

VETERANS BOULEVARD CORRIDOR

EXTENSION STUDY

Executive Summary

January 2022

TABLE OF CONTENTS

Introduction	2
Study Area and Background.....	2
Existing Conditions Summary.....	4
Corridor Vision	4
Key Stakeholder Engagement	5
Improvements to Existing Corridor.....	5
Extension Alignment Alternatives.....	7
Extension Corridor Alternatives.....	9
Deer Creek Connection	16
Integrating Active Transportation.....	19
Public Input	19
Cost Estimate Summary	21
Implementation Analysis Background	22
Implementation Analysis	22

LIST OF FIGURES

Figure 1: Study Area.....	3
Figure 2: Veterans Boulevard Southbound Transition at 40 th Avenue South.....	5
Figure 3: 180-Foot Roundabout Concept for Veterans Boulevard and 44 th Avenue South	6
Figure 4: 150-Foot Roundabout Concept for Veterans Boulevard and 44 th Avenue South	6
Figure 5: Veterans Boulevard Extension Corridor Alignment Alternatives	8
Figure 6: Standard Intersection Alternative Typical Section (Facing North).....	9
Figure 7: Intersection Location and Type for the Standard Intersection Alternative.....	9
Figure 8: Veterans Boulevard and 64 th Avenue South.....	10
Figure 9: Veterans Boulevard and 76 th Avenue South.....	10
Figure 10: Veterans Boulevard and 88 th Avenue South.....	10
Figure 11: Roundabout Intersection Alternative Typical Section (Facing North)	11
Figure 12: Intersection Location and Type for the Roundabout Intersection Alternative	11
Figure 13: Intersection of Veterans Boulevard and 64 th Avenue South	12
Figure 14: Intersection of Veterans Boulevard and 76 th Avenue South	12
Figure 15: Intersection of Veterans Boulevard and 88 th Avenue South	12
Figure 16: Typical Section A (Facing North)	13
Figure 17: Typical Section B (Facing North)	13
Figure 18: Typical Section C (Facing North)	14
Figure 19: Intersection Location and Type for the Modified/Variable Alternative	14
Figure 20: Location and Design of Minor Intersections by Typical Section	15
Figure 21: Location of Deer Creek Connection Alternatives.....	17
Figure 22: Deer Creek Connection Alternatives Detail	18
Figure 23, Future Bicycle and Pedestrian System Considerations.....	19
Figure 24: Comparison of Preference Responses for Corridor Extension Alternatives.....	20
Figure 25: Comparison of Preference Responses for Deer Creek Connection Alternatives.....	21
Figure 26: Implementation & Phasing Strategy.....	23

LIST OF TABLES

Table 1: Planning-Level Cost Estimates.....	21
---	----

EXECUTIVE SUMMARY

INTRODUCTION

As growth and development continues in the Fargo-Moorhead area's southwest metro, a continuous mile line corridor along Veterans Boulevard will be necessary to meet future transportation needs. Historically, major arterials like Veterans Boulevard attract vehicle-oriented development and thus prioritize moving vehicles quickly and efficiently. However, recent planning efforts across the metro have identified the desire and need to bring a multimodal approach to developing future corridors. Decisions regarding the form and function of the Veterans Boulevard corridor will influence investments on a series of adjacent corridors that are programmed for improvement over the next five to 10 years. These include mid-term improvements along Sheyenne Street and 45th Street and longer-term improvements along both 64th Avenue South and 76th Avenue South. Significant additional local, state, and federal funds are anticipated to be allocated to these corridors and have the potential to rebalance projected system-wide needs.

STUDY AREA AND BACKGROUND

This study will evaluate the existing segment of Veterans Boulevard between 40th Avenue and 52nd Avenue South, and the potential for a phased extension from 52nd Avenue to 100th Avenue South. A map of the study area can be seen in Figure 1. The study will also evaluate five existing intersections along the corridor:

- » Veterans Boulevard and 40th Avenue South
- » Veterans Boulevard and 44th Avenue South
- » Veterans Boulevard and 48th Avenue South
- » Veterans Boulevard and 51st Avenue South
- » Veterans Boulevard and 52nd Avenue South

Previous Studies

Several planning efforts are underway or have been completed that interact with the Veterans Boulevard study area. This section highlights relevant background information and existing plans for land use and the transportation network along the corridor. These planning efforts provide a basis to ensure that the Veterans Boulevard corridor is consistent with existing plans for the surrounding area.

- » 2045 Fargo-Moorhead Metropolitan Transportation Plan
- » Horace 2045
- » Fargo's Go 2030 Comprehensive Plan
- » Southwest Metro Transportation Plan
- » Fargo/West Fargo Parking and Access Study
- » Fargo Public Art Master Plan
- » 76th Avenue South Corridor Study
- » Fargo Stormwater Master Plan
- » Fargo Safe Routes to School Plan

The Veterans Boulevard corridor study can begin to incorporate these improvements into the improvement plans, as well as utilize the best practices identified in the Safe Routes to School Plan for bicycle and pedestrian amenities along the corridor.

Figure 1: Study Area



EXISTING CONDITIONS SUMMARY

Within the Veterans Boulevard study area, there are a variety of existing conditions that will guide and constrain the corridor's extension and the alternatives which can be considered. Below is a summary of these conditions.

- » **Right-of-Way.** Most of the land surrounding the corridor has not been platted, resulting in a lack of right-of-way. The full build out of Veterans Boulevard will dictate these right-of-way needs and guide subdivision processes in the City of Horace and City of Fargo.
- » **Utilities.** Both public and private utilities are present along the corridor. Coordination with these utilities will be necessary during construction activities.
- » **Environmental Conditions on the Existing Corridor.** Several environmental constraints are present along the existing corridor of Veterans Boulevard including water resources and noise sensitive land uses. These constraints will require additional consultation during any construction project to minimize potential impacts.
- » **Environmental Conditions will Constrain the Extension.** Water resources and constraints, including Drain 27, and flood plains will be the primary environmental constraint when evaluating future alignments for the Veterans Boulevard corridor. The stormwater size and location will be a major determinant in future alignments.
- » **Multimodal Facilities.** The existing corridor has facilities on both sides of the roadway with marked crossings. Transit serves the north end of the study area with hourly service. The number of facilities combined with the nearby schools and other pedestrian generators should put a high priority on pedestrian and bicycle mobility. The corridor extension should seek to provide a similar or higher level of multimodal amenities.
- » **Traffic Operations.** All study intersections and approaches currently operate at LOS C or better during the a.m. and p.m. peak hours. Some queueing issues exist during the p.m. peak hour at the Veterans Boulevard and 40th Avenue intersection.
- » **Corridor Safety.** There was a total of 36 crashes within the study area, the majority of which occurred at intersections along Veterans Boulevard with 40th Avenue or 44th Avenue. There were no fatal crashes along the corridor, although there was one incapacitating injury crash that occurred at 44th Avenue (bicyclist crash). Only the Veterans Boulevard and 44th Avenue intersection has a crash rate and severity rate above the critical rates for intersections with similar characteristics.

CORRIDOR VISION

The Veterans Boulevard Corridor Extension presents an opportunity for the community to shape the future road network of the southwest metro area. Neighbors, local business owners, city officials, emergency service workers, non-profit representatives, and city planners were all heard during this engagement process. Each brought a unique perspective to the issues and opportunities in the study area. The Corridor Vision, presented below, is a set of common interests and needs that emerged from the engagement process.

The Veterans Boulevard Corridor will enhance livability and serve the whole community. Creating a “sense of place” was a thread that ran through all the listening sessions. Community members felt that the corridor should be more than just a route through the southwest metro area, and should be a destination. Displays of public art that reflect the community, landscaping, green spaces, tree canopy, and recreational amenities will bring the community's vision to life.

The Veterans Boulevard Corridor will serve all modes. Throughout the listening sessions, community members expressed the importance of the corridor serving pedestrians, bicyclists, and motorized traffic. The corridor was

envisioned as a place where traffic flows smoothly and walking feels comfortable and safe. Beyond the needs of small vehicles, community members envisioned a corridor that was easily navigable by emergency vehicles and buses.

The Veterans Boulevard Corridor will improve connectivity and remain flexible for future growth. Veterans Boulevard is a critical connection between Horace and Fargo. As residential growth continues in the southwest metro area, connections from residential development and major east-west routes to the corridor will need to adapt to shifting demands. The Veterans Boulevard extension was envisioned as a roadway that can grow and change over time, with measures taken today to allow for the addition of intersections and roadway improvements in the future.

KEY STAKEHOLDER ENGAGEMENT

A study review committee (SRC) was assembled to review all project materials and provide guidance throughout the visioning phase. The committee consisted of 15 representatives from eight government entities, listed below.

- » City of Fargo
- » City of West Fargo
- » City of Horace
- » Cass County
- » Southeast Cass Water Resource District
- » Metro COG
- » North Dakota Department of Transportation
- » Federal Highway Administration – North Dakota

IMPROVEMENTS TO EXISTING CORRIDOR

A portion of the existing Veterans Boulevard corridor (between 40th and 52nd Avenue South) was reconstructed in 2009 and has minor roadway deficiencies. A key concern at the north of the corridor study area is safety, with the majority of crashes (i.e., 89 percent) occurring at the 40th or 44th Avenue South intersections. The crash analysis conducted during this study suggests that design aspects of the existing roundabouts, as well as queuing issues at the Veterans Boulevard/40th Avenue South intersection, may be factors contributing to the high crash rates at these locations. In addition, input received from emergency service representatives indicates that existing roundabouts do not provide sufficient space for larger vehicles, presenting challenges for ambulances and fire trucks. The study proposes improvements to address these concerns within the existing corridor.

Existing Roundabout Reconstruction

Analysis results and public input indicate that exiting roundabouts between 40th Avenue South and 52nd Avenue South do not provide sufficient space for larger vehicles. It was also noted that the design of the roundabouts can make for excessive braking and acceleration for vehicles entering and exiting the intersections. This is a particular

Figure 2: Veterans Boulevard Southbound Transition at 40th Avenue South



concern for emergency vehicle access and snow removal. To address this issue, it is recommended that existing roundabouts at 44th Avenue South, 48th Avenue South, and 51st Avenue South either have the approach roadways reconstructed to enhance the entry/exit paths or a completely reconstruction to increase the roundabout diameter from 150-feet to 180-feet. Reconstructing the approaches will allow vehicles, especially large vehicles, to navigate the roundabouts more efficiently while utilizing some of the existing roadway infrastructure. Construction of this option could be completed by closing each approach roadway individually opposed to closing the entire intersection. Reconstruction of the entire roundabout will increase the circulatory roadway diameter to 180-feet. This size was selected based on design guidance and feedback from City of Fargo that other roundabouts within the city of this size are easily navigable. Both 150-foot and 180-foot planning-level roundabout concepts were developed for each intersection. Example concepts for 44th Avenue South are shown in Figure 3 and Figure 4.

Figure 3: 180-Foot Roundabout Concept for Veterans Boulevard and 44th Avenue South



Figure 4: 150-Foot Roundabout Concept for Veterans Boulevard and 44th Avenue South



EXTENSION ALIGNMENT ALTERNATIVES

Three corridor alignment alternatives were developed in close coordination with the Study Review Committee. The alignment alternatives incorporate the benefits and constraints identified during the existing conditions analysis, as well as input collected through public engagement. A brief description of each alignment is provided below.

Meander Alignment

- » The Meander Alignment roughly follows the alignment of Drain 27 to the east of the section line. This alternative was developed with the intention of maximizing developable land along the corridor, and to provide a more dynamic and interesting roadway landscape. This alternative would place roughly half of the corridor extension – the portion south of 76th Avenue South – within the City of Horace.

Western Alignment

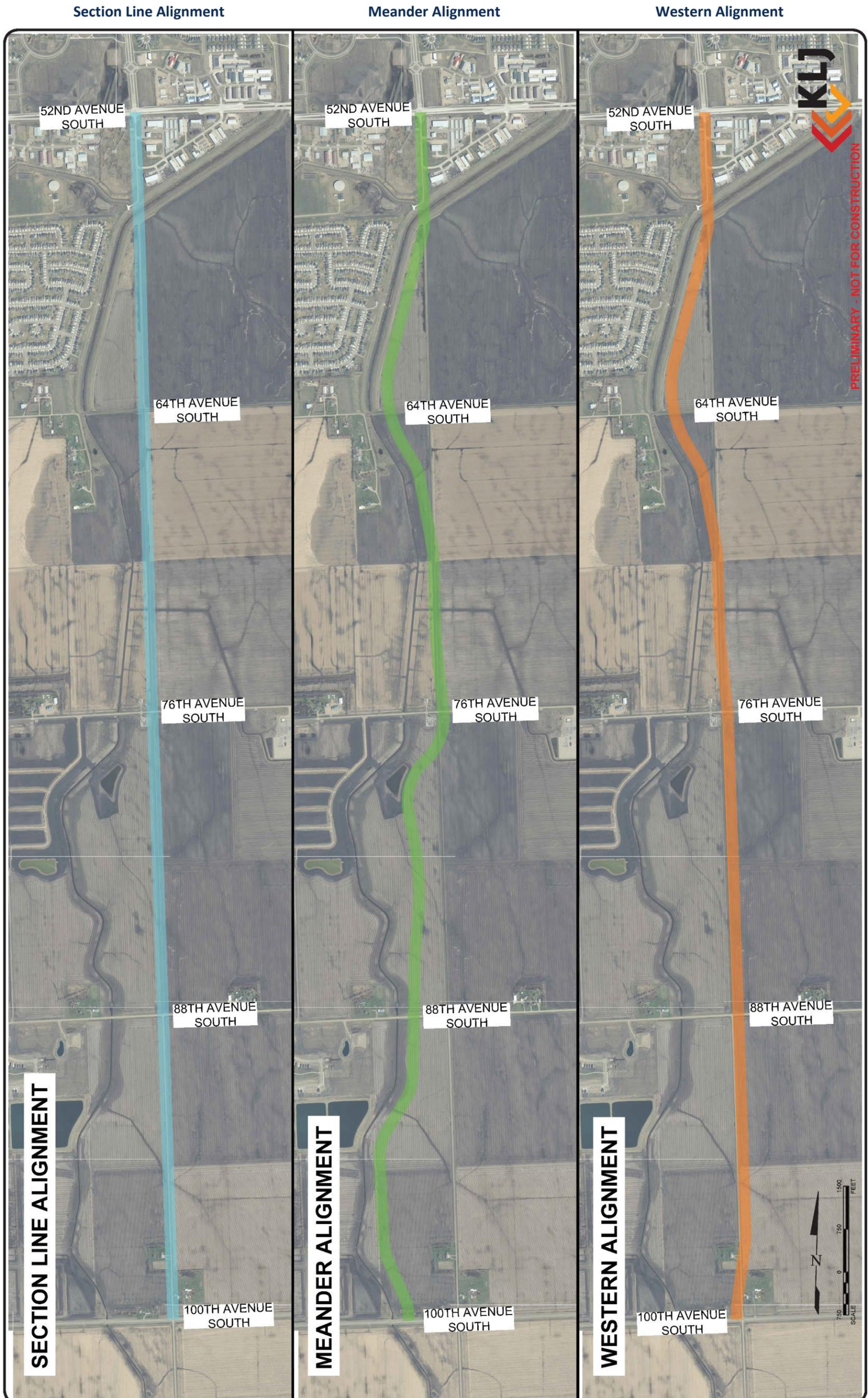
- » The Western Alignment generally maintains a straight path, only deviating from the section line at the north to follow the path of Drain 27 near Deer Creek. South of 64th Avenue South, the Western Alignment is offset slightly to the east of the section line, resulting in a large portion of the extension being located within the City of Fargo corporate limits.

Section Line Alignment

- » The Section Line Alignment follows a straight path from 52nd Avenue to 100th Avenue South. This alternative is located directly on the Fargo-Horace border for most of the alignment south of 64th Avenue South.

After detailed review and evaluation by the Study Review Committee, the Section Line Alignment was determined to be the most suitable alternative for the Veterans Boulevard extension. Central factors in this decision include the desire to share project development and corridor maintenance roles between Fargo and Horace, as well as consistency with the historical practice of aligning major corridors along section lines.

Figure 5: Veterans Boulevard Extension Corridor Alignment Alternatives



EXTENSION CORRIDOR ALTERNATIVES

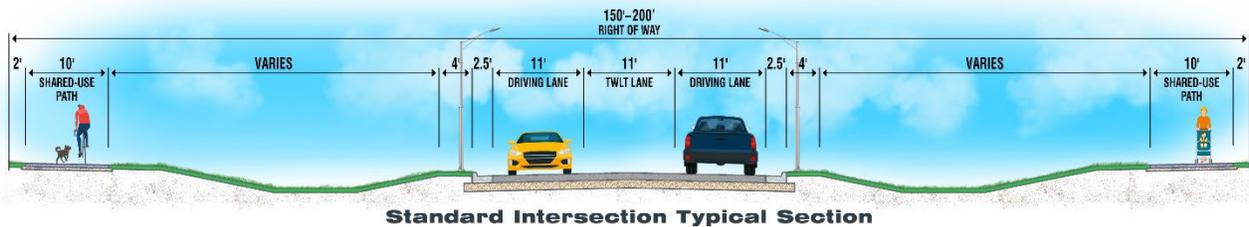
Three corridor-level alternatives were developed to support the Veterans Boulevard extension. Each alternative involves a slightly modified roadway section and intersection control features. Development of each alternative is supported through both public input gathered earlier in the planning process and through transportation planning projections for the study area. The defining features of each alternative are described below.

Standard Intersection Alternative

Roadway Section

The Standard Intersection Alternative proposes a three-lane roadway with a center two-way left turn lane (TWLTL). Both the travel lanes and the TWLTL lane have a width of 11 feet. This alternative includes a 10-foot shared-use path on each side of the corridor. This alternative follows the Section Line Alignment – maintaining a straight path from 52nd Avenue to 100th Avenue – and has an assumed right-of-way of between 150 to 200 feet. This right-of-way width was based on standard right-of-way dedication practices of City of Fargo and City of Horace. All areas of the roadway within City of Fargo corporate limits include 100-feet of right-of-way from the section line, outside of the corporate limits, 75-feet of right-of-way was shown. A typical section is shown in Figure 6.

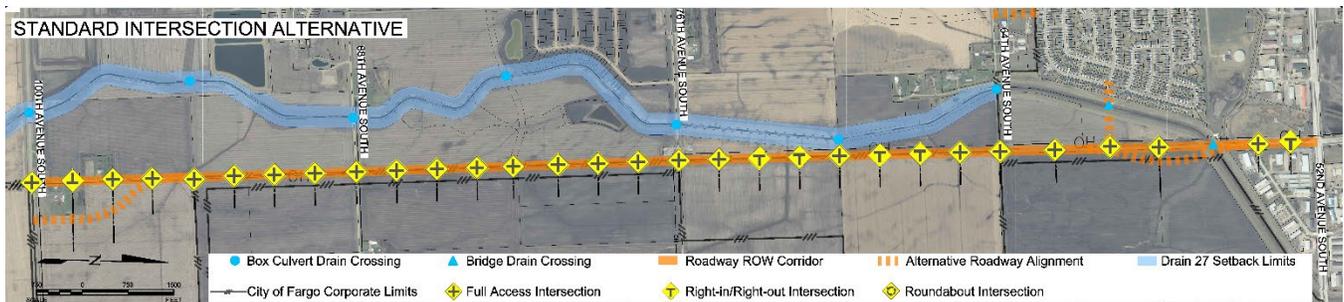
Figure 6: Standard Intersection Alternative Typical Section (Facing North)



Intersection Control

The Standard Intersection Alternative proposes standard signal control for primary intersections at 64th Avenue South, 76th Avenue South, and 88th Avenue South. In addition, this alternative includes minor, stop-controlled intersections every 1/8th of a mile along the corridor extension. Most minor intersections are four-legged, with the exception of T-intersections located immediately south of 52nd Avenue South, between 64th Avenue South and 76th Avenue South, and immediately north of 100th Avenue South. Intersection location and type for this alternative are shown in Figure 7.

Figure 7: Intersection Location and Type for the Standard Intersection Alternative



Design for the primary, signalized intersections at 64th Avenue South, 76th Avenue South, and 88th Avenue South reflect the roadway network assumptions specified in Chapter 3. Specifically, 64th Avenue South and 76th Avenue South are assumed to be four-lane facilities with right- and left-turn lanes. 88th Avenue South is assumed to be a three-lane facility with right- and left-turn lanes. Planning-level design concepts for the primary intersections is shown in Figure 8, Figure 9, and Figure 10.

Roundabout Intersection Alternative

Roadway Section

The Roundabout Intersection Alternative proposes a two-lane median-divided facility with full access every ¼-mile. The north- and southbound travel lanes have a width of 18 feet and are separated by a 16-foot median. The median is wide enough to provide full width left turn lanes at the minor approaches if deemed necessary. This alternative includes a 10-foot shared-use path on each side of the corridor. This alternative follows the Section Line Alignment – maintaining a straight path from 52nd Avenue to 100th Avenue – and has an assumed right-of-way of between 150 to 200 feet. A typical section for this alternative is shown in Figure 11.

Figure 8: Veterans Boulevard and 64th Avenue South

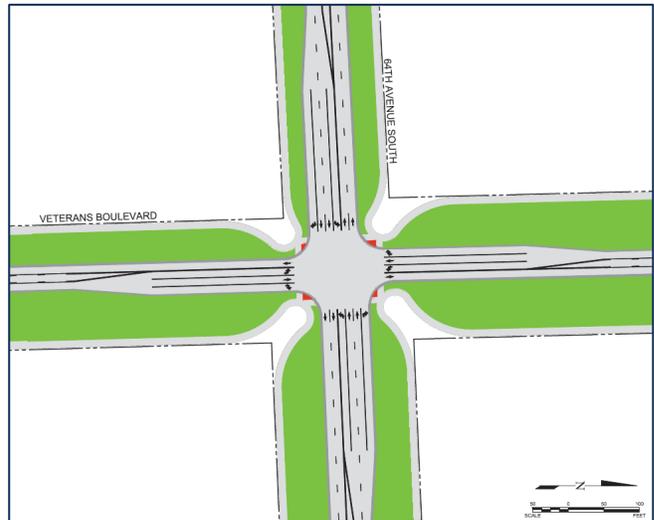


Figure 9: Veterans Boulevard and 76th Avenue South

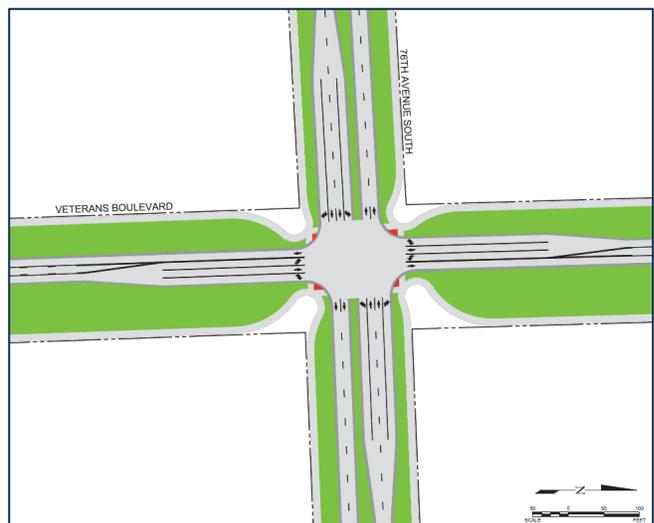


Figure 10: Veterans Boulevard and 88th Avenue South

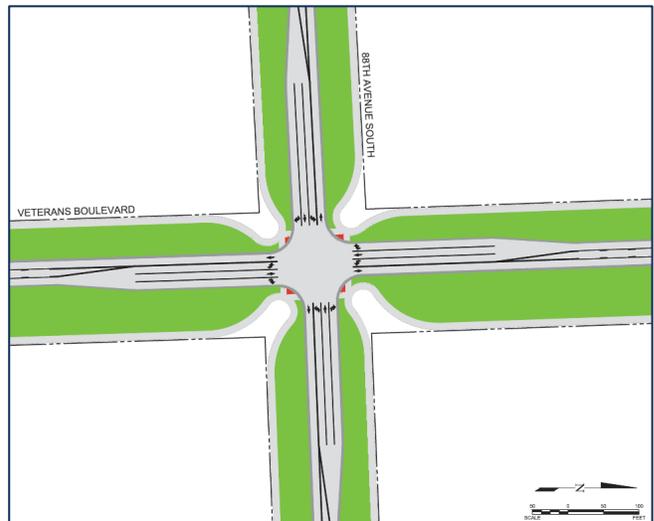
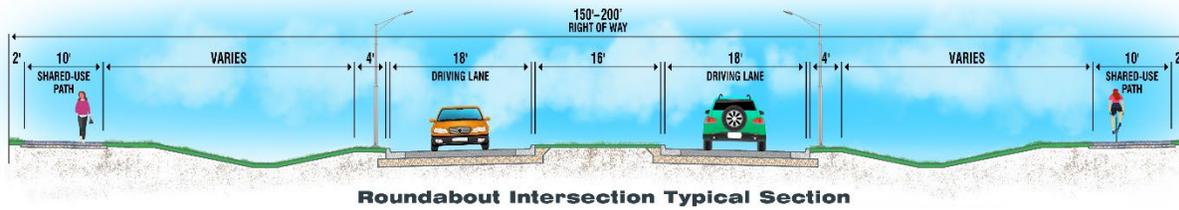


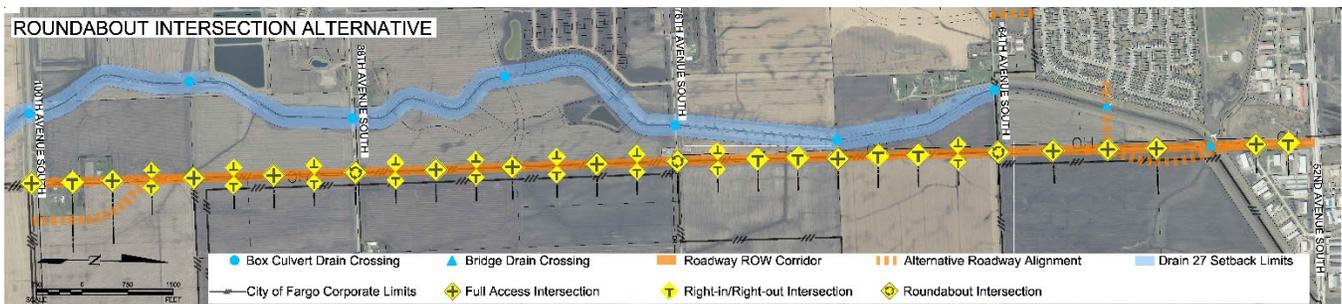
Figure 11: Roundabout Intersection Alternative Typical Section (Facing North)



Intersection Control

The Roundabout Intersection Alternative proposes roundabouts for the primary intersections at 64th Avenue South, 76th Avenue South, and 88th Avenue South. In addition to primary intersections, this alternative accounts for minor, stop-controlled intersections every 1/8th of a mile along the corridor extension. Both full-access and right-in/right-out minor intersects are proposed to support sufficient access management along the corridor. Intersection location and type for this alternative are shown in Figure 12.

Figure 12: Intersection Location and Type for the Roundabout Intersection Alternative



As previously noted, roundabouts evaluated along Veterans Boulevard at 64th Avenue South and 76th Avenue South were assumed to have single lane approaches along Veterans Boulevard and two-lane approaches along 64th Avenue South and 76th Avenue South. The roundabout at 88th Avenue South was assumed to have all single lane approaches. Thus, the 64th Avenue South and 76th Avenue South intersections are designed as 2x1 hybrid multilane roundabouts (2-lanes east-west; 1 lane north-south), and the 88th Avenue South intersection is designed as a single-lane roundabout. Planning-level design concepts for the primary intersections is shown in Figure 13, Figure 14, and Figure 15.

Figure 13: Intersection of Veterans Boulevard and 64th Avenue South

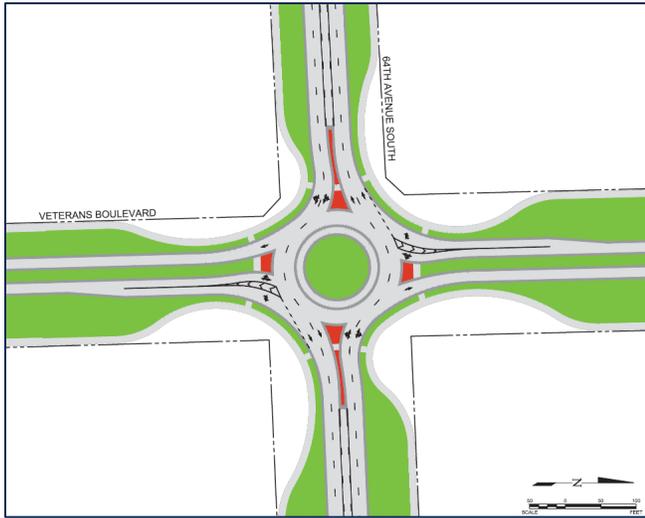


Figure 14: Intersection of Veterans Boulevard and 76th Avenue South

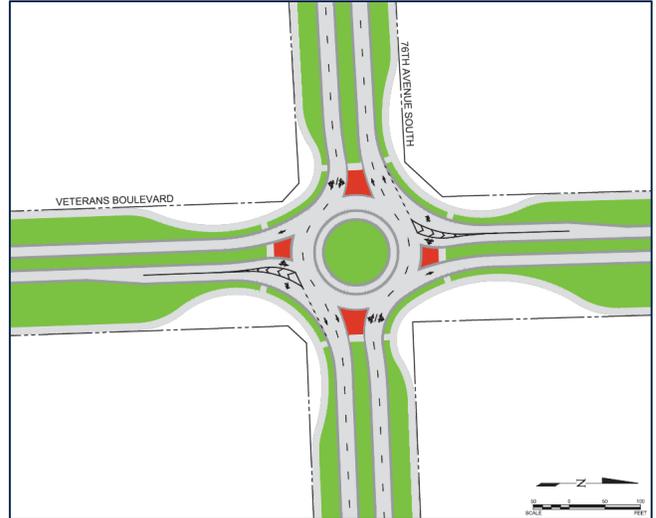


Figure 15: Intersection of Veterans Boulevard and 88th Avenue South



Modified/Variable Alternative

Roadway Section

The Modified/Variable Alternative proposes three distinct roadway typical sections for different segments of the corridor extension. The different typical sections are derived from public input, previous studies, and guidance from the design team.

- » **Typical Section A (52nd Avenue to 64th Avenue and 88th Avenue to 100th Avenue)** presents a three-lane roadway with one travel lane in each direction and a TWLTL. Both the travel lanes and the TWLTL lane have a width of 11 feet. This section includes a 10-foot shared-use path on each side of the corridor and has an assumed right-of-way of between 150 to 200 feet.

Figure 16: Typical Section A (Facing North)



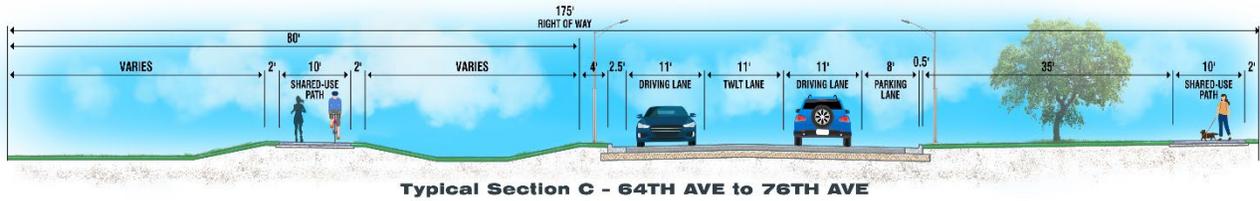
- » **Typical Section B (76th Avenue to 88th Avenue)** presents a three-lane roadway with one travel lane in each direction and a TWLTL. Both the travel lanes and the TWLTL have a width of 11 feet. Frontage roads with 11-foot travel lanes and 8.5-foot parking lanes are included on both sides of the corridor. 20-foot pedestrian, bicycle, and amenity areas are included on the eastern and western edges of the corridor. This section has an assumed right-of-way of 175 feet.

Figure 17: Typical Section B (Facing North)



- » **Typical Section C (64th Avenue to 76th Avenue)** presents a three-lane roadway with one travel lane in each direction and a TWLTL. Both the travel lanes and the TWLTL lane have a width of 11 feet. An 8-foot parking lane is included on the east side of the roadway, as well as 10' foot shared use paths on each side of the corridor. The roadway alignment for Typical Section C is shifted 28-feet east of the section line to allow for a larger green space on the western edge of the corridor adjacent to Drain 27. This shift maintains a large boulevard on the east side of the roadway while providing increased separation between the meandering shared-use path and the roadway on the west side of the roadway. This section has an assumed right-of-way of 175 feet.

Figure 18: Typical Section C (Facing North)



Intersection Control

The Modified/Variable Alternative proposes roundabouts for the primary intersections at 64th Avenue South, 76th Avenue South, and 88th Avenue South. In addition, this alternative accounts for minor, stop-controlled intersections every 1/8th of a mile. Along Typical Section B, three full-access intersections are located on the main roadway, with eight right-in/right-out intersections proposed for the parallel frontage roads (four on each frontage road). Intersection location and type for the Modified/Variable Alternative are shown in Figure 19. Figure 20 provides additional detail on the location and design of minor intersections, by typical section, along the corridor extension.

Figure 19: Intersection Location and Type for the Modified/Variable Alternative

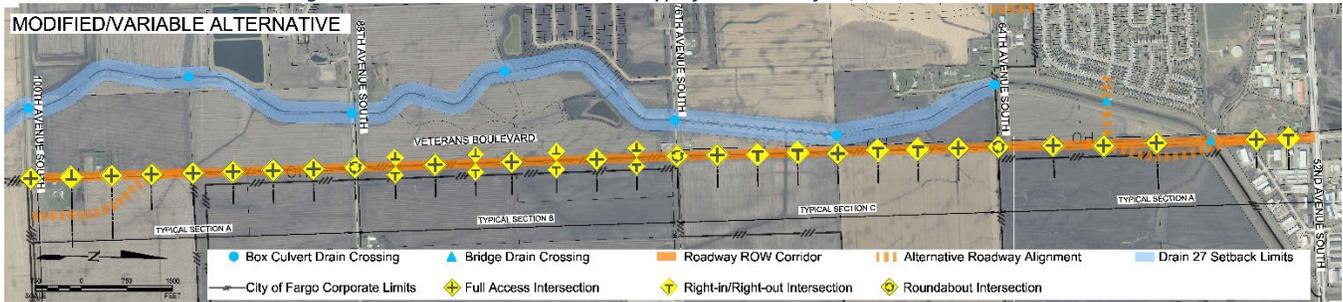
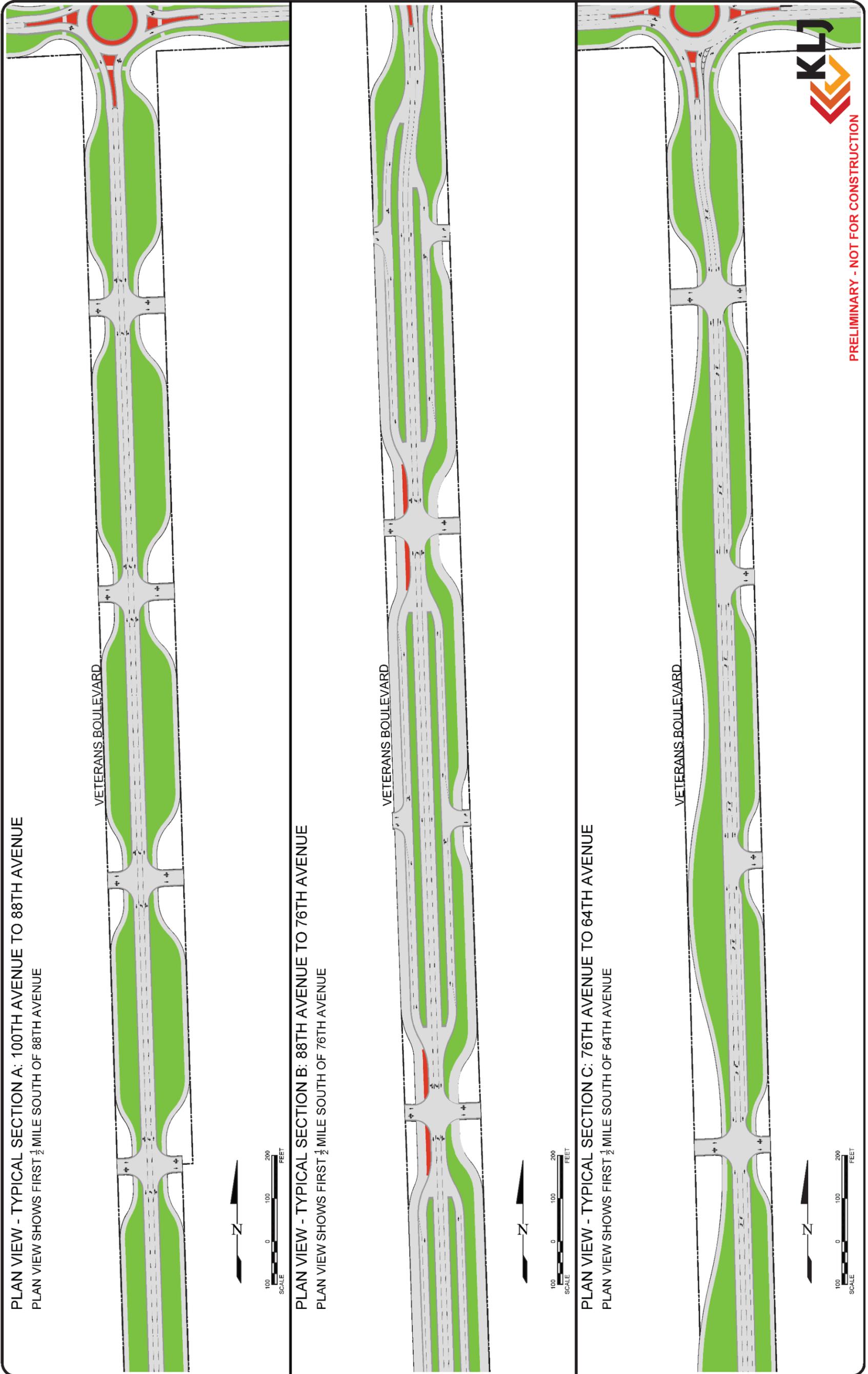


Figure 20: Location and Design of Minor Intersections by Typical Section



DEER CREEK CONNECTION

Alternatives were developed for potential new connections to the Deer Creek neighborhood. The connections would provide additional access to the neighborhood, which would help improve emergency vehicle access and reduce travel along 63rd Street South. The alternatives include:

- » Extension of 59th Avenue South to Veteran's Boulevard
- » Connection between 63rd Avenue South and 64th Avenue South
- » Both a 59th Avenue South extension and connection between 63rd Avenue South and 64th Avenue South

The potential traffic impacts of these alternatives are analyzed in Chapter 3. The connection alternatives are shown in Figure 21. Additional detail is provided for each alternative in Figure 22.

While both the 59th Avenue and 63rd Street connections are feasible, there should be further evaluation prior to implementation. With the additional connections, comes impacts that have not been assessed such as:

- » Increase speeds
- » Increased headlight nuisances for homeowners
- » Vertical grades were not assessed as part of this study

Due to the large area surrounding this corridor and the multi-jurisdictional boundary, it is important that pedestrian safety remain a top consideration through implementation of this study. Large attractions such as the Drain 27 Trail network and the Fargo Master Storm Water ponds will generate large amounts of pedestrian traffic. To ensure connectivity and promote safety, it may be beneficial to incorporate grade separated pedestrian crossings along the Veteran's Boulevard Extension as well as some of the arterial roadways that intersect. The below graphic incorporates information obtained during the study along with previous studies that have been completed to identify pedestrian attractions, proposed pedestrian routes, and possible areas to incorporate grade separated crossings.

These grade separated crossings could be above or below the existing roadway. Things to consider during the design of these facilities include:

- » Storm water drainage
- » Overhead utilities
- » Roadway grades/sight distances

Figure 21: Location of Deer Creek Connection Alternatives

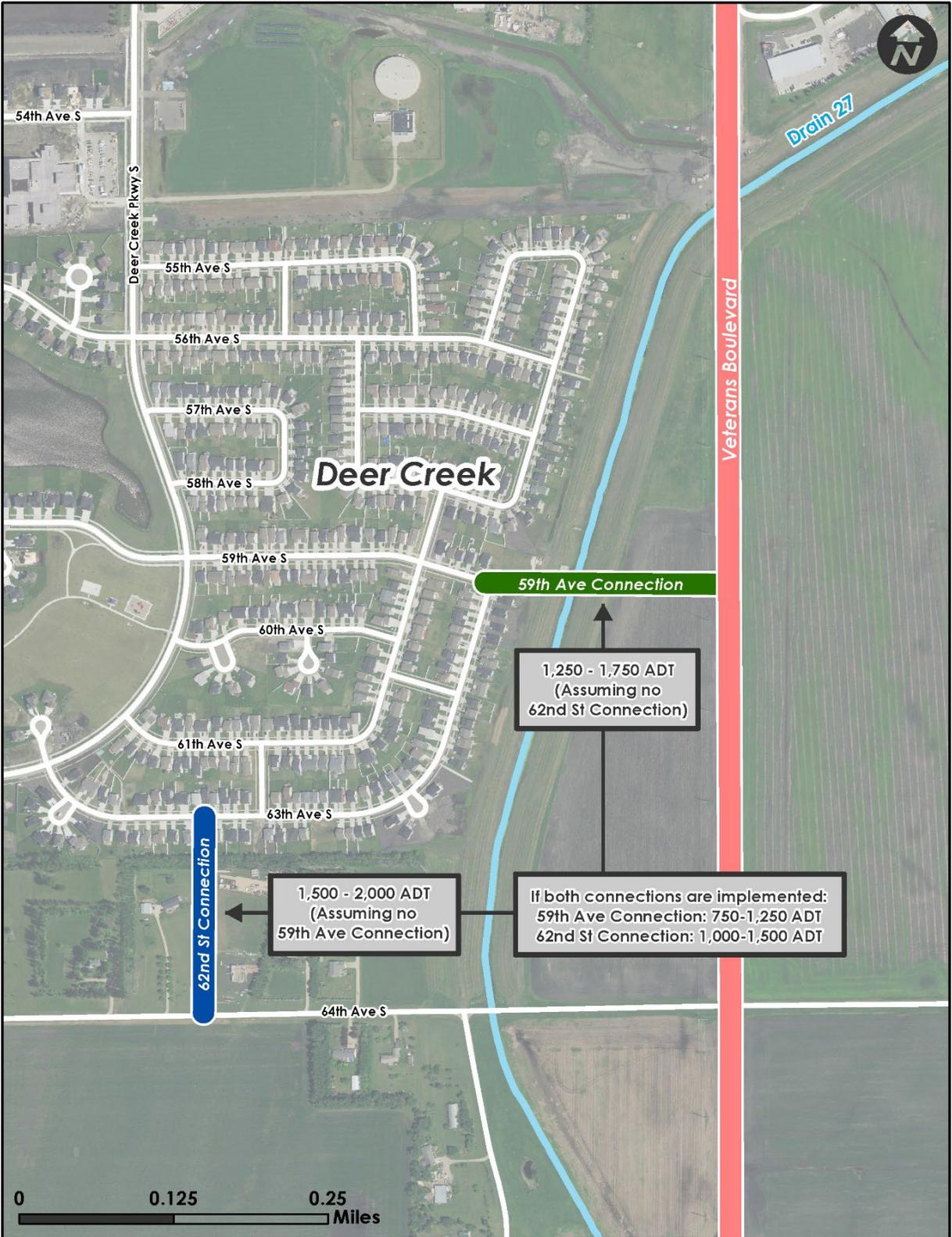


Figure 22: Deer Creek Connection Alternatives Detail

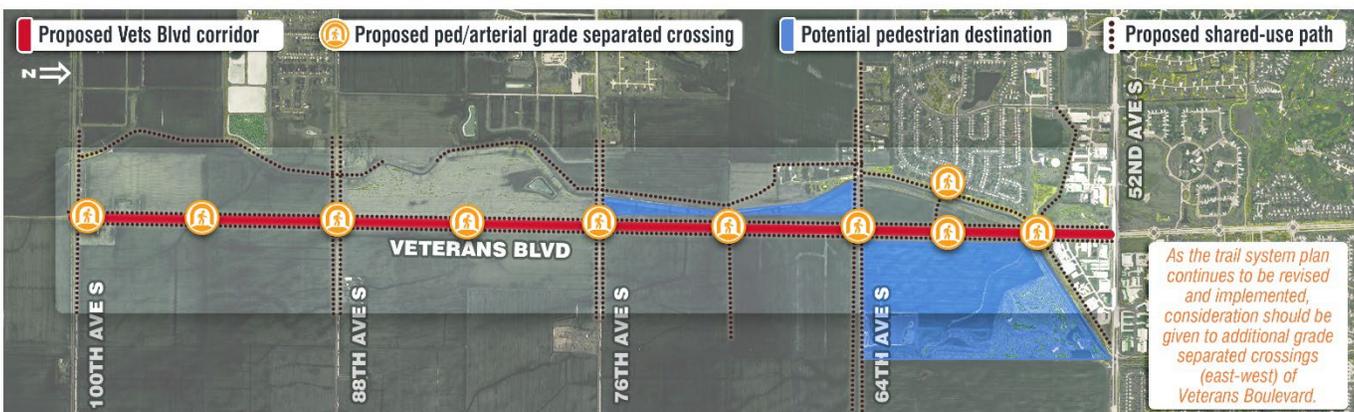


INTEGRATING ACTIVE TRANSPORTATION

Active transportation infrastructure was considered in each of the corridor level options developed for the Veterans Boulevard Corridor Extension. The project team consulted with recent and ongoing planning with in both the City of Fargo and City of Horace when evaluating and developing recommendations for both bicycle and pedestrian facilities.

Beyond corridor level layouts, an area wide strategy plan was developed and shown below. This demonstrates the larger vision for ensuring bicycle and pedestrian mobility throughout the study area. The emphasis is on a regional network of trails and pathways and ensuring grade separated pedestrian crossings along arterials, especially for east-west travel patterns.

Figure 23, Future Bicycle and Pedestrian System Considerations



PUBLIC INPUT

As part of the study’s public engagement effort, community members were asked to provide input on the Veterans Boulevard extension alternatives and the Deer Creek connection alternatives. This phase of public engagement was conducted from June through August 2021, and was hosted on the project website, where participants were able to access project information and respond to a survey regarding the alternatives. In total, 29 unique stakeholders completed the survey.

Veterans Boulevard Extension Alternatives

For each corridor alternative, participants were asked to rate their degree of preference from “Strongly Oppose” to “Strongly Prefer.” Participants were also invited to submit comments to express their opinions in more detail.

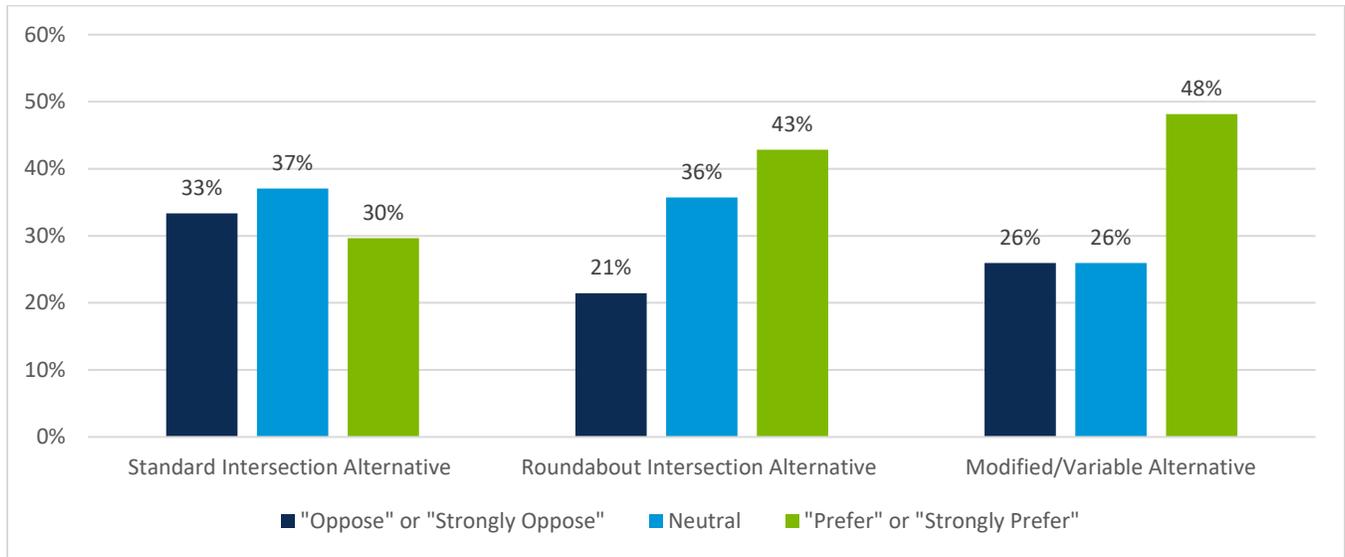
Survey results showed the Modified/Variable Alternative to have the most support among respondents, with 48 percent of participants preferring or strongly preferring this alternative. 43 percent of respondents prefer or strongly prefer the Roundabout Intersection Alternative, while less than a third of respondents prefer or strongly prefer the Standard Intersection Alternative.

Participants expressed the most opposition to the Standard Intersection Alternative, with 33 percent of respondents opposing or strongly opposing this alternative. Over a quarter of respondents oppose or strongly oppose the Modified/Variable Alternative, with just over a fifth of respondents opposing or strongly opposing the Roundabout Intersection Alternative. The Modified/Variable Alternative is the most polarizing option, with considerable degrees of both support and opposition, and the lowest relative portion of respondents having a neutral stance.

Comments submitted by respondents expressed a wide range of opinions on the corridor alternatives. One common theme was opposition to roundabouts due to the perception that they are difficult to use/maneuver and generally not appropriate for the corridor. However, some participants expressed the opinion that roundabouts are an effective choice. Several respondents praised the green space and bike/pedestrian facilities proposed for the Modified/Variable Alternative.

A summary of preference responses is provided in Figure 24.

Figure 24: Comparison of Preference Responses for Corridor Extension Alternatives



Deer Creek Connection Alternatives

For each Deer Creek connection alternative, participants were asked to rate their degree of preference from “Strongly Oppose” to “Strongly Prefer.” Participants were also invited to submit comments to express their views in more detail.

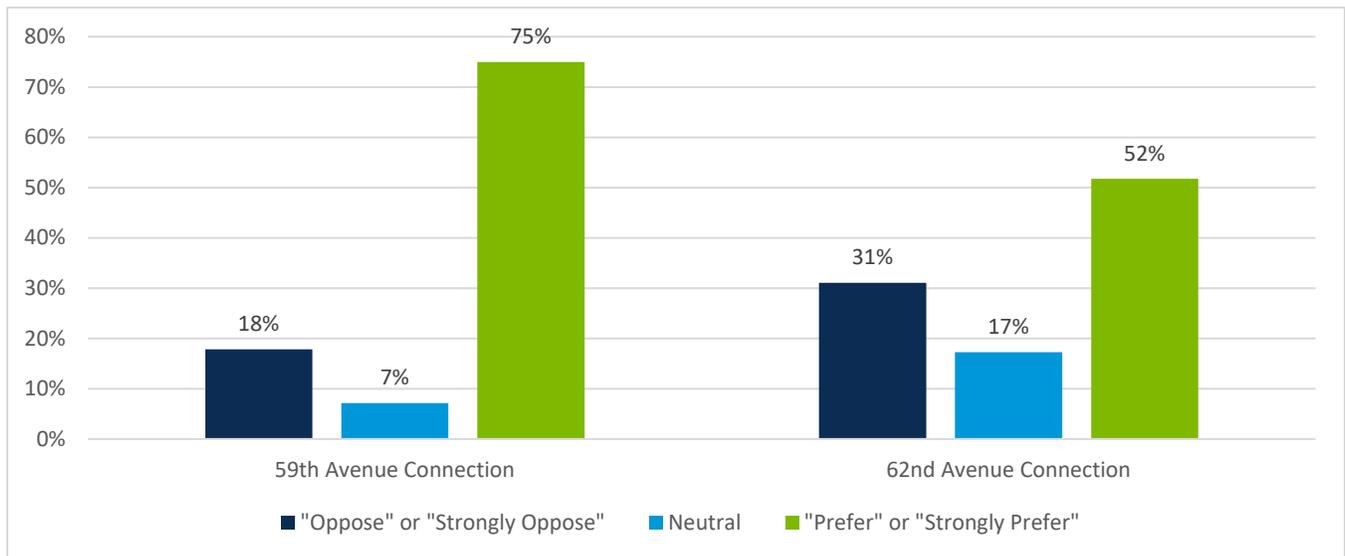
Survey results showed the 59th Avenue Connection to have the most support among respondents, with 75 percent of responses expressing a preference or a strong preference for this alternative. In comparison, 52 percent of respondents indicated a preference or a strong preference for the 62nd Street Connection alternative.

Over 30 percent of respondents oppose or strongly oppose the 62nd Avenue Connection alternative. In contrast, 18 percent of participants oppose or strongly oppose the 59th Avenue Connection alternative.

Comments submitted by respondents expressed roughly even support for the two Deer Creek connection alternatives. Some respondents expressed support for implementing both alternatives. Comments in support of the 62nd Street Connection expressed that this would be the safer option because it would avoid direct traffic from Veterans Boulevard. Comments in support of the 59th Avenue Connection referenced more direct access to Veterans Boulevard and generally shorter travel times to and from the neighborhood.

Postcards soliciting input and survey results were mailed to 550 properties within the Deer Creek neighborhood. All residences east of 63rd Street received postcards, comprising roughly half of Deer Creek neighborhood properties. A summary of preference responses is provided in Figure 25.

Figure 25: Comparison of Preference Responses for Deer Creek Connection Alternatives



COST ESTIMATE SUMMARY

Planning-level cost estimates were developed to aid in the evaluation of alternatives and support future project phasing and implementation. Cost estimates were prepared for the Veterans Boulevard extension alternatives, the Deer Creek connection alternatives, and the improvements to existing Veterans Boulevard intersections from 52nd Avenue to 40th Avenue. Cost estimates are summarized in Table 1.

Table 1: Planning-Level Cost Estimates

Veterans Boulevard - 100th Avenue to 52nd Avenue			
Roadway Segment/Intersection	Alternative		
	Standard	Roundabout	Modified/Variable
100th to 88th	\$ 8,660,000	\$8,590,000	\$8,450,000
88th Ave Intersection	\$1,816,000	\$ 1,410,000	\$ 1,500,000
88th to 76th	\$ 8,130,000	\$8,040,000	\$12,640,000
76th Ave Intersection	\$2,133,000	\$ 2,080,000	\$ 1,780,000
76th to 64th	\$ 8,080,000	\$7,740,000	\$8,250,000
64th Ave Intersection	\$2,041,000	\$ 1,990,000	\$ 2,100,000
64th to 52nd	\$11,920,000	\$11,590,000	\$11,440,000
Total	\$42,780,000	\$41,440,000	\$46,160,000

Veterans Boulevard - 52nd Avenue to 40th Avenue Intersection Revisions			
Intersection	Roundabout Revisions		Turn Lane Addition
	150' Diameter	180' Diameter	
51st Ave	\$566,000	\$899,000	NA
48th Ave	\$657,000	\$981,000	NA
44th Ave	\$521,000	\$1,064,000	NA
40th Ave	NA	NA	\$374,000

Deer Creek Connections	
59th Ave Extension	\$3,638,000
62nd Street Extension	\$598,000

IMPLEMENTATION ANALYSIS BACKGROUND

Following the completion of the initial phase of the Veterans Boulevard Corridor Extension Study, Metro COG approved additional analysis to support more detailed implementation planning and phasing for the Veterans Boulevard Corridor Extension study area. This additional phase of analysis was focused on understanding a detailed implementation plan for improvements along both a future extension of Veterans Boulevard and adjacent study corridors through the year 2035. This memorandum is a summary of the analysis and resulting recommendations.

The goal of these 2035 Implementation Plan model scenarios was to better understand how various programmed or committed roadway segments influence traffic volumes along several study area corridors. The focus was on understanding a series of best fit investments through the year 2035 to compliment a series of shorter term programmed or committed projects planned in the study area.

The Implementation Plan focuses specifically on Sheyenne Street, CR 17, 76th Avenue, 45th Street, and 64th Avenue. Emphasis was put on determining the level of investment needed both for the extension of Veterans Boulevard south of 52nd Avenue, and for the two additional miles of Veterans Boulevard south of 64th Avenue to support study area development trends and projected travel patterns.

IMPLEMENTATION ANALYSIS

Using 2035 build condition model results, an implementation analysis was completed for a series of corridors within relative proximity to the Veterans Boulevard Corridor. The analysis develops an infrastructure phasing plan both for Veterans Boulevard as well as several interrelated corridors within the general study area.

A set of corridor level planning recommendations are developed for the following corridors:

- » Veterans Boulevard – 52nd Avenue to 88th Avenue
- » Sheyenne Street/County Road 17 – 40th Avenue to 88th Avenue
- » 45th Street – 52nd Avenue to 76th Avenue
- » 64th Avenue – I-29 to Country Road 17
- » 76th Avenue – I-29 to Veterans Boulevard
- » 88th Avenue – Veterans Boulevard to County Road 17

Figure 26: Implementation & Phasing Strategy

