in the Missouri River channel and additional piers in the floodway between the levees. Additional hydraulic analyses will be conducted during development of a detailed bridge design to determine if a no-rise condition is achievable without mitigation. If a non-mitigated no-rise condition can't be achieved, then a mitigation design involving improvements within the floodway (such as creation of extra conveyance capacity) would be provided as necessary during the final design of the selected alternative in order to obtain a no-rise certification. If a mitigated no-rise certification were not possible, a LOMC would be investigated (see Section 4.13.4 for further information on floodplain mitigation). The bridge would have minimal affects on the beneficial natural value of the Missouri River floodplain for wildlife, as discussed in Section 4.14, Fish and Wildlife.

In addition to the bridge crossings of Papillion Creek and the Missouri River, Alternative 2 would also require placement of fill in the floodplain of interior drainage areas. The acreage of affected floodplain where roadway fill would be placed is primarily used for agriculture and was estimated by floodplain and by county. Based on the preliminary design, the ROW for Alternative 2 would involve fill placement in 16.7 acres of interior drainage floodplains (4.6 acres in Sarpy County and 12.1 acres in Mills County). Placement of this fill may cause a slight increase in the 100-year flood elevation; however, it is anticipated that this rise would be less than 1-foot and therefore would not be significant. The proposed roadway would have a minimum elevation 2 feet above the 100-year flood elevation and would thus be protected from overtopping due to the 100-year flood.

Alternative 2 would comply with all floodplain regulations and would not significantly affect human health, safety, and welfare and would not significantly alter the natural beneficial values of floodplains.

4.13.3 Alternative 3 – Southern Sarpy County

In addition to the U.S. 75 – Plattsmouth to Bellevue project crossing of the Platte River described under the No-Build Alternative (Alt. 1), Alternative 3 would also have minor impacts on the Missouri River floodplain. This alternative would require a new bridge crossing at the Missouri River, described in Section 2.4.3, Alternative 3 – Southern Sarpy County, with a foundation and pier placed within the Missouri River channel and additional piers placed in the overbank between the levees. Construction of these structures would cause temporary impacts to the surface waters (see Section 4.24.6 for additional information). Concrete abutments would be required at either end of the bridge over the Missouri River and would be positioned landward of the levees.

Although no fill would be placed between the levees, preliminary hydraulic analyses indicate that placement of a pier in the Missouri River channel and additional piers in the floodway between the levees would produce a slight rise in the regulatory water surface elevation. Additional hydraulic analyses will be conducted during development of a detailed bridge design to determine

if a no-rise condition is achievable without mitigation. If a non-mitigated no-rise condition can't be achieved, then a mitigation design involving improvements within the floodway (such as creation of extra conveyance capacity) would be provided as necessary during the final design of the selected alternative in order to obtain a no-rise certification. If this were not possible, a LOMC would be investigated (see Section 4.13.4 for further information on floodplain mitigation and Section 4.22 for further information on floodplain permits). The bridge would have minimal affects on the beneficial natural value of the Missouri River floodplain for wildlife habitat as discussed in Section 4.14, Fish and Wildlife.

In addition to the bridge crossing of the Missouri River, Alternative 3 would also require placement of fill in the floodplain of interior drainage areas. Based on the preliminary design, the ROW for Alternative 3 would not require placement of fill on any floodplains in Nebraska but would require placement of roadway fill on 34.8 acres of floodplain of interior drainages in Iowa. Placement of this fill may cause a slight increase in the 100-year flood elevation; however, it is anticipated that this rise would be less than 1 foot and therefore would not be significant. The proposed roadway would have a minimum elevation 2 feet above the 100-year flood elevation and would thus be protected from overtopping due to the 100-year flood.

Alternative 3 would comply with all floodplain regulations and would not significantly affect human health, safety, and welfare and would not significantly alter the natural beneficial values of floodplains.

4.13.4 Avoidance, Minimization, and Mitigation

Because a river crossing is required for the Project, encroachment on floodplains is unavoidable. Where encroachment is required, impacts to floodplains would be minimized by providing mitigation to maintain a no-rise condition in floodways and less than a 1-foot rise in floodplains. Mitigation in the floodway may consist of a notch along the length of the bank, with some floodplain lowering and clearing (including removal of vegetation). In floodplain areas where roadway fill would be required, the rise in the 100-year flood elevation would be minimized to the extent possible by removing fill from the adjacent floodplain through the construction of roadside ditches and other floodplain improvements where practical.

4.14 FISH AND WILDLIFE

Diverse fish and wildlife species reside in the Study Area, as noted in Section 3.14. The ROW associated with the build alternatives was superimposed on aerial photographs and topographic maps to categorize natural habitat and evaluate potential impacts to fish and wildlife (see Figures 4-1 through 4-4).

4.14.1 Alternative 1 – No-Build

MAPA's LRTP projects within the Study Area would likely minimally affect fish and wildlife habitat because most of the work is anticipated to occur within existing ROW. Maintenance activities on the existing Bellevue Bridge, separate from this Project, would be focused on the bridge deck and would negligibly affect fish and wildlife. It is possible that existing road systems would need to be expanded to handle additional traffic if the proposed project would not be constructed; minimal effects on fish and wildlife habitat are anticipated because most construction would likely occur within existing ROW.

4.14.2 Alternative 2 – South of Offutt AFB

Fish

In addition to the impacts identified for the existing Bellevue Bridge and LRTP projects, implementation of Alternative 2 would have minor impacts on fish habitat. As discussed in Section 4.13, Floodplains, Alternative 2 would include construction of a bridge over Papillion Creek and a bridge over the Missouri River.

The bridge crossing at Papillion Creek would be on structure across the floodplain of the creek and would not require channel realignment. Although piers would need to be placed within the floodplain, no piers would be required within the creek channel. Therefore, construction of the bridge over Papillion Creek is not expected to adversely affect fish habitat.

Construction of a bridge over the Missouri River would involve placing a pier and foundation within the water channel, which would have impacts on fish habitat. A geomorphologic analysis of sedimentation and scouring¹³ impacts from the placement of a pier in the Missouri River, and subsequent effects on flow, determined that stream power¹⁴ would not change because the induced backwater is negligible, as is the change in velocities. Consequently, fish would not be adversely affected by a change in flow regime. The bridge pier would cause localized scour, which would stabilize very quickly. The localized scour is expected to develop during and soon after construction of the pier, with the only additional scouring occurring during rare-event flooding. The additional scouring would be diluted to such an extent as to have essentially no effect on the river system. The sedimentation during construction and the subsequent impacts of scour and diverted flow would have minimal effects on fish. Scour holes create a varied, bottom environment that may be beneficial to fish.

The Alternative 2 Missouri River crossing is located approximately 3 river miles from the mouth of the Platte River. Backwater from the Missouri River into the Platte River is minimal. Consequently, fish habitat in the Platte River would be minimally affected by this Project.

Wildlife

In addition to the impacts identified for the existing Bellevue Bridge and LRTP projects, implementation of Alternative 2 would result in impacts on each wildlife habitat type identified and described in Section 3.14. Table 4-10 lists the quantitative impacts on each wildlife habitat type within the ROW for Alternative 2.

The removal of habitat would permanently displace wildlife. Removal of agricultural habitat under Alternative 2 would have a minimal impact on wildlife due to the low carrying capacity of agricultural land. Removal of nonwetland and wetland habitat could be harmful to wildlife, however, and cause a direct loss of or displacement of associated wildlife. Some species would be forced to find areas of suitable habitat that may or may not be adjacent to their current area of residence. There is limited suitable habitat in adjacent areas due to habitat fragmentation.¹⁵ It is unknown if the adjacent areas could withstand the increase in wildlife populations or if the carrying capacity in those areas would be exceeded. Exceeding the carrying capacity and increasing habitat fragmentation could cause habitat to degrade or wildlife to die off. Disturbance

¹³ “Scour” refers to the erosive action of water in streams by excavating and transporting bed and bank materials downstream.

¹⁴ Stream power is a function of hydraulic depth and velocity.

¹⁵ Fragmentation refers to the division of a large piece of habitat into a number of smaller isolated patches.

may result in stress and displacement of wildlife, nest or territory abandonment, destruction of nests and habitat, and interruption of breeding behavior.

**Table 4-10
Potential Impacts of Alternative 2 on Wildlife Habitat**

Alternative	Habitat Type		Area Affected (acres) ¹
Alternative 2 – South of Offutt AFB	Agricultural Land	Cropland	347.3
		Pastureland	0.0
	Nonwetland ²	Forestland	14.6
		Rangeland	26.5
	Wetland ³		14.2
	Missouri River		4.4

Note:

- ¹ Affected acres of agricultural wildlife habitat are not directly comparable to agricultural land use or farmland impacts due to the inclusion of wetland and other habitat types in the agricultural land use and farmland categories.
- ² Nonwetlands include uplands and lowland areas that are neither deepwater aquatic habitats, wetlands, nor other special aquatic sites. For this analysis, nonwetlands used for crops and pastures are reported separately.
- ³ For information regarding impacts on specific wetland types, see Section 4.12, Wetlands and Other Waters of the U.S.

Estimated noise levels of 66 dBA are predicted approximately 250 feet from the centerline of the proposed roadway (see Figure 4-1). Noise contours are located outside the ROW. Approximately 17.1 acres of forested upland and forested wetland are within the ROW, and an additional 5.3 acres of forested area is within the 66 dBA contour. Noise levels typically decrease by 3 dBA for each doubling of distance. Based on the distance between Alternative 2 and the Schilling WMA, noise levels at the Schilling WMA are expected to be less than 50 dBA under Alternative 2 (not accounting for additional noise attenuation by trees). Projected noise levels are not anticipated to adversely affect wildlife.

In addition, Alternative 2 may increase wildlife-vehicle accidents, especially deer-vehicle accidents, because the roadway would unavoidably intersect wildlife travel corridors landward of the levee system. Wildlife travel corridors along the Missouri River would not be affected because a multi-span bridge would be constructed from levee to levee (with a pier in the Missouri River and piers on land between the levee and the river), providing safe north-to-south passage for many wildlife species and access to unobstructed areas or habitat directly adjacent to the river.

Migratory Birds

In addition to the impacts identified for the existing Bellevue Bridge and LRTP projects, Alternative 2 would involve removal of approximately 17.1 acres of trees and brush of forested upland and forested wetland and could impact migratory birds. Another potential impact on migratory birds and other wildlife is the displacement of populations because of noise disruptions. Each fall, thousands of migrating waterfowl (primarily lesser snow geese) use the Schilling WMA during their flight between their nesting and wintering grounds (NGPC, Wildlife Management Areas). Noise impacts on the Schilling WMA are expected to be negligible, however, as the northernmost portion of the area is located approximately 3 miles south of Alternative 2. Noise levels at the Schilling WMA are expected to be less than 50 dBA under

Alternative 2, and as noted in Section 3.10, this noise level (50 dBA) is equivalent to birds chirping and is near background noise levels. This estimate does not account for noise-buffering impacts of trees along the perimeter of the Schilling WMA. Birds and wildlife are tolerant of moderate noise increases, and no adverse impacts are projected to occur.

4.14.3 Alternative 3 – Southern Sarpy County

Fish

In addition to the impacts identified for the existing Bellevue Bridge and LRTP projects, Alternative 3 would require a bridge over the Missouri River that would cause sedimentation and scouring impacts similar to those described for Alternative 2. The bridge would be located approximately 2 river miles further downstream toward the Platte River than for Alternative 2. No adverse effects to fish and their habitat are anticipated.

Wildlife

The types of impacts expected to occur under Alternative 2 would also occur under Alternative 3, but less habitat (including less forested land and wetlands) would be disturbed due to the smaller ROW requirements of Alternative 3. Table 4-11 lists the quantitative impacts on each wildlife habitat type within the ROW for Alternative 3.

Alternative 3 is closer to Schilling WMA than Alternative 2 and is approximately 3,000 feet away at its closest point. A portion of the proposed alignment is parallel to the boundary for approximately 1 mile (see Figure 4-3). Noise levels at the Schilling WMA are anticipated to be approximately 55 dBA (not accounting for additional noise attenuation from trees), which is above background noise levels. Approximately 6.9 acres of forested upland and forested wetland are within the ROW, and an additional 2.0 acres of forested area are within the 66 dBA contour. Projected noise levels are not anticipated to adversely affect wildlife.

Alternative 3 may increase wildlife-vehicle accidents, especially deer-vehicle accidents, because the roadway would unavoidably intersect wildlife travel corridors landward of the levee system. Wildlife travel corridors along the Missouri River would not be affected because a multi-span bridge would be constructed from levee to levee, providing safe north-to-south passage for many wildlife species and access to unobstructed areas of habitat directly adjacent to the river.

Migratory Birds

Noise impacts on migratory birds and wildlife from Alternative 3 are expected to be similar to those of Alternative 2. Alternative 3 would involve removal of approximately 6.9 acres of trees and brush from forested upland and forested wetland and could impact migratory birds. Alternative 3 is approximately 1.5 miles north and 3,000 feet east of the Schilling WMA. This distance would equate to an expected noise level of approximately 55 dBA. This sound level is slightly above background sound levels and would be similar to the noise produced from a window air conditioner. This estimate does not account for noise-buffering impacts of trees along the perimeter of the WMA. Birds and wildlife are tolerant of moderate noise increases, and no adverse impacts are projected to occur.

4.14.4 Avoidance, Minimization, and Mitigation

Preliminary design considered many constraints, including wetlands and forested areas, in avoidance and minimization of impacts. The ROW needed for Alternatives 2 and 3 was considered during initial design and was constrained by various natural and human resources. Based on the widespread presence of wildlife, impacts to wildlife habitat could not be avoided. Because river crossings are involved, impacts to fish also could not be avoided.

**Table 4-11
Potential Impacts of Alternative 3 on Wildlife Habitat**

Alternative	Habitat Type		Area Affected (acres) ¹
Alternative 3 – Southern Sarpy County	Agricultural Land	Cropland	232.6
		Pastureland	1.9
	Nonwetland ²	Forestland	4.0
		Rangeland	51.1
	Wetland ³		8.7
	Missouri River		4.7

Note:

- ¹ Affected acres of agricultural wildlife habitat are not directly comparable to agricultural land use or farmland impacts due to the inclusion of wetland and other habitat types in the agricultural land use and farmland categories.
- ² Nonwetlands include uplands and lowland areas that are neither deepwater aquatic habitats, wetlands, nor other special aquatic sites. For this analysis, nonwetlands used for crops and pastures are reported separately.
- ³ For information regarding impacts on specific wetland types, see Section 4.12, Wetlands and Other Waters of the U.S.

Fish

During preliminary design, the number of piers in the Missouri River channel was minimized; this benefits navigation as well as fish habitat.

Wildlife

Wildlife that use the existing Missouri River floodplain for migration could continue to do so after bridge construction because a multi-span bridge over the Missouri River would be constructed from levee to levee. No fill would be placed within the Missouri River floodplain, and tree removal in forested upland and forested wetland areas would be limited to those areas required for bridge construction. As indicated in Section 4.12, Wetlands, not all wetland acreage (including forested wetland) within the ROW would be converted because the bridge would be above much of the floodway. Measures designed to reduce deer-vehicle accidents, such as the installation of warning signs alerting drivers to possible deer crossings along the roadway, would be implemented. Mitigation to offset the impacts associated with either build alternative would be conducted according to habitat type, as described in the following paragraphs.

Agricultural Land

Mitigation to offset the loss of agricultural habitat would not be necessary as suitable agricultural habitat is located in the surrounding area.

Nonwetland

Mitigation to offset the loss of upland habitat in forested areas is required by Iowa Code and could be conducted in several ways. Replacement trees could be planted at a ratio of 1:1 (Iowa DOT, October 20, 2003). Other mitigation options could be developed that are “deemed to be comparable to the woodland removed, including, but not limited to, the improvement, development, or preservation of woodland under public ownership” (Iowa Code, 2003). Replacement of forested areas is not required by Nebraska code; however, it is anticipated that mitigation for Project impacts would be similar in each state.

Wetland

Mitigation of wetland impacts in Nebraska and Iowa is discussed in Section 4.12 and could include the restoration and/or the creation of emergent and forested wetlands.

Migratory Birds

No mitigation measures for post-construction impacts (such as traffic noise) are proposed. Measures to minimize impacts to migratory birds during construction are addressed in Section 4.24.8.

4.15 THREATENED OR ENDANGERED SPECIES

Based on information provided by Federal and state agencies, several potential T&E species may exist in the Study Area (see Section 3.15). Impacts to T&E species were evaluated based on consideration of potential habitat, the likelihood of a species occurring within the Study Area, and a consideration of physical impacts (such as increased sedimentation and runoff) caused by constructing and operating a transportation facility. A Biological Assessment (BA) was conducted to determine potential impacts to Federally listed (threatened or endangered) species. The potential for and extent of impacts are described using accepted ESA terminology.

4.15.1 No-Build Alternative

MAPA's LRTP projects within the Study Area would primarily occur within existing ROW and would not be expected to adversely affect T&E species. Improvements to the Bellevue Bridge separate from this Project would be primarily limited to the deck area and would cause no effect to T&E species. It is possible that existing road systems would need to be expanded to handle additional traffic if the proposed project would not be constructed; the effect on T&E species is unknown.

4.15.2 Build Alternatives

The existing Bellevue Bridge and LRTP projects are projected to cause no adverse effect to any T&E species, so the impacts of the build alternatives are addressed individually. Table 4-12 summarizes the potential impacts to each T&E species described in Section 3.15.1. Potential impacts on T&E species potentially in the Study Area are discussed below by species, with differences in impacts between Alternatives 2 and 3 noted as applicable. The BA provides additional information on the species and the potential effects of either build alternative.

American Bald Eagle

The bald eagle population has been steadily increasing for the last 13 years on a national scale. USFWS has recognized the increase in population and submitted a proposal for delisting the bald eagle as a threatened species (64 FR 36454-36464). Because of the steady increase in bald eagle populations, this species is likely to be delisted in the next few years but is still treated as a threatened species during the timeframe of this analysis.

Alternatives 2 and 3 both bisect potential habitat for the bald eagle. Alternatives 2 and 3 include 17.1 acres and 6.9 acres of trees, respectively, in forested upland and forested wetland areas. Tree removal in areas of previously undisturbed habitat would impact the bald eagle by removing potential roosting trees. However, the removal of these trees would result in the loss of only a small portion of the habitat available in the Study Area, and suitable habitat is available immediately upstream and downstream of the Study Area in the Missouri and Platte river floodplain corridors.

**Table 4-12
Threatened and Endangered Species Impacts**

Common Name	Scientific Name	Status ¹	Project Impact
<i>Birds</i>			
Bald eagle	<i>Haliaeetus leucocephalus</i>	Threatened	The Project may affect, but is not likely to adversely affect, the bald eagle.
Interior least tern	<i>Sterna anatillarum</i>	Endangered	Construction within the Study Area would have no effect on the interior least tern populations or breeding habitat.
Piping plover	<i>Charadrius melodus</i>	Threatened	The Project would have no effect on the piping plover populations or breeding habitat.
<i>Fish</i>			
Pallid sturgeon	<i>Scaphirhynchus albus</i>	Endangered	The Project may affect, but is not likely to adversely affect, the pallid sturgeon.
Lake sturgeon ²	<i>Acipenser fulvescens</i>	Federal species of special concern, Nebraska listed as threatened, Iowa listed as endangered	This species could be encountered during construction given the presence of suitable habitat. No adverse impacts are anticipated.
Sturgeon chub ²	<i>Macrhybopsis gelida</i>	Federal species of special concern, Nebraska listed as endangered	This species could be encountered during construction given the presence of nearby suitable habitat. No adverse impacts are anticipated.
<i>Plants</i>			
Western prairie fringed orchid	<i>Platanthera praeclara</i>	Threatened	Alternative 2 would have no effect on the western prairie fringed orchid. Alternative 3 may affect, but is not likely to adversely affect, this species
Small white lady's slipper	<i>Cypripedium candidum</i>	Federally listed as threatened, Nebraska listed as threatened, Iowa species of concern	The project may affect, but is not likely to adversely affect, the small white lady's slipper.
American ginseng ²	<i>Panax quinquefolius</i>	Nebraska listed as threatened	This species could be encountered during construction given the presence of suitable habitat. No adverse impacts are anticipated.

Notes:

¹ Federal and state (Nebraska and Iowa) status unless otherwise noted.

² A determination of effect in accordance with requirements of Section 7 of the ESA is not required because this species is not Federally listed as threatened or endangered. Section 7 of the ESA is the mechanism by which Federal agencies ensure that the actions they take, including those they fund or authorize, do not jeopardize the existence of any listed species (USFWS, Endangered Species Act Section 7 Consultation).

Loss of wintering habitat for the bald eagle can cause undue stress, leading to cessation of feeding and failure to maintain the required body temperature. Wintering and nesting bald eagles may be unable to relocate to habitats elsewhere, as the narrow forested habitats along the Missouri River may be at or above their carrying capacities.

According to USFWS, two known bald eagle nests exist in the region: one located 30 miles downstream from the Study Area along the left bank of the Missouri River (in Iowa) near Nebraska City and one 10 miles southeast of the Study Area, south of Bartlett, Iowa (USFWS, April 25, 2003). Both nests are located outside of the Study Area and would not be impacted.

Traffic volumes on Alternative 2 or 3 would cause an increase in noise levels compared to existing noise levels. Bald eagles are known to exist near traffic noise in other locations and are minimally affected by increased noise levels. However, eagles may be startled by vehicles stopping and people leaving their vehicles (Steenhoff, 1976).

Several recent roadway projects have documented that transportation noise has little effect on roosting and perching bald eagles. For example, bald eagles were observed in the area along the Iowa River near the U.S. 20 bridge in Steamboat Rock, Iowa, before, during, and after bridge construction even though construction-disturbed areas of habitat and noise levels increased in the project area (HDR, 2002). The most recent of three nests of a bald eagle pair along the Potomac River was built 75 feet from the construction work zone on the Woodrow Wilson Bridge in Virginia. The pair has raised more than a dozen eaglets in the area, and the recent nest hosts three eagles hatched in April 2004 (Washington Post, 2004).

According to research on the effects of human disturbance on perching eagles in Washington, wintering bald eagles along the Nooksack River were generally tolerant of human activity at 1,000 feet, with 98 percent of eagles remaining on their perch. Their tolerance generally decreased as distance to human activity decreased, with 50 percent of eagles leaving their perch when human activity approached within 500 feet (Stalmaster and Newman, 1978).

This research demonstrates that traffic noise and human activity related to the roadway is unlikely to adversely affect bald eagles. Noise associated with construction activities may affect bald eagles that occur near the ROW and is addressed along with other impacts during construction in Section 4.24.9.

The Project may affect, but is not likely to adversely affect, bald eagles in the Study Area. While some bald eagle habitat would be removed for construction and noise levels would increase, the amount of habitat removed and the increase in noise is not anticipated to disturb the bald eagle population to the extent that it would cause an adverse effect.

Interior Least Tern and Piping Plover

Although interior least terns and piping plovers may use the Missouri River corridor during migration, reconnaissance surveys of the Missouri River in the vicinity of the build alternatives confirmed that the Study Area does not currently contain suitable habitat for these species.

The Project would not destroy, adversely modify, or create habitat. Construction within the Study Area would have no effect on the interior least tern or piping plover populations or breeding habitat.

USACE is evaluating changes to its Missouri River Master Water Control Manual. As part of the evaluation, USACE is considering water management changes in flows to enhance wildlife habitat. In addition, a lawsuit involving USACE and USFWS is currently pending in Federal court related to flows maintained by USACE on the Missouri River. Consequently, it is possible that suitable habitat may be developed within the Study Area prior to bridge construction. This issue is discussed further in Section 4.27.2, Cumulative Impacts.

Pallid Sturgeon and Lake Sturgeon

As discussed in Section 3.15, Threatened or Endangered Species, the pallid sturgeon is found in the Missouri River and is known to occur at the confluence of the Platte River. Lake sturgeon occur in similar environments as the pallid sturgeon. The Study Area includes the RPMA for the pallid sturgeon. Although pier construction would occur in the RPMA, pallid sturgeon are mobile and would likely avoid the construction area. Pallid sturgeon are likely to continue using this portion of the river for migration purposes following the completion of construction. Further details on construction impacts are addressed in Section 4.24.9.

The Project may affect, but is not likely to adversely affect, the pallid sturgeon. The majority of the impacts on the pallid sturgeon would be temporary in nature and associated with pier construction. Over the long term, the scour areas located immediately upstream and downstream of the pier may provide small areas of pool habitat for pallid sturgeon to use for wintering purposes. Pallid sturgeon and lake sturgeon use much of the same habitat, and impacts on lake sturgeon would be similar to those described for pallid sturgeon. A determination of effect in accordance with requirements of Section 7 of the ESA is not required for the lake sturgeon because this species is not Federally listed as threatened or endangered. However, it is a Nebraska threatened species and an Iowa endangered species and is addressed in the EIS because of its state designation. Although lake sturgeon may be temporarily affected during construction, no long-term adverse impacts are anticipated.

Sturgeon Chub

The sturgeon chub is associated with free-flowing riverine habitat with main channel sandbars and a combination of rock, gravel, and sand substrates. The sturgeon chub has been recently documented as present in the southernmost portion of the Study Area, south of the Platte River confluence (NGPC, February 17, 2004). This area has some gravel and sand substrates. A determination of effect in accordance with requirements of Section 7 of the ESA is not required because this species is not Federally listed as threatened or endangered. However, it is a Nebraska endangered species and is addressed in the EIS because of its state designation. It is present in similar environments as the pallid sturgeon and lake sturgeon. Consequently, impacts would likely be similar to those species: there may be temporary impacts during construction, but no long-term adverse impacts are anticipated.

Western Prairie Fringed Orchid

The presence of this species is dependent on suitable habitat. Typical orchid habitat includes native tallgrass prairie or wet meadows. Agricultural practices such as tilling, haying, and the use of herbicides have eliminated areas of tallgrass prairie or potential habitat for the western prairie fringed orchid. Flood levees and the installation of measures to drain large areas of land have severely limited wetland or boggy areas that the western prairie fringed orchid may otherwise potentially inhabit.

Surveys for the western prairie fringed orchid were conducted from July 1-3, 2003 (see Section 3.15.2). While known populations of western prairie fringed orchid exist in Sarpy and Mills counties, no suitable habitat was found within the Alternative 2 corridor during a field survey conducted in 2003, and non-typical habitat of only low or moderate suitability for the western prairie fringed orchid was observed within the Alternative 3 corridor. The quality of the potential habitat within the Alternative 3 corridor is such that the probability of occurrence of the species in this corridor remains low. Given the lack of undisturbed prairies or suitable habitat and the results of the field survey (HDR, November 2003b), the probability that this species occurs in the build alternative corridors is very low. The western prairie fringed orchid was not observed during the field survey.

Construction of Alternative 2 would have no effect on the western prairie fringed orchid. Construction of Alternative 3 may affect, but is not likely to adversely affect, this species.

Small White Lady's Slipper

This orchid can be found along forest margins and clearings and boggy or swampy woodland areas. Riparian areas within the build alternative corridors contain mostly woodland vegetation and lack sufficient moisture to be considered boggy or swampy. The small white lady's slipper orchid requires rich, highly calcareous¹⁶ soil and prefers alkaline soil (pH >7). Most soil types in the build alternative corridors are classified as calcareous and mildly alkaline but have been depleted by agricultural practices and by years of cultivation and disturbance. Surveys for the small white lady's slipper were conducted from July 1-3, 2003 (see Section 3.15.2). The build alternative corridors for the Project were determined to contain low or moderately suitable habitat for the small white lady's slipper during a field survey (HDR, November 2003b). The small white lady's slipper was not observed during the field survey.

Construction within the build alternative corridors may affect, but is not likely to adversely affect, the small white lady's slipper.

American Ginseng

Areas of habitat with low and moderate suitability for American ginseng were identified in each of the build alternative corridors (HDR, November 2003b). The absence of mature, high canopy in most forested areas, dense ground cover, and limited soil moisture would make most of the sites surveyed unsuitable for American ginseng.

Surveys for American ginseng were conducted from July 1-3, 2003 (see Section 3.15.2). Habitat types at all sites surveyed within the build alternative corridors do not currently support American ginseng. Nevertheless, the possibility remains that this species could be encountered during construction given the presence of suitable habitat. A determination of effect in accordance with requirements of Section 7 of the ESA is not required because this species is not Federally listed as threatened or endangered. However, it is a Nebraska threatened species and is addressed in the EIS because of its state designation. Due to minimal observed habitat and no American ginseng found, the Project is not anticipated to result in adverse impacts to this species.

4.15.3 Avoidance, Minimization, and Mitigation

American Bald Eagle

Preliminary design involved consideration of avoidance of constraints such as wetlands and forested areas as well as minimization of the area affected. No mitigation is proposed for post-construction impacts (such as traffic noise) on the bald eagle. Mitigations during construction, including a reconnaissance survey, are noted in Section 4.24.9.

Interior Least Tern and Piping Plover

Because there is no existing habitat in or near the ROW of Alternatives 2 and 3, no mitigation is proposed for post-construction impacts (such as traffic noise) on the interior least tern and piping plover. Mitigations during construction, including a reconnaissance survey, are noted in Section 4.24.9.

¹⁶ Calcareous means composed of, or containing or resembling calcium carbonate or calcite or chalk.

Pallid Sturgeon, Lake Sturgeon, and Sturgeon Chub

No mitigation is proposed for post-construction impacts (such as roadway runoff) on the pallid sturgeon, lake sturgeon, and sturgeon chub. Efforts to minimize potential impacts during construction are noted in Section 4.24.9.

Western Prairie Fringed Orchid, Small White Lady's Slipper, and American Ginseng

No mitigation is proposed for post-construction impacts (such as roadway runoff) on the western prairie fringed orchid, small white lady's slipper, and American ginseng. Efforts to minimize potential impacts during construction are noted in Section 4.24.9.

4.16 HISTORIC AND ARCHAEOLOGICAL PRESERVATION

Historic structures and archaeological sites have been identified within the APE of the Study Area, and some are near or within the Project ROW. The proximity to the ROW and whether the structure or site is listed on, or potentially eligible for listing on, the NRHP were considered for determination of impacts according to Section 106 of the NHPA.

4.16.1 No-Build Alternative

The Project would not be constructed under the No-Build Alternative (Alt. 1) but MAPA's LRTP projects within the Study Area would still occur. The U.S. 75 projects could involve disturbance of archaeological sites but would need to be conducted in compliance with Section 106 of the NHPA. Under the No-Build Alternative (Alt. 1), traffic would increase on Highway 370 and pass a historic property listed on the NRHP (Fontenelle Bank at 2212 Main Street). As noted in Section 3.16, the Bellevue Bridge was determined ineligible for listing on the NRHP (Iowa DOT, April 22, 2003; NDOR, July 23, 2003). Consequently, current and future maintenance activities would not adversely affect the bridge under Section 106. It is possible that existing road systems would need to be expanded to handle additional traffic if the proposed project would not be constructed; the effect on historic and archaeological properties is unknown.

4.16.2 Build Alternatives

Historic Properties

Historic property surveys revealed no significant properties (those eligible for listing on the NRHP) within the ROW for either of the build alternatives. The only historic property eligible for listing on the NRHP is the Rahn I-house located in Nebraska approximately 1,000 feet south of the proposed centerline for Alternative 3 and approximately 500 feet from a modified access road connecting to Alternative 3 (see Figure 4-3). The property limits of the site include the house and its yard, which is bounded by a fencerow/tree row in front and to halfway between the house and the nearest buildings around it (Nash, June 9, 2004). Because of the distance from the I-house and the determination that the farmstead was not collectively eligible for listing on the NRHP, the historic property would not be affected if the Project were constructed. The Iowa and Nebraska SHPOs both concurred with the findings in their respective states that no historic properties would be affected by the build alternatives (Iowa DOT, December 23, 2003; NSHS, March 1, 2004); Appendix A contains reproductions of the concurrence letters.

Archaeological Resources

Archaeological investigations identified three sites in the APE for the build alternatives that were determined potentially eligible for listing on the NRHP. In Nebraska, site 25SY80 is located approximately 1,200 feet north of the centerline for Alternative 3. In Iowa, site 13ML164 (the

former townsite of St. Mary) is predominately south of the APE for Alternative 2. Based on a lack of archaeological evidence within the ROW, which includes the northwestern corner of the platted townsite, this site would not be adversely affected by the Project. Site 13ML626 in Iowa is located approximately 100 feet south of the roadway along Alternative 3 but adjacent to the ROW for modification of an access road. The ROW is based on preliminary design and would be subject to refinement as more detailed design is completed.

Based on the preliminary ROW and locations of sites potentially eligible for listing on the NRHP, no historic properties or archaeological sites would be affected by construction of Alternative 2 or 3. Based on no response provided within 30 days, the Iowa SHPO archaeologist is assumed to concur with the finding that no historic properties in Iowa would be affected by the build alternatives (Iowa DOT, February 18, 2004); Appendix A contains the unsigned concurrence letter from the Iowa DOT to the Iowa SHPO. The Nebraska SHPO archaeological office concurred with the findings of a report prepared by the Nebraska State Historical Society (Bozell, 2004) determining that no historic properties in Nebraska would be affected by the build alternatives (NSHS, October 25, 2004); Appendix A includes the concurrence letter.

As noted in Section 3.16, the Alternative 3 ROW has a higher potential for buried boat wrecks than the Alternative 2 ROW. Section 4.16.3 addresses potential mitigation for boat wreck impacts.

4.16.3 Avoidance, Minimization, and Mitigation

Based on the constraints of establishing viable alternative corridors in the Study Area, historic structures and archaeological sites were considered for avoidance. No historic properties would be impacted by either build alternative; therefore, mitigation for historic property impacts is not required for either alternative.

If Alternative 3 is selected as the preferred alternative, mitigation for impacts to archaeological resources would include further investigation of Site 13ML626 if the site is determined to be within the refined ROW. Also, mitigation for the potential of disturbance of boat wrecks is recommended if Alternative 3 is chosen. The archaeological investigation recommended remote sensing on a portion of the Alternative 3 ROW if disturbance would be below 6 feet (Tallgrass Historians L.C., January 2004). The area recommended for investigation is along the ROW in Iowa starting east of the proposed bridge for approximately 6,000 feet (essentially from where the alignment curves east of the southbound bridge until it curves again to connect with U.S. 34).

4.17 SECTION 4(f) PROPERTIES

Reconnaissance and research regarding public park and recreation areas, wildlife and waterfowl refuges, and historic sites were conducted to comply with Section 4(f) of the U.S. Department of Transportation Act of 1966. If a project would affect a Section 4(f) resource, all feasible and prudent ways of avoiding this impact must be evaluated. There are no historic sites within the ROW that would qualify as Section 4(f) properties. Section 3.17 identified several potential Section 4(f) properties within the Study Area: Haworth Park, Bellevue Marina, Baldwin Field, Bellevue Loop Trail, Schilling WMA, and Folsom Lake. Under certain circumstances, public lands that do not currently function as a significant resource may be considered a Section 4(f) resource. As noted in 23 CFR 771.135(d), Federal lands or other public lands that function as or are designated as significant recreation resources in the plans of an administrating agency may be considered Section 4(f) properties. Consequently, the proposed La Platte Link Trail in Nebraska and the proposed Missouri River Trail/Iowa Riverfront Trail in Iowa were considered as potential Section 4(f) properties.

The Iowa FHWA Division Office 5-step decision process was used to evaluate potential use impacts on potential Section 4(f) properties. The steps are: determine if a property is a Section 4(f) resource, determine if there is a potential use of the property, determine if a potential use of a property can be avoided, determine minimizations of impacts if the uses can not be avoided, and determine the type of documentation that is needed. The analysis of the alternatives determined that the preferred alternative (Southern Sarpy County (Alt. 3)) would not impact any Section 4(f) resources. Consequently, a 4(f) Statement is not required.

The proximity of the aforementioned resources to the evaluated alternatives was considered for potential impacts, as well as whether the uses would be temporary or permanent. There are two types of impacts on Section 4(f) properties:

- Direct Use – A direct use impact occurs when a Section 4(f) property is permanently incorporated into a transportation facility or temporarily occupied, causing minor effects that are subsequently restored. Reducing the size of an existing park would be considered a direct use.
- Constructive Use – A constructive use impact occurs when a project does not incorporate (or remove) a Section 4(f) property but is so close to the property that its activities, features, or attributes are substantially impaired. Five criteria are used to evaluate this type of impact:
 - Noise (see Section 4.10 for noise analysis and Section 4.14 for noise impacts on wildlife)
 - Aesthetic characteristics of the property
 - Property access
 - Vibration
 - Ecological intrusion, such as substantially diminished wildlife habitat

4.17.1 Alternative 1 – No-Build

MAPA's LRTP projects would primarily occur within existing ROW and are not anticipated to affect Section 4(f) resources unless unknown archaeological sites are found that are eligible for listing on the NRHP under criterion A, B, or C.¹⁷ The No-Build Alternative (Alt. 1) would result in increased traffic through downtown Bellevue along Highway 370 because the Project would not be constructed. Haworth Park, Bellevue Marina, Baldwin Field, and a trailhead for the Bellevue Loop Trail are all located along Highway 370. Based on known projects, neither direct use nor constructive use impacts are projected to occur under the No-Build Alternative (Alt. 1). It is possible that existing road systems would need to be expanded to handle additional traffic if the proposed project would not be constructed; the effect on Section 4(f) resources is unknown.

4.17.2 Alternative 2 – South of Offutt AFB

MAPA's LRTP projects would also occur under Alternative 2 and are not expected to impact Section 4(f) properties as noted above. Alternative 2 would cause no direct use or constructive use impacts on Haworth Park, Bellevue Marina, Baldwin Field, Schilling WMA, or Folsom Lake.

¹⁷ Criterion A: property is associated with events that have made a significant contribution to the broad patterns of history; Criterion B: property is associated with the lives of persons significant in the past; Criterion C: property embodies of distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction.

The first three properties noted are along Highway 370 and are distant from the Alternative 2 ROW. Schilling WMA is approximately 3 miles south of the Alternative 2 ROW, and Folsom Lake is approximately 1 mile southeast of the proposed Alternative 2 interchange with I-29. Noise levels near Folsom Lake are predicted to vary negligibly from existing noise levels. Noise levels at the northern boundary of Schilling WMA (the closest point from the roadway) are projected to be less than 50 dBA. Intermittent noise from aircraft departing and landing at Offutt AFB and traffic along I-29 currently affect Folsom Lake. Noise from aircraft and hunting activities also affect the noise environment at Schilling WMA. The Plattsmouth City Council has directed the city's planning commission to study the possibility of annexing 478 acres of the Schilling WMA because of concerns with gunshot noise and safety (Omaha World Herald, September 21, 2004). Although affected by different noise sources, Folsom Lake and Schilling WMA continue to function for their intended purpose. The projected noise level increase of several dBAs attributable to the proposed project under Alternative 2 would not substantially interfere with the use and enjoyment of Schilling WMA. Consequently, a constructive use of these properties would not occur from an increase in noise levels.

Alternative 2 would cross the Bellevue Loop Trail in two locations, one east of Papillion Creek and one west of the Missouri River. Both crossings would be above-grade with a bridge structure above the trail. There would be a temporary and unavoidable direct use impact of this Section 4(f) property due to temporary closure of a trail segment during construction of the bridge. Construction of a detour maintaining the connectivity of the Bellevue Loop Trail to avoid this impact was evaluated, and it was determined that it is not feasible and prudent given the constraints of Papillion Creek and the UPRR and BNSF rail lines. Although this would be a temporary impact, trail users could consider this as causing an adverse change to the trail and its use. Further discussion of this direct use impact is provided in Section 4.17.4. Additionally, noise levels along the trail beneath the overpasses would increase due to traffic. However, this would not be a significant increase that would affect trail users. A segment of the trail currently is perpendicular to flight paths from Offutt AFB and experiences aircraft noise levels higher than 70 dBA, which is similar to the level anticipated along the trail beneath the bridge.

As noted in Section 3.7, Considerations Relating to Pedestrians and Bicyclists, there are conceptual plans for a trail parallel to the Missouri River in Iowa. Section 4(f) typically applies to existing properties, although there may be certain instances where proposed resources may be applicable. M&P Missouri River Maintenance owns the Missouri River levee in Mills County. Access to the levee is prohibited except for maintenance vehicles. Consequently, the proposed Missouri River Trail is not considered a Section 4(f) property because the levees are not open-access public lands.

4.17.3 Alternative 3 – Southern Sarpy County

MAPA's LRTP projects would also occur under Alternative 3 and are not expected to impact Section 4(f) properties as noted above. Alternative 3 would not cause direct use or constructive use impacts on any existing Section 4(f) properties. Haworth Park, Bellevue Marina, and Baldwin Field are distant from the Alternative 3 ROW. The Alternative 3 centerline would be no closer than approximately 1,000 feet south of the Bellevue Loop Trail, 1.5 miles north and 3,000 feet east of Schilling WMA, and 1.5 miles south of Folsom Lake. There would be an increase in noise levels along the Bellevue Loop Trail, but it would be minimal because aircraft noise from aircraft operations associated with Offutt AFB have created a high background noise level (approximately 70 dBA). Consequently, trail users below the flight paths already experience moderately high noise levels. Noise levels near Folsom Lake would vary negligibly from existing levels. Noise levels at the northeastern boundary of Schilling WMA (the closest point from the roadway) are projected to be approximately 55 dBA, several dBAs above existing

background noise levels. Using the same analytical approach presented in the analysis of noise impacts under Alternative 2, a constructive use of these properties would not occur.

As noted in Section 3.7, Considerations Relating to Pedestrians and Bicyclists, there are plans for two trails that would be crossed by Alternative 3: the La Platte Link Trail in Nebraska and the Missouri River Trail/Iowa Riverfront Trail in Iowa. The proposed trail in Iowa was determined ineligible as a Section 4(f) property in the discussion of Alternative 2, and the same is true for Alternative 3. The proposed La Platte Link Trail is located on MUD land and privately owned land; the Papio-Missouri River NRD has an easement only for the levee. Prior to development of the trail, the ROW would need to be purchased for public use. Although it is designated in a plan, the proposed La Platte Link Trail is not considered a Section 4(f) property because the land is not currently under public ownership. Consequently, no direct use or constructive use impacts of Section 4(f) properties would occur for Alternative 3. Construction of the project would not preclude future development of the La Platte Link in Nebraska and the Missouri River Trail in Iowa. The levees upon which the trails are planned would be bridged and sufficient vertical and horizontal clearance would remain for future conversion to support a trail system.

4.17.4 Avoidance, Minimization, and Mitigation

For Alternative 2, the Bellevue Loop Trail could not be avoided and would result in a temporary direct use impact. Even though bridges would be placed over the trail in the two locations intersected, a feasible and prudent detour to avoid closure during construction cannot be developed due to the existing constraints of railroad tracks and Papillion Creek. See Section 4.24.2 for further discussion of construction impacts on the Bellevue Loop Trail.

4.18 REGULATED MATERIALS

A survey was conducted via database research and field reconnaissance to identify sites with potential environmental contamination that could be affected by construction of the Project (for example, disturbance of an area undergoing environmental monitoring or remediation) or could affect the Project by exposing roadway workers to contaminants. Six potential sites with RECs were identified: a TCE plume from Offutt AFB; a LUST at Falt Fisheries; a LUST at National By-Products Inc.; an unnamed debris site; soil and groundwater contamination from PCS Nitrogen; and a LUST and waste stabilization lagoons at Fast Break Amoco. Based on Iowa DOT protocols, the unnamed debris site is considered a minimal risk site,¹⁸ and the other sites are considered as moderate risk sites.¹⁹

Section 3.18 discusses details regarding the sites and their contamination (if known). Potential impacts were evaluated by considering the proximity of the sites to the alternatives and characterizing the potential risk of the sites.

¹⁸ Minimal risk sites, as defined by Iowa DOT, are “Houses, farms, agricultural land, vacant or timbered land, and commercial properties where a low potential or no potential for regulated materials to be present was observed during the site visit.”

¹⁹ Moderate risk sites, as defined by Iowa DOT, are “LUST sites (except those with a No-Further-Action-Designation by the Iowa DNR), State Hazardous Waste Sites classified as “c” or “d” (as defined in Iowa Code 567.148), automobile junkyards and salvage yards, and commercial and industrial facilities where the potential for regulated materials was observed during the field corridor review or site visit and sloppy housekeeping practices were observed to an extent that the potential for environmental contamination is higher than if normal waste management practices had been followed.”

4.18.1 Alternative 1 – No-Build

The No-Build Alternative (Alt. 1) would not involve construction of the Project, but MAPA's LRTP projects would occur. Most of the LRTP work would be conducted within existing ROW but could have the potential to disturb regulated material sites. Separate from this Project, maintenance activities on the existing Bellevue Bridge are planned to focus on deck repair and should not affect regulated material sites. It is likely the bridge was painted with lead-based paint, but the deck maintenance would be planned to avoid removing or disturbing the paint. Monitoring of groundwater plumes by Offutt AFB and PCS Nitrogen would continue. It is possible that existing road systems would need to be expanded to handle additional traffic if the proposed project would not be constructed; the effect on regulated material sites is unknown.

4.18.2 Alternative 2 – South of Offutt AFB

Potential impacts to RECs from MAPA's LRTP projects are unknown but would also apply to this alternative. Alternative 2 is unlikely to affect or be affected by RECs near the Alternative 2 ROW (Offutt AFB TCE plume, Falt Fisheries LUST, National By-Products Inc. LUST, and an unnamed debris site) because they are all 0.25 mile or more from the centerline (see Figure 4-1). The ROW would not impact any Offutt AFB TCE monitoring wells; the closest well is approximately 1,000 feet to the north.

4.18.3 Alternative 3 – Southern Sarpy County

Potential impacts to RECs from MAPA's LRTP projects are unknown but would also apply to this alternative. Alternative 3 is likely to affect, or be affected by, two existing RECs along the ROW (see Figure 4-3). Alternative 3 crosses the northeast corner of the PCS Nitrogen property. PCS Nitrogen is associated with several database reports, including soil and groundwater contamination as the result of a fertilizer spill. A 2,000,000-gallon fertilizer tank ruptured in the early 1980s, releasing liquid fertilizer to the soil and groundwater. The natural migration of contamination is east-southeast towards the Missouri and Platte rivers away from the Alternative 3 alignment. A potential impact occurs where the ROW crosses the northeast corner of PCS Nitrogen property, where a nested pair of groundwater monitoring wells (MW-20) is located. The monitoring well pair is upgradient from the PCS Nitrogen spill site and is used as part of an ongoing program to monitor the degree and extent of groundwater contamination resulting from the historic spill. The ROW is approximately 2,000 feet northeast of the spill site. The furthest extent of significant groundwater contamination is in MW-16 (NDEQ, March 1, 2004), approximately 1,000 feet southwest of the ROW and 400 feet from an access road. The location of MW-20 appears to be outside but adjacent to the proposed ROW. Consequently, the well pair would not be directly impacted by the Project. The impact of placing a roadway adjacent to the monitoring well pair would likely have a negligible effect on the groundwater plume.

Alternative 3 would require acquisition of the southern 115-foot edge of the Fast Break Amoco site. This property has recently undergone a Risk-Based Corrective Action (RBCA) review.²⁰ Both soil and groundwater have been affected by a gasoline release. No corrective action has been taken. The site is currently classified by the Iowa DNR LUST program as high risk. However, Iowa DOT guidelines classify active LUST sites as a moderate risk to construction. In addition, the three-cell waste stabilization lagoon located at the southern edge of the property is currently the subject of Iowa DNR permit compliance activity. The facility has not submitted

²⁰ RBCA is an iterative streamlining process that uses a tiered approach and site classifications to screen and address sites based on their relative risk.

required monthly operation reports since 1993, and inspections have revealed deficiencies with regard to the maintenance of the banks of the lagoons. Additional investigation (Phase 2 Environmental Site Assessment) is warranted related to future construction activity and purchase of ROW associated with the Fast Break Amoco site. The Phase 2 work should be completed prior to issuance of the Final EIS if Alternative 3 is selected as the preferred alternative. This process would ensure that the risk from construction of Alternative 3 is known and could be accounted for in the Project.

4.18.4 Avoidance, Minimization, and Mitigation

Based on the constraints of establishing viable alternative corridors in the Study Area, regulated material sites were considered for avoidance. No minimization or mitigation for RECs would be needed for Alternative 2. Although Alternative 3 avoids groundwater plumes from Offutt AFB and PCS Nitrogen, the ROW includes a portion of the Fast Break Amoco site and is near a monitoring well pair on PCS Nitrogen property. Although direct impacts to the well pair would be avoided, indirect effects to the groundwater table could occur by placing fill near the well pair. The roadway would be slightly elevated (approximately 6 feet) compared to the surrounding ground surface, and the groundwater table would be negligibly affected by adding fill to the area and introducing an impermeable roadway surface. No mitigation is proposed for the groundwater monitoring well system of PCS Nitrogen.

Relative to the impact of the Fast Break Amoco site, a Phase 2 Environmental Site Assessment is warranted to address the LUST classification. In addition, the taking of property where the waste stabilization lagoons are located would require construction of new lagoons in an alternative location outside the ROW. The permit compliance issue would also need to be satisfactorily resolved with Iowa DNR.

4.19 VISUAL

The existing visual landscape characteristics were examined to assess how the new roadway and bridge might affect viewers' perceptions of their surroundings. An individual's perception of a visual impact from a river crossing will vary depending on where they are located and what they are doing. For example, a resident, person recreating on trails or the Missouri River, or commuter or hauler would all have different perceptions of the bridge and roadway. The discussion in this section addresses general visual impacts of a new transportation system, and impacts specific to individual alternatives are addressed under the relevant alternative.

The new bridge and roadway under either build alternative would introduce new visual elements, including increased traffic and alterations to ingress and egress by realigning portions of some existing roads. For motorists, views from the new roadway and bridge crossing would consist of a variety of agricultural and natural landscapes. Regardless of the build alternative implemented, residents of the Study Area would experience adverse visual impacts. Either build alternative would create a very different visual landscape on the Missouri River floodplain and in surrounding areas. The proposed grade changes would have a large impact on viewers' perceptions of their surroundings.

4.19.1 Alternative 1 – No-Build

The majority of the MAPA LRTP project work would be conducted along existing ROW and would likely minimally change the visual effect along and outside of the improvements. Although no new bridge over the Missouri River would be constructed under the No-Build Alternative (Alt. 1), NDOR's U.S. 75 – Plattsmouth to Bellevue project would include the construction of a two-lane northbound bridge across the Platte River as a replacement for the

existing northbound bridge, which would be demolished. The view of the bridge area would be similar because two bridges exist before the project and would be present subsequent to construction. Maintenance activities on the existing Bellevue Bridge not associated with this Project would be temporary and negligibly affect visual resources. It is possible that existing road systems would need to be expanded to handle additional traffic if the proposed project would not be constructed; the effect on the visual environment would likely be negligible because the viewshed has already been affected by road construction.

4.19.2 Alternative 2 – South of Offutt AFB

The bridge constructed across the Platte River for the U.S. 75 – Plattsmouth to Bellevue project would minimally affect the viewshed in the Study Area. In addition, for Alternative 2, at the U.S. 75 interchange with Fairview Road and proceeding east, the grade of the Nebraska portion of the new roadway would approximately match the existing topography. Further east, the grade would be raised to 38 feet above grade to a bridge crossing over Papillion Creek, its levees, and the UPRR rail line. The grade would then decrease to slightly above existing grade and then rise to about 38 feet above grade for a bridge crossing of two BNSF tracks. The grade would decrease and then gradually rise to a maximum of 72 feet above existing grade for the bridge span crossing of the Missouri River. Then the roadway grade would gradually decrease until reaching the new U.S. 34 interchange with I-29, which would be slightly above the existing grade.

The bridge crossing of Papillion Creek and the UPRR rail line would have minimal visual impacts on the area given the nature of Papillion Creek, which has been subject to channelization and flood control measures. The visual impact of constructing a bridge crossing at this location would be far less than that of the previous alterations. The bridge crossing of the Missouri River would be an intrusion into the viewshed of recreational users of the Missouri River.

The Bellevue Loop Trail runs along the Papillion Creek Levee at the proposed crossing location. The viewshed from this trail encompasses fields south of Bellevue and Offutt AFB. Persons using the Bellevue Loop Trail would have their view of the Missouri River disrupted depending on their location on the trail. Residents of the Elbow Bend residential area would experience adverse visual impacts due to the intrusion of the bridge into their vista.

The views from the roadway and proposed bridge would allow a pleasing vista of the Missouri River valley for travelers.

4.19.3 Alternative 3 – Southern Sarpy County

The bridge constructed across the Platte River for the U.S. 75 – Plattsmouth to Bellevue project would minimally affect the viewshed in the Study Area. For Alternative 3, near the western terminus, the roadway would be approximately 45 feet above the existing topography at a bridge over the UPRR and BNSF rail lines. The grade would decrease to slightly above the existing topography heading east, and then the roadway would steadily rise from slightly above grade to a maximum of 65 feet above grade at the Missouri River crossing. After the crossing, the grade would gradually descend and tie into U.S. 34 at the existing grade.

The bridge crossing of the Missouri River would be an intrusion into the viewshed of recreational users of the Missouri River. Users of the southern portion of the Bellevue Loop Trail, located north of Alternative 3, would have their view of the Missouri River affected by the presence of a bridge over the Missouri River. Residents of the Iske Park residential area would experience adverse visual impacts looking southward due to the intrusion of the bridge into their vista.

The views from the roadway and proposed bridge would allow a pleasing vista of the Missouri River valley for travelers.

4.19.4 Avoidance, Minimization, and Mitigation

Visual impacts of the Project cannot be avoided. Very little can be done to reduce the impact that either Alternative 2 or 3 would have on the visual quality of the area. Views of the roadway would be mitigated through landscaping techniques, such as tree and shrubbery plantings, as developed during final design of the Project. Best management practices (BMPs) for reseeding with native grass and forb mixtures would be adopted in accordance with NDOR and Iowa DOT construction manuals, which would help restore the visual quality of the crossing over the Missouri River. To the extent allowed by NDOR and Iowa DOT design standards, railing and safety barriers on the bridge would be designed to avoid unduly restricting the view of motorists.

4.20 NAVIGATION

USCG requested a determination of potential impacts associated with a bridge over the Missouri River. Consequently, this section addresses commercial and emergency navigation, recreational navigation, and navigation maintenance of the Missouri River in the Study Area.

4.20.1 Commercial and Emergency Navigation

The Missouri River is maintained as a navigable river from Sioux City, Iowa, to the mouth at St. Louis, Missouri; this reach of the Missouri River includes the Study Area. The Missouri River Bank Stabilization and Navigation Project, as authorized by Congress in the Rivers and Harbors Act of 1912, 1925, 1927, and 1945, provides that the navigation channel maintain a depth of 9 feet and a width of not less than 300 feet (USACE, Missouri River Mitigation Project). USCG has the authority to request a wider channel for navigation as needed. USACE maintains the navigation channel in the Study Area with a series of revetments²¹ and dikes located along the river. Water depth is maintained through release of water from Gavins Point Dam, located near Yankton, South Dakota. The navigational season generally runs from April through November, but the exact dates of the season vary from year to year (USCG, October 31, 2003). USACE monitors navigational service and may limit it depending upon the quantity of water stored in the Mainstem Reservoir System (USACE, March 2003b).

Approximately 140 docks and terminals operate along the length of the Missouri River (USACE, August 2001b). These docks and terminals support the transport of freight traffic commodities, such as agricultural products, chemicals, fertilizers, petroleum products, and building products, via tugboats and barges (USACE, March 2003b). A typical commercial barge tow in a year with adequate river levels (a non-drought year) consists of one tow pushing six barges, with each barge weighing between 300 and 400 tons. In drought years, a typical commercial barge tow consists of one tow pushing four barges. In 1994, commercial barge shipments on the entire length of the Missouri River totaled 1.8 million tons. Due to drought in recent years, commercial barge shipments on the Missouri River have declined, with 1.3 million tons in 2001 (USACE, January 27, 2004). Commercial barge traffic within the navigational segment of the Missouri River that extends from Omaha to Kansas City, Missouri, was 462,000 tons in 2001 (USACE, January 27, 2004).

There is only one commercial dock or terminal located within the Study Area, situated on the right bank at River Mile 595.3. This is PCS Nitrogen's Bellevue Plant Dock. A survey conducted in the year 2000 found that the plant and wharf facility were not being operated (USACE, March 5, 2003b).

²¹ A revetment is a structure located on the outside of a river bend. A revetment runs parallel to the river and is constructed with rock or wood piling.

There are some commercial boating operations located north of the Study Area. The River City Star (formerly the Belle of Brownville) is a commercial boating enterprise operated out of Miller's Landing north of the Study Area (approximately 1 mile north of the I-480 bridge in Omaha) and has the capability to travel within the Study Area. The Ameristar Casino Hotel and Harrah's Casino and Hotel are located in Council Bluffs between the I-80 and I-480 bridges and each includes a casino boat. These boats are typically docked at the hotel and have short tours that conclude north of the Study Area.

Currently, no vessels are engaged in emergency operations or national defense activities in the segment of the Missouri River within the Study Area.

4.20.2 Recreational Navigation

Recreational navigation is the most common type of navigational activity within the Study Area. The Bellevue Marina provides the only direct public access to the river within the Study Area. There are also some private docks associated with riverfront residences at Iske Park. On any given day, hundreds of boaters access the river from this and other marinas outside the Study Area, such as the NP Dodge Park Marina (north of I-680), the Riverfront Marina (north of I-480), and Sandpiper Cove (northwest of I-29) (USACE, January 27, 2004). This includes fishing boats, motorboats, and personalized watercraft, such as jet skis and wave runners.

4.20.3 Navigation Maintenance

Maintenance dredging has not occurred in the Missouri River since 1969, with the exception of spot locations that were dredged in the lower portion of the river near St. Louis, Missouri, in 1979. USCG maintains buoys that delineate the navigational channel in the Missouri River (USACE, January 27, 2004).

4.20.4 No-Build Alternative

Separate from this Project, maintenance activities on the existing Bellevue Bridge are planned to focus on deck repair. Repair activities on the piers could affect navigation and would require USCG approval. MAPA's LRTP projects would not impact navigation on the Missouri River. It is possible that existing road systems would need to be expanded to handle additional traffic if the proposed project would not be constructed; the effect on navigation is unknown.

4.20.5 Build Alternatives

Neither of the build alternatives would impact commercial, emergency, or recreational navigation on the Missouri River, nor would they impact navigation maintenance.

The Missouri River crossing for Alternative 2 is located on a tangent section of the river, approximately at River Mile 598.5 (see Figures 4-1 and 4-2). The main span of the bridge for this alternative would provide a minimum of 450 feet of horizontal clearance for the navigation channel of the river and would provide 52-foot vertical clearance above the 2 percent flow line.²² There are no other bridges in close proximity to Alternative 2 that would impact navigation through the bridge (the Bellevue Bridge is located upstream, approximately at River Mile 601.4).

The Missouri River crossing for Alternative 3 is located on a bend of the river, approximately at River Mile 595.9, immediately upstream (approximately 1 mile) of the Platte River confluence (see Figures 4-3 and 4-4). The main span of the bridge for this alternative would provide a minimum of 450 feet of horizontal clearance for the navigation channel of the river and would

²² The 2 percent flow line is the elevation of the river that is exceeded 2 percent of the time.

provide 52-foot vertical clearance above the 2 percent flow line. There are no other bridges in close proximity to Alternative 3 that would impact navigation through the bridge (the Plattsmouth Bridge is located downstream at River Mile 590.5).

Either of the proposed build alternatives would provide a navigation channel that is adequate for commercial, emergency, recreational, and maintenance vessels; neither bridge would prohibit entry of or access to any local docks or terminals; and bank revetment and dike maintenance operations would not be impacted by the construction of either alternative.

4.20.6 Avoidance, Minimization, and Mitigation

The preliminary bridge layout for both Alternatives 2 and 3 has been coordinated with USCG to minimize navigation impacts. Mitigation during construction is noted in Section 4.24.12. Iowa DOT would continue coordination with USCG during the design and construction phases of the Project.

4.21 BRIDGE

This section is included at the request of USCG to summarize background information on the existing Bellevue Bridge and the projected environmental consequences of placing a new bridge over the Missouri River at one of two alternative locations.

4.21.1 Conditions at the Existing Bellevue Bridge

The existing Bellevue Bridge is located at River Mile 601.4. The bridge connects Highway 370, which traverses the Study Area from U.S. 75 in Sarpy County to I-29 in Mills County. The existing bridge is a 1,965-foot-long truss structure that was constructed in 1952. The bridge is operated by a state-authorized bridge commission and thus is not under the control of either NDOR or Iowa DOT. Tolls are collected to retire the construction bonds and fund the operation and maintenance of the bridge. The Bellevue Bridge Commission recently paid off the final portion of the bond debt (Omaha World Herald, August 28, 2004); however, toll collection will continue to pay for future maintenance. Inspections of the bridge (in 1987, 2001, and 2003) and review of current NDOR and Iowa DOT design standards led to the determination that the bridge is both structurally and functionally substandard. Details from these inspections and other information regarding the structure and function of the bridge are discussed in Section 1.4.1, Substandard Bridge.

Minor repairs to the Bellevue Bridge were made in 2001. The 2003 inspection report estimated that with continual upkeep and approximately \$1.5 million in repairs, the bridge can continue to carry traffic for approximately 25 to 30 years (TranSystems Corporation, December 2003). Construction for deck and guardrail replacement commenced on June 28, 2004 and is scheduled to be completed by October 18, 2004 (Omaha World Herald, August 28, 2004). The bridge will remain in use throughout the study period (to Year 2030) for this Project.

4.21.2 Environmental Consequences of Build Alternatives at Bridge Locations

The Project's potential impacts to society, the economy, and the natural environment are discussed in detail throughout this chapter. The alignments of the build alternatives were selected based on the consideration of physical and natural constraints, with the attempt to maximize the use of previously disturbed areas; to avoid residences, businesses, public facilities, utility lines and facilities, wetlands, and parks; and to minimize impacts to farmlands and the diagonal severance of farms. The location of the new bridge over the Missouri River for Alternative 2 would be at River Mile 598.5, and for Alternative 3, it would be at River Mile 595.9.

The Missouri River crossing would include a bridge, as described in Section 2.4.2. A foundation and pier would be placed within the Missouri River channel, with additional piers placed in the overbank (which includes the floodway). Concrete abutments would be required at either end of the bridge and would be positioned landward of the levees. Specific impacts between the levees of the proposed bridge structure over the Missouri River were determined for each alternative and are discussed in the following paragraphs. The impacts of Alternatives 2 and 3 are nearly identical for most resources but are distinguished when different as appropriate.

Wildlife travel corridors along the Missouri River would not be affected because a multi-span bridge would be constructed from levee to levee, providing safe north-to-south passage for many wildlife species and access to unobstructed areas or habitat directly adjacent to the river. The types of wildlife habitat between the levees are similar for each build alternative. The most sensitive wildlife habitats between the existing levee systems are the forested wetlands, riparian areas, and river habitat. Between the levees within the Alternative 2 alignment, there are a total of 1.9 acres of PFO wetlands in Nebraska and Iowa and 1.4 acres of R2 wetlands in Iowa, as well as 4.4 acres of riverine habitat. Between the levees within the Alternative 3 alignment, there are 1.8 acres of PFO wetlands and 1.0 acre of R2 wetlands in Iowa, as well as 4.7 acres of riverine habitat. Because the proposed bridge under each build alternative would span the levees (with some piers on land inside the levees and a pier in the Missouri River), minimal impacts on the wetlands are anticipated at the pier locations only. The installation of a pier in the Missouri River could affect river habitat by causing displacement of river channel sediment. A geomorphologic analysis conducted to evaluate scour and sedimentation impacts determined a negligible and temporary increase (within the range of daily fluctuation) in suspended sediment near the area of the pier. Disturbance of river channel sediment during construction and from scouring subsequent to construction would not adversely impact the Missouri River.

Groundwater resources would not be adversely impacted by either of the build alternatives. No known groundwater wells exist between the levees. Runoff from the roadway would be controlled by means of a barrier rail. Drainage would fall from the roadway directly into the Missouri River at spot locations along the barrier rail of the bridge. FEMA has mapped the 100-year floodplain for the Missouri River, and the area between the levees is designated as the floodway. A foundations and pier would be placed within the Missouri River channel, with additional piers placed in the overbank between the levees. Although no fill would be placed between the levees, preliminary hydraulic analyses indicate that a slight rise in the regulatory water surface elevation would occur due to construction of piers in the Missouri River channel and in the floodway between the levees. It is anticipated that a mitigation design involving improvements to the floodway of the floodplain (such as creation of extra conveyance capacity) would be provided as necessary during the final design of the selected alternative in order to obtain a no-rise certification. If this were not possible, a LOMC would be obtained. See Section 4.13.4 for further information on floodplain mitigation. Both alternatives would comply with all floodplain regulations and would not significantly alter the natural beneficial values of floodplains.

There are potential impacts to T&E species due to the bridge. The majority of the T&E species listed as potentially affected by this Project are associated with the riparian area between the levee and the Missouri River and with the river itself. Because of this association, impacts due to a structure spanning levee to levee (with a pier in the Missouri River and piers on land between the levee and the river) would be similar to those described for the bridge and roadway (see Section 4.15, Threatened or Endangered Species). The exception to this would be the western prairie fringed orchid, which prefers tallgrass prairie habitat. The orchid is also known to inhabit river bottom prairies. There are no areas of river bottom prairie within or near the build alternatives.

Under Alternative 2, the construction of a structure spanning levee to levee (with a pier in the Missouri River and piers on land between the levee and the river) would have impacts on the existing Bellevue Loop Trail. The Bellevue Loop Trail, which runs along the levee system west of the Missouri River, would be temporarily closed for several months to construct the west approach and westernmost span for the bridge. After the construction of this build alternative, the trail would be reopened, as the bridge design is such to allow for safe passage of the Bellevue Loop Trail beneath the bridge. Construction of Alternative 3 would not affect any existing pedestrian and bicycle trails.

Alternative 2 would require the relocation of one residence and one parcel not containing a residence in the Elbow Bend residential area. Alternative 3 would not require any property acquisitions between the levees. Alternative 2 would not impact noise receivers between the levees. However, 11 residential noise receivers would be impacted between the levees under Alternative 3. Measures to mitigate the noise impacts of Alternative 3 were studied, but it was determined that no reasonable and feasible mitigation measures exist. See Section 4.10, Noise, for additional information regarding noise impacts.

Prime farmland is found between the levees and the Missouri River for both alternatives. Under Alternative 2, small pockets of prime farmland are located between the levee and the Missouri River in the Nebraska portion of the Study Area. This area also contains developed areas that are not farmed, such as the Elbow Bend residential area. The majority of the land between the river and levee in Alternative 2 in the Iowa portion of the Study Area is prime farmland. Under Alternative 3, approximately one-half of the land between the levees and the river in both the Nebraska and Iowa portions of the Study Area is prime farmland. These areas also contain pockets of development, such as the Iske Park residential development in the Nebraska portion of the Study Area.

Navigation on the Missouri River would be temporarily and minimally affected during construction, but no long-term adverse impacts to navigation are anticipated. Navigation would continue during construction. Vessels would be forewarned of the bridge construction and directed on how to proceed through the construction zone. No impoundments, relocations, channel deepening, filling, or stabilization works are anticipated in association with the crossing. USACE maintains the banks of the Missouri River with a series of revetments and dikes in the Study Area; there would be no impacts to these structures. Design of the proposed bridge was dictated by the clearance for navigation; therefore, no backwater is expected to be created by the structure.

The proposed bridge and connecting roadway would serve the transportation needs of the growing populations in the Study Area and would promote greater interaction among the communities within the Study Area and between these communities and the Omaha metropolitan area. However, construction of either alternative could reduce the traffic volumes on Highway 370 through downtown Bellevue. Reduced traffic volumes could increase the isolation of the downtown area and, as a result, negatively impact downtown Bellevue (see Section 4.6, Economics, for discussion of economic impacts).

4.22 PERMITS AND APPROVALS

Known permits and approvals required to implement either Alternative 2 or 3 are summarized in Table 4-13. The paragraphs following Table 4-13 discuss those permits or approvals needed from environmental resource agencies.

**Table 4-13
Permits and Approvals**

Permit or Approval	Type	Granting Agency(ies)
General Bridge Act of 1946	Federal	U.S. Coast Guard
Section 9 of the Rivers and Harbors Act of 1899	Federal	U.S. Coast Guard
Section 10 of the Rivers and Harbors Act of 1899	Federal	U.S. Army Corps of Engineers
Section 404 Permit, Clean Water Act	Federal	U.S. Army Corps of Engineers U.S. Environmental Protection Agency
Section 7 of the Endangered Species Act	Federal	U.S. Fish & Wildlife Service
Interchange Justification Report	Federal	Federal Highway Administration
Location and design approval	Federal	Federal Highway Administration
EIS approval as a joint lead agency ¹	Federal	Federal Highway Administration
Record of Decision (ROD) ²	Federal	Federal Highway Administration
Form 7460, Notice of Proposed Construction or Alteration	Federal	Federal Aviation Administration
Joint Application Form (Sovereign Lands Construction Permits)	Federal/ State	U.S. Army Corps of Engineers Iowa Department of Natural Resources
EIS Adequacy Determination	State	Iowa Department of Transportation Nebraska Department of Roads
EIS Findings of Fact	State	Iowa Department of Transportation Nebraska Department of Roads
Corridor Location Approval	State	Iowa Department of Transportation Nebraska Department of Roads
Section 401 of the Clean Water Act – Water Quality Certification	State	Nebraska Department of Environmental Quality Iowa Department of Natural Resources
National Pollutant Discharge Elimination System (NPDES) General Stormwater Discharge Permit for Construction Activities, Clean Water Act	State	Nebraska Department of Environmental Quality Iowa Department of Natural Resources
Floodplain Development Permit, including no-rise certification	State/ Local	Iowa Department of Natural Resources Mills County Sarpy County Planning and Building Director
Permit for Occupation of Levee Right-of-Way	Local	Papio-Missouri River Natural Resources District

Notes:

¹ “‘Lead agency’ means the agency or agencies preparing or having taken primary responsibility for preparing the environmental impact statement” (40 CFR 1508.16).

² The ROD will explain the reasons for the decision regarding the Project addressed in this EIS.

General Bridge Act of 1946, Rivers and Harbors Act of 1899, and Bridge Act of 1906 (USCG)

The General Bridge Act of 1946, the Rivers and Harbors Act of 1899, and the Bridge Act of 1906 all require that the location and plans of bridges and causeways across navigable waters of the U.S. be submitted and approved by the Commandant, USCG, prior to construction (49 CFR 1.46(c)). The General Bridge Act of 1946 is cited as the legislative authority for bridge construction in most cases.

Section 9 of the Rivers and Harbors Act of 1899 (USCG)

Section 9 of the Rivers and Harbors Act of 1899 requires approval of the location of, and plans for, bridges over navigable waters of the U.S. prior to commencing construction. At the proposed bridge sites for either Alternatives 2 or 3, the Missouri River is considered a navigable waterway of the U.S. for bridge administration purposes.

Section 10 of the Rivers and Harbors Act of 1899 (USACE)

Section 10 of the Rivers and Harbors Act of 1899 requires authorization from USACE for the construction of any structure (other than a bridge which is addressed under Section 9 as noted above) in or over any navigable water²³ of the U.S. or for the excavation/dredging or deposition of material in these waters or any obstruction or alteration in a “navigable water.” A structure or work performed outside the limits defined for navigable waters of the U.S. requires a Section 10 permit if the structure or work affects the course, location, condition, or capacity of the water body. Section 10 and Section 404 of the Clean Water Act overlap in some activities involving wetlands. Permits for activities regulated under both are processed simultaneously by USACE.

Section 404 Permit, Clean Water Act (USACE and EPA)

Section 404 of the Clean Water Act establishes a program to regulate the discharge of dredged and fill material into waters of the U.S., including wetlands. Activities regulated under this program include fills for development, water resource projects (e.g., dams and levees), infrastructure development (e.g., highways and airports), and conversion of wetlands to uplands for farming and forestry (33 USC 1344). There are two basic types of Section 404 permits issued by the USACE: individual and general. An individual permit is usually required for potentially significant impacts (greater than 0.5 acre). However, for most discharges that will have only minimal adverse effects, the USACE often grants general permits. These may be issued on a nationwide, regional, or statewide basis for particular categories of activities (for example, minor road crossings, utility line backfill and bedding) in order to expedite the permitting process.

EPA has developed regulations with which USACE must comply and reviews the permits issued by USACE. Section 404(c) authorizes the EPA to veto a USACE decision to issue a permit if that proposed action “will have an unacceptable effect on municipal water supplies, shellfish beds and fishery areas, wildlife, or recreational areas” (40 CFR 230).

This permit would also provide information to USCG about cofferdams (temporary water containment structures), abutments, foundation seals, piers, and temporary construction and access fills that are required for the bridge permit that authorizes such discharges.

Section 7 of the Endangered Species Act (USFWS)

Formal consultation with USFWS in accordance with Section 7 of the ESA would be required if it is determined that the Project would adversely affect any T&E species. Informal consultation has occurred as part of USFWS review of the Biological Assessment. Measures would be taken to minimize harm to and prevent taking of T&E species during construction. Coordination with NGPC and Iowa DNR is required in accordance with the Nebraska Non-game and Endangered Species Act and Iowa’s Endangered and Threatened Species Law.

²³ “Navigable waters” of the U.S. are those subject to the ebb and flow of the tide shoreward to the mean high water mark and/or presently used, or have been used in the past, or are susceptible for use to transport interstate or foreign commerce. The term includes coastal and inland waters, lakes, rivers and streams that are navigable, and the territorial seas.

Form 7460, Notice of Proposed Construction or Alteration (FAA)

The Federal Aviation Administration (FAA) requires that Form 7460 be completed for any construction or alteration of more than 200 feet in height above the ground level at its site or projects with elevated superstructures within the approach path to airports, or any structure over 200 feet tall. Form 7460 notifies the FAA of construction or alteration that might affect navigable airspace (49 CFR 77).

Form 7460 would need to be filed with FAA a minimum of 30 days prior to construction because of the proximity of the Project to Offutt AFB in Sarpy County. It is unlikely that there would be any conflict between the Project and Offutt AFB operations.

Joint Application Form (Sovereign Lands Construction Permits) (Iowa DNR and USACE)

Any person wishing to conduct construction activities on, above, or under state-owned water and land in Iowa is required to have a sovereign lands construction permit. Chapter 461A of the Iowa Code states:

A person, association, or corporation shall not build or erect any pier, wharf, sluice, piling, wall, fence, obstruction, building or erection of any kind upon or over any state-owned land or water under the jurisdiction of the commission, without first obtaining from the commission a written permit. A permit, in matters relating to or in any manner affecting flood control, shall not be issued without approval of the environmental protection commission of the department. A person shall not maintain or erect any structure beyond the line of private ownership along or upon the shores of state-owned waters in a manner to obstruct the passage of pedestrians along the shore between the ordinary high-water mark and the water's edge, except by written permission of the commission.

The application form that Iowa DNR uses for Sovereign Lands Construction Permits is the joint application form created by Iowa DNR and USACE.

Section 401 of the Clean Water Act - Water Quality Certification (NDEQ and Iowa DNR)

As part of the Section 9 bridge permit and the Section 404 permit, Section 401 Water Quality Certification must be obtained from NDEQ and Iowa DNR. This certifies that the permitted action will not violate state water quality standards. The certification must be provided or waived before the USCG can issue a Section 9 bridge permit and the USACE can issue a Section 404 permit for any portion of the roadway associated with construction of the bridge.

NPDES General Stormwater Discharge Permit for Construction Activities (NDEQ and Iowa DNR)

This permit may authorize the discharge of stormwater associated with activities from a construction site (NPDES General Permit No. 2). This general NPDES permit is for stormwater discharges from construction sites to waters of the State. The permit application also includes a Stormwater Pollution Prevention Plan (SWPPP) that incorporates State requirements (NDEQ, Title 119, Chapter 59²⁴; Iowa Code, Section 161A.64) for local sediment and erosion plans. A Notice of Intent (NOI) is required along with the NPDES permit.

²⁴ Pursuant to Chapter 59 of NDEQ Title 119, Rules and Regulations Pertaining to the Issuance of Permits Under the National Pollutant Discharge Elimination System, the terms and conditions of the NPDES General Permit for Storm Water Discharges from Construction Sites, July 26, 1999.

Floodplain Development Permit, Including No-Rise Certification (Iowa DNR, Mills County, and Sarpy County)

A floodplain permit must be obtained from state-designated agencies as authorized by FEMA for various types of floodway/floodplain development. Examples are channel straightening, levee construction, excavation and stockpiling of overburden and rock materials, building construction, dams, stream crossings, and bank protection work. Application for this permit would include a no-rise certification for impacted floodways.

Permit for Occupation of Levee Right-of-Way (Papio-Missouri River NRD)

The Papio-Missouri River NRD will agree to permit construction in a levee ROW as a contract agreement between the permittee and the Papio-Missouri River NRD. This permit is for the construction, operation, and maintenance of the construction. The levee ROW must be properly and immediately restored to its “as built” condition after construction.

4.23 ENERGY

In the short-term, either build alternative would consume energy during the use of construction vehicles and the processing of raw materials for use in construction.

Subsequent to construction, the principal factor in energy use is vehicle fuel consumption, which is affected by total miles traveled, the number of stops and starts, sudden acceleration or decelerations, congestion, and grade steepness.

Both Alternatives 2 and 3 would provide a direct route from U.S. 75 south of Bellevue to I-29. In Nebraska, the access to U.S. 75 is currently provided by routing traffic through Bellevue on a roadway (Highway 370) that has numerous traffic signals and turning movements. If the No-Build Alternative (Alt. 1) were adopted, traffic along Highway 370 would increase more than under either Alternative 2 or 3. Under the build alternatives, traffic along Highway 370 through Bellevue would result in fewer idling vehicles, less congestion, and fewer slower-moving vehicles. Consequently, the build alternatives would slightly reduce vehicle fuel consumption and save energy.

4.24 CONSTRUCTION

The impacts of construction would be temporary as they would be limited to the period of construction. The major impacts during construction would be related to economic factors, pedestrians and bicyclists, recreation, air quality, noise, water quality, wetlands, wildlife, threatened or endangered species, Section 4(f) property, visual, and navigation. Because detailed discussion of construction impacts is not feasible until final design has been completed for the Project, this section discusses general impacts of construction.

The location and type of borrow material required for the Project would be identified during final design. If off-site borrow locations are required, their type and location would be evaluated based on environmental conditions, regional hydrology, and instream flows to the Missouri River.

All practical precautions would be taken to limit and minimize the temporary impacts of construction activities. Construction techniques for the non-bridge portion of the Project would follow common highway construction procedures. Bridge construction would most likely consist of the use of temporary work pads and cofferdams for pier construction.

4.24.1 Economics

Impacts on Local Businesses during Construction

The impact of roadway construction on local businesses is dependent on individual customers' decisions to shop at businesses surrounded by roadway construction. These choices are made based on the availability of substitute products and locations; the convenience of access during construction; the duration of the project; environmental factors such as visibility, dust, and noise; and a range of other factors that can vary among customers.

During construction, Alternative 2 would not impact local businesses because none are located in the vicinity of the ROW, including the vicinity of the two interchanges. Alternative 3 would minimally affect businesses at the I-29 interchange because access could be maintained and the visibility of businesses would not be affected.

Regional Economic Benefits

The regional economic benefits of Alternatives 2 and 3 were estimated by means of IMPLAN Professional 2.0, an economic input-output modeling system.²⁵ This model uses economic impact multipliers to estimate the secondary benefits to the economy resulting from direct benefits to specific industries.²⁶ The estimate of economic benefits was based on the best available data regarding Project costs and subsequent operations.

A model assumption was that the majority of Project funding was Federal. Nebraska and Iowa may not experience the beneficial impact equally, depending on the mix of Federal and state funding used to pay for the Project. Other key assumptions include that construction would occur between 2007 and 2010, and the total construction costs would be divided equally among the construction years.

The IMPLAN model predicted between 224 (Alternative 3) and 279 (Alternative 2) new full-time jobs in construction and support industries would be created during the first year of construction. These jobs were assumed to remain for each subsequent year of construction but end after construction was completed.

In addition, the model estimated increases in tax revenues²⁷ to Federal, state, and local governments from \$10.0 million per year (in 2003 dollars) of construction for Alternative 3 to \$12.8 million per year of construction for Alternative 2. This estimate is based on an estimate of

²⁵ IMPLAN was originally developed by the USDA Forest Service in cooperation with FEMA and the Bureau of Land Management. Subsequent development and distribution of the model has been managed by the Minnesota IMPLAN Group, Inc. (MIG). This model is widely accepted by resource agencies for economic impact assessment.

²⁶ Direct impacts are equal to project expenditures. Indirect impacts are the second-round expenditures on goods and services made by the industries that support a project. Induced impacts reflect the changes that occur to household spending as incomes are affected by a project's direct and indirect impacts. For example, a project may generate direct expenditures for aggregate materials for concrete. The aggregate supplier subsequently purchases more materials and possibly hires an additional employee, which constitutes the indirect impact. The new employee, in turn, makes purchases within the region, which subsequently constitutes the induced impact.

²⁷ Tax revenue includes corporate profits as well as indirect business, personal, social, and insurance taxes.

market transactions²⁸ between firms and consumers as well as tax payments by individuals and businesses directly and indirectly related to the total yearly cost of an alternative.

Traffic

Short-term traffic delays may result from the movement of construction equipment and vehicles to the work sites. A traffic control plan would be developed prior to construction, and details would be finalized during final design of the alignment for the selected build alternative. Access would be maintained on local access roads during construction.

Safety

As part of a traffic control plan, standard safety measures would be implemented to help protect the safety of motorists and pedestrians during construction. For example, if Alternative 2 were adopted, safety issues would be addressed concerning the Bellevue Loop Trail.

4.24.2 Pedestrians and Bicyclists

Impacts

Construction would impact pedestrians and bicyclists under Alternative 2 because two locations of the Bellevue Loop Trail would have to be temporarily closed for several months to complete bridge construction. At a minimum, a segment of approximately 300 feet would need to be closed at the east approach for the bridge over Papillion Creek and the west approach for the bridge over the Missouri River. The work at these two trail locations could be performed concurrently or staged. If the work was performed concurrently, the temporary closure would divide the Bellevue Loop Trail into three segments: an approximately 1.7-mile segment from the Keystone Trail connection to the bridge over Papillion Creek, a 5-mile segment between the bridge over Papillion Creek to the bridge over the Missouri River, and a 2.2-mile segment from the bridge over the Missouri River to Haworth Park. Although the trail between the bridges could be accessed via the Harlan Lewis Road trailhead, the connectivity of the system would be disrupted by the Project. This temporary impact would end after completion of construction of this Project segment. If the work was staged, the temporary closures would divide the trail into two segments, because only one location would be closed at one time. Concurrent closure would cause the impacts on the trail system to occur over a shorter time period than staged closure, but would preclude the use of the southern part of the trail (the aforementioned 5-mile segment south of where the bridges would be constructed).

Both Alternatives 2 and 3 would cross a levee in Iowa along the Missouri River that has been proposed for a trail system. Alternative 3 would also cross a levee in Nebraska that has been proposed for a trail system. However, the levees are restricted from pedestrian and bicycle traffic and are only accessible by maintenance vehicles. If these restrictions were still in place during construction, pedestrians and bicyclists would not be impacted by an access restriction of several months during construction of the bridge above the levee.

If a trail system was established along the levee in either state prior to construction of the bridge over the Missouri River, pedestrian and bicycle use of a segment (approximately 300 feet long) beneath the levee would not be allowed for several months.

²⁸ Historical trade flows for the region of economic influence allow IMPLAN to calculate market transactions between firms, consumers, and other forms of final demands as well as tax payments by individuals and businesses, transfers of government funds to people and businesses, and transfer of funds from people to people.

Avoidance, Minimization, and Mitigation

Temporary impacts on the Bellevue Loop Trail would be caused by short-term closures required for construction of the proposed bridges. Based on the constraints of Papillion Creek and the UPRR and BNSF rail lines, it would not be reasonable and prudent to construct a detour to keep the Bellevue Loop Trail open during construction of Alternative 2. The bridge approaches would need to be constructed prior to the bridges and would involve some relatively steep slopes that would preclude construction of detours to avoid the bridge construction area. The closed off portion of the trail would be minimized to the amount of ROW needed for grading operations. Staged construction of the bridges over Papillion Creek and the Missouri River would cause impacts to the trail system over a longer time period than concurrent construction, but would allow use of the 5-mile segment of the trail south of the bridge construction locations.

Temporary impacts on the proposed trails (which may or may not be constructed by the time the Project would be constructed) would be due to short-term closures required for construction of the proposed bridge. For Alternatives 2 or 3, the constraint of private land in Iowa also precludes a reasonable or prudent option for a detour to maintain a continuous trail system (if designated and operating) on the levee in Iowa. For Alternative 3, the constraints of Papillion Creek and private land in Nebraska make it neither reasonable nor prudent to construct a detour to keep the proposed La Platte Link Trail (if designated and operating) open during construction of the bridge over the Missouri River.

Impacts would be minimized through coordination with the trail sponsor.

4.24.3 Recreation

During construction, there would be temporary impacts on recreational resources. Construction impacts to the Bellevue Loop Trail under Alternative 2 were described in the previous subsection. Impacts on the use of the Missouri River by the boating population would be minimal, as boaters would be advised of the construction and directed to other areas of the Missouri River. Temporary impacts on the recreational use of Papillion Creek could also occur, as areas of the creek may be inaccessible for fishing.

4.24.4 Air Quality

Impacts

Short-term air quality impacts during construction would occur for the following reasons:

- Construction vehicles and related equipment would increase exhaust emissions.
- Disruption of ground cover by grading and other activities would generate dust.

Emissions from construction vehicles and equipment and activities generating dust are not expected to change the attainment air quality status of the area.

Avoidance, Minimization, and Mitigation

The following BMPs from NDOR and Iowa DOT construction manuals would be implemented to minimize air quality impacts during construction:

- Equipment would not be concentrated at locations near any sensitive receptor sites, and no single piece of equipment would result in significant pollution concentrations.
- Construction contractors would be required to comply with the statutory regulations for Nebraska and Iowa for air pollution control and to receive permits, as needed.

- Construction contracts would stipulate adherence to requirements regarding open burning of grub material, fugitive dust, visible emissions, and permits.
- A schedule of water sprinkling would be developed and followed to control dust.

4.24.5 Noise

Impacts

Construction of a new bridge would cause temporary noise impacts on surrounding areas during construction activities. These activities may include excavation, precision explosives, fill activities, grading, pile driving, and other related activities.

Neither build alternative would require a traffic detour during construction. The Bellevue Bridge and Highway 370 would be open during construction of either Alternative 2 or 3 as well as after completion of the Project.

The Study Area, described in Section 4.1, Land Use, primarily consists of farmland with limited development. The noise-sensitive receivers that are located directly adjacent to the ROW of the build alternatives are likely to experience impacts associated with construction activities. The noise impacts resulting from construction include noise generated from machinery required for road and bridge construction. For a discussion of long-term impacts relating to noise, see Section 4.10, Noise.

Avoidance, Minimization, and Mitigation

BMPs in accordance with NDOR and Iowa DOT construction manuals would be used to mitigate construction-related noise impacts. The BMPs would require that construction be limited to daylight hours, typically 6 a.m. to 6 p.m. This would reduce noise levels in any neighboring residential areas during the evening and at night.

4.24.6 Water Quality

Impacts

Construction would temporarily impact surface water quality due to disturbance of the riverbed for bridge construction and soil disturbances for the construction of the roadway and bridge approaches. However, construction activities would not have adverse impacts on groundwater.

Within the river, water quality impacts would occur from one or more of the following activities: installation of drilled shaft or driven pile foundations, construction of piers, construction of the bridge superstructure, and hydraulic fluid or fuel spills from work barges and construction equipment. Driven pile foundations would cause more disturbance of channel bottom, including additional sedimentation. Impacts on water quality from the shoreline include those that could arise from erosion of exposed soils and from contamination by hydraulic fluid or fuel spilled from construction equipment. Roadway construction, through disturbance of the ground surface, would create sedimentation in drainages and the Missouri River.

A geomorphologic analysis conducted to evaluate scour and sedimentation impacts determined a negligible and temporary increase (within the range of daily fluctuation) in suspended sediment near the area of the pier. Disturbance of river channel sediment during construction and from scouring subsequent to construction would not adversely impact the Missouri River. The BA includes a geomorphologic analysis of sedimentation impacts affecting water quality during and subsequent to construction.

Avoidance, Minimization, and Mitigation

The contractor would be required to implement NDOR and Iowa DOT construction manual BMPs to minimize temporary impacts on water quality during construction. It is anticipated that cofferdams would be used during foundation and pier construction. These cofferdams would contain excavated materials reducing construction-related increases in sediment in the Missouri River. NDEQ and Iowa DNR administer the Federal NPDES program and issue general permits for stormwater discharges from construction activities. The purpose of the program is to improve water quality by reducing or eliminating contaminants in stormwater. The NPDES program requires preparation of a SWPPP for construction sites of more than one acre.

The specific sediment, erosion control, and spill prevention measures would be developed during the detailed design phase and would be included in the plans and specifications. The SWPPP would address NDOR and Iowa DOT requirements specified in their construction manuals. It is likely that the SWPPP would include installation of silt fences, buffer strips, or other features to be used in various combinations as well as the stipulation that drums of petroleum products be placed in secondary containment to prevent leakage onto ground surfaces. As part of standard construction BMPs, water detention basins could also be constructed to minimize pollutant loading of surface waters. Another standard construction BMP is revegetation and stabilization of roadside ditches to provide opportunities for the runoff from the impermeable area to infiltrate, reduce the velocities, and minimize increases in sedimentation.

Stormwater discharge permits for construction activities would be obtained from NDEQ and Iowa DNR prior to construction of the Project.

4.24.7 Wetlands and Other Waters of the U.S.

Impacts

Construction would result in the filling of some wetlands and temporary disturbance of other wetlands. The amount of wetlands likely to be filled during construction of Alternatives 2 or 3 was indicated in Sections 4.12.2 and 4.12.3, respectively.

Avoidance, Minimization, and Mitigation

Temporary impacts on wetlands as a result of construction would be permitted by USACE under Nationwide Permit 33 – Temporary Construction, Access, and Dewatering (67 FR 2020-2095). This nationwide permit allows for temporary structures, work, and discharges, including cofferdams, necessary for the construction activities or access fills or dewatering of construction sites. In accordance with the “Notification” general condition associated with this nationwide permit, a restoration plan of reasonable measures to avoid and minimize adverse effects to aquatic resources must be included in the permittee’s notification to the District Engineer. Other nationwide permits, such as Nationwide Permit 14, Linear Transportation Crossings, may also be applicable and would be coordinated with USACE. Each Nationwide Permit covers different activities. If a Nationwide Permit does not cover an activity, USACE may issue an Individual Permit. Individual Permits are issued following a full public interest review of an individual application for a Section 404 Permit. A public notice is distributed to all known interested persons. After evaluating all comments and information received, a final decision on the Section 404 Permit application is made. USACE adds special conditions to permits when necessary to minimize adverse effects.

4.24.8 Fish and Wildlife

Impacts

Construction activities would disturb terrestrial wildlife near the ROW, and wildlife within the ROW would seek sanctuary in nearby habitat during grading operations. Construction would also temporarily impact fisheries in the Study Area, as many fish would likely avoid the area because of the noise and water disturbances.

Avoidance, Minimization, and Mitigation

Mitigation would include controlling erosion from construction activities using BMPs identified in NDOR and Iowa DOT construction manuals to minimize water quality impacts on the Missouri River. Main channel margins would be maintained during bridge construction to minimize the potential for effects on aquatic species.

As part of BMPs for minimizing impacts per NDOR and Iowa DOT construction manuals, disturbed upland habitat in rangeland areas would be restored by seeding the disturbed areas with a native grass and forb mixture. This would stabilize soil and decrease soil erosion and may lead to increased plant diversity in these areas.

To the extent possible, vegetation-clearing activities along the riparian corridor would be completed outside of the nesting period (primarily between April 1 and July 15) to avoid or minimize adverse impacts on nesting migratory birds. Should clearing activities be required during this time period, a survey of the affected habitats would be conducted to determine if nesting migratory birds are present. This survey would be coordinated with USFWS and the results submitted to USFWS to determine if any migratory birds would be affected.

4.24.9 Threatened or Endangered Species

Impacts

Bald eagles could be affected by construction directly as a result of increased noise and removal of habitat and indirectly through disturbance of fisheries. Construction noise will be sporadic depending on the equipment used. Typical noise levels at construction sites have been measured from 85 to 88 dBA at a distance of 50 feet (EPA, 1971) and would attenuate to below 65 dBA at 800 feet. As a comparison, future traffic noise levels of 66 dBA were predicted approximately 250 feet from the centerline of the proposed roadway. A study was conducted on the effect of sporadic noise on bald eagles and noise impact at the U.S. Army Aberdeen Proving Ground (which supports one of the largest bald eagle concentrations on the Northern Chesapeake Bay), where testing of large caliber weapons and detonation of large explosive charges occurs. The study demonstrated that most roosting (72.7 percent) and nesting (92.7 percent) bald eagles showed no activity (perched motionless) in the two-second interval following the noise discharge (Brown, et. al, 1999). A head turn was the most frequent activity of roosting eagles. The 3-year survey included 100 adult and 61 immature eagles and five whose age could not be determined. Another study documented the effects of dam construction (thus causing heavy disturbance) on bald eagles along the Ohio River. A comparison of driving surveys conducted during and prior to dam construction revealed no evidence that dam construction had caused bald eagles to shift their distribution away from the dam site. In fact, the distribution of bald eagles within the management area was 15 percent closer to the site of the dam during construction than it was before (Stanford, 1997).

Many fish would likely avoid the area because of the noise and water disturbances. Although bald eagles prey on fish, as well as other small animals, bald eagles are also likely to avoid the area during construction, so the impact to the bald eagle of the temporary change in fishery

resources is likely to be minimal. Bald eagles are likely to return to the area once the more constant and lower noise levels from bridge traffic replace the sporadic and louder noises of construction.

Piping plover and interior least terns are not anticipated to be affected because there currently is no habitat near the ROW.

A pallid sturgeon RPMA is within the Study Area. The USFWS expressed concerns about potential impacts from sedimentation and scour caused by bridge pier construction and the long-term presence of the pier within the Missouri River, especially near the mouth of the Platte River (USFWS, August 8, 2003). Consequently, these issues were addressed in a geomorphologic assessment in support of the BA. The analysis determined that the additional rate of sediment supply is considered insignificant compared to the high variability in sediment loads under normal flow conditions. It is unlikely that any discernable change in the depositional environment near the mouth of the Platte River would be caused by bridge scouring 3 miles upstream from the Alternative 2 bridge location or 1 mile upstream from the Alternative 3 bridge location. The short-term impact of constructing the bridge and the long-term impact of the pier would cause insignificant effects to pallid sturgeon; sturgeon chub and lake sturgeon would likely be affected similarly because they prefer similar habitat.

The western prairie fringed orchid, small white lady's slipper, and American ginseng were not found during field surveys but additional surveys are proposed prior to construction (see next section).

Avoidance, Minimization, and Mitigation

Project planning for the area within the Missouri River floodplain would include consideration of avoiding and minimizing the loss of trees as a result of construction activities. Clearing and grubbing for construction activities would be limited in area to minimize the impact on potential roosting habitat. Trees would be removed only as required for construction activities. The impact on wintering bald eagles can be minimized by completing tree clearing activities outside the wintering period of December 15 through February 20. Mitigation for trees removed within PFO wetlands would be addressed as part of the Section 404 permitting process.

As recommended by USFWS, a survey would be conducted for nesting bald eagles for one nesting season prior to the commencement of construction activities. An area extending approximately 1 mile upstream and 1 mile downstream of the site of the Project would be surveyed (USFWS, April 16, 2003). If this survey identified active bald eagle nests, no construction activities would commence within 0.5 mile or in line of sight of the nest while the nest is occupied. In addition, if any nesting eagles were encountered within 0.5 miles of the construction area during construction, all construction activities would cease while the nest is occupied (USFWS, April 16, 2003). USFWS would be contacted if any active nests are identified prior to or during construction and consulted to determine what, if any, construction activities could be conducted without disturbing the nesting eagles.

Due to the likelihood that changes in habitat would occur in the Study Area due to the on-going activities of USACE regarding habitat restoration, a reconnaissance survey for piping plovers and interior least terns within a 0.25-mile radius of the Study Area would be completed prior to any construction activities. If nesting birds were found, USFWS and NGPC would be contacted to determine whether construction activities may adversely affect the nesting birds. If USFWS determined that the construction activities would adversely affect the nesting birds, construction activities would cease until the chicks fledged (left the nest) or the construction activities no longer would affect nesting or brooding birds.

Specific measures to avoid harm to the pallid sturgeon, lake sturgeon, and sturgeon chub would be implemented during construction. These measures would include controlling erosion from construction activities (per NDOR and Iowa DOT construction manual guidance); using measures to avoid water quality impacts on the Missouri River; and timing specific construction activities that may have a greater impact on the Missouri River. Main channel margins would also be maintained during bridge construction to minimize the potential for effects on all three species.

Although a survey was conducted for the build alternative corridors for this study, and the western prairie fringed orchid, small white lady's slipper, and American ginseng were not observed, access was denied to some properties that could potentially contain these species (HDR, November 2003b). Therefore, prior to construction, areas within the ROW of the selected alternative would be surveyed for the presence of these species.

4.24.10 Section 4(f) Properties

Alternative 3 would not cause a use of Section 4(f) properties. Alternative 2 would result in a temporary direct use of the Bellevue Loop Trail due to the temporary closure of the trail for several months during bridge construction. A detour to allow the Bellevue Loop Trail to remain open was considered as an avoidance alternative. As indicated in Section 4.24.2, there are no reasonable or prudent detours that would allow the use of all segments of the Bellevue Loop Trail during bridge construction. Although this is a temporary impact, it is considered an adverse effect if a portion or portions of the trail would need to be closed for several months. Timing of trail closures through coordination with the Papio-Missouri River NRD would be conducted to minimize the impact on trail users.

4.24.11 Visual

The construction of a new bridge and roadway, which is expected to take 2 to 3 years, would include temporary visual impacts such as the visibility of construction equipment and supplies. During construction, heavy construction equipment would clear the ROW of vegetation, including a riparian area adjacent to the Missouri River, and expose bare ground. Both the equipment and the resulting exposed surface would create adverse visual impacts. This impact would be expected to last until construction is completed and the ROW is revegetated.

4.24.12 Navigation

Temporary impacts would occur during construction of the bridge; however, construction activities would be coordinated with USCG and the public would be notified of construction activities in order to minimize impacts.

4.25 SHORT-TERM USES VS. LONG-TERM PRODUCTIVITY

Balancing the local short-term uses of the human environment with the maintenance and enhancement of long-term productivity is an important consideration in determining project feasibility. The following identified short- and long-term effects and benefits/losses could be expected under both Alternatives 2 and 3.

4.25.1 Short-Term Effects

Short-term employment and purchases of goods and services generated by the Project could create a short-term increase in the local economy that would end once the construction is completed. Alternative 2 would result in the short-term effects of three residential relocations.

4.25.2 Long-Term Benefits

The new bridge across the Missouri River would have four traffic lanes (two in each direction) and would be better suited to accommodate the future traffic volumes than the existing Bellevue Bridge and Highway 370 route through Bellevue. The new transportation system would provide for a straightened roadway alignment by maintaining and improving a safe and free-flowing connection across the Missouri River from U.S. 75 to I-29. Both motorist safety and vehicle travel times between Nebraska and Iowa would be improved. The new river crossing and roadway alignment would improve accessibility to the region (the southern Omaha metropolitan area, including eastern Sarpy County and Bellevue as well as western Mills County) and could thus enhance the area's economic growth.

4.25.3 Long-Term Losses

Factors to be considered as long-term losses include:

- Removal of existing farmland within ROW limits from production
- Reduction of local tax base from conversion of farmland to ROW
- Impacts on plants and animals
- Economic impact on existing businesses
- Visual change to the existing rural environment

Long-term losses attributed to a project are common with the construction of highways along new corridors.

4.26 IRREVERSIBLE AND IRRETRIEVABLE COMMITMENT OF RESOURCES

Alternatives 2 and 3 would each require commitments of natural, physical, human, and financial resources that, for all practical purposes, must be considered to be irreversible and irretrievable. Resource commitments that are considered irreversible and irretrievable are land consumption (including affects on natural resources), energy, and financial resources, as discussed below.

4.26.1 Land Consumption

Both Alternatives 2 and 3 would require the acquisition of undeveloped and developed land for the construction of the Project. Agricultural land, including prime farmland, is the largest potential land use that would be lost. Once property is procured for ROW, there would be little chance that it could be used for agriculture in the foreseeable future.

These build alternatives would also have direct impacts on the natural land and river system. Natural features such as trees, geological formations, and animal habitat would be lost or modified. Mitigation would partially compensate for features such as wetlands and riparian areas. In addition to direct impacts, there would be some permanent indirect effects on areas not actually acquired for ROW. See Sections 4.12, Wetlands and Other Waters of the U.S., 4.13, Floodplains, and 4.27, Cumulative Impacts.

4.26.2 Construction and Energy Resources

Both build alternatives would require considerable amounts of fossil fuel and labor as well as construction materials such as steel, cement, aggregate, and bituminous materials. The use of energy, labor, and raw materials is largely irreversible and irretrievable, except for items that can

be salvaged during demolition and removal at the end of the facility's design life and possibly recycled. Long-term, reduced travel time between Mills County and Sarpy County should result in decreased fossil fuel use.

4.26.3 Financial Resources

A new Missouri River crossing would require a considerable state and Federal financial commitment. While these public funds are not directly recoverable, money spent on new infrastructure should be considered a long-term investment in the future safety and economic viability of the region.

4.27 CUMULATIVE IMPACTS

Previous sections of this EIS have focused on evaluating direct impacts (such as the filling of a wetland during construction) and indirect impacts (such as out-of-distance travel due to a change in roadway access) of the Project either quantitatively or qualitatively. This section addresses cumulative impacts that could occur as a result of aggregate Project impacts and impacts associated with other projects in the Study Area. For example, projects upstream from the proposed locations for the new bridge would also affect downstream water quality. Cumulative impacts are defined and described for relevant resources.

A cumulative impact is defined as “the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time” (40 CFR 1508.7). Cumulative impacts include the direct and indirect impacts of a project together with impacts from reasonably foreseeable future actions of others. For a project to be reasonably foreseeable, it must have advanced far enough in the planning process that its implementation is likely. The impacts of reasonably foreseeable future actions not associated with a new crossing of the Missouri River near Bellevue include the impacts of other Federal, state, and private actions. Reasonably foreseeable actions are not speculative, are likely to occur based on reliable sources, and are typically characterized in planning documents.

This assessment of the cumulative impacts for Federal, state, and private actions is required by Council on Environmental Quality (CEQ) regulations developed from NEPA. Cumulative impacts were evaluated in accordance with CEQ guidance (CEQ, January 1997) and other sources, including FHWA interim guidance: Questions and Answers Regarding Indirect and Cumulative Impact Considerations in the NEPA Process (FHWA, January 2003) and the FHWA position paper on Secondary and Cumulative Impact Assessment in the Highway Project Development Process (FHWA, April 1993).

The major cumulative impacts issues associated with the Project were determined to be:

- Loss of farmland and wildlife habitat (forested, riparian, and wetland areas) and the potential effects on wildlife, including T&E species

The conversion of farmland and wildlife habitat to roadway ROW would not only occur under this Project but also under other projects in the Omaha metropolitan area, including the Study Area. The construction of a toll-free bridge and conversion of farmland and wildlife habitat to ROW is perceived by some resource agencies to cause induced growth, which is an important cumulative issue to address. For the purposes of this analysis, the effects of induced growth are synonymous with the additional loss of farmland and wildlife habitat.

The loss of habitat is cumulatively important because several T&E species are dependent on wetland and riparian habitats. FHWA's no net-loss of wetlands policy makes wetlands a critical individual resource, but it is addressed here collectively in an assessment of wildlife habitat. Aquatic T&E species in the Missouri River (such as the pallid sturgeon) are also aided by backwater and other natural areas adjacent to the river.

The following major recently past and reasonably foreseeable projects would occur near the Project Study Area and would have cumulative effects relating to the loss of farmland and wildlife habitat:

- Widening of U.S. 75 to six lanes from N-370 to I-80 (north of Bellevue).
- U.S. 75 Plattsmouth to Bellevue project – Future extension of U.S. 75 south of the Platte River to Bay Road, including construction of a new interchange at the relocated Platteview Road (north of the Platte River) to provide a divided four-lane, limited-access highway along the existing route.
- Council Bluffs Interstate System Improvements – long-term, broad-based transportation improvements along I-80, I-29, and I-480, including 18 mainline miles of interstate and 14 interchanges (3 system, 11 service), that would add capacity and correct functional issues along the mainline and interchanges, and upgrade the I-80 Missouri River crossing.
- Improvements of U.S. 275, Council Bluffs – to widen U.S. 275 in Council Bluffs between the Missouri River bridge and I-29 to four lanes. The corridor is approximately 4.5 miles long and the project is being designed to improve the U.S. 275 route in Iowa.
- Plattsmouth Bridge Study – to determine a connecting route from U.S. 75 in Nebraska to I-29 in Iowa, including the bridge crossing the Missouri River at Plattsmouth, Nebraska.
- South Omaha Veterans Memorial Bridge Study – to identify and evaluate alternatives for improvements to the South Omaha Veterans Memorial Bridge in Douglas County, Nebraska, and Pottawattamie County, Iowa.
- Missouri River Master Water Control Manual – to guide the operation of USACE's Missouri River mainstem dams and reservoirs. This document describes the basic water control plan and objectives of the integrated operation of the mainstem reservoirs. The Missouri River Master Water Control Manual, Final Environmental Impact Statement, which identifies a preferred alternative, was published in March 2004. A ROD was signed on March 19, 2004, implementing the preferred alternative identified in the Final EIS as modified in the ROD.
- Missouri River Fish and Wildlife Mitigation Project – to acquire 118,650 acres to restore or enhance aquatic and terrestrial habitat. Properties would be purchased from willing sellers along the Missouri River from Sioux City, Iowa, to St. Louis, Missouri (735 miles).
- MUD Platte West Water Production Facility wetland mitigation area – to create wetlands as mitigation for impacts on wetlands as a result of the Platte West Project (water production facility and well field) in western Douglas County and eastern Saunders County, Nebraska. MUD owns a parcel of land near the Missouri River between Papillion Creek and the Platte River (a 187-acre parcel 1.1 miles east of La Platte) that is one of four candidate sites for wetland mitigation for the Platte West water production facility. The treatment plant is currently being designed; however, a mitigation plan has not been finalized.

- La Platte Link Trail – to construct a pedestrian trail connecting to the existing Bellevue Loop Trail near Harlan Lewis Road. This link is planned south of Papillion Creek along the Missouri River levee, then westerly along the north side of the Platte River.
- Back to the River Trail – to construct a multi-dimensional project to enhance an ecological, recreational and historical corridor along the Missouri River in Nebraska and Iowa. Back to the River encompasses both sides of a 64-mile stretch from Mondamin, Iowa, and Herman, Nebraska, to the mouth of the Platte River.
- Bellevue Park System Improvements – to expand Haworth Park from north of the Bellevue Bridge. This includes approximately 100 acres of new passive recreation that consists of athletic fields and practice areas, picnic areas, group camp site, interpretive areas, and natural areas.
- Expansion of the urban area – Additional residential, commercial, and industrial development is expected to occur during the planning horizon (2030) as identified in the comprehensive plans for the various cities and counties in and near the Study Area.

For this study, cumulative impacts on farmland and wildlife habitat were evaluated on a regional basis within the two counties addressed in the analysis of direct impacts (Sarpy and Mills counties). The review of other actions that may affect the resources, ecosystems, and human communities consisted of projects primarily occurring in the Missouri River valley in Sarpy and Cass counties in Nebraska and Mills and Pottawattamie counties in Iowa.

4.27.1 Cumulative Impacts on Farmland

Currently, the total acreage of farmland in Sarpy and Mills counties (the geographic study area defined for this analysis) is approximately 1,171,100 acres (267 square miles). This represents 82 percent of the total geographic study area. Farmland in the geographic study area has decreased by approximately 66,600 acres (5.4 percent) in the period between 1987 and 1997 (USDA NASS). For a discussion of existing conditions with respect to farmland in the Study Area, see Section 3.2, Farmland.

Urbanization in the geographic study area is the primary cause for the reduction in farmland. Once farmland is removed from agricultural production, it is rarely returned to its former purpose. However, adjacent changes in land use typically do not affect the production of agricultural land. Therefore, agricultural land can withstand stresses associated with contrasting adjacent land uses.

Most of the residential, commercial, and industrial development in the Study Area is concentrated in Bellevue, as discussed in Section 3.1, Land Use. Other residential development is scattered in the rural areas of the Study Area, with pockets of residential areas such as the Normandy Hills development located along Platteview Road and U.S. 75. The urban expansion that has occurred near the Study Area is predominately in Nebraska. Mills County is primarily a rural landscape. Historically, most of the residential areas in the Study Area were once natural areas that were then converted to farmland.

The conversion of farmland to urban development has been the result of the growth trend in the Study Area. A review of population trends for six counties (Douglas, Sarpy, Cass, Washington, Pottawattamie, and Mills) that includes the Study Area indicated that from the period 1970 to 2000, these counties experienced slow to moderate growth. On average, the period from 1990 to 2000 had the most rapid growth with an annual average growth rate of 1.1 percent per year. MAPA explains that the growth in the 1990s was due to economic growth in its study region that included factors such as new commercial investments and an increase in the housing market. MAPA also noted that residential development in the loess hills area near Glenwood increased as many people have “chosen to live ‘in the country and work in the city’” (MAPA, 2002).

Population forecasts for the six county region for the period from 2000 to 2020 indicate that a moderate increase in population is expected, with an annual average growth rate of 1.2 percent per year.

Preservation strategies for farmland include the Farmland Protection Policy Act of 1981 (7 CFR 658). This act is intended to minimize the impact of Federal programs on the unnecessary and irreversible conversion of farmland to nonagricultural uses. It ensures that, to the extent possible, Federal programs are administered to be compatible with state and local units of government as well as private programs and policies to protect farmland. Federal agencies are required to develop and review their policies and procedures to implement this act every 2 years. Projects previously identified that have converted or would convert farmland to nonagricultural uses are subject to this act.

Cumulative effects on farmland would occur as a result of this Project combined with other projects previously identified. The direct impacts to farmland for Alternative 2 and 3 are 289 and 269 acres, respectively. For both alternatives, this represents 0.02 percent of the farmland in the geographic study area defined for this analysis. Most of the transportation-related projects identified above would affect some amount of farmland. However, the amount would vary depending upon the location of the projects (rural versus urban) and type of the project (lane expansion or new build).

Because farmland comprises 82 percent of the total area in the geographic study area, the cumulative amount of farmland lost from direct conversion by recently past and reasonably foreseeable projects would be relatively small in comparison to the amount of farmland available. Projects such as the U.S. 75 expansion often utilize existing ROW to the maximum extent practicable and would minimally affect farmland. Roadway projects that occur in one particular area could influence land use, including conversion of agricultural land to ROW. However, these projects would not cause additional development or increased population overall; rather, they would influence where this effect would occur (that is, in one part of the Omaha metropolitan area or another).

4.27.2 Cumulative Impacts on Wildlife Habitat

Wildlife habitat also has declined in and around the Study Area as a result of urbanization and agricultural practices. Section 3.14, Fish and Wildlife, discusses existing conditions in relation to wildlife habitat in the Study Area.

The primary stresses on wildlife habitat are conversion for development as well as encroachment and fragmentation by urban development and conversion for agricultural practices. Once an area is converted, the value of the wildlife habitat in the immediate vicinity is typically lost or diminished. Wildlife using the converted habitat is typically displaced. If wildlife habitat is created in another location, its replacement value is generally not fully realized until the created habitat is mature.

The encroachment of development on wildlife habitat and fragmentation of wildlife habitat diminish the value of the wildlife habitat by creating edge environments, where natural areas (such as riparian areas, forested areas, and wetlands) abut developed areas. Conversion of wildlife habitat and fragmentation of wildlife habitat diminish the value of wildlife habitat and can displace wildlife, thus exceeding the carrying capacities in adjacent wildlife areas and creating more edge environments. Edge environments have different conditions than a contiguous system or habitat interior. These different conditions allow for the establishment of pest and predator species that can penetrate the habitat interior and adversely affect the diversity and abundance of species. Therefore, wildlife habitat is not compatible with change and is susceptible to stresses relating to urban development.

Preservation strategies for wildlife habitat include the Wetlands Reserve Program sponsored by NRCS, requirements under the Clean Water Act, the Migratory Bird Treaty Act, and potentially the ESA. In addition, the national goal of no net loss of wetlands, coupled with the need for Section 404 permits to address impacts to waters of the U.S. (including wetlands), indicates that wetland resources should not diminish in the future.

While agricultural land is likely to diminish over time and wildlife habitat converted for development, it is reasonable to expect that wildlife habitat within the geographical study area defined for this analysis would remain constant, if not increase, as a result of reasonably foreseeable future projects and federal requirements protecting wetlands. The Missouri River Fish and Wildlife Mitigation Project would involve the acquisition of property to restore or enhance aquatic and terrestrial habitat. Properties would be purchased from willing sellers along the Missouri River from Sioux City, Iowa, to St. Louis, Missouri (735 miles). USACE has plans to restore wildlife habitat at St. Mary's Island (portions of the area are shown in Figures 4-1 and 4-3). Depending upon the selected alternative for the USACE Missouri River Master Water Control Manual, additional habitat may be created within the geographical study area. The potential for the MUD Platte West Water Production Facility mitigation site near the project would also increase wildlife habitat. In addition, the national goal of "no net loss" of wetlands coupled with the need for Section 404 permits to impact waters of the U.S. (including wetlands) indicates that wetland resources would not diminish in the future. Over time, these wildlife habitat areas will provide values equal to the wildlife areas that are lost through direct conversion or through creation of edge environments.

Alternative 2 would convert a total of 14.6 acres of forested areas and 14.2 acres of wetlands to roadway ROW and would result in fragmentation of the existing environment and creation of increased edge environments. However, impacts are expected to be minor due to the type of species in the area, the location of the forested and wetland resources, and the bridging of the Missouri River floodplain from levy to levy. Alternative 2 would not impact any known habitat for T&E plant and wildlife species.

Alternative 3 would convert 4.0 acres of forested areas and 8.7 acres of wetlands to roadway ROW, the distribution and location of these wetlands would not create numerous smaller areas of this resource or more edges. The amount of wildlife habitat affected, including forested and riparian areas, would not be sufficient to threaten the existence of native plants and animals. Alternative 3 would not impact any known habitat for T&E plant and wildlife species.

Effects of the Project on Missouri River habitat would be temporary in nature and primarily associated with pier construction. Over the long term, the scour areas located immediately upstream and downstream of the pier may provide small areas of pool habitat for pallid sturgeon and other fish to use for wintering purposes. Positive cumulative effects on Missouri River habitat for species such as the pallid sturgeon, piping plover, and interior least tern, would occur combined with projects identified above. For example, under the Missouri River Fish and Wildlife Mitigation Project, more backwater channels are proposed which benefit pallid sturgeon and flow modification may lead to establishment of more temporary sandbars and better habitat for piping plover and interior least tern.

Adverse cumulative effects on wildlife habitat would not occur as a result of this Project combined with other projects identified above as wildlife habitat in the geographic study area is likely to increase over in time. Although urban growth would likely occur within the Study Area and decrease wildlife habitat, this would be balanced by other projects. The reasonably foreseeable implementation of the Missouri River Fish and Wildlife Mitigation Project, the Missouri River Master Water Control Manual, and the MUD Platte West Water Production Facility wetland mitigation area would create additional wildlife habitat in the geographical study

area used for this analysis. With respect to cumulative wetland impacts, mitigation on a project-by-project basis was or will be required for the past and reasonably foreseeable projects identified above. Consistent with the national goal of “no net loss” of wetlands, no loss of wetland resources should have occurred or would occur in connection with the projects identified above. Therefore, the cumulative loss of wildlife habitat would be offset by reasonably foreseeable projects designed to preserve, enhance, restore, and create wildlife habitat.

4.27.3 Avoidance, Minimization, and Mitigation

Consideration of alternative location and impact minimization for the Project was made based on issues raised by agencies during the scoping process and concurrence point meetings. Issues raised by agencies on the Draft EIS that address cumulative impacts will be evaluated to determine if alternative addition or modification is warranted in the Final EIS. To avoid major impacts to urbanized areas and other constraints such as Offutt AFB, locations to place a roadway and bridge are limited. Consequently, it is unlikely that an alternate route would reduce impacts on farmland. Wildlife habitat that would be affected by the Project is primarily agricultural land, with minimal wooded land and wetlands affected.

As final design proceeds, the ability to refine the preferred alternative will create the potential to minimize direct and indirect effects on resources. Once final design is complete for the Project, the Section 404 permit will identify the location and acreage of affected wetlands. USACE requires monitoring of wetland sites and documentation of their success as related to the conditions of the Section 404 permit. Other mitigating measures that would be issued at the time of construction would include monitoring provisions to be followed. Natural resource agencies would be monitoring the health of Schilling WMA and other public resources in the Study Area. Feedback from these agencies could be considered to determine if management of the ROW could be changed to minimize cumulative effects of the selected alternative.

Management of induced growth is primarily performed at the local level. Limiting access points along the new roadway and having intersections with other major arterials at existing interchanges can assist the roadway in maintaining efficient travel and supporting manageable growth.

4.28 COMPARISON OF POTENTIAL IMPACTS

Table 4-14 lists the environmental impacts for the No-Build Alternative (Alt. 1) and each of the build alternatives.

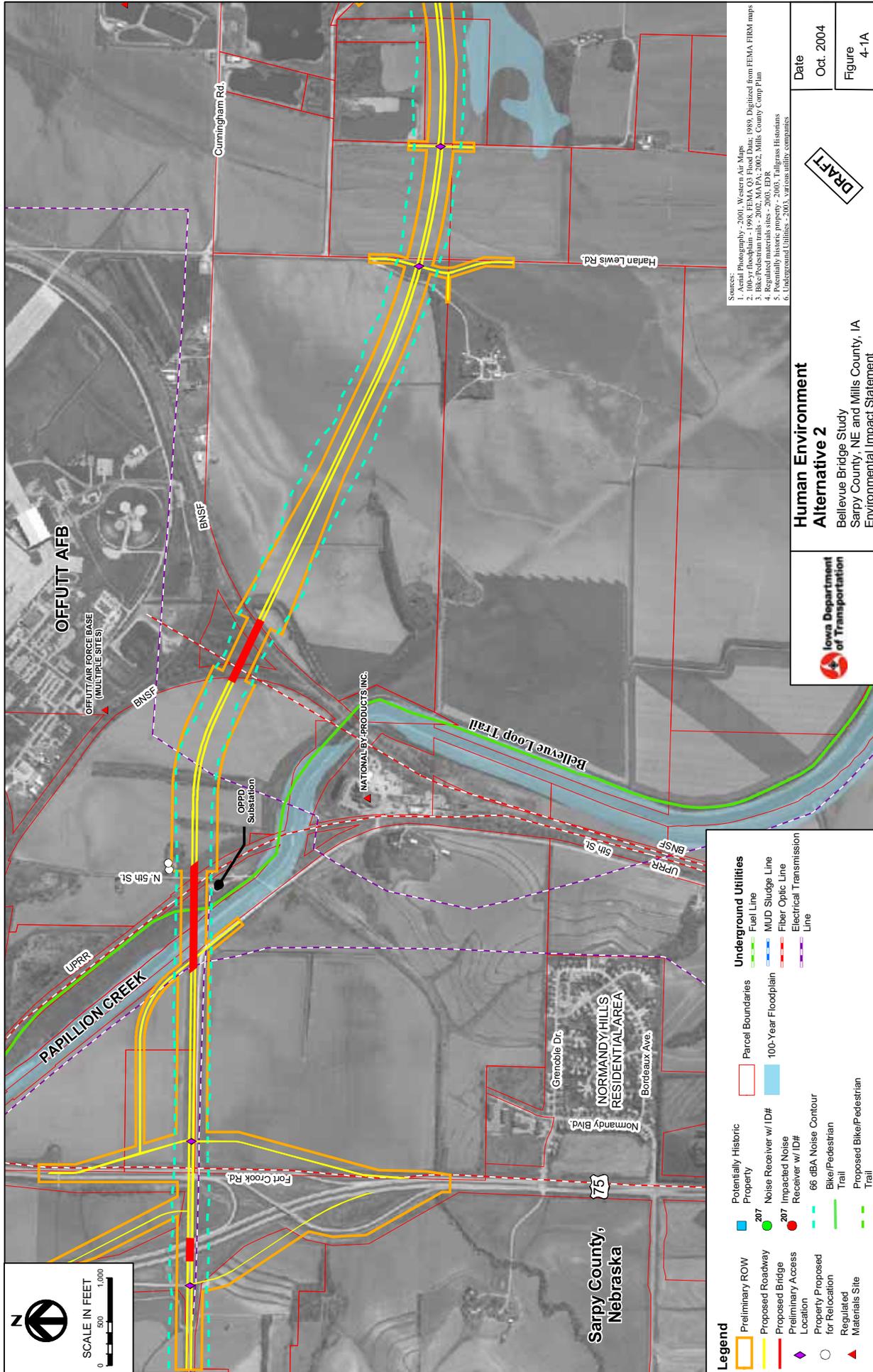
**Table 4-14
Summary of Potential Impacts**

Resource	Alternative 1 No-Build Alternative	Alternative 2 South of Offutt AFB	Alternative 3 Southern Sarpy County
Right-of-Way New Right-of-Way (acres) Acquisitions (number) ¹ Displacements (number)	Expansion of existing roads, if needed, would likely involve ROW acquisition, and displacements could also occur.	297 1 3	272 1 0
Farmland Impacts Prime Farmland (acres)	Prime farmland is likely to be converted to roadway ROW as part of urban development and any expansion of existing roads.	309	221
Major Utility Relocations Electrical Transmission Lines Fiber Optic Lines Sludge Line Petroleum Pipelines	Utility relocations, if necessary for expansion of existing roads, would require coordination with utilities.	1 0 0 0	1 0 1 0
Recreational Trail (linear feet)	Impacts from any undetermined expansion of existing roads are unknown.	580	0
Impacted Noise Sensitive Receivers Residential Commercial	Traffic noise levels are likely to increase along Highway 370 and along any expanded roadway.	0 0	11 0
Waters of the U.S. Wetlands ² (acres) Waterways ³ (feet)	Impacts from any undetermined expansion of existing roads are unknown.	14.2 1,052	8.7 2,250
Floodplain (acres)	Impacts from any undetermined expansion of existing roads are unknown.	16.7	34.8
Fish and Wildlife Habitat Agricultural (cropland and pastureland acres) Forested Nonwetland (acres) ⁴ Rangeland Nonwetland (acres) Wetlands (emergent & forested acres) Missouri River (acres)	Impacts from any undetermined expansion of existing roads would minimally affect fish and wildlife habitat because most construction would likely occur within existing ROW.	347.3 14.6 26.5 14.2 4.4	234.5 4.0 51.1 8.7 4.7
Historic and Archaeological Resources Impacted	Impacts from any undetermined expansion of existing roads are unknown.	0	0
Section 4(f) Properties Impacted	Impacts from any undetermined expansion of existing roads are unknown.	1 ⁵	0
Regulated Materials Sites Impacted	Impacts from any undetermined expansion of existing roads are unknown.	0	2

Table 4-14 (continued)
Summary of Potential Impacts

Notes:

- ¹ *Displacements involve a residential relocation (purchase of a home and relocation assistance). Acquisitions involve acquisition of an entire land parcel that does not include a residence.*
- ² *Jurisdiction will be determined by USACE after final wetland delineations are completed.*
- ³ *Waterways are determined by the presence of a definable bed and bank.*
- ⁴ *Nonwetlands include uplands and lowland areas that are neither deepwater aquatic habitats, wetlands, nor other special aquatic sites. For this analysis, nonwetlands used for crops and pastures are reported separately.*
- ⁵ *The Bellevue Loop Trail is crossed by Alternative 2. Continuity of the trail would be temporarily disrupted during construction for several months, but the connectivity would be restored after completion of construction.*



Legend

- Preliminary ROW
- Proposed Roadway
- Proposed Bridge
- Preliminary Access Location
- Property Proposed for Relocation
- Regulated Materials Site
- Potentially Historic Property
- 207 Noise Receiver w/ ID#
- 207 Impacted Noise Receiver w/ ID#
- 66 dBA Noise Contour
- Bike/Pedestrian Trail
- Proposed Bike/Pedestrian Trail
- Parcel Boundaries
- 100-Year Floodplain
- Underground Utilities
 - Fuel Line
 - MUD Sludge Line
 - Fiber Optic Line
 - Electrical Transmission Line

Sources:

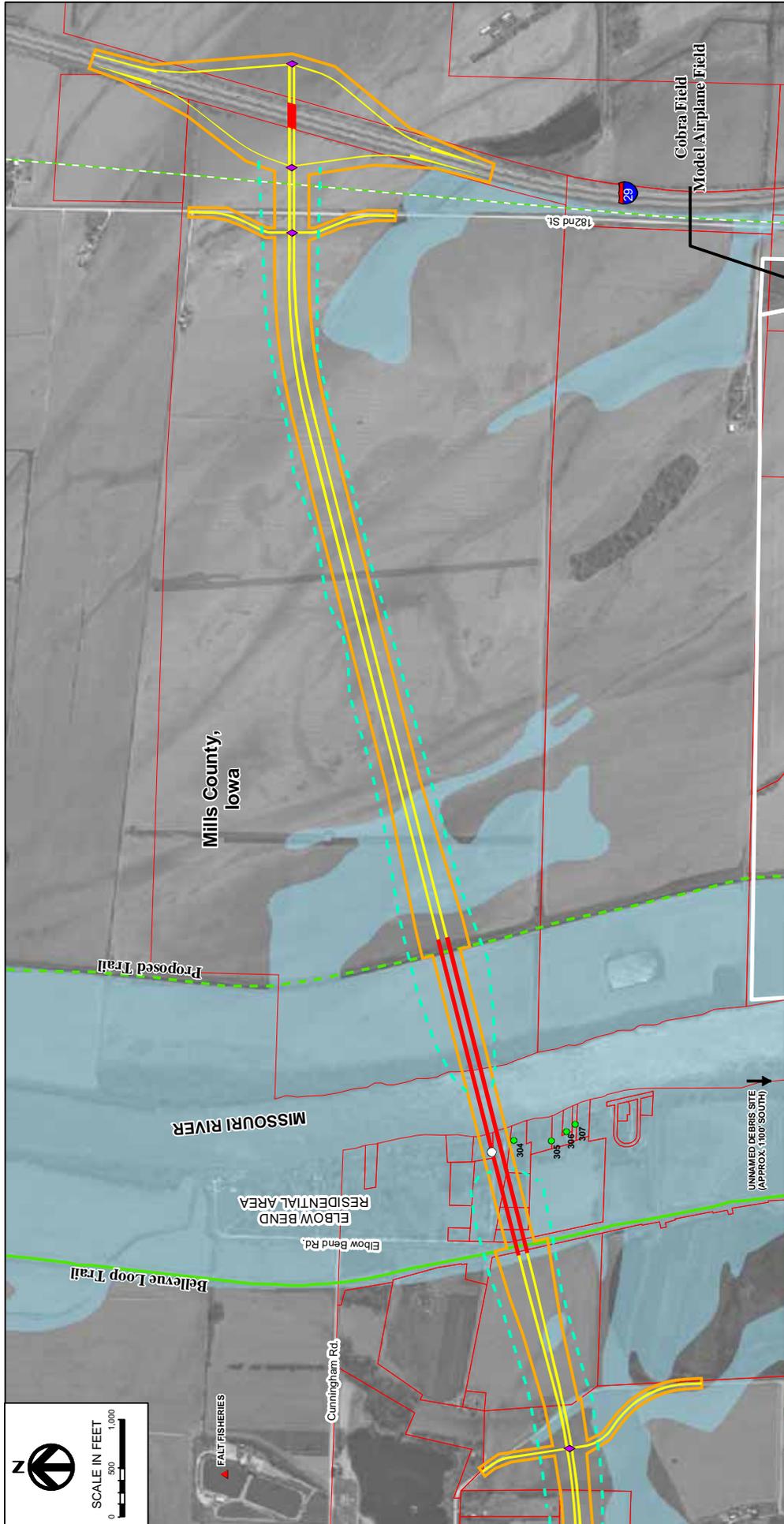
1. Aerial Photography - 2001, Western Air Maps
2. 100-yr floodplain - 1998, FEMA Q3 Flood Data; 1988, Digitized from FEMA FIRM maps
3. BNSF Right-of-Way - 2002, BNSF
4. BNSF Pedestrian Trails - 2003, BNSF
5. Potentially historic property - 2003, Tallgrass Histarians
6. Underground Utilities - 2003, various utility companies

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**Human Environment
Alternative 2**
Bellevue Bridge Study
Sarpy County, NE and Mills County, IA
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Figure: 4-1A





Legend

	Preliminary ROW		Potentially Historic Property		207 Noise Receiver w/ ID#		207 Impacted Noise Receiver w/ ID#		66 dBA Noise Contour		Proposed Biker/Pedestrian Trail
	Proposed Roadway		Parcel Boundaries		207 Noise Receiver w/ ID#		Proposed Biker/Pedestrian Trail		100-Year Floodplain		Proposed Biker/Pedestrian Trail
	Proposed Bridge		100-Year Floodplain		207 Impacted Noise Receiver w/ ID#		Proposed Biker/Pedestrian Trail		100-Year Floodplain		Proposed Biker/Pedestrian Trail
	Preliminary Access Location		100-Year Floodplain		207 Impacted Noise Receiver w/ ID#		Proposed Biker/Pedestrian Trail		100-Year Floodplain		Proposed Biker/Pedestrian Trail
	Property Proposed for Relocation		100-Year Floodplain		207 Impacted Noise Receiver w/ ID#		Proposed Biker/Pedestrian Trail		100-Year Floodplain		Proposed Biker/Pedestrian Trail
	Regulated Materials Site		100-Year Floodplain		207 Impacted Noise Receiver w/ ID#		Proposed Biker/Pedestrian Trail		100-Year Floodplain		Proposed Biker/Pedestrian Trail
	Materials Site		100-Year Floodplain		207 Impacted Noise Receiver w/ ID#		Proposed Biker/Pedestrian Trail		100-Year Floodplain		Proposed Biker/Pedestrian Trail
	Underground Utilities		100-Year Floodplain		207 Impacted Noise Receiver w/ ID#		Proposed Biker/Pedestrian Trail		100-Year Floodplain		Proposed Biker/Pedestrian Trail
	Fuel Line		100-Year Floodplain		207 Impacted Noise Receiver w/ ID#		Proposed Biker/Pedestrian Trail		100-Year Floodplain		Proposed Biker/Pedestrian Trail
	MUD Sludge Line		100-Year Floodplain		207 Impacted Noise Receiver w/ ID#		Proposed Biker/Pedestrian Trail		100-Year Floodplain		Proposed Biker/Pedestrian Trail
	Fiber Optic Line		100-Year Floodplain		207 Impacted Noise Receiver w/ ID#		Proposed Biker/Pedestrian Trail		100-Year Floodplain		Proposed Biker/Pedestrian Trail
	Electrical Transmission Line		100-Year Floodplain		207 Impacted Noise Receiver w/ ID#		Proposed Biker/Pedestrian Trail		100-Year Floodplain		Proposed Biker/Pedestrian Trail

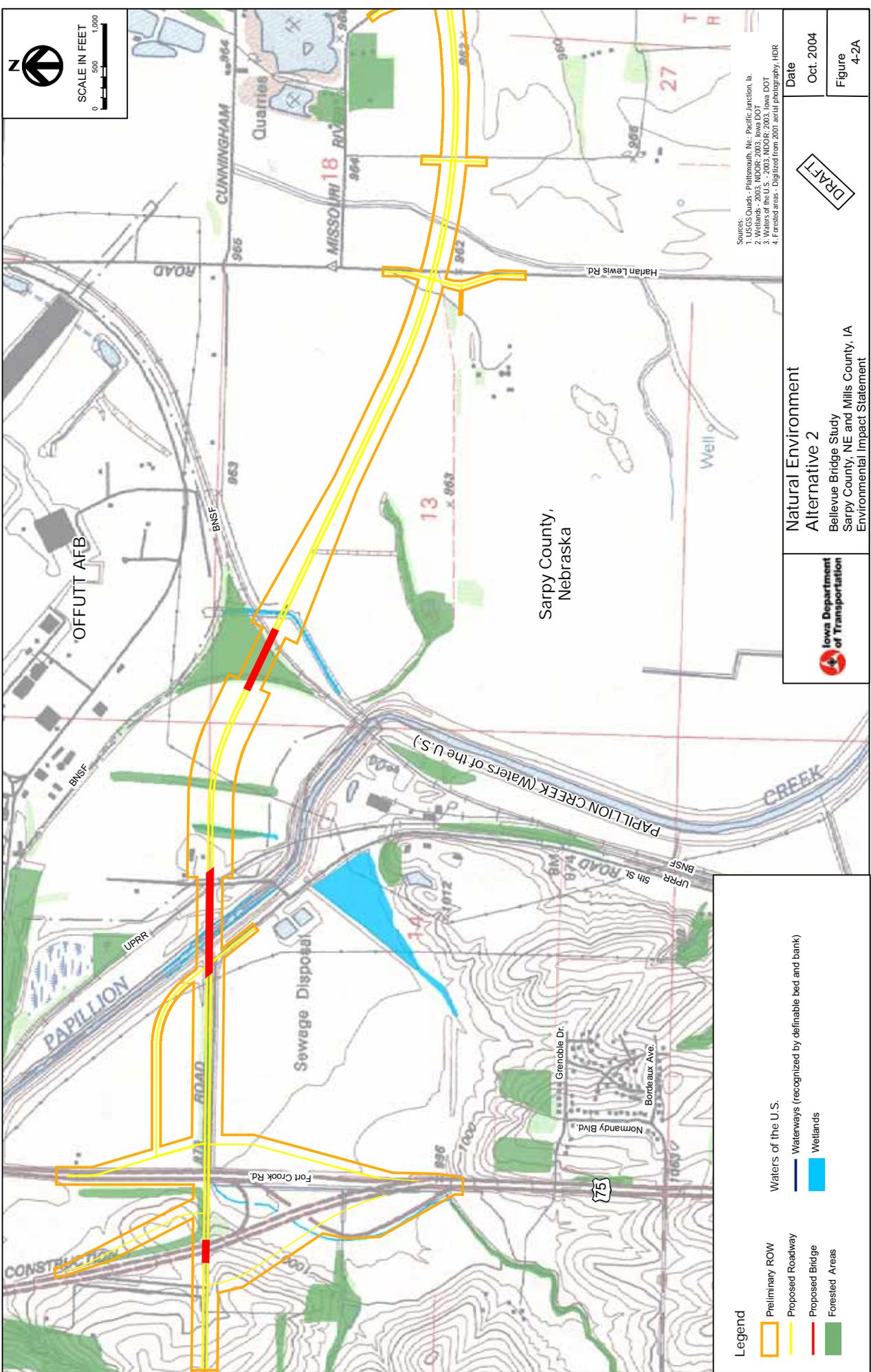
Sources:
 1. Aerial Photography - 2001, Western Air Maps
 2. 100-yr Floodplain - 1998, FEMA Q5 Flood Data; 1984, Digitized from FEMA FIRM maps
 3. Belle Vue Trail - 2007, Mills County Copy Plan
 4. Belle Vue Trail - 2007, Mills County Copy Plan
 5. Potentially historic property - 2003, Tallgrass Heritians
 6. Underground Utilities - 2003, various utility companies

St. Mary's Island
USA CE Potential Restoration Site

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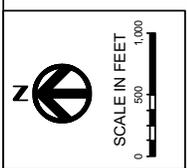
Sources:
 1. USGS Quads - Plattsmouth, Ne.; Pacific Junction, Ia.
 2. Wellands - 2003, NDOR-2003, Iowa DOT
 3. Waters of the U.S. - 2003, NDOR-2003, Iowa DOT
 4. Forest Areas - Digitized from 2001 aerial photography, HDR

	Natural Environment Alternative 2 Bellevue Bridge Study Sarpy County, NE and Mills County, IA Environmental Impact Statement	
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		Figure 4-2A

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Legend

	Preliminary ROW
	Proposed Roadway
	Waters of the U.S.
	Forested Areas
	Wetlands
	Waterways (recognized by definable bed and bank)



Legend

- Preliminary ROW
- Proposed Roadway
- Proposed Bridge
- Forested Areas

Waters of the U.S.

- Waterways (recognized by definable bed and bank)
- Wetlands

Sources:
 1. USGS Quads - Plattsburgh, NE; Pacific Junction, IA
 2. Wetlands - 2003, NDOR; 2003, Iowa DOT
 3. Waters of the U.S. - 2003, NDOR; 2003, Iowa DOT
 4. Forested areas - Digitized from 2001 aerial photography, HDR

Date
 Jan. 2004

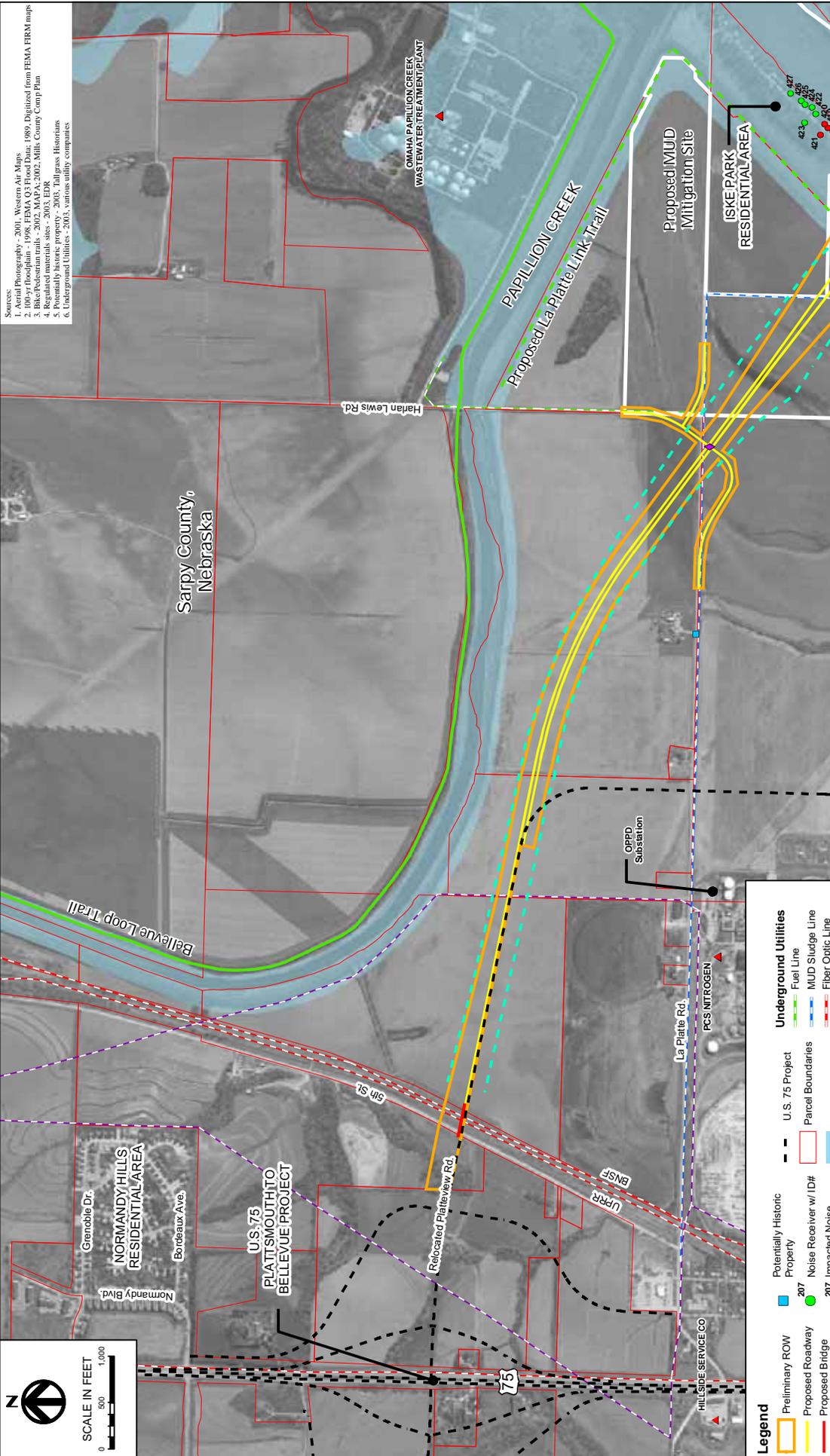
Figure
 4-2B

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 Alternative 2**
 Bellevue Bridge Study
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Sources:
 1. Aerial Photography - 2001, Western Air Migs
 2. 100-yr Floodplain - 1998, FEMA O3 Flood Data; 1989, Digitized from FEMA FIRM maps
 3. Bike/Pedestrian trails - 2002, MAPA, 2002, Mills County Comp Plan
 4. Regulated materials sites - 2003, EDR
 5. Potentially historic property - 2005, Tallgrass Historians
 6. Underground Utilities - 2005, various utility companies



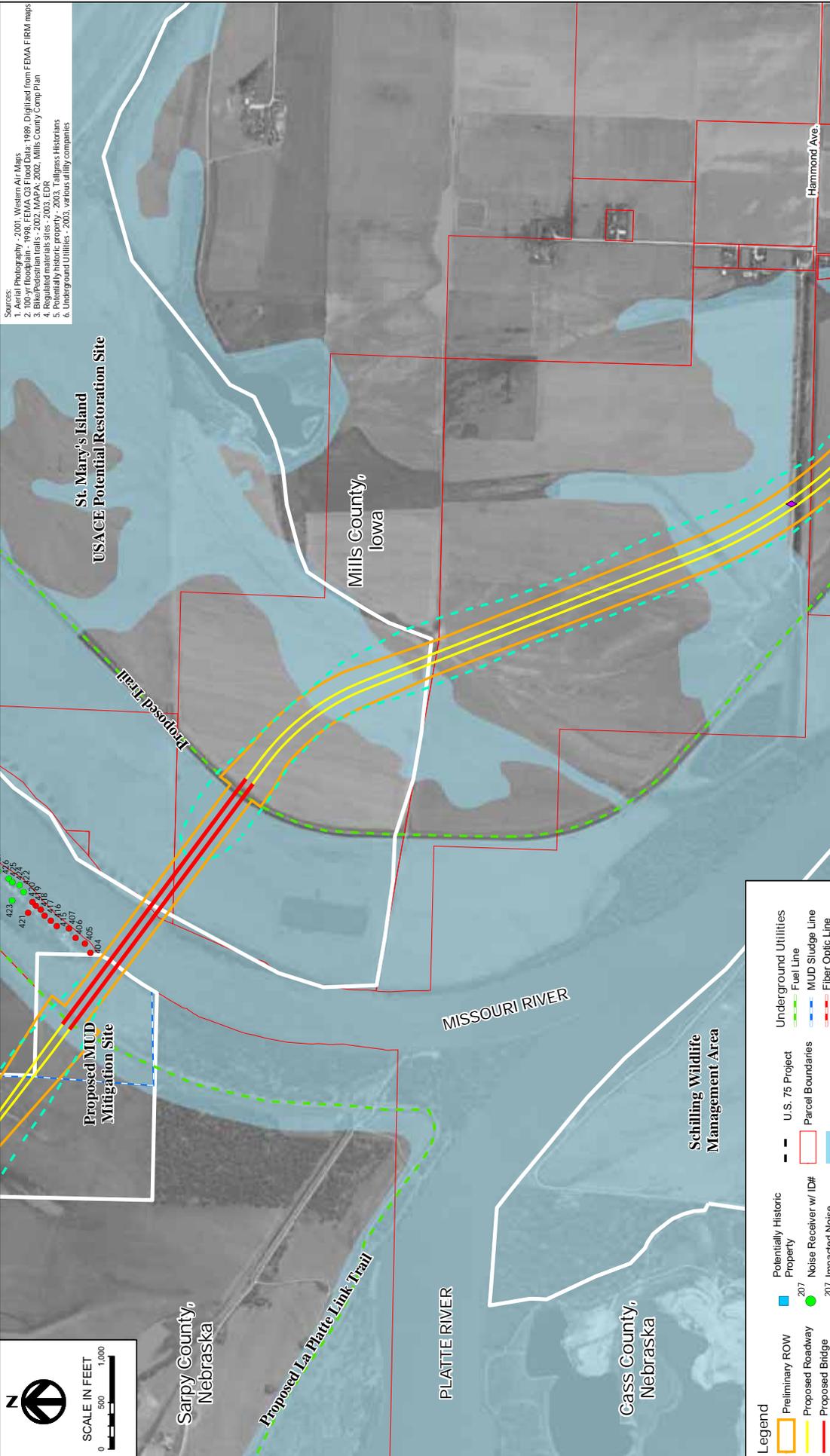
Legend	
	Potentially Historic Property
	207 Noise Receiver w/ ID#
	207 Impacted Noise Receiver w/ ID#
	66 dBA Noise Contour
	Bike/Pedestrian Trail
	Proposed Bike/Pedestrian Trail
	U.S. 75 Project
	Parcel Boundaries
	100-Year Floodplain
	Fuel Line
	MUD Sludge Line
	Fiber Optic Line
	Electrical Transmission Line
	Proposed Roadway
	Proposed Bridge
	Proposed Access
	Location
	Property Proposed for Relocation
	Regulated
	Materials Site

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- Sources:
1. Aerial Photography - 2001, Western Air Maps
 2. 100-yr Floodplain - 1998, FEMA C3 Flood Data; 1989, Digitized from FEMA FIRM maps
 3. Bike/Pedestrian trails - 2002, MAPA; 2002, Mills County Comp Plan
 4. Regulated materials sites - 2003, EDR
 5. Potentially historic property - 2003, Tallgrass Historians
 6. Underground Utilities - 2003, various utility companies



- Legend**
- Potentially Historic Property
 - 207 Noise Receiver w/ ID#
 - 207 Impacted Noise Receiver w/ ID#
 - 66 dBA Noise Contour
 - Bike/Pedestrian Trail
 - Proposed Bike/Pedestrian Trail
 - Preliminary ROW
 - Proposed Roadway
 - Proposed Bridge Location
 - Preliminary Access
 - Property Proposed for Relocation
 - Regulated Materials Site
 - U.S. 75 Project
 - Parcel Boundaries
 - 100-Year Floodplain
 - Underground Utilities
 - Fuel Line
 - MUD Sludge Line
 - Fiber Optic Line
 - Electrical Transmission Line

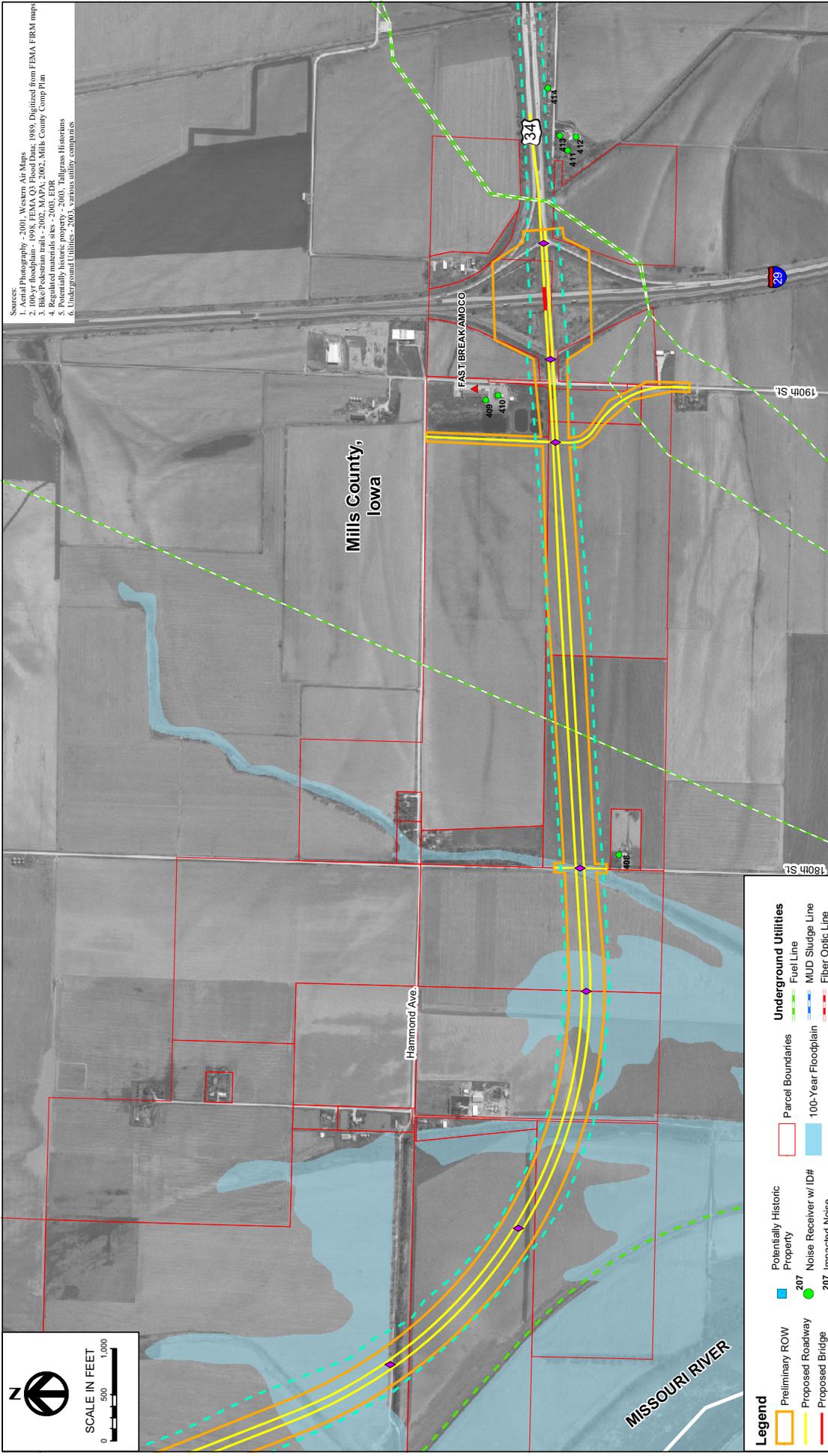
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 Figure: 4-3B

Sources:
 1. Aerial Photography - 2001, Vector, Aerial Maps
 2. 100-foot Contours - 1988, FEMA OI Flood Data, 1989, Digitized from FEMA FIRMs maps
 3. BRK/Pedestrian trails - 2002, MAPA, 2002, Mills County Comp Plan
 4. Regulated materials sites - 2003, EDR
 5. Potentially historic property - 2003, Tallgrass Historians
 6. Underground Utilities - 2003, various utility companies



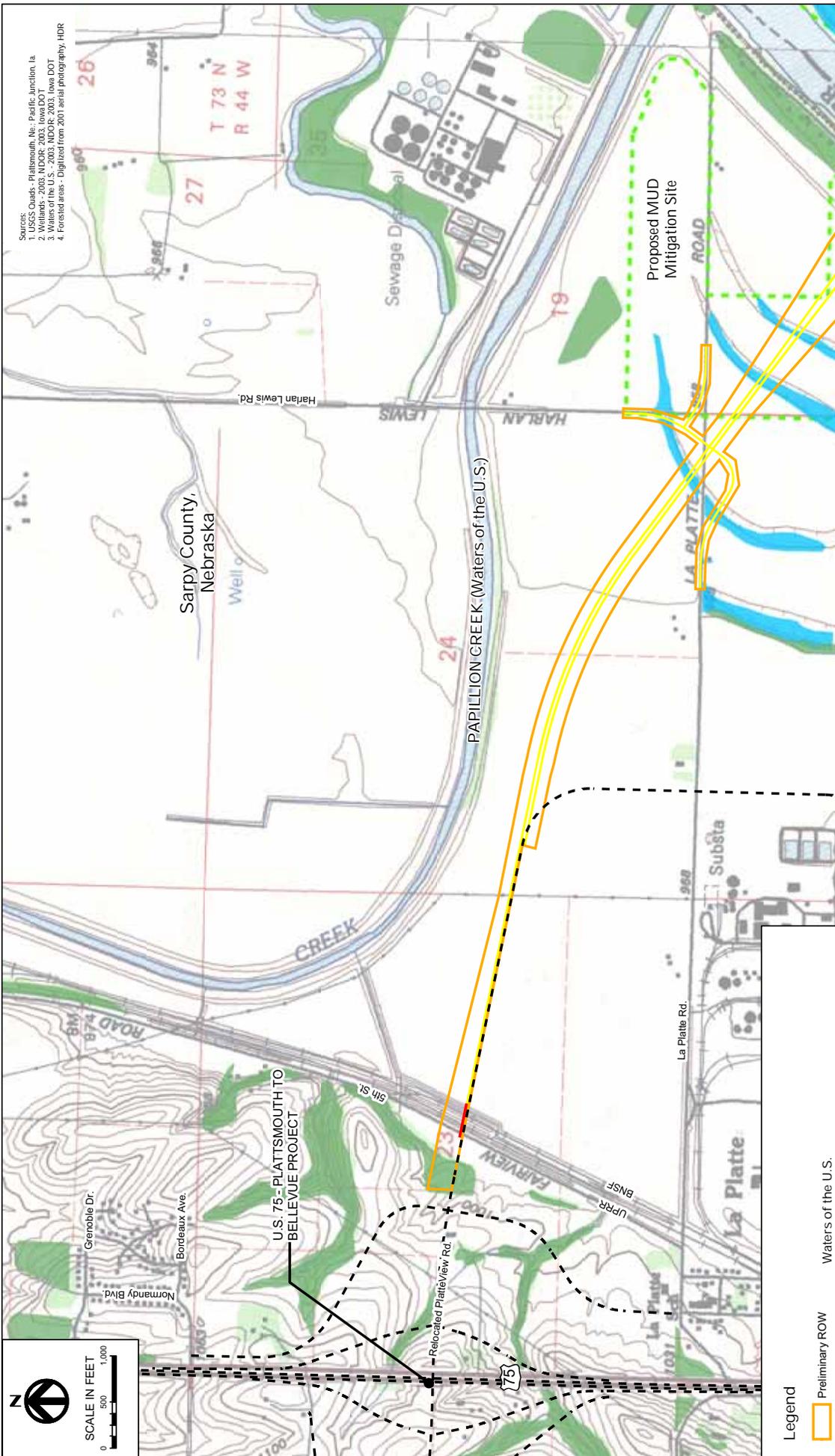
- Legend**
- Preliminary ROW
 - Proposed Roadway
 - Proposed Bridge Location
 - Preliminary Access Location
 - Property Proposed for Relocation
 - Regulated Materials Site
 - Potentially Historic Property
 - 207 Noise Receiver w/ ID#
 - 207 Impacted Noise Receiver w/ ID#
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 - Bike/Pedestrian Trail
 - Proposed Bike/Pedestrian Trail
 - Parcel Boundaries
 - 100-Year Floodplain
 - Underground Utilities
 - Fuel Line
 - MUD Sludge Line
 - Fiber Optic Line



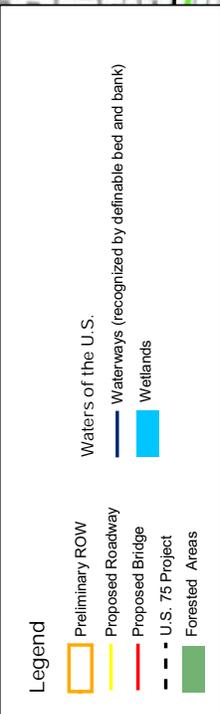
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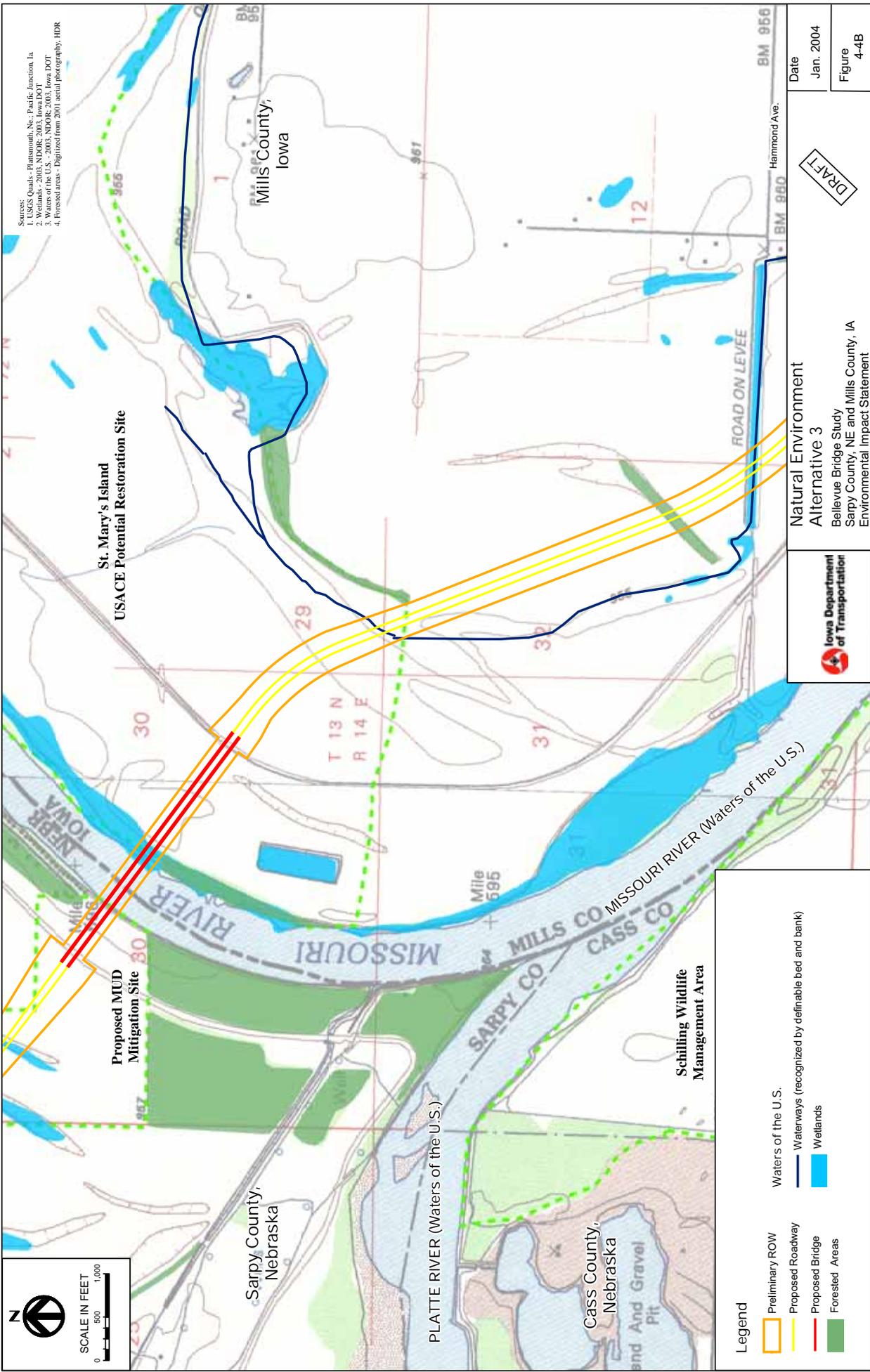
Sources:
 1. USGS Quads - Plattsmouth, Ne.; Pacific Junction, Ia.
 2. Wetlands - 2003; NDOR; 2003; Iowa DOT
 3. Waters of the U.S. - 2003; NDOR; 2003; Iowa DOT
 4. Forested Areas - Digitized from 2001 aerial photography, HDR



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 Figure: 4-4A

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Sources:
 1. USGS Quads - Plattsouth, Ne.; Pacific Junction, Ia.
 2. Wetlands - 2003, NDOR; 2003, Iowa DOT
 3. Waters of the U.S. - 2003, NDOR; 2003, Iowa DOT
 4. Forested areas - Digitized from 2001 aerial photography, HDR



Legend

- Preliminary ROW
- Proposed Roadway
- Proposed Bridge
- Forested Areas
- Waters of the U.S.
- Waterways (recognized by definable bed and bank)
- Wetlands

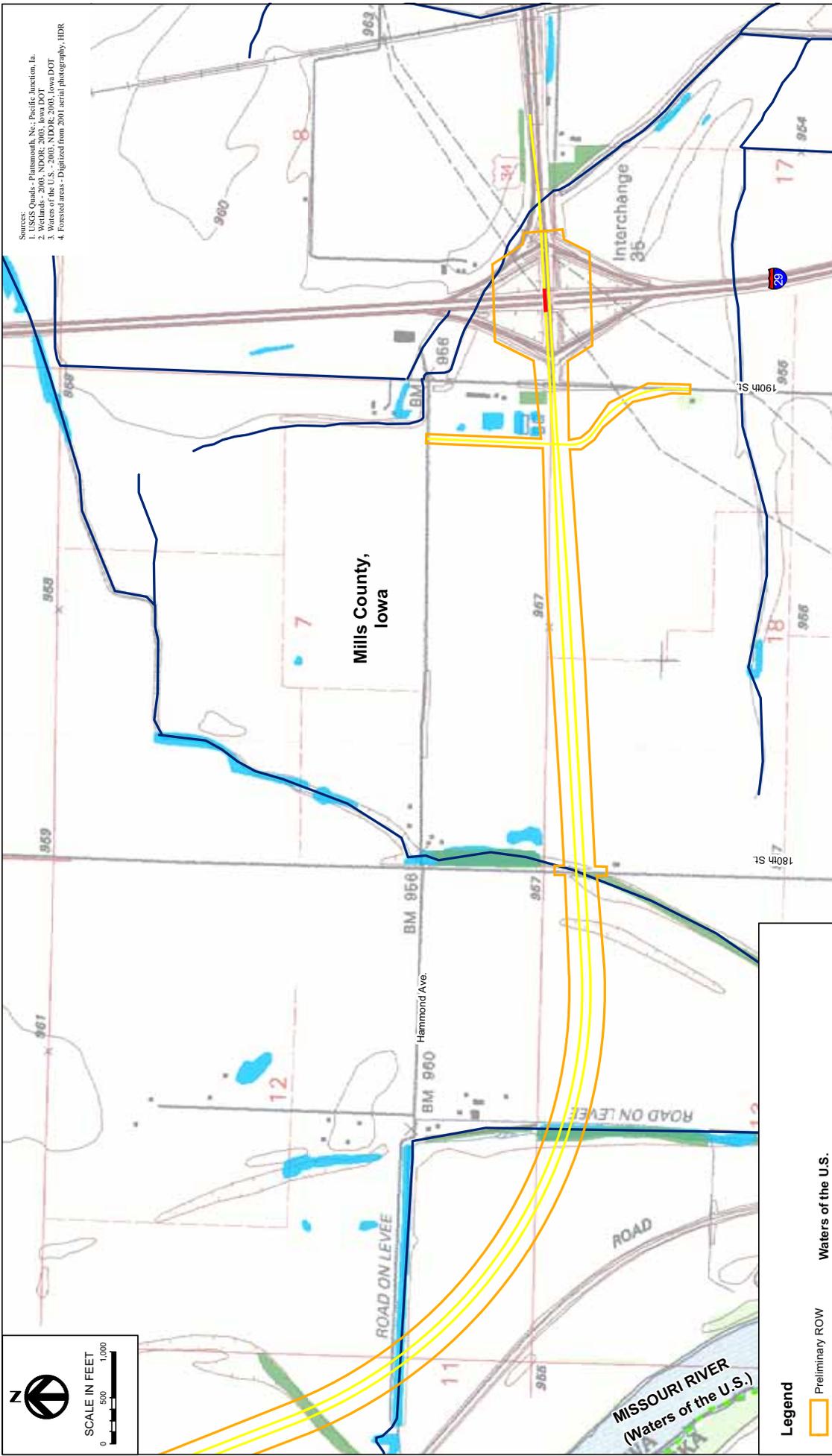
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Date: Jan. 2004
 Figure: 4-4B

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Sources:
 1. USGS Quads - Plattsmouth, Ne.; Pacific Junction, Ia.
 2. Wetlands - 2003; NDOIR; 2003; Iowa DOT
 3. Waters of the U.S. - 2003; NDOIR; 2003; Iowa DOT
 4. Forested areas - Digitized from 2001 aerial photography, HDR



Legend

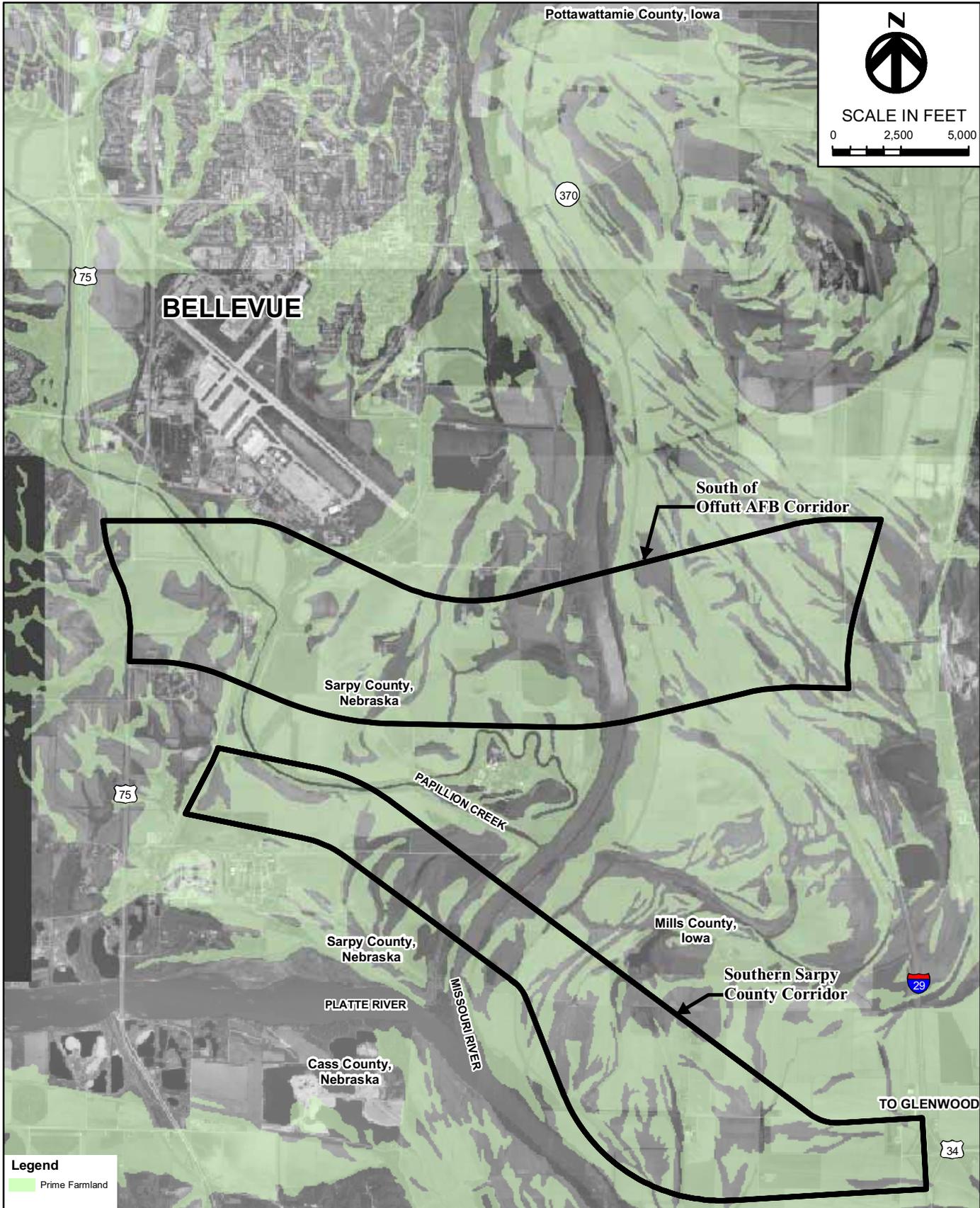
- Preliminary ROW
- Proposed Roadway
- Proposed Bridge
- Forested Areas
- Waters of the U.S.
- Waterways (recognized by definable bed and bank)
- Wetlands

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Pottawattamie County, Iowa



SCALE IN FEET
0 2,500 5,000

BELLEVUE

South of
Offutt AFB Corridor

Sarpy County,
Nebraska

PAPILLION CREEK

Sarpy County,
Nebraska

Mills County,
Iowa

PLATTE RIVER

Southern Sarpy
County Corridor

Cass County,
Nebraska

MISSOURI RIVER

TO GLENWOOD

Legend
Prime Farmland



Prime Farmland

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Figure
4-5

CHAPTER 5

COMMENTS AND COORDINATION

CHAPTER 5

COMMENTS AND COORDINATION

This chapter includes a summary of agency coordination, tribal coordination, and public involvement that has taken place during development of this Draft EIS. Future public involvement efforts that are planned for the Project are also discussed. Appendix A contains agency coordination letters and public comment letters received during the development of this Draft EIS.

5.1 AGENCY COORDINATION

5.1.1 Agency Scoping

Early agency coordination commenced on January 21, 2003, through letters to the Federal, state, and local government agencies to announce the initiation of the Bellevue Bridge Study and to announce the agency scoping meeting. The following entities were contacted as part of the early coordination efforts. Written responses to the early coordination request are provided in Appendix A.

- Federal Aviation Administration
- Federal Emergency Management Agency
- Federal Highway Administration – Iowa Division (*Can-Do participant*)
- Federal Highway Administration – Nebraska Division (*Can-Do participant*)
- Federal Railroad Administration
- Federal Transit Administration
- U.S. Army Corps of Engineers – Omaha District (*Can-Do participant*)
- U.S. Army Corps of Engineers – Rock Island District (*Can-Do participant*)
- U.S. Coast Guard (*Can-Do participant*)
- U.S. Department of Agriculture Natural Resources Conservation Service (*Can-Do participant*)
- U.S. Department of Housing and Urban Development
- U.S. Department of the Interior – National Park Service
- U.S. Department of the Interior – Office of Environmental Policy
- U.S. Environmental Protection Agency – Region 7 (*Can-Do participant*)
- U.S. Fish & Wildlife Service – Nebraska Field Office (*Can-Do participant*)
- U.S. Fish & Wildlife Service – Rock Island Field Office (*Can-Do participant*)
- Iowa Department of Economic Development
- Iowa Department of Natural Resources (*Can-Do participant*)

- Nebraska Department of Environmental Quality (*Can-Do participant*)
- Nebraska Forest Service
- Nebraska Game and Parks Commission (*Can-Do participant*)
- Nebraska State Historical Society
- State Historical Society of Iowa
- Metropolitan Area Transit
- Omaha-Council Bluffs Metropolitan Area Planning Agency
- Papio-Missouri River Natural Resources District

An agency scoping meeting was held on February 13, 2003, to introduce the Project to the agencies and address any initial comments and concerns. Letters from agencies are provided in Appendix A. Comments from the agency scoping meeting are summarized as follows:

- Requested that pedestrian accommodation be evaluated and included as part of the Project. Stated that pedestrians/bicyclists need preservation of nature resource corridor along the Missouri River. Noted that the Missouri River is part of the Lewis and Clark Trail, and suggested that this be considered during this Project.
- Noted the potential for limited English proficiency of the population within the Study Area and wanted this to be considered when planning public meetings.
- Noted that coordination with Native American tribes regarding traditional cultural properties needs to be conducted.
- Stated that Coast Guard policy is for bridges that no longer serve a transportation function to be removed. Noted to make sure the local authorities are aware that the states are offering demolition funding and the consequences of not taking that offer. Stated that the construction of a new “free” (non-toll) bridge by the government might raise government versus private enterprise competition concerns.
- Coast Guard stated that navigation impacts (present and future) need to be assessed and that impacts need to be addressed from abutment to abutment.
- Noted that water quality certification would be required separate from the USACE Section 404 permit.
- Concerned with impacts to ecological areas.
- Concerned about Federally and state-listed threatened, endangered, candidate, and proposed species and habitat that could potentially occur in the Study Area, particularly the pallid sturgeon and bald eagle. Noted that part of the mitigation required for MUD includes construction of a backwater chute near the mouth of the Platte that would be potential habitat for pallid sturgeon, lake sturgeon, and sturgeon chub. Suggested that efforts be made to maintain north-south connectivity for wildlife and that the road not become a barrier; stated that wildlife needs preservation of nature resource corridor along the Missouri River. Recommended that impacts to the area adjacent to the river be kept to a minimum to avoid potential impacts on T&E species habitat. Stated that no site-specific records existed for rare species or significant natural communities within the Study Area in Iowa.

- Suggested that Section 7 consultation, if required, be separate from the EIS. Stated that a biological assessment will be required.
- Expressed concern about impacts on the proposed MUD mitigation site.
- Noted that wetlands not under USACE jurisdiction but under state jurisdiction would require mitigation. However, there is no formal permit process. Noted that all impacts to wetlands in Nebraska must be mitigated in Nebraska.
- Concerned about potential impacts to Nebraska Game and Parks Commission properties and other restoration areas. Noted the presence of a USACE 1135 restoration site north of the study area, but noted that it would not likely be affected.
- Nebraska State Historical Society indicated that each project would be reviewed closely and that they would work with the states and FWHA to identify the area of potential effect after Purpose and Need has been developed.

5.1.2 NEPA/404 Merge Coordination

This Project was initiated using Iowa DOT's Can-Do development process. The purpose of the Can-Do process is to strengthen the partnership among Iowa DOT, FHWA, and other agencies by streamlining and shortening project development without losing program integrity and quality. Agencies involved in the Can-Do process are identified in Section 5.1.1. The Can-Do process incorporates planning, design, agency coordination, and public involvement elements, and it integrates compliance with NEPA and Section 404 of the Clean Water Act.

The agency coordination that occurred in conjunction with the NEPA/404 merge process, as a component of the Can-Do process, consisted of meetings on Concurrence Points 1 and 2 (addressed at one meeting) and Concurrence Point 3. Concurrence points are milestones within the Can-Do process where the transportation agency requests agency concurrence regarding four points: Purpose and Need, Alternatives to be Analyzed, Alternatives to be Carried Forward, and the Preferred Alternative. The intent of the concurrence point process is to encourage early participation by the regulatory agencies in an effort to validate decisions made by the transportation agency during the NEPA process and to avoid revisiting those decisions after significant effort has been expended performing detailed analyses and design. The following concurrence meetings have been held for this Draft EIS.

Concurrence Points 1 and 2

Concurrence Points 1 and 2 were addressed at one meeting held on July 29, 2003. At this meeting, all participants concurred on Concurrence Point 1, Purpose and Need, and Concurrence Point 2, Alternatives to be Analyzed. Comments from this meeting are summarized as follows:

- Concerned about the southern corridor (Southern Sarpy County), particularly impacts to the proposed MUD mitigation site and St. Mary's Island, and would like to see impacts minimized.
- Reiterated concern for potential impacts to pallid sturgeon due to the build corridors, particularly impacts of increased river velocity, scouring, channelization, and sedimentation.
- Some agencies expressed a preference for the Offutt Corridor.

Concurrence Point 3

Concurrence Point 3, Alternatives to be Carried Forward, was discussed at a meeting held on October 29, 2003. All agencies reached concurrence on Concurrence Point 3. Comments from this meeting and subsequent letters are summarized as follows:

- Some agencies preferred the South of Offutt AFB Alternative (Alt. 2) because it is farther from the mouth of the Platte River and does not impact the proposed MUD mitigation site or the potential St. Mary's Island restoration site.
- Reiterated concerns regarding potential impacts to pallid sturgeon and bald eagle.

Concurrence Point 4

Concurrence on the Preferred Alternative (Concurrence Point 4) will be sought following the Commission's approval of the preferred alternative. This would occur after distribution of the Final EIS.

5.2 TRIBAL COORIDATION

The following tribes were contacted to seek comment concerning the Project:

- Cheyenne-Arapaho Tribes
- Commanche Nation
- Iowa Tribe of Kansas and Nebraska
- Iowa Tribe of Oklahoma
- Oglala Sioux Tribe
- Omaha Tribal Council
- Otoe-Missouria Tribe of Oklahoma
- Pawnee Tribal Business Council
- Pawnee Tribe of Oklahoma
- Ponca Tribe of Nebraska
- Sac and Fox Nation of Missouri
- Santee Sioux Tribal Council
- Winnebago Tribal Council

The Winnebago Tribe of Nebraska indicated that they have no sacred sites or cultural artifacts in the Study Area. The Pawnee Nation of Oklahoma determined that no historic properties would be affected. No other tribes commented on the Project.

5.3 PUBLIC INVOLVEMENT

An extensive public involvement program was used during the development of the Project in order to effectively engage the general public and interested parties in the Project. The key components of this program are outlined in the following sections.

5.3.1 Community Advisory Committee

A community advisory committee was established to provide Project decision makers with key information through direct meetings with local stakeholders. The following entities were represented on the committee, and several local business leaders served on the committee as well. In total, over 40 individuals participated on the committee.

- City of Bellevue
- Sarpy County
- Mills County
- Omaha-Council Bluffs Metropolitan Area Planning Agency
- SW Iowa Coalition
- Offutt Air Force Base
- Bellevue Bridge Commission

Two formal meetings (February 7, 2003, and August 6, 2003) were held with the community advisory committee.

5.3.2 Public Meetings

Two open-house-style public information meetings were held at key milestones during the development of this Draft EIS to provide information to the public and to gather public feedback. The meeting dates and summaries of public comments are provided below.

Meeting No. 1 – March 25 and 27, 2003

Public information meeting No. 1 was held in Bellevue on March 25, 2003, and in Glenwood on March 27, 2003. The Bellevue meeting was attended by 72 people, and the Glenwood meeting was attended by 82 people. A Spanish-speaking translator was available at the meeting in Bellevue; however, there were no persons in attendance who required a translator. The purpose of these meetings was to introduce the project to the public and to gather information and feedback from the public.

The following summarizes comments from the March 25, 2003, meeting in Bellevue:

- More people favored the “Offutt Alignment” over the 1996 North Alignment (Southern Sarpy County alignment). However, there was also some sentiment for maintaining the existing Highway 370 route in addition to a new route.
- Several people at the Bellevue meeting wanted to know what would happen to the existing Bellevue Bridge if a new alignment is constructed.
- Some expressed concern about the NDOR U.S. 75 – Plattsmouth to Bellevue project and how it impacts the location of the Bellevue Bridge Study project connection to U.S. 75 (a Platteview interchange versus a Fairview Road interchange).
- Residents from the Normandy Hills subdivision expressed concern about access to U.S. 75 with the interchange proposed for the U.S. 75 – Plattsmouth to Bellevue project.

Written comments consisted of the following: two people stated that they prefer the 1996 North Alignment (Southern Sarpy County), six people commented that they prefer the Offutt Alignment, three people expressed dissatisfaction about access from U.S. 75 to the Normandy Hills subdivision, and one person expressed opposition to removing the existing Bellevue Bridge.

The following summarizes comments from the March 27, 2003, meeting in Glenwood:

- Most people favored the 1996 North Alignment (Southern Sarpy County) and wanted the Project to proceed as quickly as possible. Many people noted a preference for a “high-speed” connection to the Omaha metropolitan area.

Written comments consisted of the following: 14 commentors preferred the 1996 North Alignment (Southern Sarpy County), and one person opposed the removal of the existing Bellevue Bridge.

Meeting No. 2 – January 21 and 22, 2004

Public information meeting No. 2 was held in Bellevue on January 21, 2004, and in Glenwood on January 22, 2004. The Bellevue meeting was attended by 93 people, and the Glenwood meeting was attended by 141 people. The purpose of these meetings was to present the alternatives carried forward and information on preliminary environmental impacts to the public and to get public input on a preferred alternative.

The following summarizes comments received at the January 21, 2004 meeting in Bellevue:

- Most comments were generally supportive of the Project, and many people indicated a preference for the Southern Sarpy County Alternative (Alt. 3).
- There were several inquiries about Project cost, and several people commented that the South of Offutt AFB Alternative (Alt. 2) must be more expensive than the Southern Sarpy County Alternative (Alt. 3) due to the additional bridges and interchange modifications required for the South of Offutt AFB Alternative.
- Several people from the Normandy Hills subdivision were present and asked questions about access to their subdivision and the potential for additional access to be provided as part of the NDOR U.S. 75 – Plattsmouth to Bellevue project.
- Three individuals had questions regarding the cross-section of the bridge and whether farm equipment would be allowed on the bridge/roadway.
- Several people inquired about how access would be provided to properties adjacent to the proposed roadway and expressed concern about proximity of the alternatives to their homes and the potential for an increase in crime as a result.
- Concern was expressed about the South of Offutt AFB Alternative (Alt. 2) creating additional traffic east of Offutt AFB that might travel through residential areas to the north and about whether the U.S. Air Force would permit the South of Offutt AFB Alternative to be built so close to the base.
- There were a couple of inquiries about what would happen to the existing Bellevue Bridge.
- A couple of individuals noted that the Southern Sarpy County Alternative (Alt. 3) would provide the most benefit to the Omaha metropolitan area as it connects to Platteview Road, which is continuous to I-80. They felt that this alternative could become a bypass of the Omaha metropolitan area and congestion on I-80.

All written comments received at the meeting expressed a preference for an alternative. Two people preferred the South of Offutt AFB Alternative (Alt. 2), and 11 people preferred the Southern Sarpy County Alternative (Alt. 3).

The following summarizes comments received at the January 22, 2004, meeting in Glenwood:

- Most attendees were from Glenwood. Comments were generally supportive of the Project and indicated a desire to get the Project built as soon as possible. Most people expressed a preference for the Southern Sarpy County Alternative (Alt. 3).

A total of 60 written comments were received from the meeting. Two expressed a preference for the South of Offutt AFB Alternative (Alt. 2), and 52 expressed a preference for the Southern Sarpy County Alternative (Alt. 3).

5.3.3 Correspondence

Throughout the course of the Project, correspondence was received from the public via a variety of means, including public information meetings, telephone calls, letters, and email. All public correspondence was logged, and a response was sent to the specific public entity or individual if one was requested.

5.3.4 Project Newsletter

Project newsletters were published and distributed to all interested parties on the Project mailing list prior to each of the public meetings (in March 2003 and January 2004). The Project mailing list includes nearly 500 businesses, city and county officials, public entities, and residents.

5.3.5 Future Public Involvement

A public hearing to address comments on the Draft EIS is anticipated for early 2005. A project newsletter will be distributed prior to the public hearing.

5.4 SUMMARY OF PUBLIC COMMENTS ON DRAFT EIS: WRITTEN AND ORAL

Reserved for comment/response to the Draft EIS.

CHAPTER 6

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CHAPTER 6 LIST OF PREPARERS

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CHAPTER 7

DISTRIBUTION

CHAPTER 7 DISTRIBUTION

The Bellevue Bridge Study Draft EIS is being distributed to the following agencies and organizations. Individuals receiving an EIS are not listed for privacy reasons.

7.1 FEDERAL AGENCIES

Federal Aviation Administration
Federal Emergency Management Agency
Federal Railroad Administration
Federal Transit Administration
Small Business Administration
U.S. Air Force, Offutt Air Force Base
U.S. Army Corps of Engineers, Omaha and Rock Island Districts
U.S. Coast Guard
U.S. Department of Agriculture Natural Resources Conservation Service, Iowa and Nebraska
U.S. Department of the Interior, Fish and Wildlife Service, Grand Island and Rock Island Districts
U.S. Department of the Interior, Office of Environmental Policy and Compliance
U.S. Environmental Protection Agency

7.2 STATE AGENCIES

Iowa Department of Economic Development, Federal Funds Coordinator
Iowa Department of Natural Resources, Conservation and Recreation, and Environmental Services Divisions
State Historical Society of Iowa, Department of Cultural Affairs
Nebraska Commission on Indian Affairs
Nebraska Department of Aeronautics
Nebraska Department of Environmental Quality
Nebraska Department of Health and Human Services System, Division of Environmental Health Services
Nebraska Forest Service
Nebraska Game and Parks Commission
Nebraska State Historical Society
Nebraska Natural Resources Commission

7.3 LOCAL/REGIONAL UNITS OF GOVERNMENT

Metropolitan Area Planning Agency
City of Bellevue
City of Glenwood
Mills County
Omaha Metropolitan Area Transit
Papio-Missouri River Natural Resources District
Sarpy County

7.4 TRIBES

Iowa Tribe of Oklahoma
Omaha Tribal Council
Pawnee Nation of Oklahoma
Ponca Tribe of Nebraska
Winnebago Tribal Council

7.5 OTHER

AT&T
Aquila
Burlington Northern Santa Fe Railway
Metropolitan Utilities District
National Cooperative Refinery Association
Nebraska Trucking Association
Northern Natural Gas Company
Omaha Public Power District
Union Pacific Railroad
Urban League of Nebraska
U.S. Sprint

7.6 LOCATIONS WHERE THIS DOCUMENT IS AVAILABLE FOR PUBLIC REVIEW

Bellevue Public Library
1003 Lincoln Road
Bellevue, NE

Glenwood Public Library
109 North Vine Street
Glenwood, IA

Federal Highway Administration
105 6th Street
Ames, IA

Iowa Department of Transportation
800 Lincoln Way
Ames, IA

Nebraska Department of Roads
1500 Highway 2
Lincoln, NE

CHAPTER 8

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APPENDIX A

**AGENCY CORRESPONDENCE AND
COMMENT LETTERS**



Mike Johanns
Governor

NOV 24 2004

DEPARTMENT OF ENVIRONMENTAL QUALITY

Michael J. Linder

Director

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FAX (402) 471-2909

OFFICE OF LOCATION & ENVIRONMENT

November 22, 2004

DeeAnn Newell
Iowa Dept. of Transportation
800 Lincoln Way
Ames, IA 50010

RE: U.S. 34 Bellevue Bridge Study, Mills County, Iowa, and Sarpy County, Nebraska,
Project Number NHSX-34-1(63) – 19-65

Dear Ms. Newell:

The Nebraska Department of Environmental Quality (NDEQ) has reviewed the above referenced project. We have no comments regarding this project that would fall under the jurisdiction of our programs.

Enclosed is the signed endorsement. If you have any questions, feel free to contact me at (402) 471-8697.

Sincerely,

A handwritten signature in blue ink, appearing to read "Hugh Stirts".

Hugh Stirts, PhD
NEPA Coordinator

Enclosure



Iowa Department of Transportation

800 Lincoln Way, Ames, Iowa 50010

515-239-1225

Fax: 515-239-1726

November 18, 2004

Nebraska Department of Environmental Quality
Jay Ringenberg
PO Box 98922
Lincoln, Ne 68509-8922

RE: U.S. 34 Bellevue Bridge Study, Mills County, Iowa and Sarpy County,
Nebraska, Project Number NHSX-34-1(63)—19-65

Dear Mr. Ringenberg:

The Iowa Department of Transportation held Agency Concurrence Point Meetings on July 29, 2003 and on October 29, 2003 for the Bellevue Bridge Study. The purpose of July meeting was to reach concurrence on the Purpose and Need and the Range of Alternatives and the October meeting was to reach concurrence on the Alternatives Carried Forward. Terry Hickman was able to attend and provide input on the behalf of your Department. Terry asked that a letter with a signature block be sent directly to you that would request formal concurrence. The minutes from both meetings are being provided with this letter. At this time, we are asking for your concurrence on Concurrence Point 1, 2 and 3:

Concurrence Point 1: Purpose and Need

- Purpose
Fulfill transportation needs of the region (southern metro Omaha area, including eastern Sarpy County and Bellevue, and western Mills County) by maintaining and improving a safe and free-flowing connection across the Missouri River from I-29 to U.S. 75.
- Need
Substandard Bridge
Substandard Roadway
System Linkage
Compatibility with Local Land Use

Concurrence Point 2: Range of Alternatives

- No-Build Alternative
- Transportation System Management
- Travel Demand Management
- Build Alternatives
 - Improvements to Existing Corridor
 - South Offutt Air Force Base Corridor
 - Southern Sarpy County Corridor

Concurrence Point 3: Alternatives Carried Forward

- No Build Alternative
- South Offutt Alternative
- Southern Sarpy County Alternative

The Existing Alignment Alternative was dropped from further evaluation because it did not meet our Purpose and Need.

At this time, we are asking for your concurrence on Concurrence Point 1, 2 and 3 by signing this letter and returning the original for our Administrative Record. Thank you for your prompt response and your continued partnership throughout the life of this project.

Sincerely,

DeeAnn S. Newell
DeeAnn Newell
Office of Location and Environment
Iowa Dept. of Transportation

Concur. *Jay Ringenberg*
bor Jay Ringenberg

Date: 11/22/04



NEBRASKA STATE HISTORICAL SOCIETY
1500 R STREET, P.O. BOX 82554, LINCOLN, NE 68501-2554
(402) 471-3270 Fax: (402) 471-3100 1-800-833-6747 www.nebraskahistory.org

25 October 2004

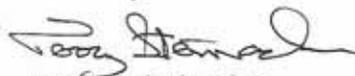
Leonard J. Sand
Planning & Project Development
Department of Roads
P.O. Box 94759
Lincoln, NE 68509-4759

Re: NHSX-34-1(63)
Bellevue Bridge Study
Sarpy Co.
H.P. #0307-093-01

Dear Mr. Sand:

We have reviewed the cultural resources survey report (Bozell 2004) on the various corridors for the proposed Bellevue Bridge project. We concur with the preliminary findings of the report that currently no historic resources will be affected. Final alignment selection may require additional cultural resource investigation.

Sincerely,


Terry L. Steinacher
H.P. Archaeologist

Concurrence:


L. Robert Puschendorf
Deputy NeSHPO



United States Department of the Interior

FISH AND WILDLIFE SERVICE

Ecological Services
Nebraska Field Office
203 West Second Street
Grand Island, Nebraska 68801

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SEP 16 2004

OFFICE OF LOCATION & ENVIRONMENT

September 14, 2004

Ms. Lisa Rold
Federal Highway Administration
105 Sixth Street
Ames, IA 50010

RE: Draft Environmental Impact Statement, U.S. 34 Bellevue Bridge Study, Mills County, Iowa and Sarpy County, Nebraska, Project Number NHSX-34-1(63)-19-65

Dear Ms. Rold:

This is in regards to a Draft Environmental Impact Statement (DEIS) for the U.S. 34 Bellevue Bridge Study, Mills County, Iowa and Sarpy County, Nebraska, Project Number NHSX-34-1(63)-19-65, and a letter from Mr. James Rost of the Iowa Department of Transportation (IDOT) dated July 19, 2004, requesting comments on the document. The U.S. Fish and Wildlife Service (Service) has completed its review of the DEIS as requested, and provides the following comments. The Service previously provided comments about the proposed project in letters dated April 28, 2004; March 29, 2004; November 25, 2003; and April 16, 2003. The Service's March 29 letter provided extensive comments on a draft Biological Assessment (BA) for the proposed project.

In the DEIS, the Federal Highway Administration (FHWA), in coordination with the IDOT (FHWA/IDOT), has concluded that implementation of the preferred alternative (i.e., Alternative 3, the Southern Sarpy County Alternative) may affect, but is not likely to adversely affect the federally endangered pallid sturgeon (*Scaphirhynchus albus*) and threatened bald eagle (*Haliaeetus leucocephalus*). Further, the FHWA/IDOT has concluded that implementation of the preferred alternative would not adversely affect the federally endangered least tern (*Sterna antillarum*), or threatened piping plover (*Charadrius melodus*) and western prairie fringed orchid (*Platanthera praeclara*). The FHWA/IDOT also has concluded that the proposed project would not result in the destruction or adverse modification of federally designated critical habitat for the piping plover.

The Service continues to have concerns about impacts from the proposed project on federally listed species, especially for the pallid sturgeon and bald eagle, and these concerns have not been satisfactorily resolved during the section 7 consultation process pursuant to the Endangered Species Act of 1973 (87 Stat. 884, as amended; 16 U.S.C. 1531 *et seq.*). The Service has not rendered its written concurrence that the proposed project would have no adverse affect on federally listed species or designated critical habitat. Please note that pursuant to 50 CFR, Section 402.14 (a) Formal consultation is required if a proposed Federal project may affect federally listed species or designated critical habitat. The Service has not rendered its written concurrence that formal consultation is unnecessary under a "may affect, but no adverse affect" scenario pursuant to 50 CFR, Section 402.14 (b) Exceptions.

Thus, the Service requests that the FHWA/IDOT submit the final BA for the proposed project, which should provide supporting rationale for the above conclusions and have incorporated comments made in the Service's March 29 letter in regards to the draft BA, to this office for review and concurrence/nonconcurrency. Following our receipt of the BA, the Service will either concur/nonconcur with the FHWA/IDOT determination of affect, or request additional information, if necessary. Should the Service not concur with conclusions made in the BA, it may advise that FHWA/IDOT request initiation of formal consultation. The Service further recommends that the FHWA/IDOT avoid making any irretrievable or irreversible commitment of resources in support of the proposed highway construction project that may preclude the implementation of any reasonable and prudent alternatives or measures, or conservation measures until section 7 consultation with the Service is concluded.

The Service appreciates the opportunity to comment on the DEIS, and the involvement of the FHWA and IDOT in assuming a shared responsibility for protecting Federal trust fish and wildlife resources. Should you have any questions, please contact Mr. Robert Harms within our office at (308) 382-6468, extension 17.

Sincerely,


Steve Anschutz
Nebraska Field Supervisor

Cc: IDOT; Ames, IA (Attn: Jim Rost)
Corps; Omaha, NE (Attn: Matt Wray)
NGPC; Lincoln, NE (Attn: Julie Godberson)
FWS; Rock Island, IL (Attn: Heidi Woeber)
IDNR; Des Moines, Iowa (Attn: Keith Dohrman)

U.S. Department of
Homeland Security

United States
Coast Guard



Commander
Eighth Coast Guard District

1222 Spruce Street
St. Louis, MO 63103-2832
Staff Symbol: obr
Phone: (314)539-3900 Ext 2379
Fax: (314)539-3755
Email: bmclaren@cgstl.uscg.mil

16591.6/604.1 MO
September 7, 2004

RECEIVED

SEP 15 2004

Mr. Mark Snopek
Office of Location and Environment
Iowa Department of Transportation
800 Lincoln Way
Ames, IA 50010

OFFICE OF LOCATION & ENVIRONMENT

Subj: BELLEVUE REPLACEMENT BRIDGE, MILE 604.1, MISSOURI RIVER

Ref: BELLEVUE BRIDGE STUDY; MILLS COUNTY, IOWA; PROJECT NO. NHSX-34-1(63)-19-65)

Dear: Mr. Snopek:

We have reviewed the information provided in your letter of July 23, 2004. Figure 4-2A shows that a bridge is proposed to be placed across Papillion Creek, Sarpy County, Nebraska.

Pursuant to the Coast Guard Authorization Act of 1982 it has been determined that this is not a waterway over which the Coast Guard exercises jurisdiction for bridge administration purposes. A Coast Guard bridge permit is not required.

We appreciate the opportunity to comment on the project.

Sincerely,

A handwritten signature in black ink, appearing to read "RWiebusch".

ROGER K. WIEBUSCH

Bridge Administrator

By direction of the District Commander

U.S. Department of
Homeland Security

United States
Coast Guard



Commander
Eighth Coast Guard District

1222 Spruce Street
St. Louis, MO 63103-2832
Staff Symbol: obr
Phone: (314)539-3900 Ext 2379
Fax: (314)539-3755
Email: bmclaren@cgstl.uscg.mil

16591.1/604.1 MOR
August 13, 2004

RECEIVED

AUG 16 2004

Mr. James Rost
Director
Office of Location and Environment
Iowa Department of Transportation
800 Lincoln Way
Ames, IA 50010

OFFICE OF LOCATION & ENVIRONMENT

BELLEVUE BRIDGE REPLACEMENT, MILE 604.1, MISSOURI RIVER

Dear Mr. Rost:

This is in reply to your letter of July 13, 2004, requesting our review and comments of the enclosed preliminary Draft Environmental Impact Statement (DEIS).

The subjects outlined in our letter of May 6, 2003, have been included in the DEIS. The DEIS will now support an application for a Coast Guard Bridge Permit. However, one more change is recommended:

"Section 10 of the Rivers and Harbors Act of 1899 (USACE)" page 4-55, could lead the reader to believe that a Section 10 Permit is required for the bridge. Section 10 of the Rivers and Harbors Act of 1899 does not apply to bridges across navigable waters of the U.S. The Corps of Engineers has absolutely no jurisdiction over bridges across navigable waters of the U.S. and Section 10 permits for such are not appropriate. Section 9 of the same act is the only section applicable to bridges and permits under this section are the sole purview of the Coast Guard. Recommend that the first sentence be rewritten to read:

Section 10 of the Rivers and Harbors Act of 1899 requires authorization from USACE for the construction of any structure (except for bridges) in or over..." . (No other changes recommended for this paragraph.)

Please contact me at the above telephone number if you have questions regarding our comments or requirements.

Sincerely,

A handwritten signature in black ink that reads "Bruce L. McLaren".

BRUCE L. MCLAREN
Project Manager
By direction of the District Commander

FHWA/IA Div
FHWA/NE Div



United States Department of the Interior

FISH AND WILDLIFE SERVICE

Ecological Services
Nebraska Field Office
203 West Second Street
Grand Island, Nebraska 68801

RECEIVED

MAY 03 2004

April 28, 2004

OFFICE OF LOCATION & ENVIRONMENT

Mr. James Rost
Office of Location and Environment
Iowa Department of Transportation
800 Lincoln Way
Ames, IA 50010

RE: Agency Concurrence Point #3, U.S. 34 Bellevue Bridge Study, Mills County, Iowa and Sarpy County, Nebraska, Project Number NHSX-34-1 (63)-19-65

Dear Mr. Rost:

This is in regards to a letter, received by this office on April 19, 2004, requesting that the U.S. Fish and Wildlife Service (Service) concur with the set of alternatives carried forward, concurrence point #3, for the U.S. 34 Bellevue Bridge Study, Mills County, Iowa and Sarpy County, Nebraska, Project Number NHSX-34-1 (63)-19-65. The Service has reviewed the set of alternatives carried forward and concurs that they are satisfactory.

Should you have any questions regarding these comments, please contact Mr. Robert Harms within our office at (308) 382-6468, extension 17.

Sincerely,

Steve Anschutz
Nebraska Field Supervisor

cc: IDNR, Des Moines, IA (Attn: Keith Dohrman)
NGPC; Lincoln, NE (Attn: Frank Albrecht)
NDEQ; Lincoln, NE (Attn: John Bender)
EPA; Kansas City, KS (Attn: Joe Cothorn)
Corps; Omaha, NE (Attn: Mike Rabbe)



Iowa Department of Transportation

800 Lincoln Way, Ames, Iowa 50010

515-239-1225

Fax: 515-239-1726

Mr. John Cochnar
Acting Nebraska Field Supervisor
Fish and Wildlife Service
Ecological Services
Nebraska Field Office
203 West Second Street
Grand Island, NE 68801

RE: Agency Concurrence Point #3, U.S. 34 Bellevue Bridge Study, Mills County, Iowa and Sarpy County, Nebraska, Project Number NHSX-34-1(63)—19-65

Dear Mr. Cochnar:

The IDOT held a Concurrence Point 3 meeting on October 29, 2003 for the Bellevue Bridge Study. The purpose of the meeting was to reach concurrence on the Alternatives to be Carried Forward. Due to a scheduling conflict, staff from FWS was unable to attend. The minutes and material used for the presentation were forwarded to your office for review shortly thereafter. A special meeting was also held in February to review the Draft Biological Assessment. We appreciate you taking the time to attend along with several members of your staff. At this meeting it was our understanding that FWS was in concurrence with our Concurrence Point 3, Alternatives Carried Forward:

- No Build Alternative,
- South Offutt Alternative,
- Southern Sarpy County Alternative.

The Existing Alignment Alternative was dropped from further evaluation because it did not meet our Purpose and Need.

At this time, we ask that you provide a written concurrence for the Alternatives Carried Forward by signing this letter and returning the original for our Administrative Record. Thank you for your prompt response and your continued partnership throughout the life of this project.

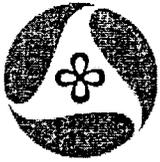
Sincerely,

A handwritten signature in black ink that reads "James Rost".

James Rost
Office of Location and Environment
Iowa Dept. of Transportation

Concur: _____ Date:
FWS Field Supervisor

Comments:



Iowa Department of Transportation

800 Lincoln Way
Ames, IA 50010

515-239-1225 FAX 515-239-1982

March 29, 2004

Mr. Steven G. Oltmans
Papio-Missouri River
Natural Resources District
8901 S 154th St.
Omaha, NE 68138-3621

Re: US 34 Bellevue Bridge Study

Dear Mr. Oltmans:

We appreciate the time and involvement the NRD has had in the above referenced project over the past several years. In reviewing correspondence from 1996 and more recently discussions we held during the agency scoping meeting on February 13, 2003 (both have been attached for your reference), we realized we had not yet responded to the NRD's comments regarding pedestrian accommodation over the proposed Missouri River Bridge Crossing alternatives.

The Project Management Team (PMT) has not selected a preferred alternative at this time. However, the PMT has discussed and it is our intent to provide pedestrian accommodation via paved shoulders on both of the alternatives currently being considered.

We anticipate having a Draft EIS ready for circulation by mid-summer 2004. We will be sure to keep you informed throughout the project development process. If in the future you'd like to discuss details of the project at more length, please feel free to call me at 515-239-1787.

Sincerely,

A handwritten signature in black ink, appearing to read "B. Hofer".

Brad Hofer, P.E.
Office of Location and Environment
Iowa Department of Transportation

cc: John Selmer - District 4
Scott Suhr - District 4
Matt Tondl - HDR



NEBRASKA STATE HISTORICAL SOCIETY

1500 R STREET, P.O. BOX 82554, LINCOLN, NE 68501-2554
(402) 471-3270 Fax: (402) 471-3100 1-800-833-6747 www.nebraskahistory.org

March 1, 2004

Mr. Leonard Sand, Program Manager
Planning and Project Development
Nebraska Department of Roads
1500 Hwy. 2, Box 94759
Lincoln, NE 68509-4759

RE: NH-34-1 (63), CN 21645, Bellevue Bridge Study, Sarpy County HP# 0307-093-01

Report review: *U.S. 34 Missouri River Crossing Between I-29 in Iowa and U.S. 75 in Nebraska Historical/Architectural Intensive-Level Survey & Evaluation: Missouri River to U.S. 75 in Nebraska*
Prepared by Jan Olive Nash, Tallgrass Historians L.C., November, 2003

Dear Mr. Sand:

We have reviewed the referenced document. In our opinion, then, no historic properties will be affected by this undertaking, and we have no objection the project proceeding as planned.

If you have any questions, please do not hesitate to call Bill Callahan at 471-4788. Thank you for this opportunity to comment.

Sincerely,

L. Robert Puschendorf
Deputy State Historic Preservation Officer
Nebraska State Historical Society

Cc: Ed Kosola
Melissa Dirr

K. Riesenbergs -
OLE -



Iowa Department of Transportation

800 Lincoln Way, Ames, Iowa 50010

515-239-1097
515-239-1726 FAX

February 18, 2004

Ref. No: NHSX-34-1(63)-19-65
Mills
Primary

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

R&C: 950865153 & 960200086

Dear Doug:

**RE: U.S. 34 Missouri River Crossing Between I-29 in Iowa and U.S. 75 in Nebraska
Phase I Archaeological Investigation – Missouri River to I-29 in Iowa**

Enclosed for your review is Phase I Archaeological Investigations for the above-mentioned federal-funded project. This project proposes a possible new Missouri River crossing for U.S. 34, in Mills County, Iowa. This study reviewed possible new routes for U.S. 34 and associated project corridors.

The area of potential impact encompasses three possible project corridors. The first, the North Corridor (Bellevue Corridor) is approximately 5 miles in length, with a maximum width of 2000 ft. The second, the South Corridor (Plattsmouth Corridor), measures approximately 3 miles in length with a maximum corridor width of 2000 ft. The third and final corridor examined, the Offutt Corridor, measures approximately 1.5 miles in length and has a maximum width of 2000 ft.

This archaeological investigation was conducted using an extensive archival / records search, along with pedestrian survey, soil probes, shovel and Seymour bucket-auger testing. During this survey, 12 new archaeological sites were identified. (Sites 13ML623 thru 13ML634) In addition, three previously reported archaeological sites were re-examined. (Sites 13ML164, 13ML599, and 13ML600)

Within the Bellevue Corridor, one previously recorded site, 13ML599 was re-examined. This site represents the former location of historic farmstead. This site was determined to be larger than first recorded, however, the site was determined to be not eligible for the National Register and no further work was recommended.

Newly discovered archaeological Sites 13ML623, 13ML628, and 13ML629 were determined to be the remains of fauna, found in a buried context. Sites 13ML624, 13ML625, 13ML626, 13ML627 were determined to be the remains of historic farmsteads.

Site 13ML626, the remains of historic farmstead / residence, was determined to have an intact foundation and potentially other intact features. Due to this, Site 13ML626 is recommended for additional investigations.

However, Site 13ML626 is located outside of the present project corridor and will not be impacted. The remaining newly discovered sites within the Bellevue Corridor were determined to be not eligible for the National Register and no further work was recommended for them.

Within the Plattsmouth Corridor, previously recorded archaeological site 13ML600, the remains of a historic farmstead, was re-examined. This site was previously determined to be not eligible and the current investigation supports this conclusion. The five newly discovered archaeological sites consist of historic scatters and the remains of former farmsteads. (Sites 13ML630, 13ML632, 13ML633, 13ML634, and 13ML631) None of these newly identified sites were determined eligible for the National Register and no further investigations were recommended for them.

Within Offutt Corridor, only one site was examined, Site 13ML164. This site represents archival location of the former town of St. Mary. This site was previously recorded, however, no archaeological evidence of this site was encountered within or immediately adjacent to the Offutt Corridor. It is recommended, however, that the main location of Site 13ML164, which is located south of the present corridor, be investigated if the corridor's alignment is ever changed and impacts this area.

Based on the findings of this Phase I archaeological investigations, *with the understanding that both Sites 13ML626 and 13ML164 will be avoided*, the determination is **No Historic Properties Affected**. If you concur with this determination, please sign the concurrence line below and return this letter. If you have any questions concerning this report or project, please feel free to contact me.

Sincerely,



Matt Donovan

Office of Location and Environment

Matt.Donovan@dot.state.ia.us

MJFD
Enclosure

cc: Kris Riesenber- Location and Environment / NEPA
Brad Hofer- Location and Environment / Location
John Selmer- District 4 Engineer
Adam Meseke- Project Archaeologist / Tallgrass Historians

Concur: _____ Date: _____

SHPO Archaeologist

Comments:

Bell Co
Bell Agency



NEBRASKA STATE HISTORICAL SOCIETY
1500 R STREET, P.O. BOX 82554, LINCOLN, NE 68501-2554
(402) 471-3270 Fax: (402) 471-3100 1-800-833-6747 www.nebraskahistory.org

January 16, 2004

Mr. Len Sand
Planning & Project Development
Nebraska Department of Roads
P. O. Box 94759
Lincoln NE 68509-4759

RE: Bellevue Bridge [NHSX-34-1 (63)], CN 21645

Dear Len:

This letter serves as a follow-up to various discussions we have had regarding the archeological study of the proposed Bellevue Bridge. The investigation is being completed to generate sufficient information to address archeological resource concerns in the environmental documents being prepared for the project and to satisfy Federal Highway Administration and Nebraska Department of Roads obligations under Section 106 of the National Historic Preservation Act. The goal of this study is to identify archeological sites along project corridors and determine if any are eligible for the *National Register of Historic Places*. Our portion of the study only involves archeological properties and only those on the Nebraska side of the Missouri River.

Fieldwork on this undertaking has been completed intermittently since the early 1990s and has resulted in the identification of seventeen (17) archeological sites in the project area (see attached table and map). All of these properties have been evaluated for their eligibility to the *National Register of Historic Places*. Only one site (25SY80) meets the minimum significance and integrity criteria for listing although that property is between two project alternates and it appears that it will not be impacted by project construction.

A report is being prepared for submission to the Nebraska State Historic Preservation Office (SHPO) seeking their concurrence. The report will provide treatment of field methods and survey design, description and *National Register* evaluation of all identified archeological properties, and recommendations for further action. We intend to have the report submitted by early February but wanted to provide you with this letter for your upcoming public hearings. We are of course interested in any archeological properties that come to light during the hearings.

Thank you for your patience and cooperation and please let me know if you need any additional information at this point.

Sincerely,

Rob Bozell
Associate Director

Attachments

cc: Brian Goss, HDR (Omaha)

Archaeological sites recorded within the Bellevue Bridge study area, Sarpy County, Nebraska.

SITE	CULTURAL		DESCRIPTION	PHYSICAL		SIGNIFICANCE	NATIONAL		RECOMMENDATION
	AFFILIATION			INTEGRITY			REGISTER ELIGIBLE		
25SY76	Native American: unassigned		Sparse scatter of chipped stone debris	Low	Low	No	No	No Further Work	
26SY77	Native American: unassigned		Sparse scatter of chipped stone debris	Low	Low	No	No	No Further Work	
25SY78	Native American: Late Prehistoric		Moderate scatter of FCR, chipped stone debris and tools, and one sheaf	Low	Moderate	No	No	No Further Work	
25SY79	Native American: unassigned		Sparse scatter of chipped stone debris and FCR	Low	Low	No	No	No Further Work	
25SY80	Native American: Middle-Late Archaic		Dense scatter of FCR, and chipped stone debris and tools	Moderate	High	Yes	Yes	No Further Work. Site will not be impacted.	
25SY89	Native American: unassigned		Sparse scatter of chipped stone debris	Low	Low	No	No	No Further Work	
25SY90	Native American: Early Archaic		One projectile and one piece of FCR	Low	Low	No	No	No Further Work	
25SY93	Native American: unassigned		Sparse scatter of chipped stone debris	Low	Low	No	No	No Further Work	
25SY94	Native American: unassigned		Sparse scatter of chipped stone debris	Low	Low	No	No	No Further Work	
25SY95	Native American: Late Prehistoric		Sparse scatter of chipped stone debris and FCR	Low	Low	No	No	No Further Work	
25SY97	Native American: unassigned		Sparse scatter of chipped stone debris	Low	Low	No	No	No Further Work	
25SY101	Native American: unassigned		Sparse scatter of chipped stone debris	Low	Low	No	No	No Further Work	
25SY111	Native American: unassigned and Euroamerican		Sparse scatter of chipped stone debris and Euroamerican debris	Low	Low	No	No	No Further Work	
25SY112	Euroamerican		Scatter of post 1900 debris	Low	Low	No	No	No Further Work	
25SY115	Native American: unassigned		Sparse scatter of chipped stone debris	Low	Low	No	No	No Further Work	
25SY347	Native American: unassigned		Sparse scatter of chipped stone debris	Low	Low	No	No	No Further Work	

K. Riesen berg - OLE

DEC 26 2003



Iowa Department of Transportation

800 Lincoln Way, Ames, Iowa 50010

515-239-1097

515-239-1726 FAX

December 26, 2003

Ref. No: NHSX-34-1(63)- -19-65

Mills

Primary

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

R&C: 960200086

Dear Ralph:

**RE: U.S. 34 Missouri River Crossing Between I-29 in Iowa and U.S. 75 in Nebraska
Intensive Historic / Architectural Survey – Missouri River to I-29 in Iowa**

Enclosed for your review is Historical / Architectural Intensive-Level Survey for the above-mentioned federal-funded project. This project proposes a possible new Missouri River crossing for U.S. 34, in Mills County, Iowa. This study reviewed possible new routes for U.S. 34 and associated project corridors.

The area of potential impact encompasses three possible project corridors. The first, the North Corridor (Bellevue Corridor) is approximately 5 miles in length, with a maximum width of 2000 ft. The second, the South Corridor (Plattsmouth Corridor), measures approximately 3 miles in length with a maximum corridor width of 2000 ft. The third and final corridor examined, the Offutt Corridor, measures approximately 1.5 miles in length and has a maximum width of 2000 ft.

This architectural / historic investigation was conducted using an extensive archival / records search, along with detailed inspections and black-and-white survey photographs. No properties within any of three corridors were evaluated as significant or eligible for the National Register of Historic Places.

Based on the findings of this architectural / historical investigation, the determination is **No Historic Properties Affected**. If you concur with this determination, please sign the concurrence line below and return this letter. If you have any questions concerning this report or project, please feel free to contact me.

Sincerely,

Matt Donovan

Office of Location and Environment

Matt.Donovan@dot.state.ia.us

MJFD

Enclosure

cc: Kris Riesenber- Location and Environment

John Selmer- District 4 Engineer

Jan Nash-Principal Investigator/Tallgrass Historians

Concur:

[Signature]
SHPO Historian

Date:

1/5/04

Comments:

U.S. Department of
Homeland Security

United States
Coast Guard



Commander
Eighth Coast Guard District

1222 Spruce Street
St. Louis, MO 63103-2832
Staff Symbol: obr
Phone: (314) 539-3900, x2382
Fax: (314) 539-3755
Email: dorzechowski@cgstl.uscg.mil

16591.1/587.5 & 604.1 MOR
December 18, 2003

Mr. Philip E. Rossbach
HDR Engineering
8404 Indian Hiss Drive
Omaha, NE 68114-4098

Subj: PROPOSED BELLEVUE AND PLATTSMOUTH BRIDGE REPLACEMENT,
MILE 587.5 & 604.1, MISSOURI RIVER

Dear Mr. Rossbach:

This is in reply to your letter of October 14, 2003, concerning proposed pier locations for the subject bridge replacement projects between mile 587.5 and 604.1, Missouri River.

The preferred alternative for the Plattsouth Bridge replacement is "Plattsouth Con 1" located about 300 feet downstream from the existing bridge. At this location the navigation channel runs along the right descending bank. For the Bellevue Bridge replacement, the preferred alternative is "Bellevue Con 5" located at mile 598.5. The navigation channel at this location tends to run along the right descending side.

The right channel span pier for all alternatives considered shall be placed on the right descending bank. The left channel span pier for alternatives Plattsouth Con 1, Plattsouth Con 5 and Bellevue Con 5 shall be placed so as to provide a minimum horizontal clearance of 450.0 feet. The resulting minimum horizontal clearance of 450.0 feet and a vertical clearance of 52.0 feet above the 2% flow line in each of the navigation channel spans would reasonably meet the needs of navigation. Alternative Bellevue Con 1 may require a greater horizontal clearance due to its location on a river bend. Additional pier locations will require further review by this office.

We appreciate the opportunity to comment on these projects in the early stages. You can contact Mr. David Orzechowski at the above telephone number if you have questions regarding our comments or requirements.

Sincerely,

A handwritten signature in black ink, appearing to read "R. Wiebusch".

ROGER K. WIEBUSCH

Bridge Administrator

By direction of the District Commander

Enclosure: Large Scale Graphics

P.F.
DEC 01 2003

Ed
Abe

Justin



United States Department of the Interior

FISH AND WILDLIFE SERVICE

Ecological Services
Nebraska Field Office
203 West Second Street
Grand Island, Nebraska 68801

November 25, 2003

Mr. James Rost
Office of Location and Environment
Iowa Department of Transportation
800 Lincoln Way
Ames, IA 50010

RE: Agency Concurrence Point #3, U.S. 34 Bellevue Bridge Study, Mills County, Iowa and Sarpy County, Nebraska, Project Number NHSX-34-1(63)-19-65

Dear Mr. Rost:

This responds to the Agency Concurrence Point meeting held on October 29, 2003 for the U.S. 34 Bellevue Bridge Study, Mills County, Iowa and Sarpy County, Nebraska, Project Number NHSX-34-1(63)-19-65. The range of alternatives under consideration for replacement of the Bellevue bridge include: a) Improvements to the Existing Corridor; b) South of Offutt Air Force Base (AFB) Corridor; and c) Southern Sarpy County Corridor. The U.S. Fish and Wildlife Service (Service) concurs with the *range* of alternatives that are currently under consideration, but continues to have concerns about those alternatives which propose new bridges and alignments in the vicinity of the Missouri and Platte rivers confluence.

The Service recommends that the Federal Highway Administration (FHWA) and Iowa Department of Transportation (IDOT) select alternative a) Improvements to the Existing Corridor. The other alternatives, which propose construction of new bridges and alignments across the Missouri River floodplain in the vicinity of the Platte and Missouri rivers confluence, have the potential to adversely affect and hinder the recovery of the federally endangered pallid sturgeon (*Scaphirhynchus albus*). The confluence of the Platte and Missouri rivers consists of habitat attributes (e.g., foraging and potential spawning habitats) necessary for the recovery of the pallid sturgeon and, as such, this area has been designated by the Pallid Sturgeon Recovery Team as a Recovery Priority Management Area and identified in the species' recovery plan (U.S. Fish and Wildlife Service 1993). This area also provides important wintering habitat for the federally threatened bald eagle (*Haliaeetus leucocephalus*). Rather than reiterating the details of our April 16, 2003, letter about potential impacts of the proposed project on Federal trust resources, we have enclosed it for your reference.

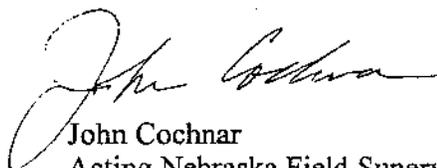
Failure to adequately address the concerns outlined in our April 16 letter for this proposed project until the need to obtain a Department of the Army (DA) permit from the Corps could result in project delays. You should be aware that the Service considers the FHWA, and not the U.S. Army Corps of Engineers (Corps), the lead Federal agency for this proposed project. As such, the FHWA is responsible for compliance with all Federal laws, regulations, and executive orders associated with this proposed project. Such compliance would be accompanied by resource avoidance and minimization, compensation, and mitigation strategies to offset adverse impacts that will certainly accompany construction and operation of this proposed project. Such impacts and resolution strategies will need to be outlined in Environmental Assessments and Impact Statements pursuant to the National Environmental Policy Act (NEPA) (42 U.S.C. 4321-4347) and a Biological Assessment for the proposed project pursuant to the Endangered Species Act (ESA) of 1973 (87 Stat. 884, as amended;

12/1/03 JC

16 U.S.C. 1531 *et seq.*) well in advance of the need to obtain a DA permit for this project. Mr. Robert Harms of our office has spoken with Mr. Matt Wray of the Corps in regards to this matter. The Corps also views the FWHA as the lead Federal Agency and prefers that impacts and avoidance and minimization strategies, compensation, and mitigation be identified and resolved under NEPA and ESA well in advance of the need to obtain the DA permit.

The Service appreciates the opportunity to comment on concurrence point #3. However, we recommend that you discuss the above with Ms. Becky Hiatt, designated FHWA representative for Iowa, and apprise the Service of progress made towards addressing the concerns outlined in our April 16 letter, including FHWA's responsibilities under ESA. We would be willing to meet with representatives of the FHWA and IDOT to discuss the above concerns, and provide additional information and technical assistance, if necessary. Should you have any questions, please contact Mr. Robert Harms within our office at (308) 382-6468, extension 17.

Sincerely,



John Cochnar
Acting Nebraska Field Supervisor

Enclosure

REFERENCES

U.S. Fish and Wildlife Service. 1993. Recovery Plan for the Pallid Sturgeon (*Scaphirhynchus albus*). Region 6, U.S. Fish and Wildlife Service.

cc: FHWA; Lincoln, NE (Attn: Becky Hiatt)
IDOT; Ames, IA (Attn: Kevin Griggs)
IDOT; Ames, IA (Attn: DeeAnn Newell)
Corps; Omaha, NE (Attn: Matt Wray)
EPA; Kansas City, KS (Attn: Joe Cothorn)
FWS; Rock Island, IL (Attn: Heidi Woeber)
IDNR; Des Moines, Iowa (Attn: Chris Schwake)
NDEQ; Lincoln, NE (Attn: John Bender)
NGPC; Lincoln, NE (Attn: Carey Grell)
FHWA; Lincoln, NE (Attn: Ed Kosola)
NDOR; Lincoln, NE (Attn: Len Sand)



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION VII
901 NORTH 5TH STREET
KANSAS CITY, KANSAS 66101

AUG 15 2003

RECEIVED

AUG 18 2003

OFFICE OF LOCATION & ENVIRONMENT

Ms. DeeAnn Newell
Iowa Department of Transportation
800 Lincoln Way
Ames, Iowa 50010

Dear Ms. Newell:

RE: Environmental Protection Agency (EPA) Concurrence on Points 1 and 2 for the Iowa NEPA/404 Merge Process - Bellevue Bridge Study

This letter is to confirm EPA's agreement with the draft purpose and need (point 1) and range of alternatives (point 2) that were discussed during the July 29, 2003 scoping meeting for the Bellevue Bridge Study. Please include our response in the final minutes for the meeting.

Thank you once again for allowing us to be involved in the early coordination stages of this project. If you have any questions or need any technical assistance regarding NEPA, you can reach me at 913-551-7805.

Sincerely,

Nicholas P. Rocha
NEPA Reviewer
Environmental Services Division

Mrs. DeeAnn Newell
Iowa Department of Transportation
800 Lincoln Way
Ames, Iowa 50010

RE: EPA Comments for the Bellevue Bridge Study Agency Concurrence Meeting and 2 on July 28, 2003.

Dear Mrs. Newell:

This letter is in response to our phone conversation on July 28, 2003 regarding concurrence on the draft purpose and need, and range of alternatives for the Bellevue Bridge Study. Since the EPA was not able to attend the July 28th scoping meeting, we would like to provide documentation of the issues were discussed in our conversation.

- 1) EPA noted that the documentation was unclear on the viability of a "build on existing alignment" alternative. The EPA believes that it would be beneficial to have the replacement of the existing bridge (on current alignment) as a separate alternative from "Improvements to the Existing Corridor".
- 2) The EPA would also like to make mention of a proposed U.S. Corps of Engineer's Platsmouth Chute Project and the potential for cumulative effects impact with the "Southern Sarpy Corridor new alignment" on the Schilling Wildlife Management Area. The Platsmouth Chute Project plans to excavate 75,000 cubic yards to direct flow from the mouth of the Platte River, down a historic channel, to a new outlet located near the Missouri River mile 592.5. The intention of the project is to restore backwater aquatic habitat along the Missouri River. The point of contact for this project is Mr. Steven C. Rothe with the U.S. Army Corps of Engineers, Omaha District.
- 3) EPA notes a high number of new bridge re-alignments proposed in Western Iowa and Eastern Nebraska. EPA recommends that IDOT make note of these projects to assess the need for analysis for cumulative effects of sediment entrainment into the Missouri River.

Thank you for the opportunity to make comment early-on in this environmental review. If you have any questions please call me at 913-551-7805.

Sincerely,

Nicholas P. Rocha
NEPA Reviewer
Environmental Services Division

PAPPIO-MISSOURI RIVER
NATURAL
RESOURCES
DISTRICT



8901 S. 154TH ST.
OMAHA, NE 68138-3621
(402) 444-6222
FAX (402) 895-6543

August 13, 2003

Mr. Brian Goss
HDR Engineering
8404 Indian Hills Drive
Omaha, NE 68114

RE: Bellevue Bridge Study
R-613/R-616 Levee Systems and Bellevue Loop Trail

Dear Mr. Goss:

This letter is in response to your letter of August 7, 2003 and enclosed maps dated August 2003. Enclosed for your information are copies of NRD levee plans and ROW maps for the referenced projects, which will likely be impacted by the new roadway/bridge. The District also owns the land between the levee and Missouri River as shown in pencil on Plates B-32 and 33. When you have established a particular route we would like to meet to discuss the various issues such as floodplain impacts, flood control/trail facilities impacts and access.

If you have any questions, please contact me.

Sincerely,

A handwritten signature in black ink, appearing to read 'Martin P. Cleveland'.

Martin P. Cleveland, P.E.
Construction Engineer

Enclosure

CC: Marlin Petermann, Paul Woodward and Gerry Bowen, NRD
Denny Hilfiker, City of Bellevue

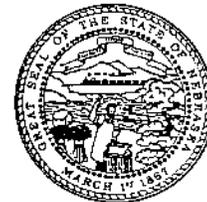
R61330 File: 526

STATE OF NEBRASKA

DEPARTMENT OF ROADS

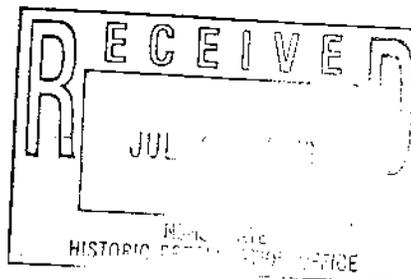
John L. Craig, Director
9 Highway 2
Box 94759
Lincoln NE 68509-4759
Phone (402)471-4567
FAX (402)479-4325
www.dor.state.ne.us

July 23, 2003



Mike Johanns
Governor

L. Robert Puschendorf
Deputy State Historic Preservation Officer
Nebraska State Historical Society
1500 "R" St
PO Box 82554
Lincoln NE 68501



Re: Bellevue Bridge, Sarpy County, Nebraska
Highway N-370 over the Missouri River
Structure No. S370 01918

Attn: Bill Callahan

0307-093-01

A historic evaluation of this bridge was completed by Camilla Deiber, Architectural Historian, Louis Berger Group, Marion, Iowa. This report was prepared for the Iowa Department of Transportation (dated November 26, 2002) and a copy is attached. The evaluation determined that the structure was not eligible for listing on the National Register of Historic Places.

Your concurrence in this determination is requested.

Thank you for your assistance.

Sincerely,

A handwritten signature in cursive script, appearing to read "Leonard J. Sand".

Leonard J. Sand
Environmental Program Manager
Nebraska Department of Roads

LJS/D3-A1

Attachment

CONCUR

A handwritten signature in cursive script, appearing to read "L. Robert Puschendorf".

DEPUTY STATE HISTORIC PRESERVATION OFFICER

DATE: 8/19/03



Iowa Department of Transportation
TRIBAL NOTIFICATION

Date MAY 14, 2003 IA DOT contact Matt DOHOVAN
DOT project # NHSX-034-1(63)--3H-65 Phone # 515-239-1097
Location Mills County, Iowa E-mail matt.dohovan@dot.state.ia.us
Description U.S. 34 Bellevue Bridge Project Study

Type of Project (see map)

- VERY SMALL - Disturb less than 12 inch depth (plow zone)
- SMALL - Grading on existing road, shouldering, ditching, etc.
- SMALL - Bridge or culvert replacement
- LARGE - Improve existing road from 2-lanes to 4-lanes
- LARGE - New alignment
- OTHER major bridge

Type of Coordination/Consultation Points

- 1--Early project notification (project map and description)
- 2--Notification of survey findings (Phase I)
- 2a--Notification of site evaluation (Phase II)
- 3--Consultation regarding site treatment
- 4--Final Data Recovery Report

Type of Findings

- No American Indian sites found
--Section 106 Consultation Process ends *
- No significant American Indian sites eligible for National Register listing found--Section 106 Consultation Process ends *
- Avoided American Indian sites eligible for National Register listing (see map and list of sites)
--Section 106 Consultation Process may or may not end
in the event of a late discovery consultation will be reopened
- Potentially significant American Indian sites found
Phase II evaluation conducted (see map and list of sites)
- American Indian sites eligible for National Register listing cannot be avoided (see map)
- Burial site found
- # of non-significant prehistoric sites
- # of potentially significant prehistoric sites
- # of National Register eligible prehistoric sites

Affected National Register Properties

- Investigating avoidance or minimizing harm options
- Avoided
- Protected
- Data Recovery/MOA

***** Please Respond *****

Who should we contact for site/project related discussions?
DAVID SMITH Box 270 LPTC WINNEBAGO NE 68001
Name Street Address City, Zip Code
402-828-3313 dsmith@lptc.bia.edu
Phone E-mail

Do you know of any sensitive areas within or near the project the FHWA/DOT should avoid (please describe)? NO

- Thank you for the information; however, we do not need to consult on this particular project.
- We do not have a comment at this time but request continued notification on this project.
- Please send a copy of the archaeology report.
- Thank you for the information. We are satisfied with the planned site treatment.
- We have concerns and wish to consult.
- We wish to participate in the Memorandum of Agreement for this project.

Comments The Winnebago Tribe of NE has no sacred sites or Cultural Properties on the proposed construction project.
David Smith Cultural Preservation Officer 5-29-03
Name Tribal Name Date

U.S. Department of
Homeland Security

United States
Coast Guard



Commander
Eighth Coast Guard District

1222 Spruce Street
St. Louis, MO 63103-2832
Staff Symbol: obr
Phone: (314)539-3900 Ext 2379
Fax: (314)539-3755
Email: brnclaren@cgstl.uscg.mil

16591.1/604.1 MOR
May 6, 2003

Mr. James Rost, Director
Office of Location and Environment
Iowa Department of Transportation
800 Lincoln Way
Ames, IA 50010

Subj: BELLEVUE BRIDGE REPLACEMENT, MILE 604.1, MISSOURI RIVER

Dear Mr. Rost:

This is in reply to your letter of March 27, 2003, inviting us to act as a Cooperating Agency during the National Environmental Policy Act (NEPA) documentation phase of the above project. Our specific interest in this project is the possible impact to navigation on the Missouri River presented by the construction and operation of a new bridge.

We agree to serve as a Cooperating Agency for the project from the navigational standpoint. To adequately support an application for a Coast Guard Bridge Permit, our recommendations for the NEPA document are:

- a. Title page: Ensure that the U.S. Coast Guard is shown as a Cooperating Agency.
- b. Table of Contents where impacts are listed:
 - (1) Include a section entitled Navigational Impacts.
 - (2) Include a section entitled Bridge Impacts.
- c. Text of the document, under Impacts: Include a section entitled Navigational Impacts and another section entitled Bridge Impacts.
 - (1) In the Navigational Impacts section, discuss the impacts upon navigation caused by the new bridge. Use enclosure (1) for a list of items to be considered for discussion.
 - (2) In the Bridge Impacts section, discuss the impacts the bridge will have upon the items listed in enclosure (2). Limit the discussion to only those impacts between the two bridge abutments. The list is provided as a guide only; it is not intended that you complete the form and return it.
 - (3) Enclosure (3) is an example of a Navigational and Bridge Impacts discussion.

BELLEVUE BRIDGE REPLACEMENT, MILE 604.1,
MISSOURI RIVER

16591.1/604.1 MOR
May 6, 2003

We appreciate the opportunity to comment on the project in this early stage. Please contact me at the above telephone number if you have questions regarding our comments or requirements.

Sincerely,



BRUCE L. MCLAREN

Project Manager

By direction of the District Commander

Enclosures: (1) Navigation Evaluation
(2) Environmental Assessment
(3) Sample Navigational and Bridge Impacts discussion

FHWA/IA Div
FHWA/NE Div

NAVIGATION EVALUATION

The following subjects should be considered when gathering data concerning possible bridge impacts upon navigation.

1. Descriptions of any vessels engaged in emergency operations, national defense activities, or channel maintenance operating on the waterway.
2. Descriptions of present and prospective recreational navigation.
3. Descriptions of the present and prospective commercial navigation and the cargoes moved on the waterway.
4. Descriptions of local service facilities (i.e., repair shops, parts distributors, fuel stations) to which access might be blocked by the proposed bridge.
5. Descriptions of alternate routes, bypassing the proposed bridge, available for use by vessels unable to pass the proposed bridge.
6. Descriptions of any local harbors of refuge to which entry might be prohibited by the proposed bridge.
7. Descriptions of any river bends within one-half mile of the proposed bridge.
8. Descriptions of any other factors (i.e., dockages, lightering areas, existing bridges, etc.) located within one-half mile of the proposed bridge which would create hazardous passage through the proposed structure.
9. Descriptions of any hydrologic conditions (i.e., wave chop, cross currents, shoals, etc.) which might increase the hazard of passage through the proposed bridge.
10. Descriptions of local atmospheric conditions (i.e., strong prevailing winds, fog, rapidly developing storms, etc.) that might increase the hazard of passing through the proposed structure.
11. Descriptions of any other factors considered necessary for the safe, efficient passage of vessels through the proposed bridge which might be impacted by the structure.

ENCLOSURE

ENVIRONMENTAL ASSESSMENT

Bridge Name: _____

Location: _____ Permit Number: _____

ENVIRONMENTAL IMPACTS

Subject	None	Minor	Signif.	Chapter, Page, Verse
Fish and Wildlife				
Endangered Species				
Wildlife				
Wetlands				
Water Quality				
Water Body Modification				
Public Water Supply				
Floodplains				
Navigation/Coast Guard				
Atmospheric Quality				
Noise Levels				
Education/Scientific				
Archeological				
Historical/Architectural				
Recreation				
Visual Impacts				
Land Use Impacts				
Hazardous Waste/Landfills				
Prime Farmland				
Energy Resources				
Social				
Economic				
Relocates				
Construction Impacts				

Remarks: _____

Signature of Evaluator: _____ Date: _____

ENCLOSURE(2)

APR 24 2003



Iowa Department of Transportation

800 Lincoln Way, Ames, Iowa 50010-6993 515-239-1215, FAX 239-1726

April 22, 2003

RECEIVED

SEP 04 2003

OFFICE OF LOCATION & ENVIRONMENT

Ref.No. NHSX-34-1(63)--19-65
Mills County, IA
DPS-34-7(114)
Cass & Sarpy Counties, NE

R&C# 950865153
Assoc. R&C# 960200086
NE HP#9505-025-01

Mr. Ralph Christian
Review and Compliance
Bureau of Historic Preservation
State Historical Society of Iowa
600 East Locust
Des Moines, IA 50319-0290

Dear Ralph:

RE: FHWA Bridge#036100, over Missouri River in Section 11, T73N-R44W

Enclosed is an evaluation of the Bellevue Bridge which carries Iowa Highway 370 across the Missouri River to Bellevue, Nebraska. The bridge, constructed in 1951-52, is a late example of long span, steel truss bridge construction - a cantilevered Warren through truss. At least four structures of this type were constructed over the Missouri River between 1934 and 1952. This structure is a toll bridge owned by the Bellevue Bridge commission.

Research documented in the enclosed report found that the structure does not meet the significance standards under National Register Criterion A, B, or C and it is not eligible for listing on the National Register. Two earlier examples, the South Omaha Bridge and the Brownville Bridge are listed on the National Register of Historic Places.

The Iowa DOT proposes a new four-lane highway for US 34 which would extend directly west and north from the current US 34 interchange (No.35) at Interstate 29 near Pacific Junction. A new bridge across the Missouri River and a connection to US 75 south of Bellevue, Nebraska would be constructed. Present US 34 runs concurrent with I-29 from interchange No.35 south three miles to interchange No.32 and then continues west across the river to Plattsmouth, Nebraska.

April 22, 2003

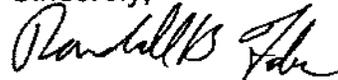
Iowa 370 is not a major transportation route. It is an east/west connector for US275 and Interstate 29 in Iowa and US 75 in Nebraska. It would likely be transferred to local jurisdiction. A decrease in traffic on the bridge could result in closing and removal of the structure.

The Nebraska Department of Roads (NDOR) proposes a separate project to reconstruct present US34 west from I-29 to US75. The Nebraska project would replace the historic Plattsmouth Bridge, FHWA #035690, and construct a new bypass route south of Plattsmouth. Section 106 and NEPA studies for this project will be completed by NDOR.

Additional studies to identify and evaluate other historic properties which may be affected by both projects are scheduled and reports on findings on the Iowa side of the river will be sent for your review at a later date. Since the south project will be planned, designed, and constructed by NDOR, we propose that the Nebraska SHPO take primary review responsibilities for the effects of their project on the NRHP listed Plattsmouth bridge. A separate letter of agreement for IASHPO/NESHPO responsibilities regarding these projects is enclosed for Lowell's signature. We will then forward it Nebraska SHPO signature.

With this letter, we are only requesting your concurrence that the Bellevue Bridge is not eligible for listing on the National Register of Historic Places. If you can agree, please indicate by your signature below.

Sincerely,



Randall B. Faber
Office of Location and
Environment

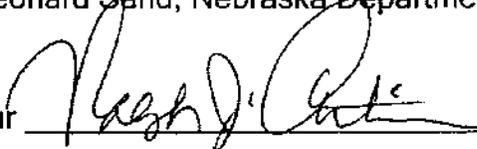
randall.faber@dot.state.ia.us

RBF:

Enclosure

cc: John Selmers, District 4, Iowa Department of Transportation
Lisa Rold, Federal Highway Administration
Lisa Dirr, Nebraska State Historical Society
Leonard Sand, Nebraska Department of Roads

Concur



Date

5/24/03

Comments:



Iowa Department of Transportation

APR 24 2003

800 Lincoln Way, Ames, Iowa 50010-6993 515-239-1215, FAX 239-1726

April 22, 2003

Ref. No. NHSX-34-1(63)-19-65
Mills County, IA
DPS-34-7(114)
Cass & Sarpy Counties, NE

Dr. Lowell Soike
Deputy Iowa SHPO
Historic Preservation
State Historical Society of Iowa
600 East Locust
Des Moines, IA 50319

Ms. Melissa Dirr
Project Review & Preservation Services
Nebraska State Historical Society
PO Box 82554
1500 R Street
Lincoln, NE 68501-2554

Dear Ms. Dirr and Dr. Soike:

RE: Definition of Roles:

FHWA Bridge #036100, over Missouri River in Section 11, T73N-R44W
and Bridge #035690, over Missouri River in Section 26, T72N-R44W

The Iowa Department of Transportation and the Nebraska Department of Roads propose to construct new highway crossings of the Missouri River replacing those that currently carry US 34 from Plattsmouth and Iowa 370 from Bellevue in Nebraska to connect with highways in Iowa. The Iowa DOT and Iowa Division Office of the Federal Highway Administration (FHWA) are lead agencies for the planning, design, and construction of improvements to the northern crossing to Bellevue. The Nebraska Department of Roads and Nebraska Division of the Federal Highway Administration will lead the planning, design, and construction for the southern route at Plattsmouth.

These actions may affect properties on or eligible for listing on the National Register of Historic Places. In accordance with the regulations of Section 106 of the National Historic Preservation Act, the Iowa State Historic Preservation Officer (IASHPO) and Nebraska State Historic Preservation Officer (NESHPO) agree that each will retain Section 106 review responsibilities for areas of these projects within their respective jurisdictions.

NHSX-34-1(63)--19-65, Mills County, IA
DPS-34-7(114), Cass & Sarpy Counties, NE
Page 2
April 22, 3003

For properties which span the state line (Missouri River bridges), the IASHPO and NESHPO also agree that the NESHPO will take Section 106 Review and Compliance responsibility for project effects upon the NRHP listed Plattsmouth Bridge and the IASHPO will take Review and Compliance responsibility for the IA370/Bellevue bridge.

To signify that your agency is in accord with this definition of roles, please sign the concurrence line below. If you have any questions, please do not hesitate to contact me.

Sincerely,

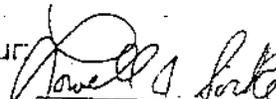


Randall B. Faber
Office of Location and Environment
randall.faber@dot.state.ia.us

RBF:

Enclosure

cc: Lisa Rold, Iowa Division, Federal Highway Administration
Nebraska Division, Federal Highway Administration

Concur  April 24, 2003  5/7/03
IASHPO Date NESHPO Date
IA SHPO R&C# 950865153 NE HP #9505-025-01



United States Department of the Interior

FISH AND WILDLIFE SERVICE

Ecological Services
Nebraska Field Office
203 West Second Street
Grand Island, Nebraska 68801

April 16, 2003

Mr. Brian Goss
HDR Engineering, Inc.
8404 Indian Hills Drive
Omaha, NE 68801

Dear Mr. Goss:

This is in regard to your March 18, 2003, request for comments from the U.S. Fish and Wildlife Service (Service) about the proposed Plattsmouth and Bellevue Bridges over the Missouri River located southeast of Plattsmouth in Cass County and east of Bellevue in Sarpy County, Nebraska. The following preliminary comments specifically address the proposed Bellevue Bridge project. The Service will be providing, under separate cover, comments to the Federal Highway Administration (FHWA) in response to a Notice of Intent for rehabilitation/replacement and roadway study project for the US-34 Plattsmouth Bridge over the Missouri River. On February 13, 2003, a Service representative attended a project scoping meeting held by the FHWA, Nebraska Department of Roads, and the Iowa Department of Transportation (IDOT) at HDR offices in Omaha, Nebraska to represent Service fish and wildlife concerns.

The FHWA/IDOT has developed two potential alternatives for the Bellevue bridge crossing including: a) rehabilitate the existing bridge on existing highway alignment and b) construct a new bridge on new highway alignment. The FHWA/IDOT plans to prepare an Environmental Impact Statement (EIS) for the proposed project.

We recommend that the FHWA/IDOT consider the following in the preparation of the EIS and the Biological Assessment (BA) for the proposed project. The EIS and BA should include detailed descriptions of the direct, indirect, and cumulative effects associated with the proposed project, and mitigatory and compensatory measures to offset such affects. We further request that we be kept apprised of progress in the development of the proposed project and provided the opportunity to provide future review and comment on the EIS.

AUTHORITY

The following comments are intended to assist the Federal action agency and its consultants in their planning efforts and are provided as technical assistance to ensure the protection of Federal trust fish and wildlife resources, including federally listed species pursuant to the Endangered Species Act (ESA) of 1973 (87 Stat. 884, as amended; 16 U.S.C. 1531 *et seq.*). Further, these comments do not constitute a report by the Secretary under the Fish and Wildlife Coordination Act (48 Stat. 401; 16 U.S.C. 661 *et seq.*), nor does it absolve Federal agencies from meeting their responsibilities under Section 7 of ESA. The Service participates in scoping and review of actions significantly affecting the quality of the environment under authority of the National Environmental Policy Act (NEPA) (42 U.S.C. 4321-4347). Additionally, the Service has authorities under several other legislative, regulatory, and executive mandates to promote conservation of fish and wildlife resources for the benefit of the public.

The Service has special concerns for migratory birds, endangered and threatened species, and other important fish and wildlife resources. We also are concerned about any direct and indirect impacts on Federal and State wildlife refuges and management areas and other public lands, and other areas that support sensitive habitats. Habitats frequented by important fish and wildlife resources include wetlands, streams, and riparian (streamside) forests and woodlands. We give special attention to proposed developments that propose modification of wetlands, or stream alteration, or could result in

contamination of important habitats. The Service recommends ways to avoid, minimize, rectify, reduce, or compensate for damaging impacts to important fish and wildlife resources and their habitats that may be attributed to land and water resource development proposals, including the proposed Bellevue Bridge project.

FEDERALLY LISTED SPECIES AND DESIGNATED CRITICAL HABITAT

Pursuant to Section 7 of ESA, every Federal agency, in consultation or conference with the Service, is required to ensure that any action it authorizes, funds, or carries out is not likely to jeopardize the continued existence of any Federally listed or proposed species and/or result in the destruction or adverse modification of designated and/or proposed critical habitat. In accordance with Section 7(a)(2) of ESA, the Federal agency should determine if any federally listed/proposed threatened or endangered species and/or designated/proposed critical habitat would be directly and/or indirectly affected by the proposed project. The assessment of potential impacts (direct and indirect) must include an "affect" or "no effect" determination and be presented to the Service in writing. If the Service agrees with the determination made by the Federal agency, this office would provide a letter of concurrence. If federally listed/proposed species and/or designated/proposed critical habitat would be adversely affected by the proposed project, the federal agency will need to formally request further Section 7 consultation with the Service prior to making any irretrievable or irreversible commitment of federal funds (Section 7 (d) of ESA), or issuing any federal permits or licenses.

Based on the information received, the Service has determined that the following federally listed species may occur in the proposed project area or be affected by the proposed project:

<u>Listed Species</u>	<u>Expected Occurrence</u>
Bald eagle (<i>Haliaeetus leucocephalus</i>)	Migration, nesting, wintering
Pallid sturgeon (<i>Scaphirhynchus albus</i>)	Feeding, potential spawning, migration

Bald Eagle

The bald eagle, federally listed as threatened, nests, migrates, and winters statewide. Bald eagles utilize mature, forested, riparian areas near rivers, streams, lakes, and wetlands and occurs along all the major river systems in Nebraska. The bald eagle southward migration begins as early as October and the wintering period extends from December-March. Bald eagles nest in Nebraska from mid-February through mid-August and observations of nesting eagles are becoming more common than in the past. It is unknown if bald eagles nest in the vicinity of the proposed project site. For this reason, we recommend that a survey for nesting bald eagles be conducted approximately 1-mile upriver and downriver from the proposed project site. Should nesting bald eagles be found, disturbances should not occur within 0.5-mile or in line of sight of the nest while the nest is occupied. Disturbances within 0.5-mile of an active nest or within line-of-sight of the nest could cause adult eagles to discontinue nest building or to abandon eggs. Wintering bald eagles are abundant in the area of the Missouri and Platte rivers, and are associated with open water and forested corridors that provide feeding, perching, and roosting habitats. The frequency and duration of bald eagle use of these habitats in the winter depends upon ice and weather conditions. Human disturbances and loss of bald eagle wintering habitat composed of a relatively narrow forested corridor along the river can cause undue stress leading to cessation of feeding and failure to meet winter thermoregulatory requirements. Wintering and nesting bald eagles may be unable to move to habitats elsewhere as such narrow forested habitats along the Missouri River may be either at or exceed their carrying capacities.

In consideration of the above concerns, we recommend that disturbance to the narrow forested riparian corridor along the Missouri River for construction of a bridge be kept to an absolute minimum. That which cannot be avoided should be restored through plantings of native forest vegetation and active management, and then be placed under permanent protection through purchase of the land by fee title or purchase of a conservation easement. Preferably, such a restoration site should be located along the

Missouri River where riparian corridor is otherwise lacking.

Pallid Sturgeon

Pallid sturgeon, federally listed as endangered, are known to occur in the Missouri and lower Platte rivers in Nebraska. Floodplains, backwaters, chutes, sloughs, islands, sandbars, and main channel waters formed the large-river ecosystem that provided macrohabitat requirements for the pallid sturgeon, a species that is associated with diverse aquatic habitats. These habitats historically were dynamic and in a constant state of change due to influences from the natural hydrograph, and sediment and runoff inputs from an enormous watershed spanning portions of ten States and Canada. Navigation, channelization and bank stabilization, and hydropower generation projects have caused the widespread loss of this diverse array of dynamic habitats once provided to pallid sturgeon on the Missouri River, resulting in a precipitous decline in populations of the species. You should be aware that the proposed Bellevue Bridge project is located within one of 6 Recovery-Priority Management Areas (RPMA) designated for the pallid sturgeon in the Mississippi and Missouri river basin in its recovery plan (USFWS 1993). The RPMA is located at the confluence of the Platte and Missouri rivers and extends 20 miles upstream and downstream. The RPMAs were selected based upon the most recent records of occurrences of, and the probability that these areas still provide suitable habitat for the pallid sturgeon and have significant potential to contribute to the restoration and recovery of the species. These areas are typically the least degraded and have the greatest habitat diversity, and in some reaches still exhibit a natural channel configuration of sandbars, side channels, and varied depths. The confluence areas of major tributaries, such as the Platte River were emphasized in selecting RPMAs because of their importance in providing feeding and nursery habitats for the pallid sturgeon.

The new Bellevue Bridge on new highway alignment alternative has the potential to have significant adverse direct and indirect effects on the pallid sturgeon through loss of existing and restorable habitats and modifications to nutrient and sediment cycling. Further, the U.S. Army Corps of Engineer's Bank Stabilization and Navigation Project (BSNP) from Sioux City, Iowa to St. Louis, Missouri, and its associated river training structures segment from Ponca, Nebraska to Sioux City, Iowa already has resulted in extensive losses of riverine and riparian habitat along the Missouri River, and the functions and processes that cyclically create, maintain, and destroy such dynamic habitats. The BSNP and river training segment has likely exacerbated the localized negative affects of nearly every bridge and its associated floodplain embankment on the Missouri River from Ponca, Nebraska to St. Louis, Missouri, and would also likely contribute to the negative affects of the proposed new Bellevue bridge and highway alignment alternative.

In-Channel Habitat Loss

Bridge piers create erosive three dimensional flow vortices that scour the river bed upstream and downstream from bridge piers and abutments (Johnson 2002). Further, and possibly of greater consequence under a new bridge and highway alignment alternative, would be the construction of a narrow bridge span over the Missouri River, and new earthen highway embankment across the floodplain that would create a flow constriction and energy slope that increases from upstream to downstream of the bridge (Johnson 2002). Instead of spreading over the floodplain during floods where energy is dissipated, flow would instead be funneled through the constriction created by the narrow bridge span and highway embankments extending perpendicular to the river across the floodplain. The affect of this constriction would be to create higher in-channel flow velocities and erosive capacities (Ruediger and Ruediger 1999) as the energy slope increases (Johnson 2002) resulting in scouring of the river bed and its associated habitats in the area of the bridge, and subsequent sediment deposition into downstream habitats. Such scouring and depositional impacts may have implications on important pallid sturgeon habitats in the immediate area, including the confluence of the Platte and Missouri rivers located less than 1-mile downriver, an area known to be utilized by adult pallid sturgeon and to provide shallow water habitat that may be utilized by juvenile and post-drift larval pallid sturgeon. Such channel modifications are especially important to consider in the Missouri River where the majority of in-channel aquatic habitats already have been lost due to the BSNP, authorized bank stabilization projects, and other bridge projects, as discussed above.

Modification to Nutrient and Sediment Cycling

Under the new bridge and highway alignment alternative, bridge abutments and earthen embankments proposed to extend across the floodplain of the Missouri River have the potential to create a two dimensional, horizontal flow during flood flows and/or after heavy precipitation events in the subject and nearby watersheds. The result of such a modification would be the loss of or modification to sediment and nutrient cycling between the river and its floodplain, limiting both fishery and aquatic invertebrate abundance and diversity which would otherwise have provided a forage resource for pallid sturgeon in the confluence area. Thus, sediment and nutrient cycling is extremely important on the Missouri River, and even more so in the area of the RPMA where upstream dams, BSNP, authorized bank stabilization projects, and the affects of other bridge embankments have resulted in the uncoupling of the river from its floodplain.

Lost Habitat Restoration Opportunities

The Service is concerned that construction of the new bridge and highway alignment would adversely impact wetland and riverine habitat mitigation sites on both the Iowa and Nebraska sides of the river by prohibiting habitat restoration and nutrient and sediment cycling consistent with the purpose of the RPMA designated for the pallid sturgeon. Based on a review of maps provided at the February 13 scoping meeting and in your March 18 letter, we note that the new bridge and highway alignment alternative extends across a mitigation site identified to offset lost wetland functions and values at Metropolitan Utilities District's (MUD) Platte West Water production facilities along the Platte River. On the Iowa side of the river, the proposed new highway alignment extends either through or very near an area currently under consideration by the Corps to have potential as a mitigation site for riverine habitats lost as a result of the BSNP. Both mitigation areas were historically segments of a large river bend prior to channelization and provide much potential for contributing to the recovery of the pallid sturgeon through habitat restoration and nutrient and sediment cycling given their locations immediately upstream from the Platte River, topographic features (i.e., linear alluvial depressions), and presence of sandy soils making the areas subject to occasional flooding.

Affect/No Affect Determination

The Service recommends that the FHWA/IDOT consider the information provided above with regard to making its assessment of potential impacts of the proposed project on federally listed species and designated critical habitat and in making the "affect/no affect determination". Further, the Service recommends that the lead Federal agency not limit its consideration of affect to just the above project information, but other potential affects as they become apparent during the course of other project studies and/or project development and modification.

REVIEW, COMMENTS, AND RECOMMENDATIONS REGARDING IMPACTS OF THE PROPOSED PROJECT ON OTHER FISH AND WILDLIFE RESOURCES

Migratory birds

Under the Migratory Bird Treaty Act (16 U.S.C. 703-712: Ch. 128 *as amended*) construction activities in grassland and riparian habitats, and those that occur on bridges (i.e., cliff swallow nests on bridge girders) that would otherwise result in the taking of migratory birds, eggs, young, and/or active nests should be avoided during the nesting season for most migratory birds (i.e., April 1 to July 15). If the proposed construction project is planned to occur during the nesting season, the Service requests that a qualified biologist conduct a field survey of the affected habitats and structures to determine the absence or presence of nesting migratory birds. Surveys must be conducted during the nesting season. We request that you forward the results of all surveys, including survey methods used and the qualifications of the surveyor to this office for review and determine whether nesting migratory birds would be affected prior to commencement of the proposed project.

Borrow Sites

We understand that the FHWA/IDOT prefers to use borrow materials from within the limits of construction. However, in some circumstances, borrow must be acquired from offsite sources. In addition, at times, temporary haul roads are constructed between the project site and an offsite borrow source. Such borrow sites and their associated haul roads can have negative effects on fish and wildlife resources. Therefore, the EIS should fully evaluate and describe the source(s) of material for construction (if necessary), and the effects on fish and wildlife resources of obtaining and transporting that material. For example, if fill materials are required, where will they be obtained? Ideally, if a new borrow source is needed, we encourage the FHWA/IDOT to design such an area to provide as many fish and wildlife benefits as possible. The Service would be willing to work with the FHWA/IDOT to develop borrow sites (if needed), that would then be modified to create shallow floodplain wetlands or other important fish and wildlife habitat.

Wetlands

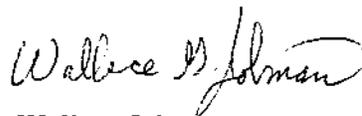
The Service is concerned that noise and visual disturbance to wildlife, especially avian species, would exist at Corps and MUD mitigation sites located in Iowa and Nebraska, respectively, should the new bridge and highway alignment alternative be implemented. Further, traffic associated with the new highway alignment would present a serious collision hazard to wildlife, and as discussed above, has the potential to compromise beneficial nutrient and sediment cycling that would occur between the river and the wetland mitigation sites in Iowa and Nebraska.

SERVICE POSITION AND RECOMMENDATIONS

Based on the information provided, the Service recommends that the FHWA/IDOT select rehabilitation of the existing Bellevue bridge on existing alignment given the magnitude of direct and indirect impacts that the new bridge on new highway alignment would have on Federal trust fish and wildlife species including the Federal threatened bald eagle and endangered pallid sturgeon in the area of the Missouri and Platte river confluence. Further, implementation of this alternative would result in lost opportunities to restore riverine habitat for fish and wildlife in an important segment of the Missouri River and contribute to the recovery of the pallid sturgeon and bald eagle. We would be willing to meet with the FHWA/IDOT and HDR to assist in the identification of other potential new highway alignment alternatives that could meet the proposed project purpose and need, but would have less impact on Federal trust fish and wildlife resources. Such a meeting should include representatives from the other Federal and State resources agencies including the U.S. Army Corps of Engineers, U.S. Environmental Protection Agency, Iowa Department of Natural Resources, Nebraska Game and Parks Commission, and the Nebraska Department of Environmental Quality.

We appreciate the opportunity to participate in the scoping process, and look forward to continued cooperation with the FHWA/IDOT in the development of the proposed project to ensure protection of Federal trust fish and wildlife resources. Should you have any questions regarding these comments, please contact Mr. Robert Harms within our office at (308) 382-6468, extension 17.

Sincerely,



Wallace Jobman
Acting Nebraska Field Supervisor

REFERENCES

- Johnson, P.A. 2002. Incorporating Road Crossings into Stream and River Restoration Projects. *Ecological Restoration*, 20:4.
- Ruediger, B. and B. Ruediger. 1999. The effects of highways on trout and salmon rivers and streams in the Western U.S. *Proceedings of the Third International Conference on Wildlife Ecology and Transportation* (Evink G L et al, eds): 151-159.
- U.S. Fish and Wildlife Service. 1993. Recovery Plan for the Pallid Sturgeon (*Scaphirhynchus albus*). Region 6, U.S. Fish and Wildlife Service.
- cc: FHWA; Lincoln, NE (Attn: Becky Hiatt)
 IDOT; Ames, IA (Attn: DeeAnn Newell)
 FWS; Rock Island, IL (Attn: Heidi Woeber)
 FWS; Columbia, MO (Attn: Jane Ledwin)
 IDNR; Sidney, Iowa (Attn: Carl Priebe)
 IDNR; Des Moines, Iowa (Attn: Chris Schwake)
 FHWA; Lincoln, NE (Attn: Ed Kosola)
 NDOR; Lincoln, NE (Attn: Len Sand)
 NGPC; Lincoln, NE (Attn: Gene Zuerlein)
 NGPC; Lincoln, NE (Attn: Frank Albrecht)
 NGPC; Lincoln, NE (Attn: Julie Godberson)



Pawnee Nation of Oklahoma

Tribal Historic Preservation Office

409 Agency Road * Building #1

Post Office 470

Pawnee, Oklahoma 74058

918-762-3624

April 11, 2003

HDR Engineering, Inc.
8404 Indian Hills Drive
Mr. Matt Tondl, P.E., Project Manager
Omaha, Nebraska 68114

RE: Bellevue Bridge Study * Iowa DOT Project No. NHSX-34-1(63)-19-85
Plattsmouth Bridge Study * NDOR Project No. DPS-34-7(114)

Dear Mr. Tondl:

Thank you for submitting the Project Description and Study Area Map for our review and comment. Our comment on this project and its potential to affect historic properties is required by Section 106 of the National Historic Preservation Act of 1966, as amended, and implementing regulations 36 CFR Part 800.

Given the information provided, in our opinion there will be no historic properties affected by the project as proposed. Therefore, in accordance with 36 CFR 800.4(d)(1), you may proceed with the project as planned.

There is always the possibility that previously unsuspected archaeological remains be may discovered during the process of project construction. We request that this office be notified immediately under such circumstances so that an evaluation of remains may be made.

Please retain this correspondence and your documented finding in order to show compliance with Section 106 of the National Historic Preservation Act, as amended. If you have any questions please do not hesitate to contact the Pawnee Nation of Oklahoma, Tribal Historic Preservation Office at (918) 762-3624 Ext. 107.

Sincerely,

Alice Alexander,
Tribal Historic Preservation Officer

Xc: Dee Ann Newell, Iowa Department of Transportation, Office of Location and Environment, 800 Lincoln Way, Ames, Iowa 50010
Steve Larson, Iowa Department of Transportation, Office of Location and Environment, 800 Lincoln Way, Ames, Iowa 50010
Leonard Sand, Nebraska Department of Roads, Planning and Project Development, 1500 Highway 2, Post Office Box 94759, Lincoln, Nebraska 68509



**DEPARTMENT OF THE ARMY
CORPS OF ENGINEERS, OMAHA DISTRICT
106 SOUTH 15TH STREET
OMAHA, NEBRASKA 68102-1618**

March 26, 2003

REPLY TO
ATTENTION OF:

Civil Works Project Management Branch

Ms. Stacey L. James
HDR Engineering
8404 Indian Hills Drive
Omaha, Nebraska 68114-4098

Dear Ms. James:

I have reviewed your maps of the Bellevue and Plattsmouth Bridge Studies and the Council Bluffs Interstate Improvement Project. We have no additional current or potential environmental projects in any of your project areas.

If you have any questions, please contact me at (402) 221-4605.

Sincerely,

A handwritten signature in cursive script that reads "Micheal Barnes".

Micheal Barnes, P.E.
Project Manager



STATE OF IOWA

THOMAS J. VILSACK, GOVERNOR
SALLY J. PEDERSON, LT. GOVERNOR

DEPARTMENT OF NATURAL RESOURCES
JEFFREY R. VONK, DIRECTOR

March 26, 2003

Mr. Brian Goss
HDR Engineering, Inc.
8404 Indian Hills Drive
Omaha, NE 68114-4098

RE: Bellevue Bridge Study Area and the Plattsmouth Bridge Study Area

Dear Mr. Goss:

The only additional comment by the Department other than already provided by letter to the Iowa DOT and copied to the Nebraska DOR (copy attached) is that our storm water discharge permit requirements have changed.

Effective March 10, 2003, any construction activity that bares the soil of an area greater than or equal to 1 acre; including clearing, grading or excavation; may require a storm water discharge permit from the Department. For more information regarding this matter, please contact Ruth Rosdail at 515/281-6782.

If you have any questions about this letter or if you require further information, please contact Keith Dohrmann at (515) 281-8967.

Sincerely,

A handwritten signature in black ink, appearing to read "Kevin R. Szcodronski".

KEVIN R. SZCODRONSKI
ASSISTANT ADMINISTRATOR
CONSERVATION AND RECREATION DIVISION

KS:kd

Attachment: Iowa DNR letter to the Iowa DOT dated February 3, 2003

CC: Christine Schwake, Water Quality Bureau, Iowa DNR (by email)

1711
03-1546

STATE
HISTORICAL
SOCIETY of
IOWA

Division of the Iowa Department of Cultural Affairs

March 25, 2003

DeeAnn Newell
Office of Location & Environment
Iowa Department of Transportation
800 Lincoln Way
Ames, IA 50010

In reply refer to:
R&C#: 960200086

RE: FHWA - MILLS COUNTY - NHS-34-1(68)-19-65 PIN 96-65020-1 - NDOR PROJECT NO. DPS-34-7(114) - PROPOSED REPLACEMENT OF MISSOURI RIVER BRIDGE ON U.S. 34 NEAR PLATTSMOUTH, NE - NOTICE OF INITIATION OF LOCATION STUDIES ENVIRONMENTAL IMPACT STATEMENT PREPARATION

Dear Ms. Newell,

We would like to extend our appreciation for the invitation to participate in the Agency scoping meeting. Unfortunately, we were not able to attend the meeting due to other previous commitments. However, we understand that historical and archaeological surveys will be conducted for this proposed project. When we receive those reports, our office will be providing further comments on this project and on any historic properties that will be affected by this proposed undertaking.

Please reference the Review and Compliance Number provided above in all future submitted correspondence to our office for this project. We look forward to further consulting with you, the Iowa Department of Transportation, and the Federal Highway Administration as part of the Section 106 consultation process for this project. Should you have any questions please contact me at the number below.

Sincerely,



Douglas W. Jones, Archaeologist
Community Programs Bureau
(515) 281-4358

cc: Gerald Kennedy, FHWA
Steve Larson, NEPA Coordinator, IDOT, Ames
Randall Faber, Office of Location and Environment, IDOT, Ames
Brad Hofer, Office of Design, Corridor Development, IDOT, Ames
Leonard Sand, NDOR
Steve McBeth, NDOR
✓ Matt Tondl, HDR Engineering, Inc.



Nebraska Game and Parks Commission

2200 N. 33rd St. / P.O. Box 30370 / Lincoln, NE 68503-0370

Phone: 402-471-0641 / Fax: 402-471-5528 / <http://www.ngpc.state.ne.us/>

March 3, 2003

Lisa Richardson
HDR Engineering, Inc.
8404 Indian Hills Drive
Omaha, NE 68114

Re: Bellevue Bridge Study (Mills County, Iowa; Sarpy County, Nebraska)

Dear Ms. Richardson:

Nebraska Game and Parks Commission (NGPC) staff members have reviewed the information that you sent regarding the proposal identified above. Staff members also attended a joint agency scoping meeting on February 13, 2003 in Omaha.

The proposed south alignment for the Bellevue Bridge project is located north of the Platte River confluence and the Randall Schilling Wildlife Management Area. The alignment will not impact this property but does have potential to impact the proposed MUD wetland mitigation area located north of the confluence. We recommend that you coordinate with MUD on this issue.

We found records of state or federal threatened, endangered, candidate or proposed species near the site of the proposed project. We determined that there is habitat for such species at the proposed project site based on a review of the material you sent, aerial photos, and topographic maps. The following are state and federally listed species we have identified as possible concerns.

The pallid sturgeon, lake sturgeon, least tern, piping plover, sturgeon chub, bald eagle, and western prairie fringed orchid have been observed, collected, or otherwise are likely to be found in and near the lower Platte and Missouri Rivers. The pallid sturgeon and least tern are state and federally endangered; the piping plover, bald eagle, and western prairie fringed orchid are state and federally threatened; the lake sturgeon is state threatened; and the sturgeon chub is state endangered.

Pallid Sturgeon (*Scaphirhynchus albus*)—pallid sturgeon feed on small fish and invertebrates and can be found in association with riverine sandbars. Often, the fish is found near stream confluences, islands, and at the downstream margins of sandbars. It is believed that the fish spends some time in the Missouri River, and annually returns to the Platte River to spawn or possibly over-winter. Alterations to the natural hydrograph, river channelization, and flow depletions have caused the decline of this species.

Sturgeon chub (*Macrhybopsis gelida*)—sturgeon chub are associated with fast flowing water and a gravel riverbed. The species has been collected in side chutes and backwaters—it is

thought that these kinds of areas provide spawning habitat to the fish. Sturgeon chub feed on invertebrates. As with lake and pallid sturgeons, alterations to the natural hydrograph, depletions, and river channelization have caused the decline of the sturgeon chub.

Lake Sturgeon—it is believed that the lake sturgeon occupies habitats similar to those of the pallid sturgeon, but spends a greater proportion of its time in the Missouri than the Platte River. Lake sturgeon feed on invertebrates and small fish and can be found at the downstream margins of islands and river confluences. Alterations to the natural hydrograph, river channelization, and flow depletions also have caused the decline of this species.

Bald eagle (*Haliaeetus leucocephalus*)—bald eagles nest along the Missouri River—nests may be present in the segment along Douglas County. The bald eagle is associated with the Missouri River during annual migrations and throughout the winter where and when open water is present.

Interior Least tern and Piping Plover (*Sterna antillarum athalassos* and *Charadrius melodus*)—As with the bald eagle, the bridge construction will have the greatest potential for impacts to nesting habitat. The EA states that if nesting terns or plovers are located within 0.5 mile of the construction site, the USFWS and the NGPC will be contacted to determine appropriate action. Construction will have to be delayed if there is potential for disturbance to nesting sites. Please address the proposed critical habitat designation for the piping plover with the USFWS.

Western Prairie Fringed Orchid (*Platanthera praeclara*)—the western prairie fringed orchid grows on mesic tallgrass prairies. Although the plant can be a colonizer species and grow on disturbed areas, it is found in greatest abundance on high quality prairie. The plant blooms in late June to mid-July.

We would also like to review the wetland delineations for the proposals when completed, along with estimates of other unavoidable impacts (ie. acres of impacted grassland, timber, etc.). We appreciate the opportunity to comment on these projects. If you have any questions, please contact me at (402)471-5422 or Julie Godberson at 471-5444.

Sincerely,



Frank J. Albrecht
Assistant Division Administrator
Realty and Environmental Services Division

Cc Julie Godberson, NGPC
Gene Zuerlien, NGPC
Bob Harms, USFWS
Terry Hickman, NDEQ



1723 HARNEY ST • OMAHA NE 68102-1960
www.mudomaha.com

February 22, 2003

Matthew B. Tondl, P.E.
HDR Engineering, Inc.
8404 Indian Hills Drive
Omaha, NE 68114-4098

RE: MUD Property & US 34 Bridge Study

Dear Matt,

Enclosed is a copy of the map you sent me. I took the liberty to enlarge it to make things easier to read.

Per our conversation, MUD's original property is an L-shaped piece of property south of LaPlatte Road. The sludge line runs under LaPlatte Road to the northeast corner of the property, from there it runs due south to near the south property line, then east to river. A drawing showing a better location of the sludge line is also included. Obviously if the bridge project proceeds, relocation of this line will need to be coordinated with MUD.

The "new" land recently purchased by MUD is a parcel of approximately 68 acres located north of LaPlatte Road and east of Harlan Lewis Road. Contrary to the Conceptual Mitigation Plan in our EIS, (and probably contrary to what US Fish & Wildlife and NE Game & Parks think they know) if any of our property is developed as wetlands mitigation, this is likely where we would propose to construct the mitigation site. Development of wetlands on this property would avoid a conflict with the bridge project and is equally suitable for wetlands development. The final mitigation plan has not yet been developed and needs to be approved by the Corps. A legal description and map of this site is also enclosed.

Good luck with your EIS's, if you need any information feel free to give me a call. I've updated Bob Stubbe on this aspect of the project so feel free to use him as an alternate contact person.

Sincerely,

Kevin P. Tobin
Director, Major Water Plant Projects

cc: Bob Stubbe - MUD

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STATE OF IOWA

THOMAS J. VILSACK, GOVERNOR
SALLY J. PEDERSON, LT. GOVERNOR

DEPARTMENT OF NATURAL RESOURCES
JEFFREY R. VONK, DIRECTOR

February 3, 2003

Ms. DeeAnn Newell
Iowa Department of Transportation
Office of Location and Environment
800 Lincoln Way
Ames, IA 50010

RE: Bellevue Bridge Study Area and the Plattsmouth Bridge Study Area

Dear Ms. Newell:

Thank you for inviting our comments on the impact of the above referenced projects on protected species and rare natural communities.

We have searched our records of the project areas and found no site-specific records of rare species or significant natural communities. However, our data are not the result of thorough field surveys. If listed species or rare communities are found during the planning or construction phases, additional studies and/or mitigation may be required.

This letter is a record of review for protected species, rare natural communities, state lands and waters in the project areas, including review by personnel representing state parks, preserves, recreation areas, wetlands, fisheries and wildlife. It does not constitute a permit and before proceeding with the project, you may need to obtain permits from state and federal agencies.

If you have any questions about this letter or if you require further information, please contact me at (515) 281-8967.

Sincerely,

A handwritten signature in black ink, appearing to read "Keith L. Dohrmann".

KEITH L. DOHRMANN, ENVIRONMENTAL SPECIALIST
POLICY AND COORDINATION SECTION
CONSERVATION AND RECREATION DIVISION

CC: Mr. Leonard Sand, Nebraska DOR, Planning and Project Development, 1500
Highway 2, P.O. Box 94759, Lincoln, NE 68509

02-1546L

C

Environmental Protection Department

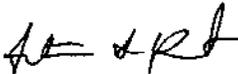
P.O. Box 368
Macy, Nebraska 68039
(402) 837-5291
FAX (402) 837-5223

Dee Ann Newell-Iowa DOT
Office of Location and Environment
800 Lincoln Way
Ames, IA. 50010

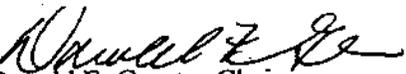
RE: Bellevue Bridge Study

Dear Ms. Newell,

This letter is in regards to giving our correspondence to the following project application. Legislation in place such as NEPA, NAGPRA, and NHPA state the protection of Native American Cultural sites from being disturbed, and or moved without proper Tribal involvement. With that being said, it is known throughout our history that the Omaha have occupied said land at one point in time of our past. So the likely hood of something being discovered, are high. It is the opinion of our office that the area of application should be carefully studied to avoid any such misunderstandings between our Tribe and said agency over possible cultural disturbances. Furthermore, it is the consensus of the Omaha Tribe of Nebraska and Iowa that if any evidence of our existence is discovered, you immediately contact our office. So preparations may be made to retrieve our ancestors. If you have any questions, please feel free to contact me at the above number. Thank you for your time and attention.



Antione A. Provost
Executive Director

Concur: 
Donald F. Grant - Chairman
Omaha Tribe of NE & IA.

XC: Council (6), CTO, Ass't CTO, file



RECYCLED PAPER