

Transportation Study Report

Lincoln to Bismarck Roadway Connection

Bismarck, North Dakota

SEH No. A-BISMA0502.00

May 2006

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Transportation Study Report

Lincoln to Bismarck Roadway Connection

Prepared for Bismarck-Mandan Metropolitan Planning Organization

1.0 Introduction

1.1 Study Area

The Lincoln to Bismarck Roadway Connection Study Area encompasses the southeast section of the Bismarck Metropolitan Area extending to and including the City of Lincoln and the Bismarck Municipal Airport (Figure 1).

1.2 Study Purpose and Objectives

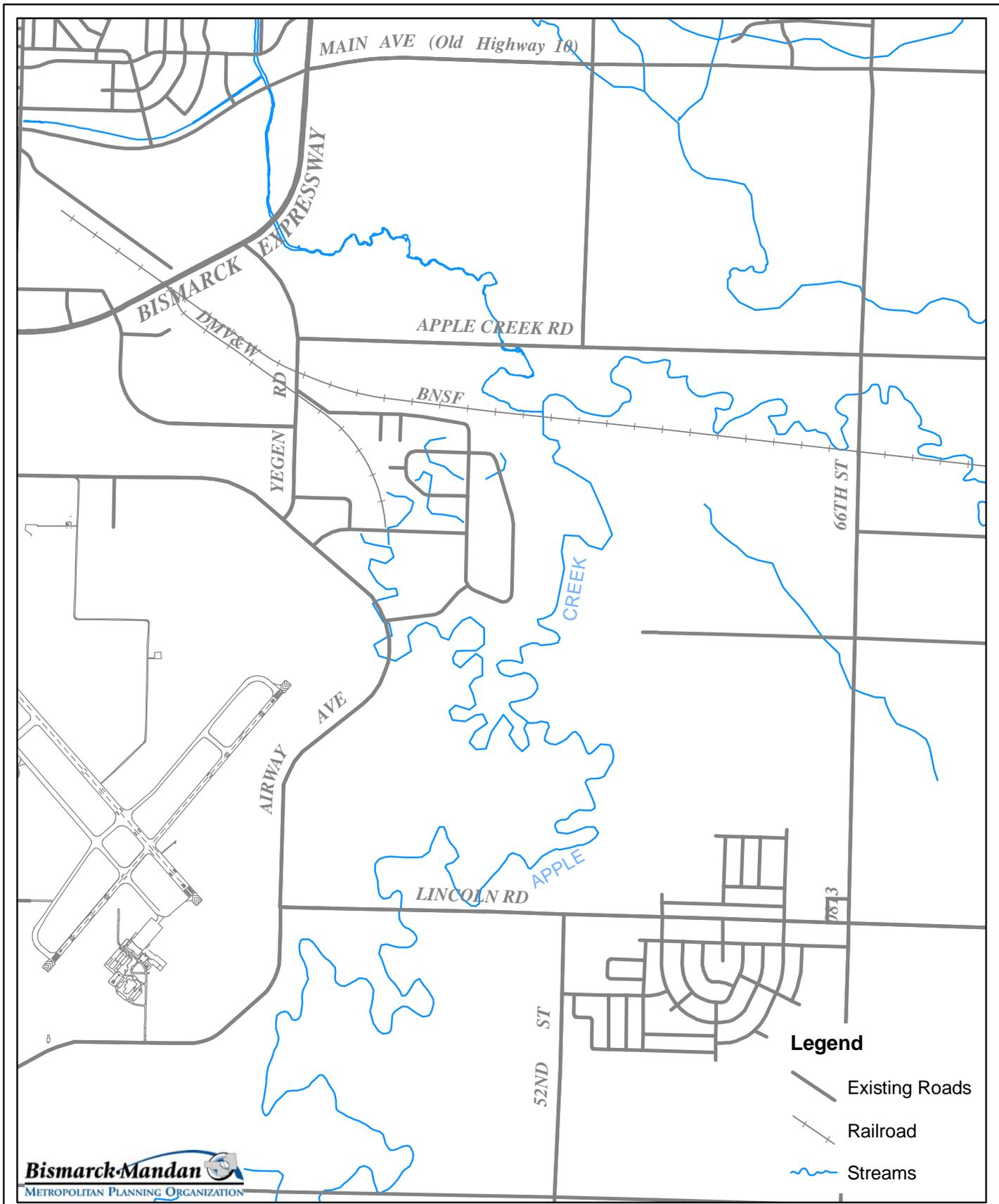
The Cities of Bismarck and Lincoln, along with Burleigh County and the State of North Dakota, recognize the need to improve the connection between Bismarck and Lincoln. In response to this need, the Bismarck/Mandan Metropolitan Planning Organization (MPO) retained the engineering consulting firm, SEH Inc., to complete a transportation study to determine the best route between the two communities.

This study has many unique qualities, including the evaluation of traffic pattern changes in Bismarck due to new development in the area. The new development includes large retail stores and the building of the Northern Plains Commerce Centre (NPCC). Additional distinctive challenges include several natural and man-made features in the area, including creeks, floodplains, railroads, sewage lagoons, and the Bismarck Municipal Airport.

Through extensive public involvement and sound engineering analysis, the study will:

- Identify the technically preferred improvement alternative
- Supply the typical cross section needed to accommodate future traffic
- Provide cost estimates for associated work
- Recommend a cost-sharing plan among stakeholders

Figure 1 – Study Area



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STUDY AREA
 LINCOLN TO BISMARCK ROADWAY
 CONNECTION STUDY
 Bismarck/Mandan MPO

Figure

1

2.0 Public and Agency Participation

Public and agency participation is a critical component of the study process. Significant efforts were made to reach out to interested stakeholders so as to gain a more clear understanding of their priorities, issues, concerns, and perspectives. The various components of the outreach efforts are detailed in Figure 2 and summarized below.

2.1 Technical Advisory Committee

To provide the consultant, SEH, with guidance throughout the study process, the MPO Technical Advisory Committee (TAC) was utilized. The TAC is comprised of the following people:

- Tom Little – Mandan Engineer
- Charles Morman – Morton County Roads Superintendent
- Mel Bullinger – Bismarck Engineer
- Carl Hokenstad – Bismarck Planner
- Jon Mill – Burleigh County Engineer
- Helen Magilke – Lincoln City Council
- Paul Benning – ND/DOT
- Mark Johnson – Federal Highway Administration
- Robin Werre – Bis-Man Transit Board
- Paul Trauger – Morton County Auditor
- Steve Saunders – MPO Transportation Planner

The TAC meets once a month and throughout the study served as a valuable communication link with the affected agencies, communities, businesses, and organizations. The TAC helped identify problems and opportunities, assisted in developing solutions to the problems, served as the primary conduit to sharing study information and decisions with the agency or interest group they represented, and helped raise issues and concerns early to avoid surprises.

2.2 Stakeholder Group

To facilitate a more inclusive public involvement process, a Stakeholder Group was formed at the onset of the study. The Stakeholder Group included the following representatives from different agencies and concerned citizens:

- Greg Haug - Bismarck Airport
- Steve Weiland – Lincoln Resident
- Bill Wocken – Bismarck City Administrator
- Bruce Kreft – Fish, Game, & Wildlife
- Robert Harms – Property Owner
- Bob Johnson – Lincoln City Council
- Brent Ekstrom – Lincoln Resident
- Marie Horning – Lincoln Resident

The active and continual involvement from this broad cross-section of individuals and agencies provided assurance that the varied perspectives and priorities were actively represented and engaged throughout the study process.

Figure 2 – Public Involvement Framework

**City of Lincoln to City of Bismarck Roadway Connection Study
Bismarck / Mandan MPO
Public Involvement Process**

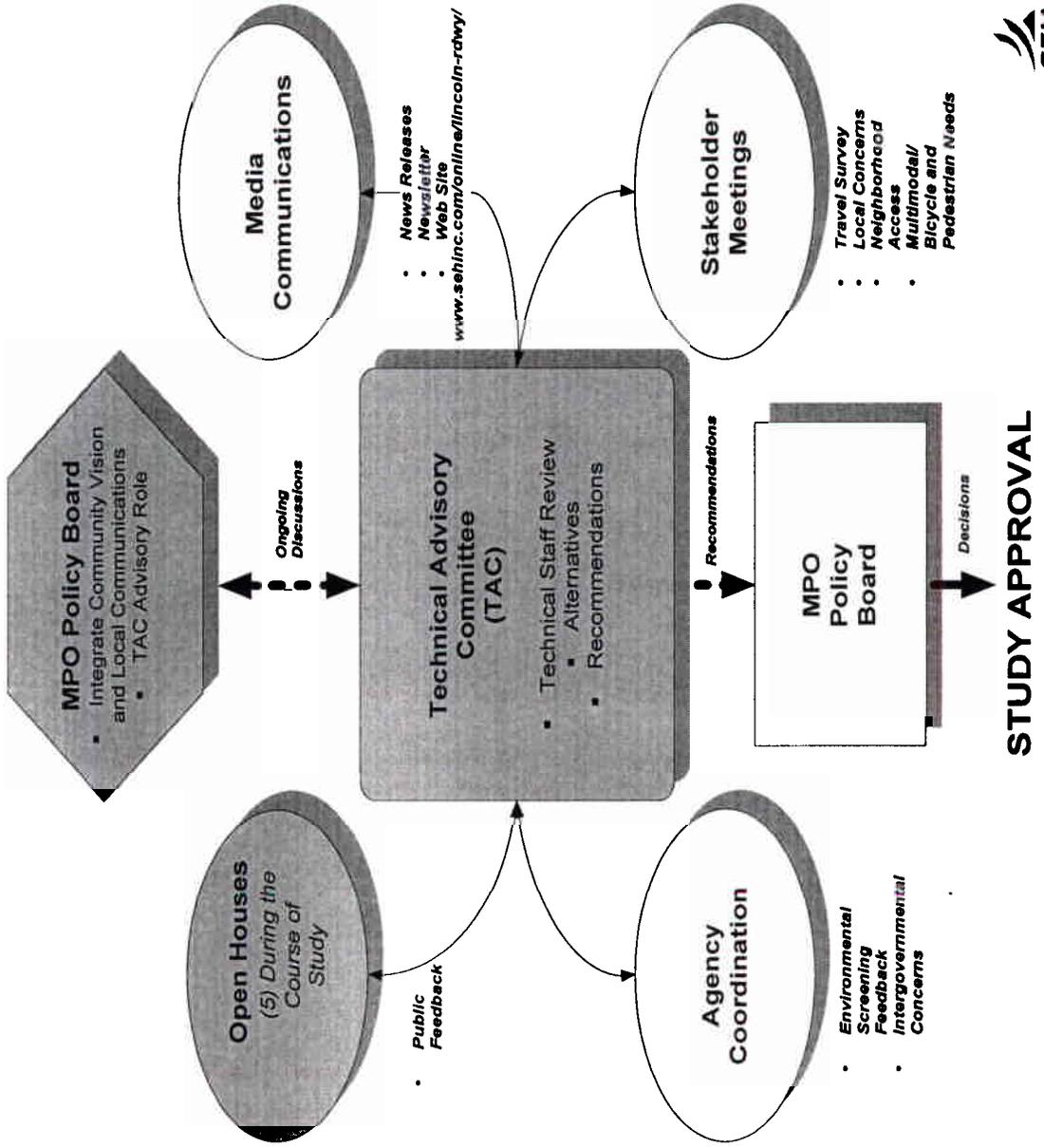


Figure 2

The principal landowner group between Lincoln and Bismarck provided a number of comments during the study process, which are included in Appendix. A.

2.3 Public Meetings

Four public meetings were held during the study process. The dates of the meetings, a summary of meeting presentations, and summarized feedback received are summarized as follows:

- **Public Meeting #1 – August 15, 2005**

This meeting presented to the public the project understanding, including issues/constraints within the project area. Next steps were laid out so the public understood the study process and timeline. Public comments from this meeting are summarized below:

- look forward to a sound and timely solution for Lincoln and people living south/east of Lincoln
- 66th Street could be better way to Bismarck if Apple Creek Road and Highway 10 were better roads
- turn lanes are needed on Highway 10
- with rail and truck traffic, a new road corridor might make the trip into south Bismarck shorter mileage, but longer in time
- need to include a bicycle path to any new road proposed from Lincoln to Bismarck
- consider 66th Street as the new route to Highway 1804 if Airway Avenue and a portion of Lincoln Road are closed for the runway expansion

- **Public Meeting #2 – October 17, 2005**

The second public meeting presented the results of the travel behavior inventory and travel time studies. Alternatives that had been developed up to that point were presented along with preliminary evaluation criteria.

This meeting had a large public turnout, and a lot of time was spent reviewing information from the first public meeting. There was no written public feedback from this meeting.

- **Public Meeting #3 – November 14, 2005**

In response to the second public meeting, this meeting focused on three areas: 1) presenting earlier information including study purpose and need, reviewing public feedback, and identifying issues and constraints; 2) discussing environmental issues with the floodway running through the project area; and 3) presenting alternatives.

Public feedback from this meeting is summarized below:

- Need a replacement road when Airway Avenue is closed

-
- Soo Railroad option is most cost effective because of the flood plain. Need a bridge over the rail line.
 - Need an additional route to Bismarck other than existing routes.
 - Use least amount of private property possible.
 - Residents south of the tracks are at a disadvantage
 - Follow the Soo Line rail grade.
 - 52 to Expressway safety fire trucks and ambulance to get to Lincoln. No crossing over railroad because of cost. Would you want to cut cost or save the life of a family by putting an overpass across the tracks?
 - How will the improvement be paid for?
- Public Meeting #4 – February 21, 2006
All the alternatives were reviewed, and recommendations for improvements were presented. Recommendations were shown in short, medium, and long-term improvements. One written comment recommending that the 66th Street Connector be the preferred alternative was received.

3.0 Existing and Future Conditions

The purpose of this section is to define the current and forecast environmental resource and traffic conditions in the project study area. The information presented in this section provides the basis for evaluating the improvement alternatives defined in Section 4.0.

3.1 Environmental Resource Considerations

To determine the potential for environmental resource concerns associated with any proposed improvement in the study area, a natural resource review was conducted. The results of the review are summarized in this section and detailed in the *Environmental Resource Review* included in Appendix B.

3.1.1 Wetlands

Approximately two dozen wetland basins are identified within the study area on the National Wetland Inventory (NWI) mapping. The majority of these wetlands occur within the designated 100 and 500 year floodplains of Apple Creek. Contact with the USFWS and the North Dakota Department of Game and Fish (NDG&F) was initiated to get early feedback on some potentially important issues on wetlands and other natural environment subjects. Some of the wetlands that are within the Apple Creek floodplain are considered unique by these agencies, in particular the oxbow basin wetlands. This is a unique wetland resource that is difficult to provide mitigation for. Project alternatives should avoid impacts to these wetlands and the exact locations of these wetlands should be determined during the preliminary planning phase to implement successful avoidance. Wetland permitting for the project will be required if wetlands are impacted.

3.1.2 State of North Dakota Sovereign Lands

The North Dakota State Water Commission (NDWC 2005) was contacted to identify if there are any known Sovereign Lands potentially occurring within the project study area. Sovereign Lands are defined as land that occurs at or below the Ordinary High Water (OHW) elevation of a defined waterbody. According to the NDWC, there are no Sovereign Lands within the project study area.

3.1.3 Rare, Threatened or Endangered Species

Federal

According to the U.S. Fish and Wildlife Service there are no known occurrences of or designated Critical Habitats within and immediately adjacent to the study area.

State

The NDG&F has developed a “List of Conservation Priority” (LCP) that identifies animal species and resources that are considered rare, unique, or under threat within the State. As the project progresses, the NDG&F should be involved to provide updates and guidance for potential project effects on LCP species.

Furthermore, no rare plants are known within the study area. The NDPRD should be consulted with to assure that rare plants are adequately addressed as the project progresses.

3.1.4 Fish and Wildlife Resources

There are no federal Wildlife Refuges, Waterfowl Production Areas, designated Critical Habitats, or other easements or federally managed areas for fish and wildlife within or immediately adjacent to the study area. The project area does contain habitat for fish and wildlife species that are common to the region. These include grasslands, woodland, and riparian habitats, most of which is concentrated within the Apple Creek floodplain or in close proximity to it.

According to the NDG&F there are no state owned wildlife management areas, conservation easements, or other state owned fish and wildlife management lands within the study area.

3.2 Traffic Analysis

The purpose of the traffic analysis was to establish existing and forecast traffic conditions in the study area. This information is critical to determining the scope of the problem and defining the overall need for improvements. The traffic analysis process included both data collection and an extensive amount of technical analysis.

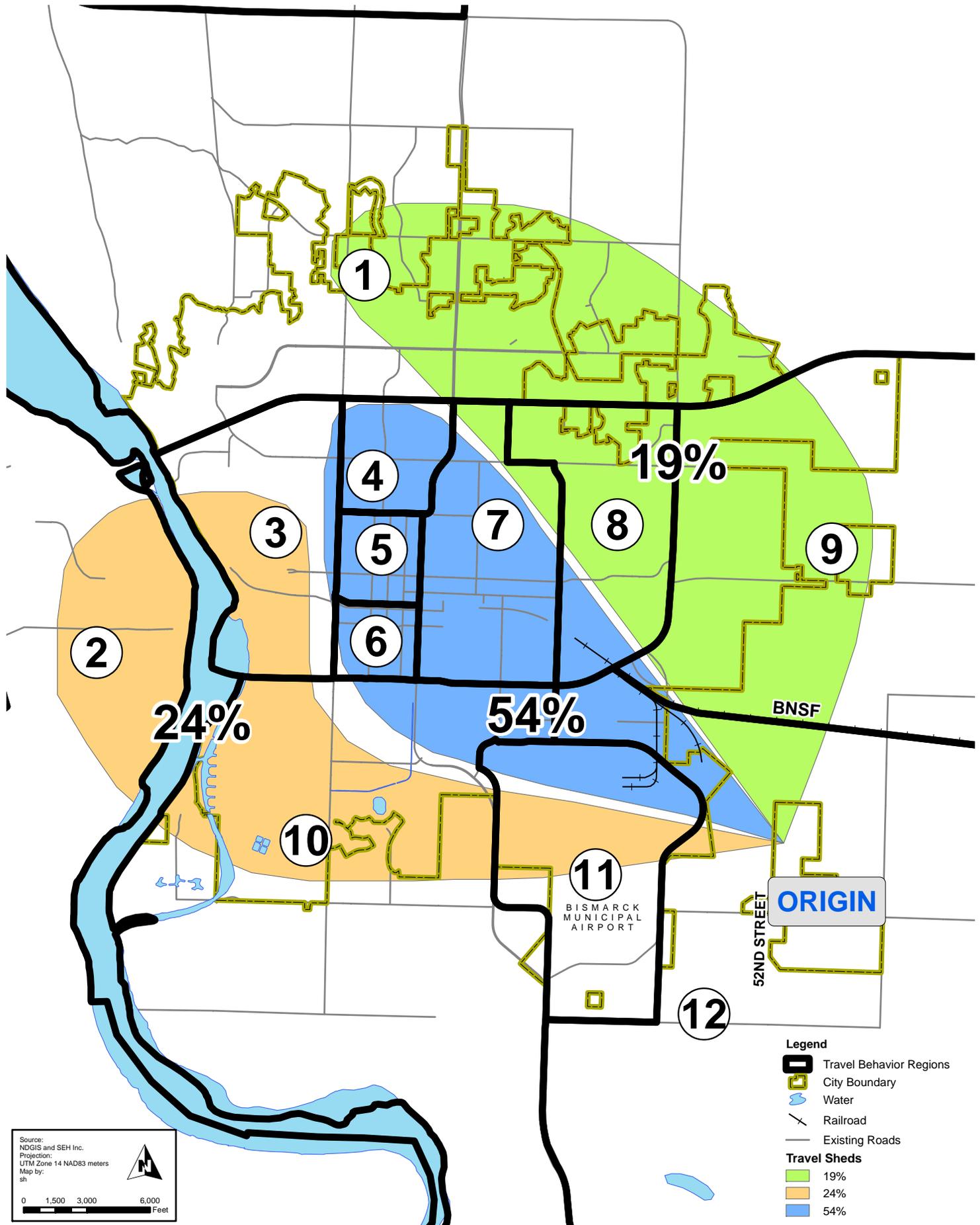
3.2.1 Travel Behavior Inventory

A travel behavior inventory (TBI) survey was completed in October 2005 to document to which destinations Lincoln residents typically make trips throughout the week, including type of trip (work trips or non-work trips, including shopping, school, etc.). The survey was used to refine the Bismarck-Mandan MPO's regional travel demand model. The results of the survey are illustrated in Figure 3. In summary, the TBI indicated that 80 percent of Lincoln residents' work and non-work trips are generally destined to points west on Bismarck Expressway and into the center of Bismarck.

3.2.2 Travel Time Study

In addition to the TBI survey, a travel time study was also conducted to assist in refining the traffic forecasts. The study consisted of engaging several Lincoln residents, primarily from the stakeholder group, to record a cross-section of work and non-work trip travel times. Participants completed a log of trips and documented trip start and completion times, and noted any unusual circumstances that may have affected the results, such as train and construction delays, highway incidents, etc. Staff from SEH conducted similar time trials as a verification check. This information confirmed assumptions in the regional model and was used to fine tune the model to more accurately represent actual traffic assignments.

Figure 3 – TBI Survey Results Travel Shed



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NDGIS and SEH Inc.
Projection:
UTM Zone 14 NAD83 meters
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3.2.3 Traffic Forecasts

3.2.3.1 Base Year

SEH worked with the TAC to refine the base year model (2030) to match the data that was collected as part of the travel time study and also the travel behavior inventory. Other changes that were made to the base model included the addition of trips in the area between Lincoln and Bismarck and also the realignment of Airway Avenue in the southeast corner of the airport.

Additional trips were added between the cities to reflect property to be developed into residential housing. The number of trips that were added was determined by taking into consideration the amount of developable land and using the rule of thumb that 3.2 units per acre would be developed. The area included 474 acres, and after taking out the undevelopable areas (i.e., wetlands and floodway), the remaining developable area is 230 acres, or 736 units. This was input into the model and trips were distributed accordingly.

The second major refinement included modifying the alignment of Airway Avenue in the southeast corner of the airport. The Airport Master Plan includes an extension of the runway that runs from the northwest to the southeast. This extension requires Airway Avenue to be relocated. For model development purposes, it was assumed that this roadway would be relocated to continue straight east and connect to 52nd Street just west of Lincoln.

3.2.3.2 Test Alternatives

Alternatives were tested using penalties to model the affects of at-grade railroad crossings. The penalty amounts were determined by running a number of various penalties to the base model and quantitatively matching the results to match the travel behavior inventory and travel demand study results. Once a penalty was determined, it was added to each alternative that included at-grade railroad crossing.

3.2.3.3 2030 Model Results

Table 1 shows the 2030 average daily traffic (ADT) forecasts for each alternative.

Alternative 1 – 66th Connector to Airway Avenue (Figure 5)

The connection carries 7,000+ vehicles, while Airway Avenue to the south of the connection loses about half of the traffic. Traffic traveling on 66th Street drops by approximately 2,500 vehicles. The traffic around the south end of the airport remains unchanged.

Alternative 2 – 52nd Street to Airway Avenue without Railroad Bridge (Figure 6)

52nd Street carries approximately 4,000+ more vehicles than the original route on Airway Avenue. Traffic on 66th Street and the south route around the airport drop by 2,500+ vehicles each.

Alternative 2A – 52nd Street to Airway Avenue with Railroad Bridge (Figure 6)

The results from the model show that adding a railroad bridge on Airway Avenue does not have a big effect on the traffic patterns compared to Alternative 2.

**Table 1
Year 2030 Average Daily Traffic Forecasts**

Alternative Number and Name		Model Assumptions/Descriptions	Results by Corridor			
			66 th Street	52 nd Street/EW Connection	Soo Line/Airway Avenue	University
0	Base	<ul style="list-style-type: none"> ■ Trips added to between cities ■ Airway Avenue change 	9,000	-	12,400	19,500
1	66 th Street Connector to Airway Avenue	<ul style="list-style-type: none"> ■ Assumes an east/west connection between 66th Street and Airway Avenue located ½-mile north of Lincoln 	6,600	7,300	15,400	19,600
2	52 nd Street to Airway Avenue without Railroad Bridge	<ul style="list-style-type: none"> ■ Assumes a connection north from 52nd Street in Lincoln, partially following the Soo Line, and connecting to Airway Avenue 	6,800	-	16,200	18,000
2A	52 nd Street to Airway Avenue with Railroad Bridge	<ul style="list-style-type: none"> ■ Follows same route as Alt. 2, but adds a bridge across the railroad on Airway Avenue 	5,500	-	16,400	18,400
3	52 nd Street Connected	<ul style="list-style-type: none"> ■ 52nd Street is connected straight to the north to Apple Creek Road and includes a bridge over the railroad 	4,100	9,700	8,600	18,600
4	66 th Street Option	<ul style="list-style-type: none"> ■ 66th Street is upgraded, includes bridge over railroad 	9,400	-	11,900	19,500
5	Soo Line	<ul style="list-style-type: none"> ■ New roadway follows old Soo Line bed and connects to Lincoln Avenue west of town 	7,500	-	14,800	18,600
5A	Soo Line with Railroad Bridge	<ul style="list-style-type: none"> ■ Follows same route as Alt. 5, but adds a bridge across the railroad on Airway Avenue 	5,500	-	15,400	19,400

Alternative 3 – 52nd Street Connected (Figure 7)

The 52nd Street connection to Apple Creek Roadway carries just less than 10,000 vehicles. Airway Avenue and 66th Street traffic decreased by about 4,000 to 5,000 each.

Alternative 4 – 66th Street Option (Figure 8)

This alternative showed that improvements to 66th Street did not drastically alter traffic patterns. About 400 vehicles made the shift from Airway Avenue to 66th Street.

Alternative 5 – Soo Line (Figure 9)

The Soo Line route carries approximately 2,500 more vehicles than the original route along Airway Avenue. Traffic on 66th Street and the south route around the Airport both drop by approximately 1,500 vehicles.

Alternative 5A – Soo Line with Railroad Bridge (Figure 9)

The railroad bridge adds approximately 600 vehicles to the Soo Line route. The 66th Street option decreases by about 2,000 vehicles with the traffic shifting to the Soo Line route and to the south route around the Airport.

4.0 Development and Evaluation of Alternatives

4.1 Alternatives Considered

4.1.1 Universe of Alternatives

At the onset of the study process a set of preliminary concepts were developed and presented to the public to address the issues documented in Sections 2.0 and 3.0. Through the public outreach efforts a number of additional alignments were suggested. These suggestions were incorporated into the process to develop the universe of potential improvement concepts. Each general concept is described below:

- Existing Airway Avenue (Alternative 0) – This option assumes improvements to the existing Airway Avenue corridor to better accommodate the major traffic movements and enhance traffic flow. The primary improvements would initially include reconfiguring the Airway Avenue/Lincoln Road and Airway Avenue/Yegen Road intersections and ultimately include expansion of Yegen Road to four lanes between Airway Avenue and Apple Creek Road.
- 66th Connector to Airway Avenue (Alternative 1) – This alternative involves construction a new east-west corridor midway between Lincoln Road and Apple Creek Road. The alignment then intersects with Airway Avenue south of Yegen Road and includes a reconstructed Airway Avenue/Yegen Road intersection.
- 52nd Street to Airway Avenue without Railroad Bridge (Alternative 2) – This option extends north and west from the 52nd Street/ Lincoln Road intersection following a portion of the abandoned Soo Line railroad line prior to connecting with Airway Avenue south of Yegen Road. This option assumes maintaining the existing at-grade BNSF railroad crossing on Yegen Road.
- 52nd Street to Airway Avenue with Railroad Bridge (Alternative 2A) – This option also extends north and west from the 52nd Street/ Lincoln Road intersection following a portion of the abandoned Soo Line railroad line prior to connecting with Airway Avenue south of Yegen Road. This option includes constructing a new Yegen Road overpass of the BNSF rail line.
- 52nd Street Connected (Alternative 3) – This alternative involves extending 52nd Street straight north from its current terminus at Lincoln Road to Apple Creek Road.
- 52nd Street Connected Option A (Alternative 3A) – This option is similar to the 52nd Street Connected alternative except that aligns the corridor to avoid significant floodplain impacts.
- 66th Street (Alternative 4) – This alternative assumes improvements to the existing 66th Street corridor.
- Soo Line (Alternative 5) – This option is similar to Alternative 2 except that it follows the abandoned Soo Line railroad grade from 52nd Street to Airway Avenue.

-
- Soo Line with Railroad Bridge (Alternative 5A) – This option is the same as the base Soo Line alternative except that it includes a new Yegen Road overpass of the BNSF rail line.
 - Crow Flies (Alternative 6) – The Crow Flies alternative is a diagonal alignment extending from the Lincoln Road/66th Street intersection to Airway Avenue and Yegen Road.
 - Horseshoe to Airway Avenue (Alternative 7) – This alignment extends northwest from the Lincoln Road/Stanley Road intersection, uses a portion of the abandoned Soo Line corridor, and connects with Airway Avenue south of Yegen Road.

4.1.2 Preliminary Screening (Fatal Flaw Assessment)

A fatal flaw screening was completed to identify and screen those options which have a clear fatal flaw(s). In doing this, more effort can be focused on those options with greater viability.

In reviewing each of the alternatives described in Section 4.1.1, it became apparent that three concepts had readily identifiable impacts significant enough to warrant removal from further consideration. These concepts include:

- Alternative 3 (52nd Street Connected) – This alignment would introduce very significant impacts upon the Apple Creek floodplain. Furthermore, Alternative 3A was identified as a more viable option that accomplished the same basic objectives, but avoided the floodplain issues.
- Alternative 6 (Crow Flies) – This option introduces significant property acquisition and triangulation issues over a large area. In addition, the alternative does relatively little to address the transportation needs identified for this study.
- Alternative 7 (Horseshoe to Airway Avenue) – This option, which terminates at a local street, was removed from consideration because it does not accomplish the basic transportation system objective of providing continuous arterial facilities.

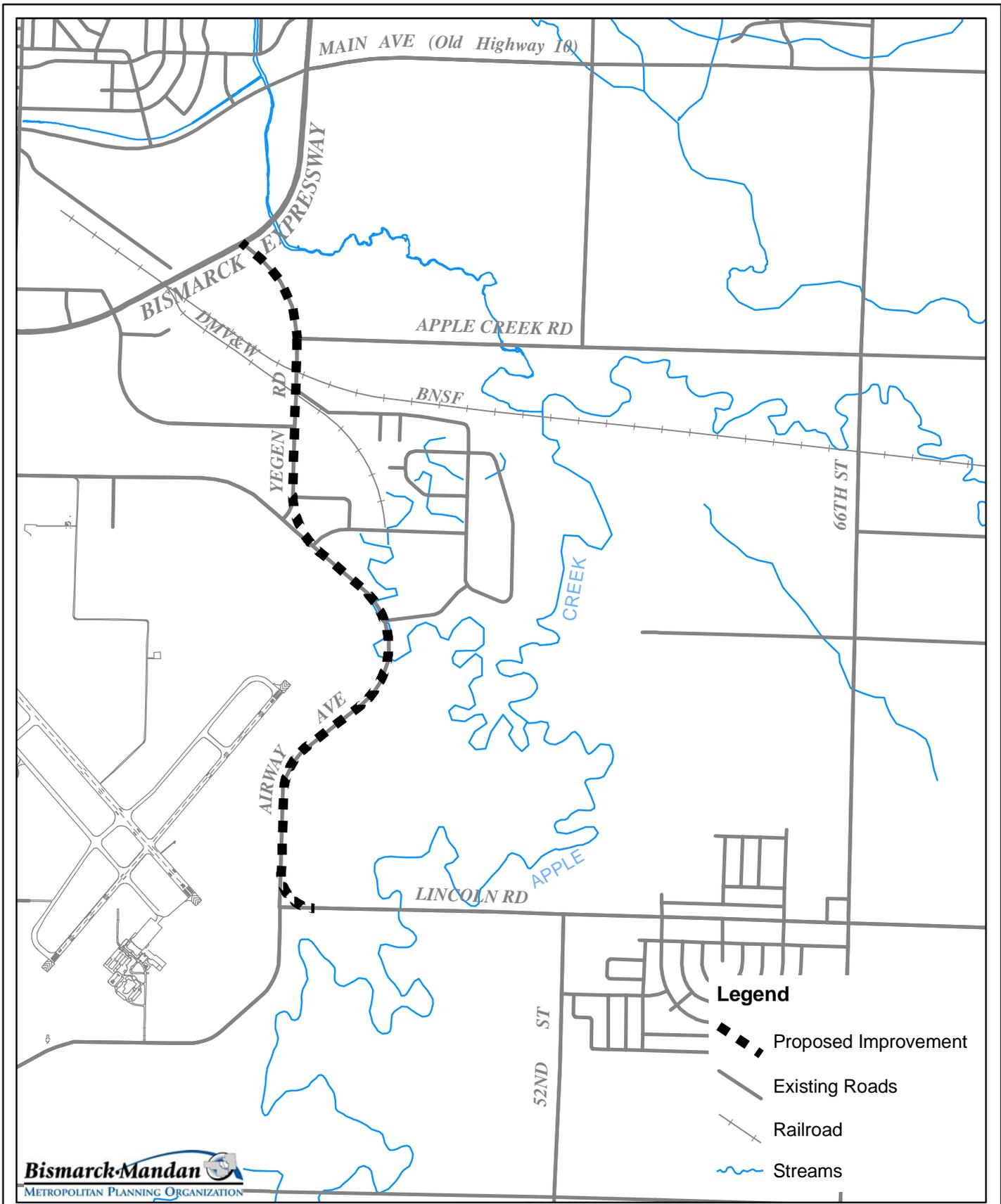
4.2 Evaluation and Screening of Alternatives

With the screening of the Universe of Alternatives complete eight alternatives remained for technical evaluation. The alternatives are illustrated in Figures 4-9 and identified below along with preliminary cost estimates for each. Appendix C includes additional details on the cost estimates.

- Alternative 0 (Figure 4) – Existing Airway Avenue. Estimated construction cost - \$1,680,000
- Alternative 1 (Figure 5) – 66th Street Connector to Airway Avenue. Estimated construction cost - \$4,500,000
- Alternative 2 (Figure 6) – 52nd Street to Airway Avenue without a new railroad bridge at Yegen Road. Estimated construction cost - \$4,170,000
- Alternative 2A (Figure 6) – 52nd Street to Airway Avenue with a new railroad bridge at Yegen Road. Estimated construction cost - \$6,850,000

-
- Alternative 3A (Figure 8) – 52nd Street Connected Option A. Estimated construction cost - \$5,410,000
 - Alternative 4 (Figure 8) – 66th Street. Estimated construction cost - \$6,240,000
 - Alternative 5 (Figure 9) – Soo Line. Estimated construction cost - \$4,850,000
 - Alternative 5A (Figure 9) – Soo Line with railroad bridge at Yegen Road. Estimated construction cost - \$7,690,000

Figure 4 – Alternative 0 – Existing Airway Avenue



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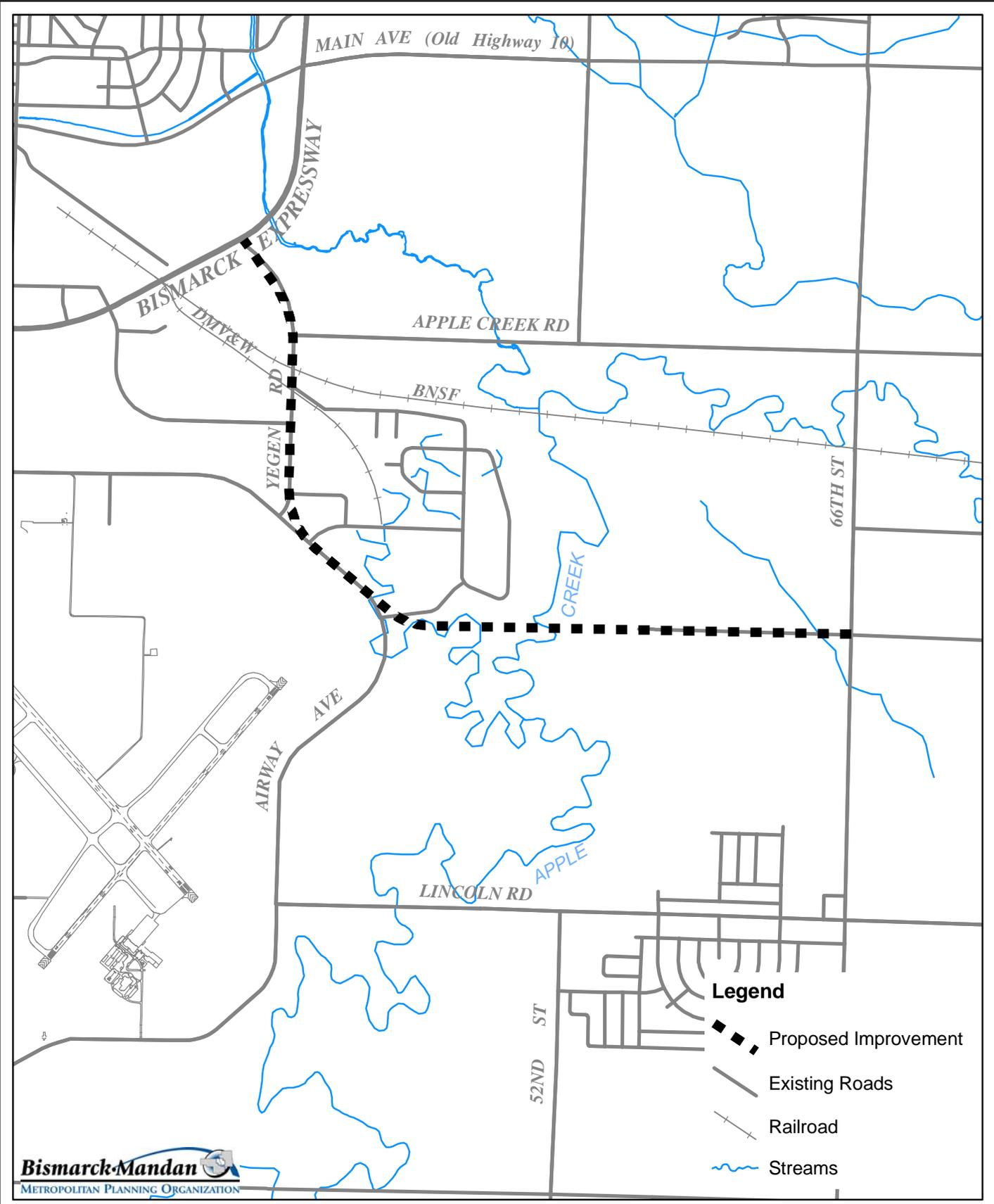
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ALTERNATIVE 0
AIRWAY AVENUE
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Figure
 4

Figure 5 – Alternative 1 – 66th Street Connector to Airway Avenue



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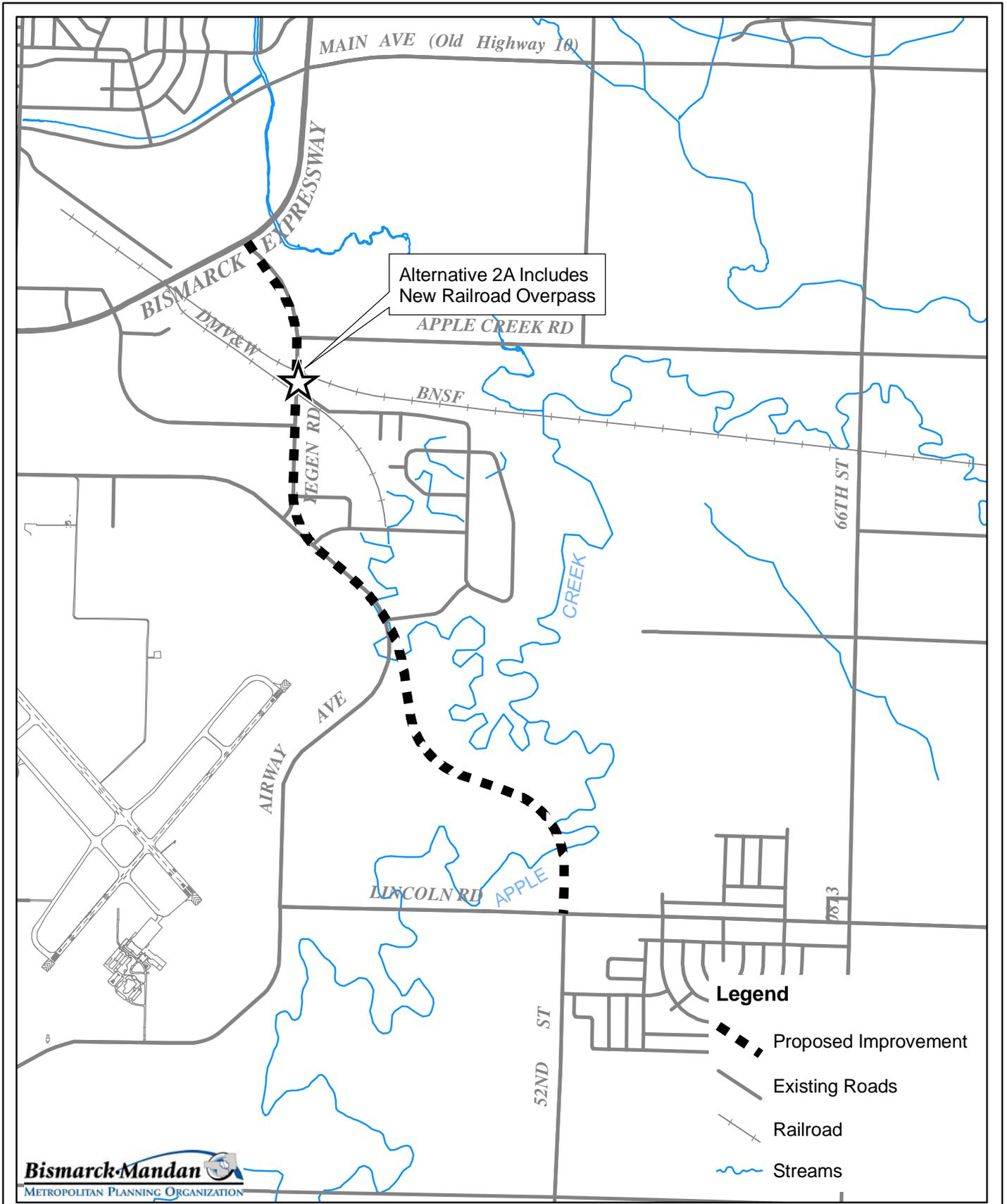
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**ALTERNATIVE 1 - 66th St
CONNECTOR TO AIRWAY AVE**
LINCOLN TO BISMARCK ROADWAY
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Figure
5

Figure 6 – Alternative 2 and 2A – 52nd Street to Airway Avenue



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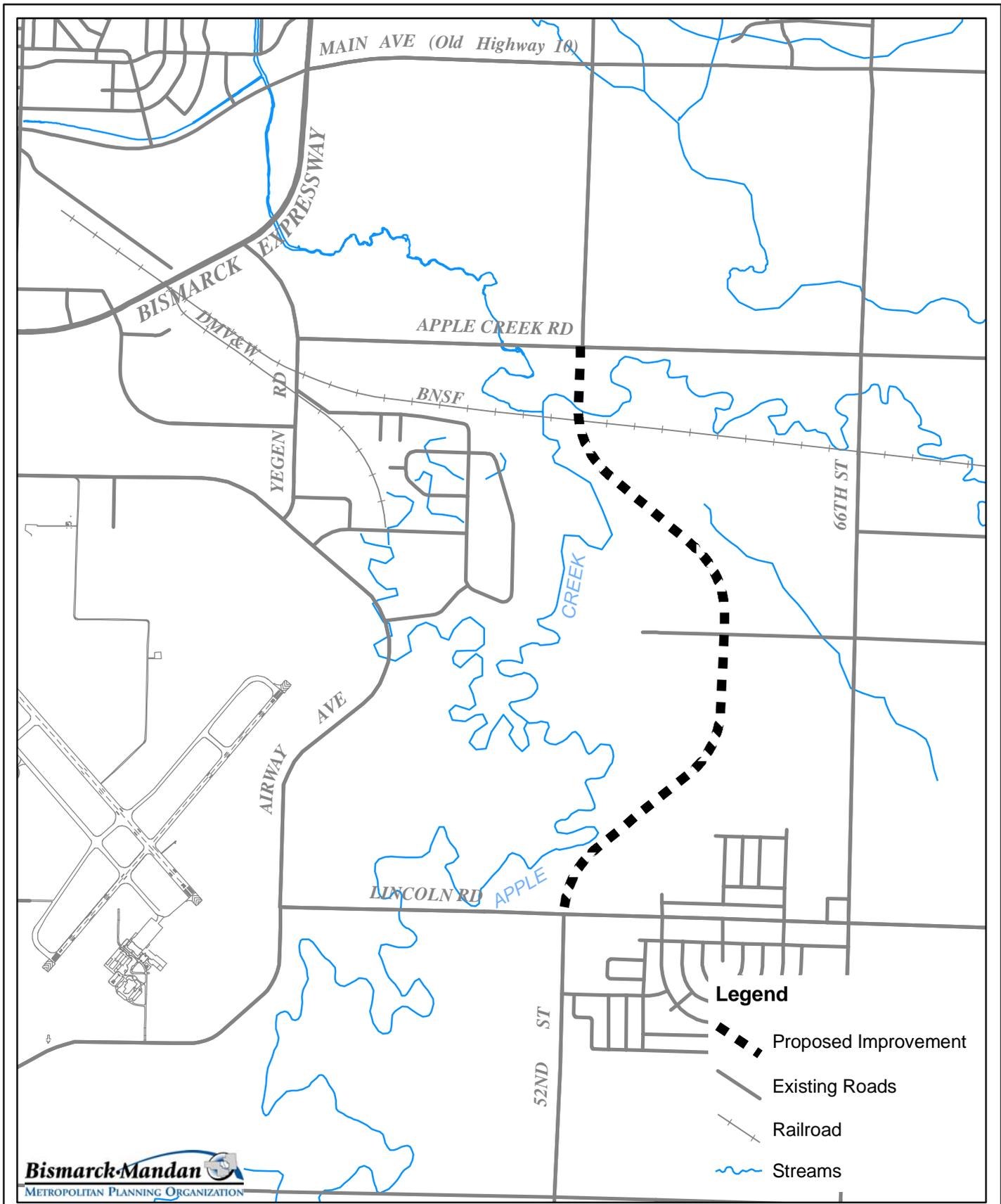
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ALTERNATIVE 2 AND 2A
52nd TO AIRWAY AVE
 LINCOLN TO BISMARCK ROADWAY
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Figure
 6

Figure 7 – Alternative 3A – 52nd Street to Connected Option A



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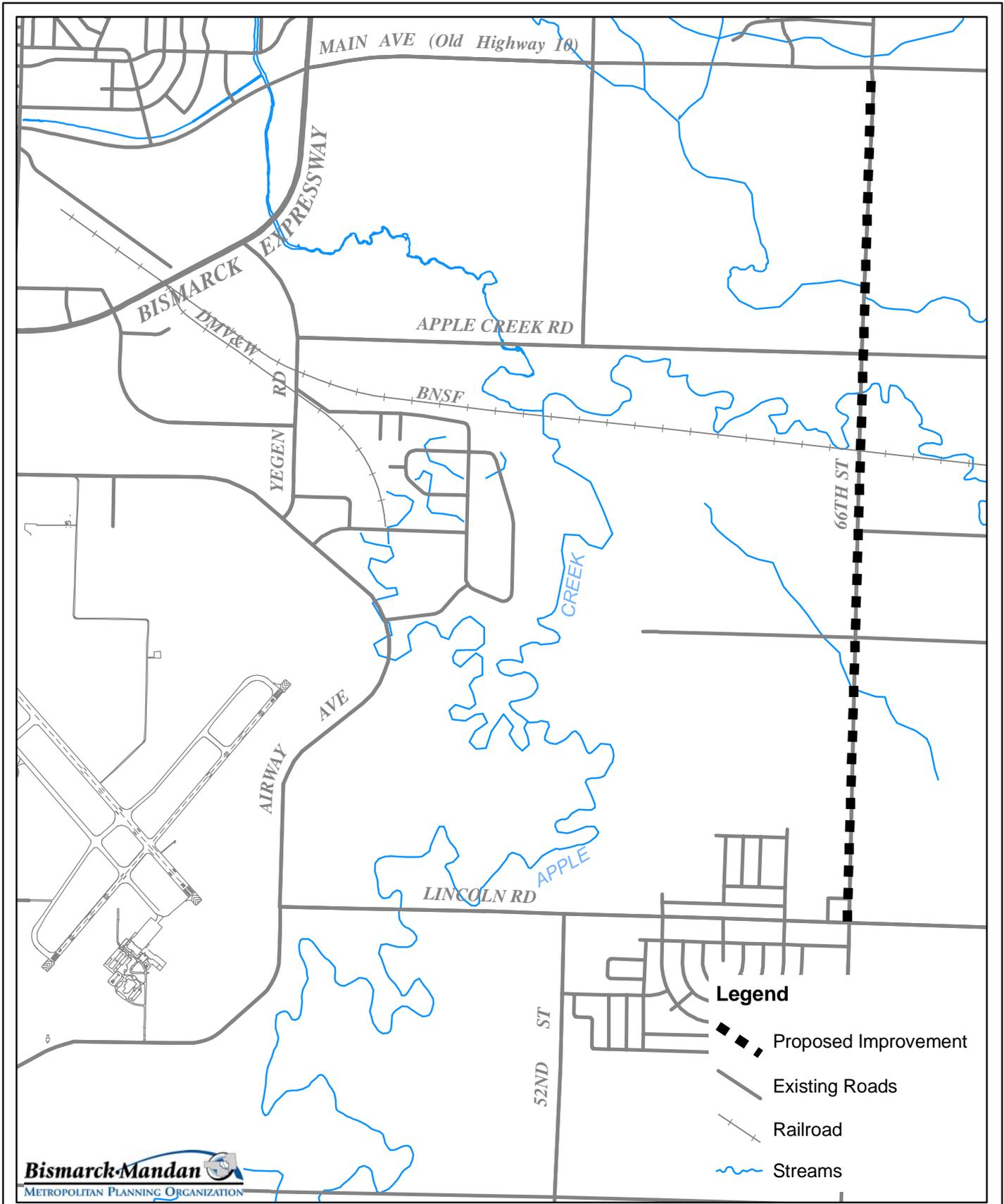
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**ALTERNATIVE 3A - 52nd St
 TO CONNECTED OPTION A**
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Figure
 7

Figure 8 – Alternative 4 – 66th Street



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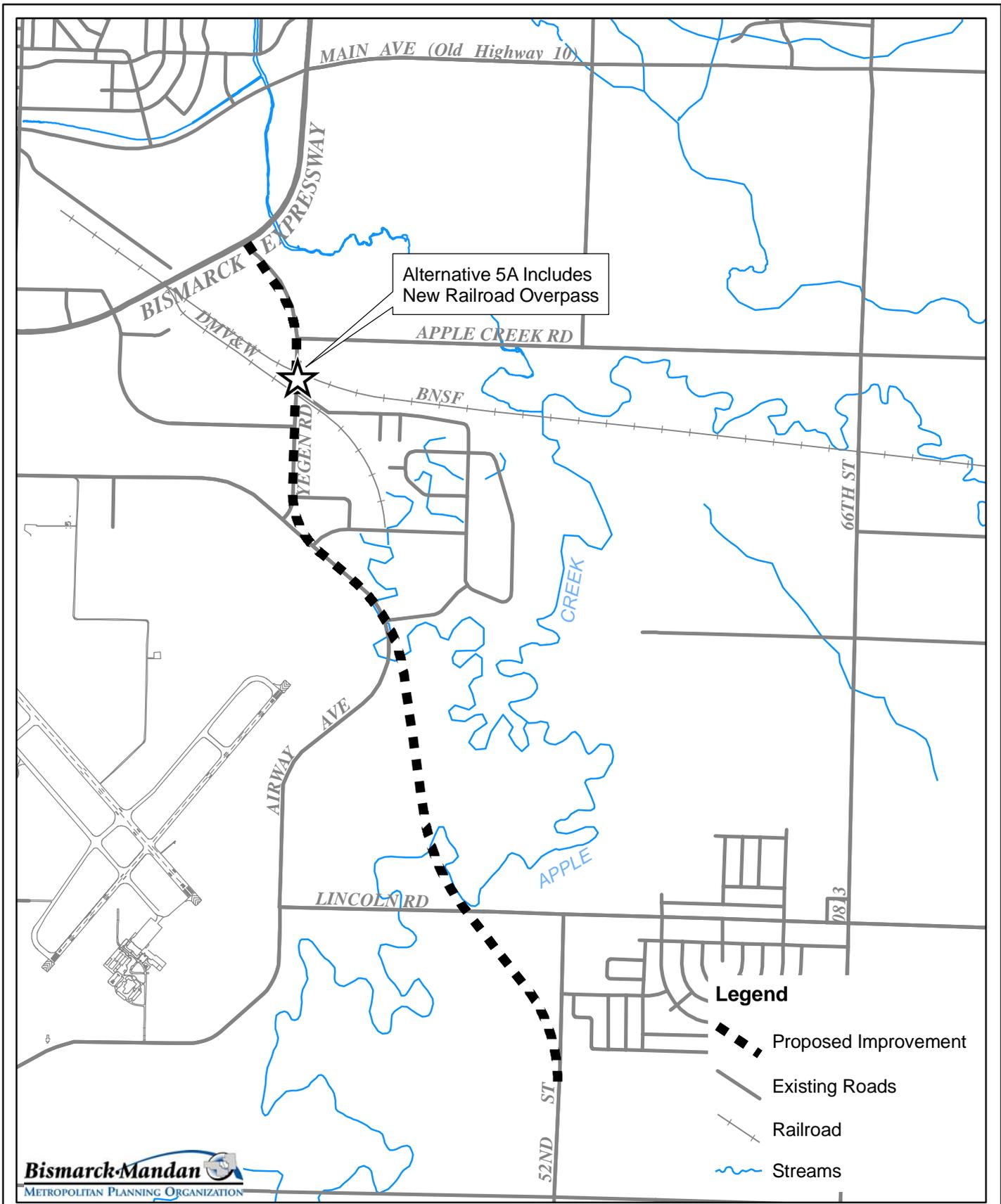
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ALTERNATIVE 4
66th STREET
 LINCOLN TO BISMARCK ROADWAY
 CONNECTION STUDY
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Figure

8

Figure 9 – Alternative 5 and 5A – Soo Line



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**ALTERNATIVE 5 AND 5A
 SOO LINE**
 LINCOLN TO BISMARCK ROADWAY
 CONNECTION STUDY
 Bismarck/Mandan MPO

Figure
 9

4.2.1 Evaluation Matrix

An evaluation matrix comparing each alternative against a series of criteria was assembled to facilitate the evaluation process. The matrix, presented in Table 2, considers cost, compatibility with other plans, environmental issues, and transportation system benefit. Each alternative was scored in terms of how it compares relative to the other alternatives. For example, the lowest cost options received a + or ++ score while the more expensive alternatives receive a – or - - score. A neutral (0) score was assigned when the alternative was considered to be average for that given criteria.

As can be seen in the table each alternative has a mix of adverse and negative attributes. However, there are some key differences in terms of cost and floodway impacts. For example, Alternative 0 is the lowest cost option, and Alternatives 2 and 2A would introduce substantial floodway impacts.

4.2.2 Alternatives Screening

The screening methodology focused first on the degree to which each alternative addressed the traffic needs defined in Section 3.0, which concluded in summary that:

1. The forecast traffic demand (year 2030) does not warrant significant capacity expansion or new facility construction in the study area.
2. Several intersections require improvements in the short term (within five years) to address traffic and anticipated safety issues.

In addition to the traffic needs, the construction cost and environmental concerns outlined in Table 2 also played a major part in determining the feasibility of each alternative.

In applying this approach, the following findings and conclusions were developed:

- Alternative 0 – Addresses the forecast traffic demand assuming Yegen Road is expanded to four lanes between Apple Creek Road and Airway Avenue. This is also the minimal cost and environmental impact option.
- Alternative 1 – Provides a new east-west collector between Lincoln Road and Apple Creek Road. However the option does not address the transportation needs of this study and requires a substantial amount of new right-of-way.
- Alternatives 2 and 2A – Represent significant network improvements but introduce significant impacts to the Apple Creek floodway and require a substantial amount of new right-of-way. The Yegen Road railroad overpass would provide safety and travel time benefits, however given the high cost, land impacts, and regional system plans, the 66th Street corridor should be the priority for a future railroad grade-separation.

Table 2
Alternatives Evaluation Matrix

**Table 2
Alternatives Evaluation Matrix**

Description	0	1	2	2A	3A	4	5	5A
	Existing Airway Avenue	66th St. Connector to Airway Avenue	52nd St. to Airway Ave. w/o RR Bridge	52nd St. to Airway Ave. w/ RR Bridge	52nd St. Connected Option A	66th St	Soo Line	Soo Line w/ RR Bridge
Improve Existing Airway Avenue Corridor		Assumes an east/west connection between 66 th Street and Airway Avenue located ½ mile north of Lincoln Road	Extends north from Lincoln Road/52nd Street and follows a portion of the abandoned Soo Line corridor prior to connecting to Airway Avenue	Extends north from Lincoln Road/52nd Street and follows a portion of the abandoned Soo Line corridor prior to connecting to Airway Avenue. Includes a new Yegan Road overpass of the BNSF corridor.	Extends 52nd Street between Lincoln Road and Apple Creek Road. The alignment curves to avoid Apple Creek floodway impacts.	Expand existing 66th Street.	Follows abandoned Soo Line corridor between 52nd Street, south of Lincoln Road, to Airway Avenue.	Follows abandoned Soo Line corridor between 52nd Street, south of Lincoln Road, to Airway Avenue. Includes a new Yegan Road overpass of the BNSF corridor.
Evaluation Criteria								
Project Costs								
Construction	++	-	0	-	--	-	0	-
Utilizing Existing Right-of-Way	++	--	-	-	--	++	+	+
Compatibility with Other Plans								
Bismarck Transportation Plan	0	0	+	+	0	++	+	+
Airport Expansion	-	-	+	+	0	-	+	+
Lincoln Comprehensive Plan	0	+	0	0	0	0	0	0
MPO Transportation Plan	0	0	0	0	0	++	0	0
Environmental								
Wetland Impacts	0	0	0	0	0	0	0	0
Floodway/Flood Zone impacts	-	-	--	--	-	-	0	0
Endangered Species	0	0	0	0	0	0	0	0
Other SEE Impacts	0	0	0	0	0	0	0	0
Transportation								
Projected Traffic Volumes	0	+	+	+	-	-	+	+
Traffic Operations	0	-	--	0	+	0	-	0
Travel Times		0	+	++	+	++	+	++
Safety		0	0	++	0	++	0	++

-
- Alternative 3A – The concept of a north-south collector between Airway Avenue and 66th Street would be beneficial as the area urbanizes. However, the option does not optimally serve the transportation needs which are the focus of this study. In addition, it requires a significant amount of new right-of-way.
 - Alternative 4 – This option is consistent with long-term regional transportation plans. However, it does not address the specific needs of this study. As noted previously, improvements to this corridor should include a grade-separation of the BNSF rail corridor.
 - Alternatives 5 and 5A – These options are similar to Alternatives 2 and 2A. The primary difference is Alternative 5 and 5A maximize use of the abandoned Soo Line corridor which reduces new right-of-way acquisition and floodway impacts.

5.0 Recommendations

Throughout this study, it has become apparent that the overall solution may not be one route, but improvements to the overall transportation system. The following study recommendations are a composite of Alternative 0 and Alternative 4 and represent actions that balance traffic need, environmental concerns, and limited transportation resources (Figure 10). They have been presented in stages to reflect relative priorities and anticipated funding availability.

Short-term Recommendations (within five years)

- Reconstruct the following intersections to address traffic growth and better accommodate primary traffic patterns:
 - Yegen Road /Airway Avenue
 - Yegen Road/Apple Creek Road
 - Yegen Road/Bismarck Expressway
 - East Main Avenue/66th Street
 - Apple Creek Road/66th Street
 - Lincoln Road/66th Street

In general, these improvements include addition of right and left turn lanes along with sight distance corrections and typically cost between \$0.5 to \$1.5 million.

Mid-term Recommendations (5 to 10 years)

- Reconstruct the Airway Avenue/Lincoln Road intersection to replace the existing three-leg intersection with a direct, non-stop curve between Lincoln Road and Airway Avenue to the north. This improvement, estimated at \$390,000, should take place concurrent with the expansion of the airport runway and subsequent realignment of Airway Avenue.

Long-term Recommendations (11-20+ years)

- Reconstruct Yegen Road between Bismarck Expressway and Morrison Avenue and Airway Avenue and Apple Creek Road to a four lane with turn lanes to accommodate traffic growth anticipated with planned land development. This is estimated to cost \$730,000. A typical section illustrating these improvements is provided in Appendix D.
- Reconstructing 66th Street (Alternative 4) should be pursued as warranted by urban expansion and in accordance with regional plans. A typical section illustrating these improvements is provided in Appendix D. The cost estimate is \$6,240,000. As noted previously, a grade-separation of the BNSF railroad should be included with the corridor improvements.

Additional Recommendations and Considerations

It is recognized that conditions over time will continually evolve in the study area, and as changes occur, it will be appropriate that the report conclusions be revisited. Some things that could occur and present further opportunities are listed below.

- Airport expansion and land development may create opportunities to implement more significant regional transportation improvements which are not warranted based solely on forecast traffic growth. For example,

implementing Alternative 5 may become more viable if it were to occur in response to any future need to close Airway Avenue. The information assembled in this report can be used to guide decision making if and when these opportunities arise.

- Additional local road improvements will need to occur as part of the on-going land development process. It is important that this process address best practices in terms of ensuring local road connectivity between subdivisions and appropriate access planning along the regional/arterial roadways. Furthermore, dependent upon the amount of development which occurs east of Apple Creek between Lincoln Road and Apple Creek Road, a collector road corridor similar to Alternative 3A should be considered.

5.1 Cost Sharing and Implementation

Defining the various funding sources and identifying the agency responsible for securing the required funds is an essential part of the overall study process. Though specific transportation funding levels are uncertain, it is important to spell-out the implementation responsibilities to ensure each project has a lead agency to coordinate the overall funding process.

5.1.1 Funding Sources

There are several options to pursue when attempting to secure funding for transportation improvements. These options, as described below, are best organized by the level of government from which the funds are provided.

City of Bismarck

City funding for Bismarck comes from several sources, including money from the State's Urban Funds program. In order for projects to be funded they need to be included in the City's Capital Improvement Plan, which is a five year plan that is updated annually. The City Commission must approve the plan and then it is passed on to the State and Metropolitan Planning Organization for inclusion into the TIP and STIP (see following sections).

Burleigh County

County funding is provided for transportation projects on the county road system through the County's Capital Improvement Plan. A list of projects is developed, prioritized, and adopted through the Board of County Commissioners.

State

State funds are distributed to state highways through the State Transportation Improvement Plan (STIP). Selection of projects for this plan includes the use of the ND/DOT's Highway Performance Classification System (HPCS). The HPCS breaks down the state highways into five categories; Interstate System, Interregional System, State Corridors, District Corridors, and District Collectors. The highest performance class being the Interstate System and the lowest being the District Collectors. A District Collector is classified as a shorter route which provides connections to the higher level road system.

In order for projects to get funding through this program, they must be on the state highway system and classified on the HPCS and then through the public involvement process are included in the STIP. Currently the STIP is update annually and the current plan includes the years 2006-2008.

Federal

In order for Federal dollars to be spent within the metropolitan area of Bismarck and Mandan the projects must go through the funding process which is lead by the Bismarck/Mandan Metropolitan Planning Organization (MPO). The MPO follows an extensive process, including public involvement, for projects to qualify for Federal funding. The process also includes developing a Long Range Transportation Plan (LRTP) which, once developed and adopted, serves as a guideline for improvements to the transportation system until it is updated or amended. Only roadways identified in the functional classification system and included in the LRTP are eligible for funding.

The MPO uses the LRTP as a guide to develop the Transportation Improvement Plan (TIP) for the area. The TIP is a program designed to identify projects from the LRTP and recommend funding sources. The current LRTP was completed in May 2005 and includes short term projects to 2010 and long range projects to 2030. An interchange on I-94 with 66th Avenue and also improvements along 66th, Lincoln Road, and Airway Avenue are included in the LRTP as long range projects. The TIP is updated annually and currently addresses funding for the years 2006-2008.

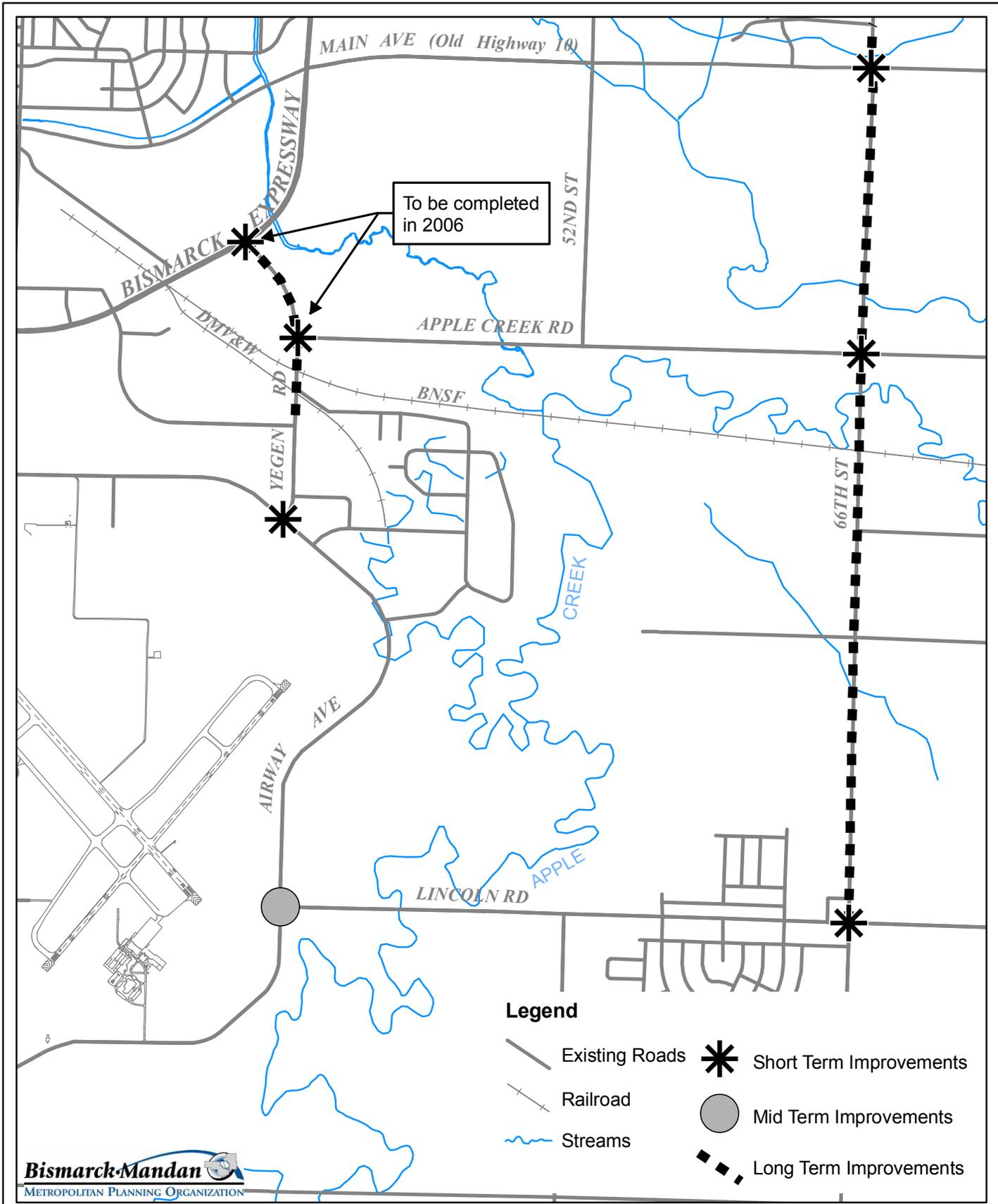
Another source of Federal dollars to fund projects is through the Federal earmarking program. This process involves members of the Senate and House of Representatives identifying priority projects within their State or district that warrant special consideration. These projects are called out specifically in legislation to receive Federal funds for project development and construction.

5.1.2 Implementation Responsibilities

As noted previously, it is important to spell-out the agency responsible for implementing each recommendation to ensure the overall funding process is coordinated. To accomplish this, Table 3 was prepared, which identifies each recommendation, the estimated cost, the agency with jurisdictional responsibility, and potential funding sources. Moving forward, each agency will need to continue to work with the other governmental stakeholders to maximize the probability for timely implementation.

The recommended funding splits were developed based on roadway jurisdiction, and in the case of intersections, contributing legs. Each project will be evaluated on a case by case basis according to state law and local policy.

Figure 10 – Proposed Recommendations



Bismarck-Mandan
 METROPOLITAN PLANNING ORGANIZATION



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FILE NO.
 ABISMA0502.00

DATE:
 05/12/2006

**PROPOSED
 RECOMMENDATIONS**
 LINCOLN TO BISMARCK ROADWAY
 CONNECTION STUDY
 Bismarck/Mandan MPO

Figure
 10

**Table 3
Cost Sharing Plan**

Recommendations	Lead Agency	Potential Funding Sources	Notes
Short-term (within 5 years)			
Yegen Road Intersection/ Airway Avenue	Burleigh County	50% Bismarck, 50% County	Coordinate with NPCC
Yegen Road/Apple Creek Road Intersection	City of Bismarck	2006 construction scheduled	Coordinate with NPCC
Yegen Road/Bismarck Expressway Intersection	City of Bismarck	2006 construction scheduled	Coordinate with NPCC
Main Street/66 th Street Intersection	Burleigh County	County	
Apple Creek Road/66 th Street Intersection	Burleigh County	County	
Lincoln Road/66 th Street Intersection	Burleigh County	50% Lincoln, 50% County	
Mid-term (5 to 10 years)			
Airway Avenue/Lincoln Road Intersection	Burleigh County	50% Lincoln, 50% County	
Long-term (10-20+ years)			
Reconstruct Yegen Road from Morrison to Bismarck Expressway	City of Bismarck	100% City	Costs are based on expanding 3-lane section to 4-lanes with turn lanes
Reconstruct 66 th Street	Burleigh County	TBD	

Appendix A

Written Comments

Lincoln to Bismarck Roadway Connection Open House
Cities of Lincoln and Bismarck
Burleigh Counties
August 15, 2005

Name: Robert Harms
Address: 815 Mandan St.
City/State/Zip: Bismarck, N.D. 58501
Phone/Email: 701-255-2841 harmsrht@aol.com
Comments:

- Exciting project - We are the landowners between Lincoln and Bismarck (of most of the land.)
We look forward to a sound and timely solution for Lincoln and people living south/east of Lincoln.

Traffic should accommodate

- 1.) human behavior/habits
- 2.) timeliness of solution
- 3.) direct route in view of natural resources

4.) Potential expansion of airport-east.

We are in our planning stages and will cooperate/coordinate with study and local jurisdictions.

Your Comments

Please.....

Please place in comment box or mail to Kate Miner at the address on the back of this sheet. If sending via regular mail, please fold comment sheet in thirds and staple or tape.

You may also e-mail your questions or comments to kminer@sehinc.com or ssaunders@state.nd.us



HarmsRbrt@aol.com

01/27/2006 04:43 PM

To: kminer@sehinc.com

cc:

Subject: Lincoln Road study

Hi Kate,

Just a heads up that Lincoln Land Development, LLP will have some additional comments for you on both the decision matrix as well as the initial study results (assumptions etc.).

At the outset, here are a couple of comments (more to follow)

1. We are concerned regarding assumptions that result in cost estimates of \$6 to \$8MM, which include improvements well beyond new alignments, or roads. (we appreciate your limiting cost estimates to just those areas that will require improvement. e.g. 52nd Street connection does not require improvement all the way from Airway to Expressway.)

2. We are concerned with the beginning traffic count in excess of 12,000. (The CURRENT transportation requirements are the focus, and are the need and are approximately 4200 vehicles on Airway Avenue. (By starting at 12,000+ the costs of any recommendation will be difficult to meet, making the likelihood of any project slim.) We would ask that a new beginning figure be used to reflect CURRENT traffic rates, and CURRENT needs.

3. As to decision matrix, we will provide more detailed comments in the next week or so, but let me add, that we should stay focused on the driving need for the study in the first place...which was concern for traffic flow, convenience and safety of the CURRENT route (Airway Avenue.) It seems to me, that we should make the best choice available to meet that need, and then provide some qualifiers by way of costs, environmental challenges, etc.

I'll have more in the next week or so, but wanted to alert you that we are reviewing the materials and speaking with our engineers as well.

Thank you for the effort thus far.

Regards,

Robert W. Harms
Managing Partner
Lincoln Land Development, LLP



HarmsRbrt@aol.com

02/02/2006 05:24 PM

To: kminer@sehinc.com

cc:

Subject: Just a couple of other points on Lincoln Road study

Kate,

Just a couple of additional items I wanted to share for now:

1. Part of the reason for the study for an improved transportation route between the two areas of Lincoln and SE Burleigh County, and the City of Bismarck was school children. I haven't seen any reference to numbers of children that travel to and from schools in Bismarck. Here is what Bismarck Schools tells us:

3 grade school buses;

2 intermediate buses and

1 special needs bus.

Between 300 and 350 kids a day traveling to and from Bismarck.

2. I want to again make the point, that we believe current conditions are what has driven the need for the study for a new route to Bismarck. Current conditions, and not conditions of 2030 should be of primary concern within the study.

3. My final point, is that I'm not certain that the development level assumed for our property should be included. Certainly our intent is to develop the property. However, plans have not yet been completed regarding future development, particularly with respect to residential use. (Certainly residential use is one option under consideration, however we are exploring a host of other options including commercial and industrial development, as well as uses that capitalize on the natural lay of the property (e.g. golf courses, community parks property, to wetlands banking options.) In short, I think the TAZ adjustment that presumes concentrated residential development maybe unwarranted.

Hope this helps.

Regards,

Robert W. Harms
Managing Partner
Lincoln Land Development, LLP



HarmsRbrt@aol.com

02/11/2006 03:20 PM

To: kminer@sehinc.com

cc:

Subject: Bismarck/ Lincoln Road study

Hi Kate,

Harms here for one last comment. One of our partners showed me an article from the Bismarck Tribune dated July 3, 1986 with a headline ***New state road to Lincoln?*** The article reads as if it were written 10 months ago (some of the same concerns of why it couldn't be done.) A couple of outstanding items in the article I thought you should be aware of in particular:

1. The end of the article says "The County also plans to build a new north-south road between Old Highway 10 and the east edge of Lincoln. But people in Lincoln have told the county they won't use that route, saying it is impractical and will add too much mileage"

2. "traffic count showed 2,250 cars on Lincoln Road every day"

The Bismarck Chamber of Commerce Transportation Committee supported building a good highway between Lincoln and Bismarck

My point is this: it seems the Bismarck-Mandan-Lincoln community has evaluated the issue and heard the complaints and concerns, long enough, and its time to make a decision. I hope you and the SEH team will help resolve this issue once and for all.

Regards,

Robert W. Harms
Managing Partner
Lincoln Land Development, LLP



HarmsRbrt@aol.com

02/12/2006 01:11 PM

To: kminer@sehinc.com

cc:

Subject: Final Comments to Lincoln/Bismarck study

Kate, the following are our final comments regarding the study and potential alignments/alternatives. Specifically, I will refer to the decision criteria/matrix handed out last month.

1 At the outset, we believe that ultimately the utility of the project itself should be weighted more heavily than other factors. In the end, service to the public is what has prompted the study in the first place, so how well the alternatives meet that need should be of primary consideration. Then other considerations such as cost, environmental impact etc. if that alternative is selected should be evaluated.

2. Alternative 1 (66th Connector).....although this route might serve our land nicely in the long run, we don't see that as meeting the needs of the public as described above. (It probably should be discarded.)

3. #2 52nd to Airway (with out a bridge): although we don't agree with the exact alignment, this would certainly meet the public's need for a better route perhaps better than most other alignments. It is likely to provide the shortest travel, saving travel costs and travel times. I also see it as functioning well from a safety standpoint.

#2A: 52nd to Airway with a bridge:.....I would discard this option. The railroad bridge, though a nice addition is not likely to be built anytime soon. And with clear alternatives now being identified by the City of Bismarck to avoid the railroad in concert with the NPCC, this alternative seems to be unwarranted.

4 # 3 and 3A: I would also discard these options. Everyone seemed to agree that #3 should go because of challenges following the Apple Creek going north. Likewise, curving east and west to follow Apple Creek to some extent and avoid several crossings seems to duplicate the safety factor the current alignment on Airway Avenue has (the wide sweeping curve on a heavily traveled road.) We should not replicate those curves several times on a new alignment. I would discard this option.

5. #4 66th Street: This alignment is in the MPO long range plan for a beltway (2011 to 2030 and should not even be considered in this study. It should be discarded as being one alignment the MPO has on its long range plan for the metropolitan area.

6. #5 and 5A: Again I think any consideration of a railroad bridge is unnecessary for the reasons stated above. The Soo Line alignment also serves the need, but in retrospect this alignment also may not be as good as a refined "52nd Street" (alternative 2). An alignment that follows the general alignment of #2 seems to serve the public the best and THAT should be the overriding factor. (#5 and #2 seem to accomplish that goal.) One final point on this alternative: I don't see any cause for a (-) on wetlands. There will be no wetlands impacts on this alignment whatsoever (in spite of the maps being utilized.) Even if there is a modest impact to wetlands, they can mitigated quite easily as has been done on other road construction in this very area in recent years.

One final comment: The "Airway Ave. South" alignment that has not been part of this study should also not be presumed. I have several concerns with it being included as part of the final recommendation. First, it is a misdirection from adequately serving the 4500 vehicles that use Lincoln Roadway (75% of which go north). We should build in the direction the public is traveling, not a direction we would like them to travel. Second, the alignment is not even in the matrix of alternatives under consideration. Finally, since the alignment will be part of an airport expansion, it will follow federal guidelines for expending federal funds and will require at least an environmental assessment (perhaps even an EIS), neither of which have been done. So, we should not rely on that alignment in hopes of solving the needs currently being considered.

Thank you for looking at these comments. You have a challenging, yet an exciting project in front of you.

Best Regards,



HarmsRbrt@aol.com

02/14/2006 09:23 AM

To: kminer@sehinc.com

cc:

Subject: 66th Street connector alignment

Kate,

I said my previous comment was my final, however I would like to add 1 last item relating to the 66th Street Connector (Alternative 1).

In speaking further with my partners, they point out a couple of positive attributes to that alignment I had overlooked. If the alignment stays in the mix for consideration, they point out that:

1. It would provide a positive alternative for traffic (to and from) the NPCC, that I hadn't considered. In other words, traffic from the NPCC could be routed east and north (through the 66th Connector) in route to I-94, rather than forced into Expressway to I-94.

2. It would accommodate the growth to the north of Lincoln that is currently underway and is currently within Lincoln city limits.

3. It would be consistent with MPO plans for roads in the area, such as the 66th Street Beltway concept.

4. And finally, it is likely to require a study of the floodway, which is probably something that should be considered for the area because of the planned expansion of the Airport to the southeast, the "South Airway Avenue" route outlined in your most recent presentation, and improvements of Lincoln Road, which should be done to bring it above flood elevation.

One final note, I have sent you 3 or 4 email over the last few weeks. Would acknowlege receipt of this email so I know you have gotten it? Thanks.

Robert W. Harms
Managing Partner,
Lincoln Land Development, LLP



HarmsRbrt@aol.com

02/27/2006 05:49 PM

To: smcbride@sehinc.com, kminer@sehinc.com

cc:

Subject: Additional comments on draft report

Scott and Kate:

Thank you for the work to date on the Bismarck to Lincoln road study. We appreciate the challenge and the work to date and make the following comments in the spirit of hoping to meet the needs of the community. Although some of our comments maybe critical, they are offered in the spirit of participating in the process with the goal of having a product that is most useful to policy makers and the traveling public.

Our comments:

The draft does not seem to meet the project purpose....ie to "have a more desirable route between Bismarck and Lincoln as per the following:

Project Background and Purpose

The cities of Bismarck and Lincoln, along with Burleigh County and the State of North Dakota, recognize the need to have a more desirable route between Bismarck and Lincoln. The Bismarck MPO retained SEH to complete a transportation study to determine the best route between the two communities. (emphasis added.)

This study has many unique qualities, including the expectation of traffic pattern changes in Bismarck due to new development in the area. The new development includes large retail stores, and the building of the Northern Plains Commerce Center (NPCC). Additional distinctive "roadblocks" include several natural and man-made obstacles in the area, including creeks, flood plains, railroads, sewage lagoons and the Bismarck Municipal Airport.

Through extensive public involvement and sound engineering analysis, this study will:

- *Determine the best route*
- *Supply the typical cross section needed to accommodate future traffic*
- *Provide cost estimates for associated work*
- *Recommend a cost-sharing plan among stakeholders*

2. Secondly, the Study should provide policy makers (MPO members) with options and clear choices as opposed to purporting to set policy. In that regard, the policy choice for such things as "cost" should be left to them, keeping in mind that the goal of the study was to determine a more desirable route.

3. Options and choices in the study should be displayed so that those choices include:

- the possible route
- the cost of a TWO lane road at present costs.
- the pros and cons of the option so policy makers can clearly see their choices

4. Any recommendation, should recognize the current need of the system. (The draft does not appear to recognize existing and near term expansion of transportation needs of the region as per recorded traffic volumes, and new volumes with the advent of a Super Walmart, Sam's Club, a new strip mall and the NPCC. (The NPCC will include 100 jobs at the Melroe facility alone.) All of these pressures strain the current system. The request for the study was based upon current demands, and deficiencies of the existing route.

5. Travel time Study/Public preference:

I would discard the travel time study since it was apparently completed by a small number of stakeholder members. It provides little reliable data. Conversely, the people of Lincoln have clearly indicated their preference. In the 1986 news article, it was reported that people living in the area would not use 66th Street. Likewise the survey done by the City in 2005 indicated a clear preference for a direct link rather than going south around the airport, or east and north on 66th Street. Likewise, the economic costs

of traveling the circuitous route has been well documented, costing Lincoln area residents \$500,000 annually.

6. The Draft recommendation needs to be revised. Thus far, the report recommends improvements of intersections, coupled with a south loop with the expansion of the airport which is tantamount to no recommendation :

a.) IF "Alternative 0" is the final plan, and the airport expansion occurs, the alignment on Airway Avenue (from south going north) will have two curves, or detours. (A person will have to go north, then east, then north to get back to Lincoln Road, travel west to Airway Avenue and north again around the existing curve. (Certainly NOT a "more desirable route".)

b.) It fails to address the significant flooding/access on Lincoln Road during a flood.

c.) It does not capitalize on forthcoming modifications and studies that will be forthcoming regarding the floodway, but instead places planning for this project in a silo, separate from future floodway studies that will take place. **(Recall: each route traverses the floodway and necessitates some impact/evaluation of the floodway.)**

d.) The 66th Street connector (Alternative 1) should be reconsidered for recommendation. It will provide the following benefits:

i.) The NPCC will have an alternative route, diverting traffic from Expressway, and relieving growing pressure on that route in Bismarck

ii.) It will more closely meet the objective of the study (to provide a more desirable route between Bismarck and Lincoln)

iii) It will better serve the growth that is presently occurring on the **north** side of Lincoln.

iv) It can be combined with floodway studies necessary for alleviating flooding on Lincoln Road, and the expansion of the airport, which could be done in one study.

v.) And the 66th Street Connector **is** on a section line, so right of way is available.

e.) The current recommendation does not address key elements in the study that should be given great weight, such as travel time, safety, and costs to the traveling public. (None of these factors are even considered in the current recommendation.)

For all of these reasons we ask that you reconsider, your recommendation and the display of choices that should be left to policy makers. (Your recommendation should consider engineering options, and display costs, challenges, and benefits.) But, IF a recommendation is suggested, then the 66th Street Connector should be recommended.

Thank you.

Sincerely,

Robert W. Harms
Lincoln Land Development, LLP



Lincoln to Bismarck Roadway Connection Open House
August 15, 2005

Summary of Comments
(four comments received)

Exciting Project – We are the land owners between Lincoln and Bismarck (of most of the land). We look forward to a sound and timely solution for Lincoln and people living south/east of Lincoln. Traffic should accommodate:

- 1. human behavior/habits*
- 2. timeliness of solution*
- 3. direct route in view of natural resources*
- 4. potential expansion of airport – east*

We are in our planning stages and will cooperate/coordinate with study and local jurisdictions.

I enjoyed the meeting and it felt good to have the opportunity to see the timeline for the project. I drive 66th over 99% of the time that I go to Bismarck. 66th could be better way to Bismarck if Apple Creek and Hwy 10 were better roads. I think that having turning lanes on Hwy 10 would be a great improvement. I know that most people in Lincoln want a road that is the shortest cutting through the empty field. I am concerned that with rail and truck traffic that the road might make the trip into south Bismarck shorter mileage but, longer in time. Another concern is Lincoln Road and how Lincoln residents turn into the south and north parts of the city. If 52nd becomes the way into our town a solution for get people off Lincoln Road and into the north and south parts of the city will have to be addressed. Right now if you are traveling east on Lincoln Road try to turn north on to McDougall sometimes it can take awhile. The same thing happens to people driving west turning into south Lincoln.

I would like to add a comment regarding the proposed road from Lincoln to Bismarck. In view of the fact that Americans are becoming flabbier and more obese, (with ND almost leading the pack) and the current rising price of gasoline, I would like to urge including a bicycle path to any new road proposed from Lincoln to Bismarck. The present roads are very narrow and somewhat dangerous to cyclists, although my wife and I regularly use them. Although I live a couple of miles east of Lincoln and am

retired, if there were a safe bike path from Lincoln to Bismarck linking up with the Parks and Rec bike paths I would gladly ride to work, weather permitting. I would urge you to include a safe bike path in any plans for a road from Lincoln to Bismarck. In the same vein I would urge a bike path to be constructed to link up with the excellent paths north of Main to the paths over by the Cottonwood lake area. This would effectively surround pretty well the whole city of Bismarck.

I had a thought this morning regarding the study that may or may not has been considered at this point. This morning there was a traffic accident at the intersection of Lincoln Road and Airway Avenue near the airport. This caused traffic back up on Lincoln Road from Airway Avenue to the Apple Creek crossing and no alternative route west to Highway 1804. I know there has been emphasis on Lincoln to Bismarck by a direct route toward the NPCC area, however has there been any thought given to an access route from Lincoln to Highway 1804 to the west and persons traveling to the University of Mary, to the southwest side of Bismarck and toward Mandan? There is the possibility that Airway Avenue around the airport could be closed due to the extension of runway 13/31 to the southeast in the future. 66th Ave. east and around south of Lincoln to Highway 1804 is considered for a bypass around Bismarck/ Mandan at some point in the distant future. Could this be considered for a route to Highway 1804 should Airway Avenue and a portion of Lincoln Road be closed?



Lincoln to Bismarck Roadway Connection Open House November 14, 2005 Summary of Comments

Since they will be eventually closing Airway Avenue to 26th Street; our fastest route to Bismarck; it would be nice if they compensated us by making the new route (which ever it may be) going through Yegen to Expressway a thoroughfare. Meaning the most least resistant road, no stop signs or train tracks; if train tracks then a overpass or underpass.

Soo Railroad option looks most cost effective because of the flood plain. With the grain elevator and livestock auction along the road there is a lot of big slow moving traffic. There'd have to be 4 lanes and turning lanes. Another thing that would improve traffic is an overpass over the train tracks. Last Sunday I was delayed @ 10 minutes for a train. I'm glad I wasn't headed for work. I've lived in Lincoln 20 years and I hope you do the road right this time. Thanks

1. We need an additional route to Bismarck other than existing routes. Lincoln Road to Airway to 1804. or 66th St. 2. Use least amount of private property possible. Options – 52nd St to Airway to Yegen Road. If choice between improve old routes or build new one I think we should build a new one.

This plan cuts the people of Lincoln off from the heart of Bismarck. If you work at Sykes or the new Super Center (Wal-Mart) they are going to half to drive around. Does that make sense? In Bismarck there is only two routes north to be able to get downtown from the south without crossing the tracks. That would be Washington Street and 9th Street; both of them being underpasses. In any emergency that is an issue. All residents south of the tracks are at a disadvantage. Is cost more important than a person life? I feel that the city of Bismarck is not considering the people of Lincoln at all. They are only thinking of the profit to Bismarck. It's a known fact that the more time you spend driving the more likely you'll have an accident. To take route 66 is adds an additional 930.6 miles a year just to go to and from work 5 days a week!

Well run meeting – I think that the best plan is to follow the Soo Line Rail Grade. Second best option is 52nd St. to Airway Ave. using some of the rail bed.

52 to Expressway safety fire truck's & ambulance to get to Lincoln no crossing over railroad because of cost, would you want to cut cost or save the life of a family by putting a overpass across the tracks.

Get a microphone. When you get a question, repeat it otherwise it's only a conversation with you and the questioner. The Bismarck MPO plan is badly flawed – don't count on the 48 & 66 beltline. It misses Mandan by 7 miles. Is not part of 2005 Master Plan. You lost control of the meeting at the end of your presentation. You did a good job explaining your analysis of the problem.

If Airway is being closed and Morrison isn't going to be available for traffic where do you propose having traffic flow? The NPCC is going to generate a lot of traffic. Some say not – I disagree. Any business generates traffic if only for its employees. Has thought been given to 66th Street – if vehicle count is proven shouldn't the stop signs be changed? Stop traffic on Apple Creek Rd, have 66th a through. Vehicle change has been done in Bismarck, Tyler Pkwy/Century & S 12th St recent years. Just where is the funding gonna come from?

Our choices would be as listed: Choice No. 1 Soo Railroad Option D, Choice No. 2 Soo Line Railroad Option. It is our opinion that because of the flood plain these 2 options are the best options when considering environment, cost, cost effectiveness, funding, etc.

Appendix B

Environmental Resource Review

Environmental Resources Review

Wetlands

The National Wetlands Inventory (NWI) was reviewed to identify potential wetlands that occur in the project area. The NWI, developed by the U.S. Fish and Wildlife Service (USFWS), is a national database of wetlands that were determined through the review of aerial photographs and off-site resources by NWI staff in the 1980s and early 1990s. The NWI is useful as a “first cut” for identifying potential wetlands and is used for early screening and preliminary studies. A field verification wetland assessment or wetland delineation typically occurs at the later stage of the project when alternatives have been determined, or even after the selection of a preferred alternative and the completion of the NEPA documentation.

Approximately two dozen wetland basins are located within the project study area. The majority of these wetlands occur within the designated 100 and 500 year floodplains of Apple Creek. Wetlands that are not isolated and are connected to U.S. Navigable Waters are regulated under Section 404 and Section 10 of the Clean Water Act as administered by the U.S. Army Corps of Engineers (USCAE). Project related impacts to these jurisdictional wetlands will require a Section 404 permit as approved by the USACE. The project wetland permit application will require a demonstration of project need and wetland impact sequencing measures. Wetland sequencing includes measures that were taken to avoid, minimize and if required, mitigate for wetland impacts.

Contact with the USFWS and the North Dakota Department of Game and Fish (NDG&F) was initiated to get early feedback on some potentially important issues on wetlands and other natural environment subjects. Some of the wetlands that are within the Apple Creek floodplain are considered unique by these agencies, in particular the oxbow basin wetlands. This is a unique wetland resource that is difficult to provide mitigation for. Oxbow wetlands also provide important wetland functions and values and are important habitats for fish and wildlife resources. Project alternatives should avoid impacts to these wetlands and the exact locations of these wetlands should be determined during the preliminary planning phase to implement successful avoidance.

Wetland permitting for the project will be required if wetlands are impacted. The federal Executive Order 11990 on No Net Loss of Wetlands will apply. The Federal Highways Administration (FHWA) has developed policy and requirements for the discussion of wetland sequencing measures, mitigation goals, and other responses when addressing wetland impacts in NEPA documents and planning for the project. Most of the provisions in the Executive Order are compatible and parallel with the implementation of the Section 404 program by the USACE, with one exception, all wetland impacts must be accounted for, including wetlands that are isolated from U.S. Navigable Waters.

Agencies who are involved with wetland permitting for the project will also provide formal review of any NEPA documents for the project. These agencies may also participate in technical advisories committees, early agency coordination, or other project

involvement roles during the NEPA studies and preliminary planning for the project. Early project involvement with these agencies is key and could facilitate and expedite the planning and permitting phases for the wetland impacts for the project. Besides the USACE and USFWS, state and local agencies may be potential stakeholders in the wetland review process, and should be solicited for input and interest on this subject. These agencies could include the North Dakota Departments of Game and Fish (NDG&F), Parks and Recreation (NDP&R), and the Area Planning Organization (APO).

State of North Dakota Sovereign Lands

The North Dakota State Water Commission (NDWC 2005) was contacted to identify if there are any known Sovereign Lands potentially occurring within the project study area. Sovereign Lands are defined as land that occurs at or below the Ordinary High Water (OHW) elevation of a defined waterbody. According to the NDWC, there are no Sovereign Lands within the project study area.

Rare, Threatened or Endangered Species

Federal

The project county is within the ranges of and contains verified occurrences of the following species that are listed on the federal Endangered Species Act.

- Least tern (inland population) – *Sterna antillarum*, status – Endangered
- Piping plover – *Charadrius melodus*, status – Threatened
- Pallid sturgeon – *Scaphirhynchus albus*, status – Endangered
- Bald eagle – *Haliaeetus leucocephalus*, status – Threatened (proposed for delisting)
- Whooping crane – *Grus americana*, status – Endangered

According to the U.S. Fish and Wildlife Service (USFWS, 2005), there are no known occurrences of or designated Critical Habitats for these species within and immediately adjacent to the study area for the projects. Based on these conditions, it is unlikely that Section 7 Consultation under the Endangered Species Act will need to occur for this project. Despite this initial correspondence, the USFWS should still be contacted at the onset of NEPA review for the project to confirm that no changes have occurred with regard to listed species and confirm the status of the need for Section 7 Consultation. This is especially important since this project could span a long period of time when many changes could occur in the status of these species in the project study area. The USFWS will also provide concurrence that listed species and Migratory Birds Act project implications are satisfactorily addressed when the U.S. Army Corps of Engineers issues any Section 404 or Section 10 permits for the project. USFWS concurrence is required for these federal permits and other federal agency approvals, including FHWA approval of the NEPA documents.

State

There is no state endangered species act or statutes for the state of North Dakota, but the NDG&F has developed a “List of Conservation Priority” (LCP) that identifies animal species and resources that are considered rare, unique, or under threat within the state. As the project progresses, the NDG&F should be involved as a project stakeholder to

provide updates and guidance for potential project effects on LCP species. Many of these animals listed as LCP species are motile and could potentially occur within the project study area in the future.

The North Dakota Parks and Recreation Department (NDPRD) maintains the “North Dakota Rare Plant List” under its Nature Preserves Program and Natural Heritage Inventory. This list describes the federal and state status of several hundred rare plants that are found within the state. Appropriate habitats within the study area could potentially harbor rare plants. Botanical surveys are required to fully determine the presence/absence of these species within suspect area. No rare plants are known within the study area, but this could be due to the lack of botanical survey data. Because of this status, the NDPRD should be consulted with and involved as a agency project stakeholder to assure that rare plants are adequately addressed as the project progresses.

Fish and Wildlife Resources

Federal

As of 2005, there are no federal Wildlife Refuges, Waterfowl Production Areas, designated Critical Habitats, or other easements or federally managed areas for fish and wildlife within or immediately adjacent to the project study area. The project area does contain habitat for fish and wildlife species that are common to the region. These include grasslands, woodland, and riparian habitats, most of which is concentrated within the Apple Creek floodplain or in close proximity to it.

The FHWA and USFWS will require that federally funded projects comply with the provisions of the federal Migratory Bird Treaty Act. The Act protects native birds and their nests. The USFWS regulates the act, and provides guidance and oversight for compliance. The NEPA documents for the project should address potential impacts to migratory birds and impact minimization and mitigation measures for compliance with the Act. This includes addressing project alternatives that minimize impacts to the above mentioned habitats and subsequently, migratory birds.

A project receiving federal funding will also need to recognize coordination under the federal Fish and Wildlife Coordination Act. In general, this Act requires that agencies consider impacts to publicly funded wildlife management efforts and fish and wildlife habitats.

State

According to the NDG&F there are no state owned wildlife management areas, conservation easements, or other state owned fish and wildlife management lands within the project study area. Given the long duration of this project, the NDG&F should continue to be consulted with and involved as a project agency stakeholder to keep the project updated and informed on the status of such lands within the project study area.

References

U.S. Fish and Wildlife Service National Wetlands Inventory Map, Digital Data, 2005.

(From 1980 aerial photographs.) Scale: 1" = 2,000'.

Record of Conversation, North Dakota Game and Fish Department. Mr. Bruce Kreft.
December 12, 2005.

Record of Conversation, U.S. Fish and Wildlife Service. Mr. Bill Bicknell. December 12,
2005.

Record of Conversation, North Dakota Water Commission. Mr. John Paczkowski.
December 19, 2005.

Electronic mail correspondence, North Dakota Water Commission. Mr. John
Paczkowski. January 3, 2006.

North Dakota Rare Plant List, 2000. North Dakota Parks and Recreation Department,
Nature Preserves and Natural Heritage Inventory.

North Dakota's Species of Conservation Priority. North Dakota Outdoors, Number 1,
Volume 117. July 2004. North Dakota Game and Fish Department.

Appendix C

Cost Estimates

Connecting Roadway Study

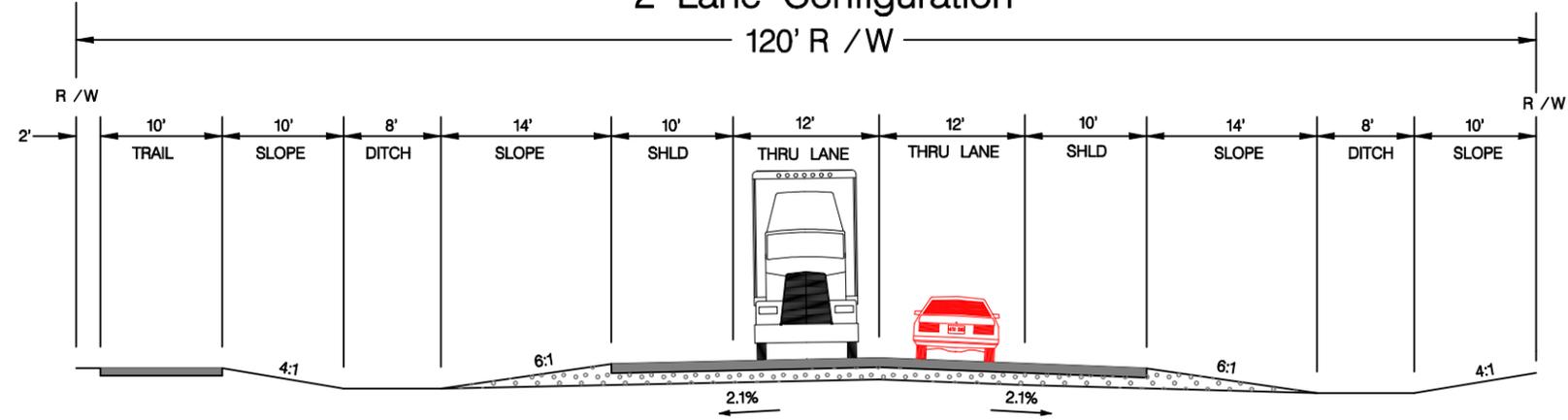
Cost Estimate

Construction Items	Length of Existing Roadway Utilized (ft)	Number of Lanes	Total Length Constructed (ft)	Cost per Mile (millions)	Roadway Cost	Bridge Cost	RR Crossing Cost	Total Cost
Alternative 0 - Airway Avenue								
Extension from Bismarck Expressway to Apple Creek Road		2	2,325	\$1.00	\$440,341	\$0	\$0	\$440,000
Apple Creek Road to Morrison		2	1,535	\$1.00	\$290,720	\$0	\$0	\$290,000
2 at Grade RR Crossings (To be installed in 2006)					\$0	\$0	\$0	\$0
Airway / Yegan Intersection		2	1,690	\$1.75	\$560,133	\$0	\$0	\$560,000
Curve to Lincoln Road		2	1,170	\$1.75	\$387,784	\$0	\$0	\$390,000
Alternative 0 - Total	9,501		6,720		\$1,678,977	\$0	\$0	\$1,680,000
Alternative 1 - 66th Street Connector to Airway Avenue								
Extension from Bismarck Expressway to Apple Creek Road		2	2,325	\$1.00	\$440,341	\$0	\$0	\$440,000
Apple Creek Road to Morrison		2	1,535	\$1.00	\$290,720	\$0	\$0	\$290,000
2 at Grade RR Crossings (To be installed in 2006)					\$0	\$0	\$0	\$0
Airway / Yegan Intersection		2	1,690	\$1.75	\$560,133	\$0	\$0	\$560,000
Airway to 66th Street		2	9,700	\$1.75	\$3,214,962	\$0	\$0	\$3,210,000
Alternative 1 - Total	2,876		15,250		\$4,506,155	\$0		\$4,500,000
Alternative 2 - 52nd to Airway Avenue								
Extension from Bismarck Expressway to Apple Creek Road		2	2,325	\$1.00	\$440,341	\$0	\$0	\$440,000
Apple Creek Road to Morrison		2	1,535	\$1.00	\$290,720	\$0	\$0	\$290,000
2 at Grade RR Crossings (To be installed in 2006)					\$0	\$0	\$0	\$0
Airway to Lincoln Road / 52nd Street		2	10,380	\$1.75	\$3,440,341	\$0	\$0	\$3,440,000
Alternative 2 - Total	2,251		14,240		\$4,171,402	\$0		\$4,170,000
Alternative 2A - 52nd to Airway Avenue with RR Overpass								
Extension from Bismarck Expressway to Apple Creek Road		2	2,325	\$1.00	\$440,341	\$0	\$0	\$440,000
Apple Creek Road to Morrison		5	1,535	\$3.00	\$872,159	\$0	\$0	\$870,000
RR Bridge (5 lane)					\$0	\$1,352,800	\$0	\$1,350,000
Morrison to Lincoln Road / 52nd Street		2	12,631	\$1.75	\$4,186,411	\$0	\$0	\$4,190,000
Alternative 2A - Total	0		16,491		\$5,498,911	\$1,352,800		\$6,850,000
Alternative 3A - 52nd to Connected Option A with RR Overpass								
Apple Creek Road to Lincoln Road / 52nd Street		2	14,100	\$1.75	\$4,673,295	\$0	\$0	\$4,670,000
RR Bridge (2 lane)					\$0	\$744,040	\$0	\$740,000
Alternative 3A - Total	3,945		14,100		\$4,673,295	\$744,040		\$5,410,000
Alternative 4 - 66th Street with RR Overpass								
Apple Creek Road to Lincoln Road / 52nd Street		2	16,591	\$1.75	\$5,498,911	\$0	\$0	\$5,500,000
RR Bridge (2 lane)					\$0	\$744,040	\$0	\$740,000
Alternative 4 - Total	0		16,591		\$5,498,911	\$744,040		\$6,240,000
Alternative 5 - Soo Line								
Extension from Bismarck Expressway to Apple Creek Road		2	2,325	\$1.00	\$440,341	\$0	\$0	\$440,000
Apple Creek Road to Morrison		2	1,535	\$1.00	\$290,720	\$0	\$0	\$290,000
2 at Grade RR Crossings (To be installed in 2006)					\$0	\$0	\$0	\$0
Airway / Yegan Intersection		2	1,690	\$1.75	\$560,133	\$0	\$0	\$560,000
Airway to 52nd Street		2	10,730	\$1.75	\$3,556,345	\$0	\$0	\$3,560,000
Alternative 5 - Total	2,752		16,280		\$4,847,538	\$0		\$4,850,000
Alternative 5A - Soo Line with RR Overpass								
Extension from Bismarck Expressway to Apple Creek Road		2	2,325	\$1.00	\$440,341	\$0	\$0	\$440,000
Apple Creek Road to Morrison		5	1,535	\$3.00	\$872,159	\$0	\$0	\$870,000
RR Bridge (5 lane)					\$0	\$1,352,800	\$0	\$1,350,000
Morrison to 52nd Street		2	15,172	\$1.75	\$5,028,598	\$0	\$0	\$5,030,000
Alternative 5A - Total	0		19,032		\$6,341,098	\$1,352,800		\$7,690,000

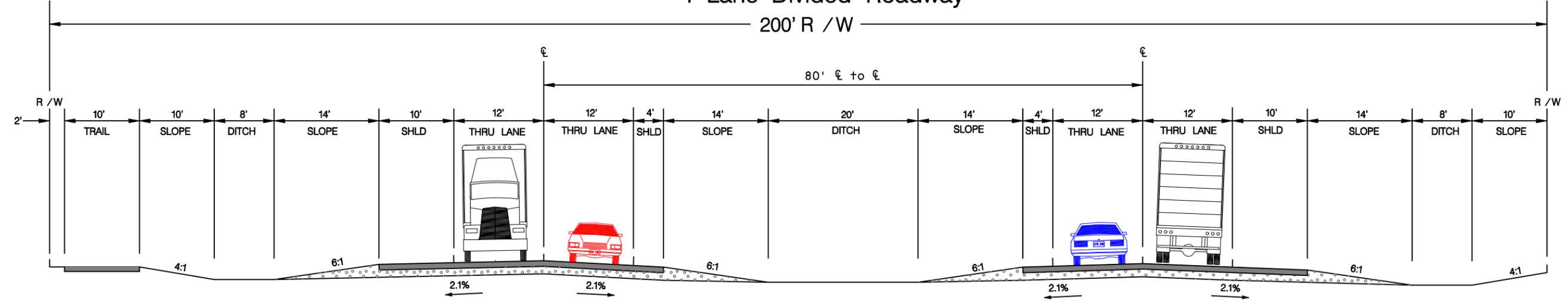
Appendix D

Typical Sections

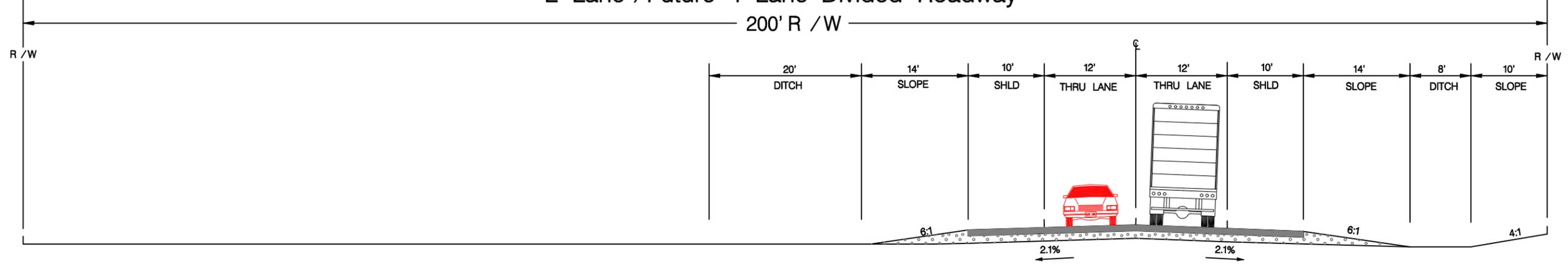
Typical Section 2 Lane Configuration



Typical Section 4 Lane Divided Roadway



Typical Section 2 Lane /Future 4 Lane Divided Roadway



**PRELIMINARY
FOR REVIEW ONLY**

NOT TO SCALE

R:\AE\B\B\B\B\B\CAD\TYP_EXH_A.dgn 5/18/2006



DATE:
05/18/06

FILE NO.
ABISMA0502.00

**CITY OF BISMARCK TO CITY OF LINCOLN CONNECTING ROADWAY STUDY
TYPICAL SECTIONS**

**EXHIBIT
NO. A**

