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INTRODUCTION



METROCOG

INTRODUCTION

76th Avenue South is a roadway in the southern fringes of the Fargo-Moorhead metropolitan area within the jurisdictions of Horace, Fargo, Cass County, and Stanley Township. Priority has been placed on this corridor to identify future characteristics such as; capacity and resultant right of way needs, functionality, access control measures, multi-modal features, and corridor aesthetics. These characteristics will ultimately come together, creating a phased approached for 76th Avenue South.

The project limits for what is known as the study area is on 76th Avenue South, from 81st Street South (current Sheyenne River Diversion) to the Red River (6.5 miles), as shown in Figure 1. This chapter summarizes the relevant data collected to build a solid understanding of what the corridor is today, and how previous studies have defined its use in a regional context.

Roadway Inventory Map

Roadway Classification

Roadways are categorized into functional highway classifications based on facility type, ownership, and the role they play in the local transportation system. The four general roadway classifications are; interstate, arterial, collector, and local roadway. These main classifications can be further broken down into sub-categories such as principal arterial, minor arterial, major collector, minor collector etc.

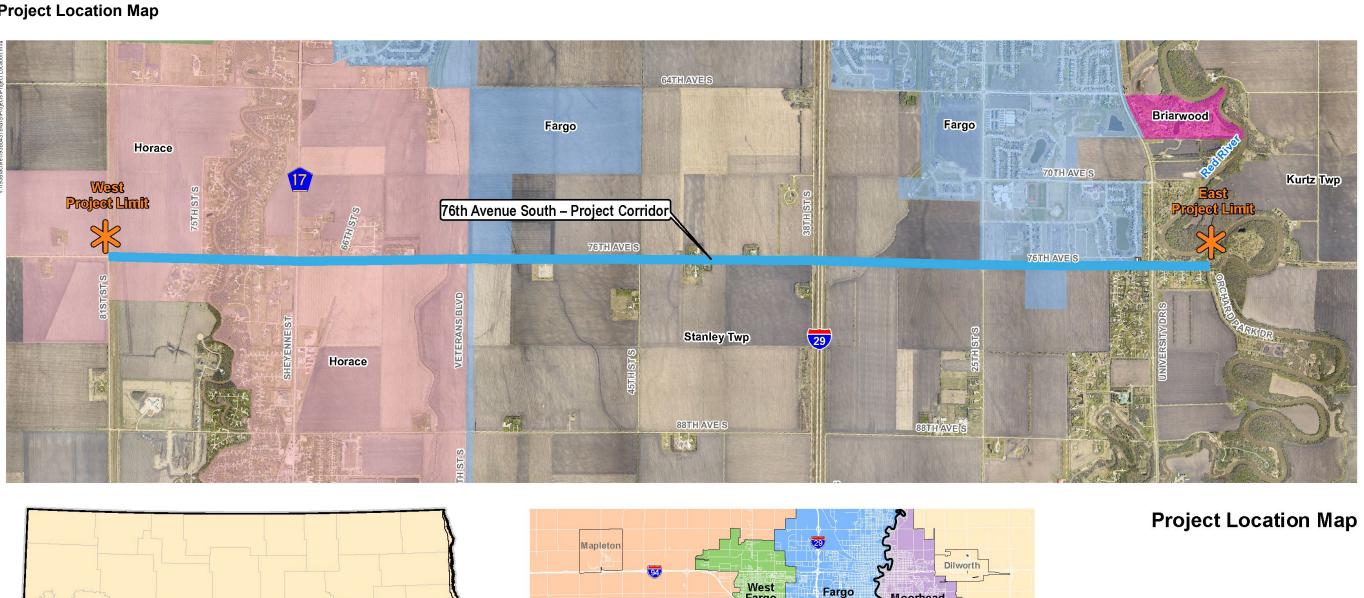
In general roadways with a higher functional classification, such as an interstate or arterial, provide for longer trips, greater mobility, limited access and connect larger cities. Roadways with a lower level classification, such collector or local road, provide for shorter trips, have lower mobility, have more access points, and connect to higher functioning roadways. This balance is important in the transportation network and plays directly into access management which will be a key to the future vision of 76th Avenue South. Figure 2 graphically shows the relationship between roadway classification and access.

Currently, 76th Avenue South is classified as a major collector from 81st Street South to CR17 (Sheyenne Street) and a local roadway for the remainder of the study corridor (CR17 to the Red River). A new West Fargo School Site and programmed improvements along 76th Avenue South from CR17 to 63rd Street South, along with future improvements, will likely change the functional classification of roadway over time along the varying segments of the roadway.

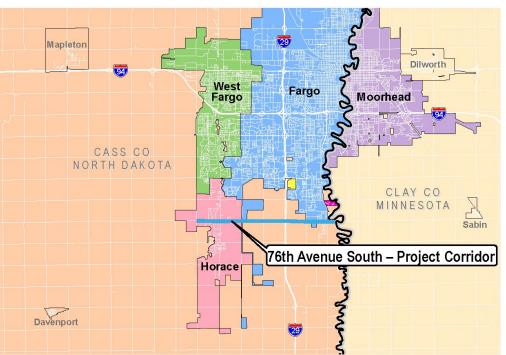
Pavement and Drainage Type

The 76th Avenue South corridor is largely rural in nature, except for small portions within the City of Horace on the west end, and the City of Fargo on the east end of the study corridor. The entire corridor consists of rural sections with drainage ditches. Figure 3 shows the pavement types along 76th Avenue South; paved road, gravel road, and field road.

Figure 1 – Project Location Map







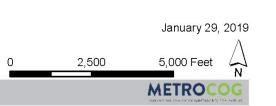


Figure 2 - Relationship Between Roadway Classification and Access

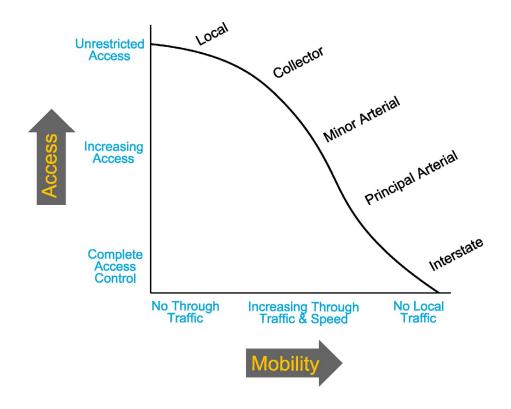


Figure 3 - Existing Roadway Pavements



Gravel roadway between Sheyenne Street and I-29.



Paved roadway between 25th Street and University Drive.



Field road between I-29 and 25th Street.



Access, Traffic Control, Typical Sections, and Drainage

Identification of proper access management will be critical for the 76th Avenue South corridor; therefore, it is important to first understand the existing access along the corridor. Figure 4 shows the existing accesses with the type (public roadway, field drive, private residential, private utility, and private access) and direction (north, south, and both directions). Currently, this section of roadway has 53 accesses with varying degrees of active use. The importance of access management policies and the current guidelines in place are addressed in Section 7: Access Management.

Traffic control along the corridor is currently all stop controlled with no roundabouts or traffic signals in place. Figure 4 also depicts the existing traffic control in place today. A project is programmed for 2019 in which a roundabout will be constructed at the intersection of CR 17 (Sheyenne Street) and 76th Avenue South.

The entire 76th Avenue South corridor (with the exception of the field road between I-29 and 25th Street) is a two-lane roadway with one lane of travel in each direction with rural drainage ditches. Currently, there are no urban roadway sections with curb and gutter.

Right-of-Way

The right of way along 76th Avenue South varies from 66 feet to 160 feet wide along the corridor. According to North Dakota Century Code Chapter 24-07-03, congressional section lines are considered public roads open for public travel to the width of thirty-three feet [10.06 meters] on each side of the section lines. This means, since 76th Avenue South is a section line, any right of way not implicitly dimensioned is at least 33 feet wide from the centerline of the roadway or 66 feet wide total. Figure 5 maps the existing right of way dimensions along the study corridor.

Structures

There are two existing structures along the study corridor, one over the Sheyenne Diversion and another over the Sheyenne River, shown in Figure 4. The National Bridge Inventory (NBI) lists both structures as being in good condition and not deficient. Both structures currently can accommodate two lanes of traffic, one going each way. Structures will play an important part in the conversation related to 76th Avenue South. In order to accommodate roadway improvements and potential expansion to meet future capacity needs, major structural improvements would be needed over Drain 27 and Drain 53. In addition, a potential 76th Avenue South and I-29 Interchange and bridge crossing over the Red River at 76th Avenue South would both be new major structures along the corridor.

Figure 4 – Existing Roadway Conditions

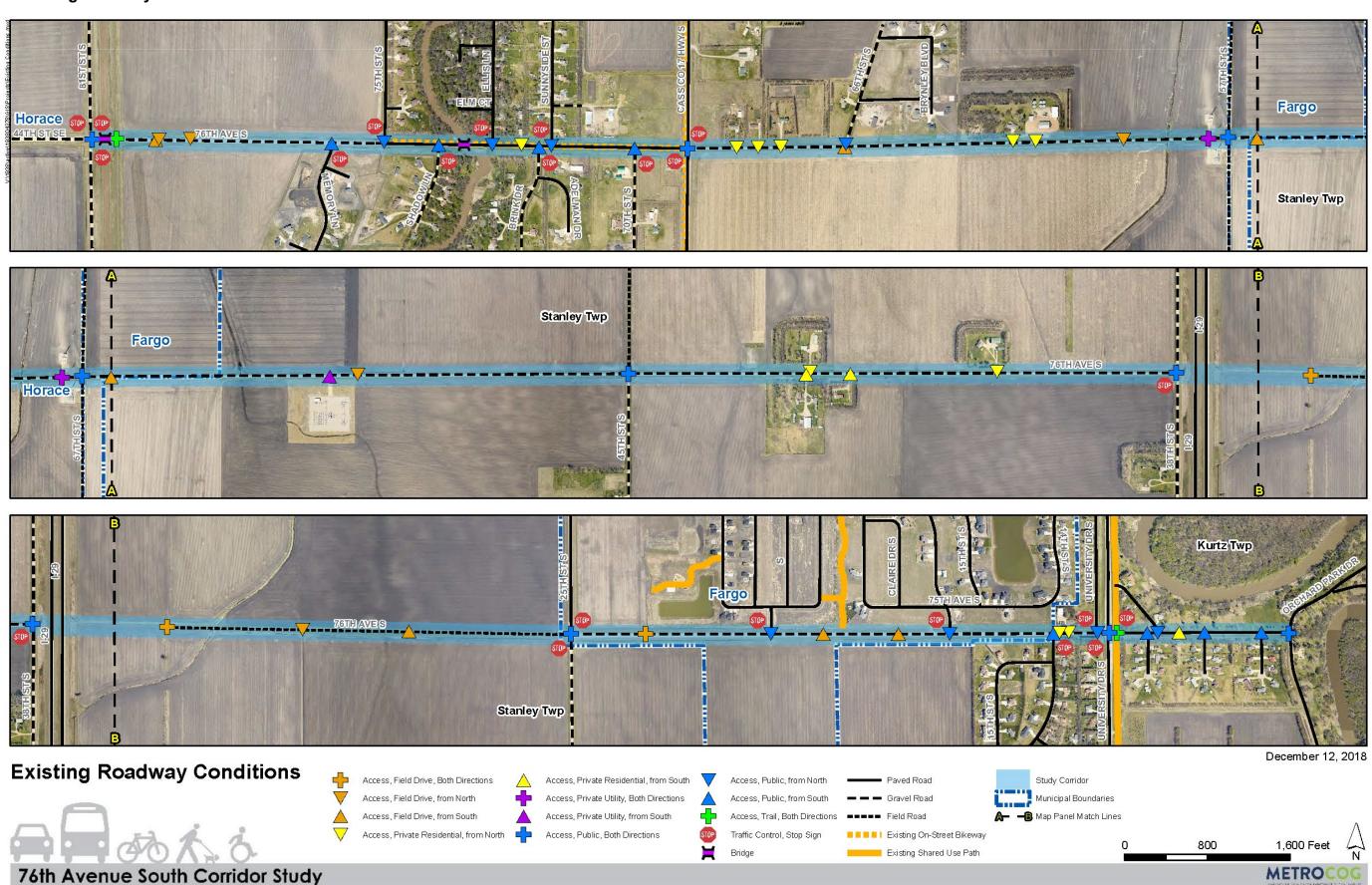
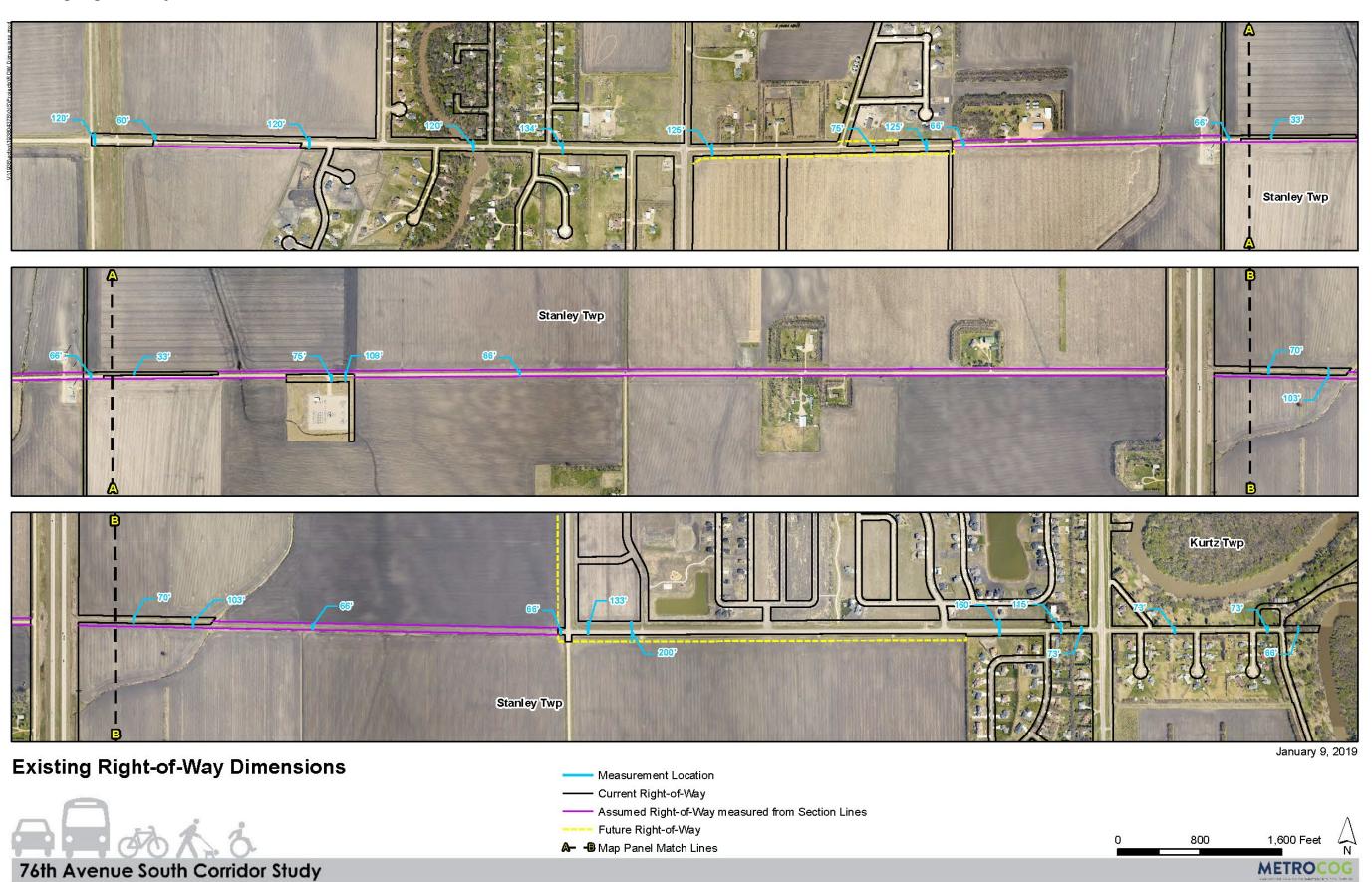


Figure 5 – Existing Right of Way Dimensions



Utilities

The most prominent existing utility feature along 76th Avenue South is the Minnkota Power overhead power lines situated along both sides of the roadway west of CR17, and on the south side of the roadway east of CR17. These southern power lines extend along the majority of the project corridor until University Drive, at which point, they continue north/south. In addition to running parallel, the overhead power lines cross 76th Avenue South at 57th Street South and again half a mile east of the same intersection.

Minnkota Power also has three sub-stations located along the corridor in the following locations; SW corner of the intersection of 76th Avenue South and CR 17, SW corner of 76th Avenue South and 57th Street South, and ½ mile east of 76th Avenue South and 57th Street South. In addition, a cell phone tower is located in the NW corner of 76th Avenue South and 57th Street South.

A North Dakota state one call was completed to identify which utility companies owned facilities in the area. The following utility companies were noted as having facilities in the area; Cable One, Cass County Electric, Cass Rural Water, Century Link, Consolidated Communications, City of Fargo, Dakota Carrier Net, Midcontinent Cable, Minnkota Power, Moore & Liberty Telephone, Red River Rural Telephone, Sprint Nextel, and Xcel Energy.



JURISDICTIONAL OWNERSHIP & CURRENTLY PROGRAMMED PROJECTS





JURISDICTIONAL OWNERSHIP & CURRENTLY PROGRAMMED PROJECTS

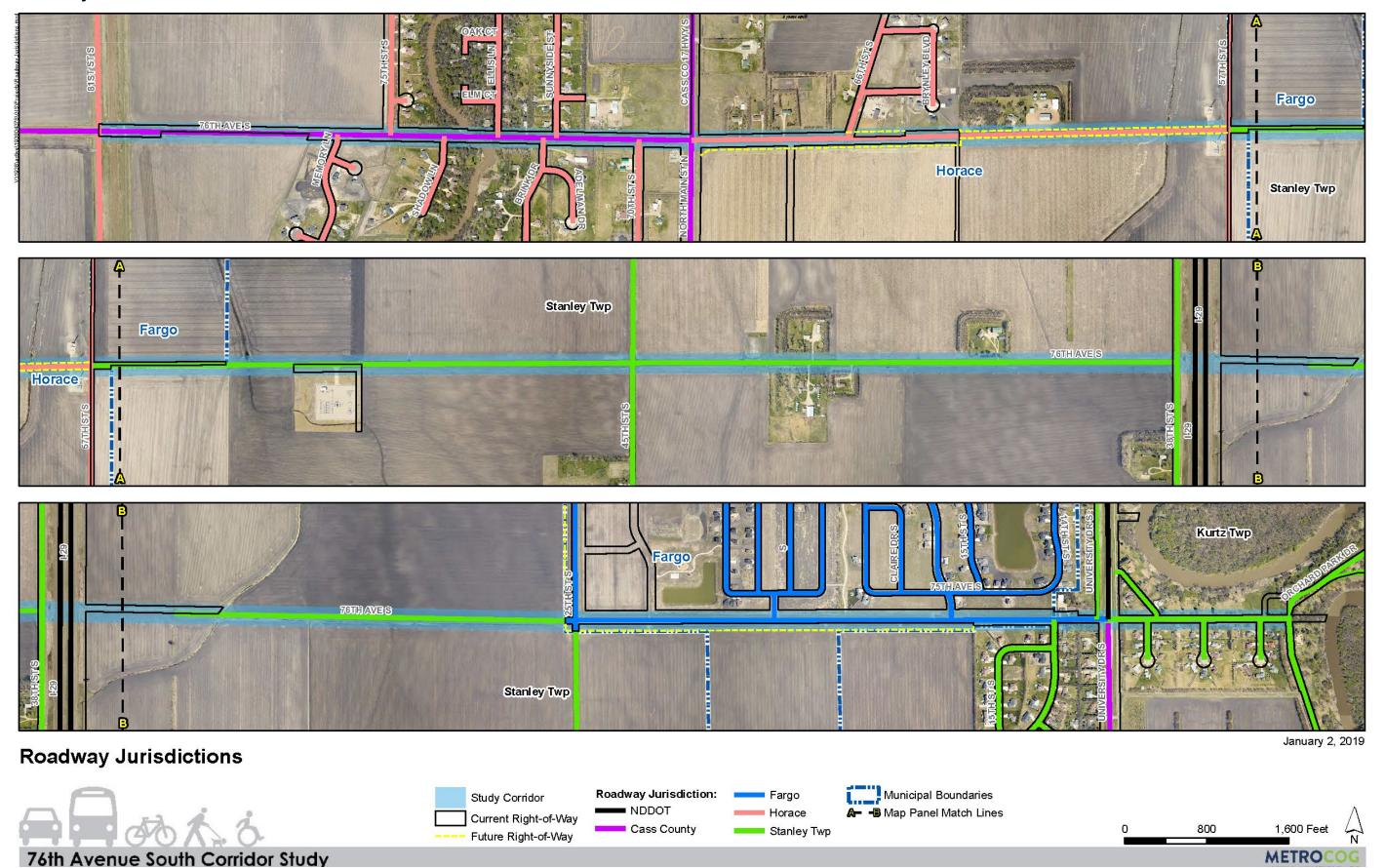
76th Avenue South is a multi-jurisdictional roadway owned by Cass County, the City of Horace, Stanley Township, and the City of Fargo. Each jurisdictional owner has their own set of responsibilities, standards, and guidelines in place, depending on the role they play in the transportation network. This makes jurisdictional coordination of the utmost importance along the corridor. It is likely with that jurisdictional transfers will need to occur as the corridor develops. The existing jurisdictional owner of the corridor is shown in Figure 6 and the miles of current roadway along the corridor owned by each jurisdiction is shown in Table 1. The SWMTP identified opportunities for jurisdictional transfers along the corridor as development occurs. This study will re-analyze jurisdictional transfer needs for each segment of roadway as it develops.

Table 1 - Existing Jurisdictional Ownership and Miles Owned

Segment	Current Jurisdiction	Miles of Roadway
Sheyenne Diversion to CR 17	Cass County	1 Mile
CR 17 to Veterans Boulevard	City of Horace	1 Mile
Veterans Boulevard to 25th Street	Stanley Township	3 Miles
25th Street to University Drive	City of Fargo	1 Mile
University Drive to the Red River	Stanley Township	1/3 Mile

The Cass County Comprehensive and Transportation plan discusses taking over 76th Avenue South as County Road 6 from CR 17 (Sheyenne Street) to 45th Street to proactively respond to the multijurisdictional nature of the corridor. Recent discussions with the county have indicated that they have not approved any jurisdictional transfers at this time and have programmed two projects along 76th Avenue South; including a roundabout at 76th Avenue South and CR 17 and a 4-lane divided concrete roadway from CR 17 to 63rd Street East that will be constructed in 2019.

Figure 6 – Roadway Jurisdictions





EXISTING LAND USE

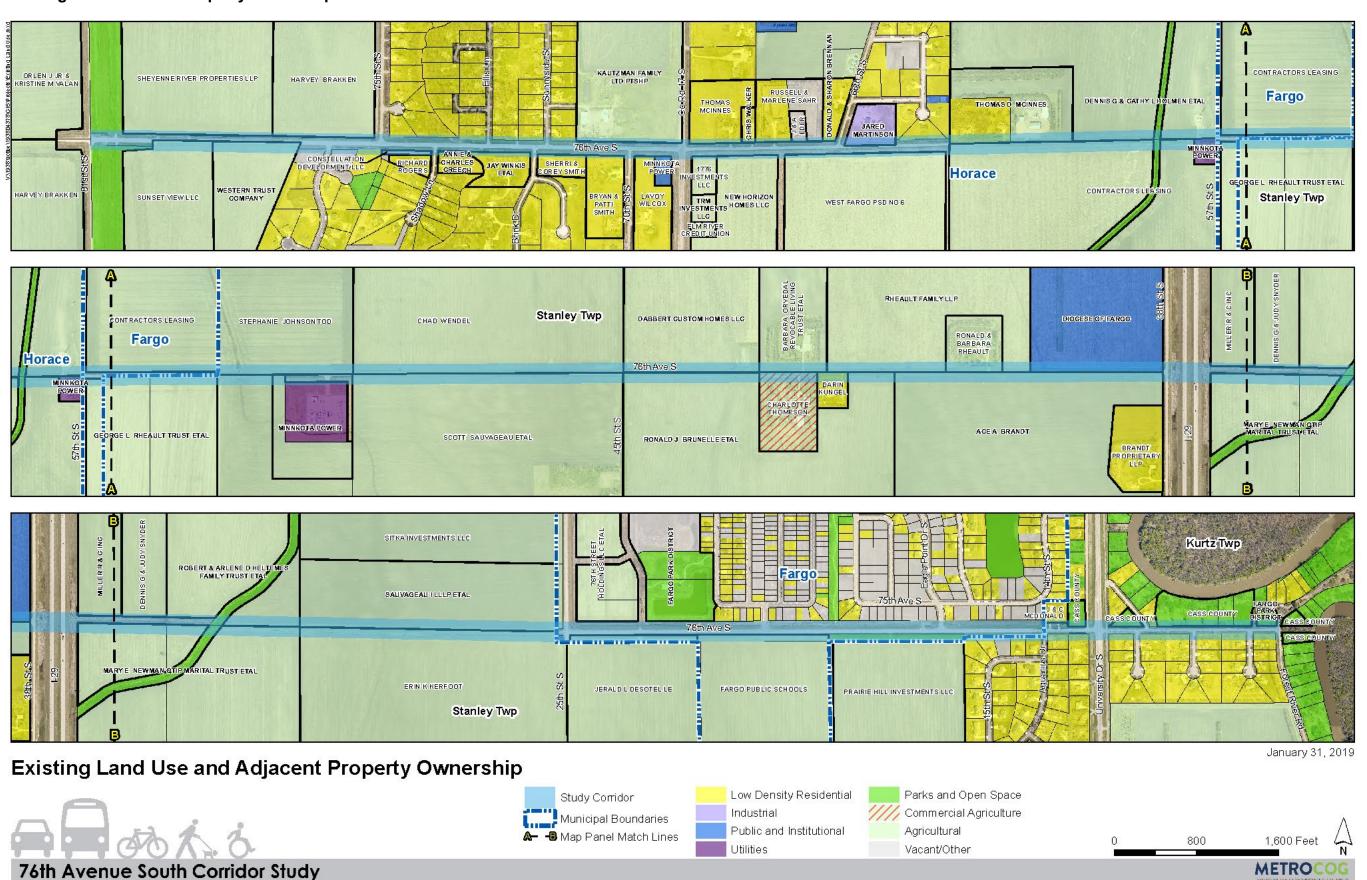




EXISTING LAND USE, NEW DEVELOPMENT & PROPERTY OWNERSHIP

The existing land uses directly adjacent to the 76th Avenue South corridor is primarily agricultural, with some rural residential and low density residential within the Cities of Fargo and Horace. Two land uses will soon be changing to public institutional with a future West Fargo High School and Middle School identified within the southeast quadrant of the CR 17 (Sheyenne Street) and 76th Avenue South intersection. The proposed school complex is tentatively planned to open with a middle school in the year 2020 and a high school in 2021. Initially, the buildings will be constructed for a capacity of 1,900 students and 220 staff. With future expansions planned, the buildings will have a combined capacity of 2,750 students and 335 staff. The Fargo Public School district has also recently purchased land along the south side of 76th Avenue South between 25th Street and University Drive. The existing land uses and existing property ownership directly adjacent to the corridor are shown in Figure 7.

Figure 7 – Existing Land Use and Property Ownership



EXISTING TRAFFIC VOLUMES & CRASH HISTORY





EXISTING TRAFFIC VOLUMES

Understating the existing traffic demands of a roadway is one of the first steps in analyzing a roadway. In this case, 76th Avenue South has very few vehicles directly utilizing it presently, but with development anticipated along key sections of the roadway, corridor preservation and a long-term vision are needed. Three data sources were able to provide existing Average Daily Traffic (ADT) volumes, as shown in Table 2. The data sources included Metro COG's 2015 Traffic Count Maps, the SWMTP (2016), and the West Fargo School Traffic Study (2018). Due to the rural nature of 76th Avenue South, existing traffic data has not been collected along much of the roadway. The future proposed ADT volumes in the SWMTP and West Fargo (WF) School Traffic Study, along with others, will be discussed in subsequent chapters.

Table 2 - Existing ADT from Relevant Sources

Roadway Segments		Existing ADT		
From	То	Metro COG 2015 Maps	SWMTP	WF School Traffic Study (July 2018)
81st Street S	CR17	765	755	790
CR17	57th Street S	None	None	None
57th Street S	45th Street S	None	None	None
45th Street S	38th Street	None	None	None
38th Street	I-29	None	None	None
I-29	25th Street S	None	None	None
25th Street S	University Dr	330	330	None
University Dr	Forest River Rd	None	None	None



CRASH HISTORY

Crash data for five years was obtained from the NDDOT between the dates of January 1, 2013 and December 31, 2017. During this period there were four property damage only, three non-incapacitating injury, and no fatality crashes along the study corridor. Crash locations are mapped in Figure 8 and listed from west to east in Table 3 with crash facility type, severity, surface condition, crash type, and year. As expected, with low volumes of traffic, and relatively minimal existing conflict points in non-developed areas, very few crashes occurred along the study corridor. Both traffic reports at the intersection of 45th Street South and 76th Avenue South indicated signage at this intersection may be warranted.

Table 3 - Existing Crash Summary

Location		Crook Facility		Surface		
North/South Road	East/West Road	Crash Facility Type	Severity	Condition	Crash Type	Year
81st St S	76th Ave S	Intersection	Property Damage Only	Snow	Right Angle	2012
81st St S	76th Ave S	Intersection	Non-incapacitating Injury	Dry	Single Vehicle	2016
45th St S	76th Ave S	Intersection	Property Damage Only	Ice/Compacted Snow	Single Vehicle	2011
45th St S	76th Ave S	Intersection	Non-incapacitating Injury	Ice/Compacted Snow	Rear End	2011
38th St S	76th Ave S	Intersection	Property Damage Only	Dry	Single Vehicle	2017
None	76th Ave S	Segment	Property Damage Only	Dry	Rear End	2013
Aquarius Dr	76th Ave S	Intersection	Property Damage Only	Dry	Angle	2016
University Dr	76th Ave S	Intersection	Property Damage Only	Dry	Right Angle	2014

Figure 8 – 2011 to 2017 Crashes





2011 to 2017 Crashes

December 12, 2018





COMPLETE STREETS



COMPLETE STREETS

Complete Streets refers to the concept of enabling a roadway to provide safe access to all transportation users of all ages and abilities. This includes pedestrians, bicyclists, motorists, and transit riders. Complete Street policies started being introduced in 2003, in response to car-centric planning, and have rapidly become integrated into many different ordnances, standards, and guidelines throughout the nation. The Fargo-Moorhead area is no different with many of the local jurisdictions putting an emphasis on a Complete Streets planning approach to ensure all modes and all users of the transportation system are considered.

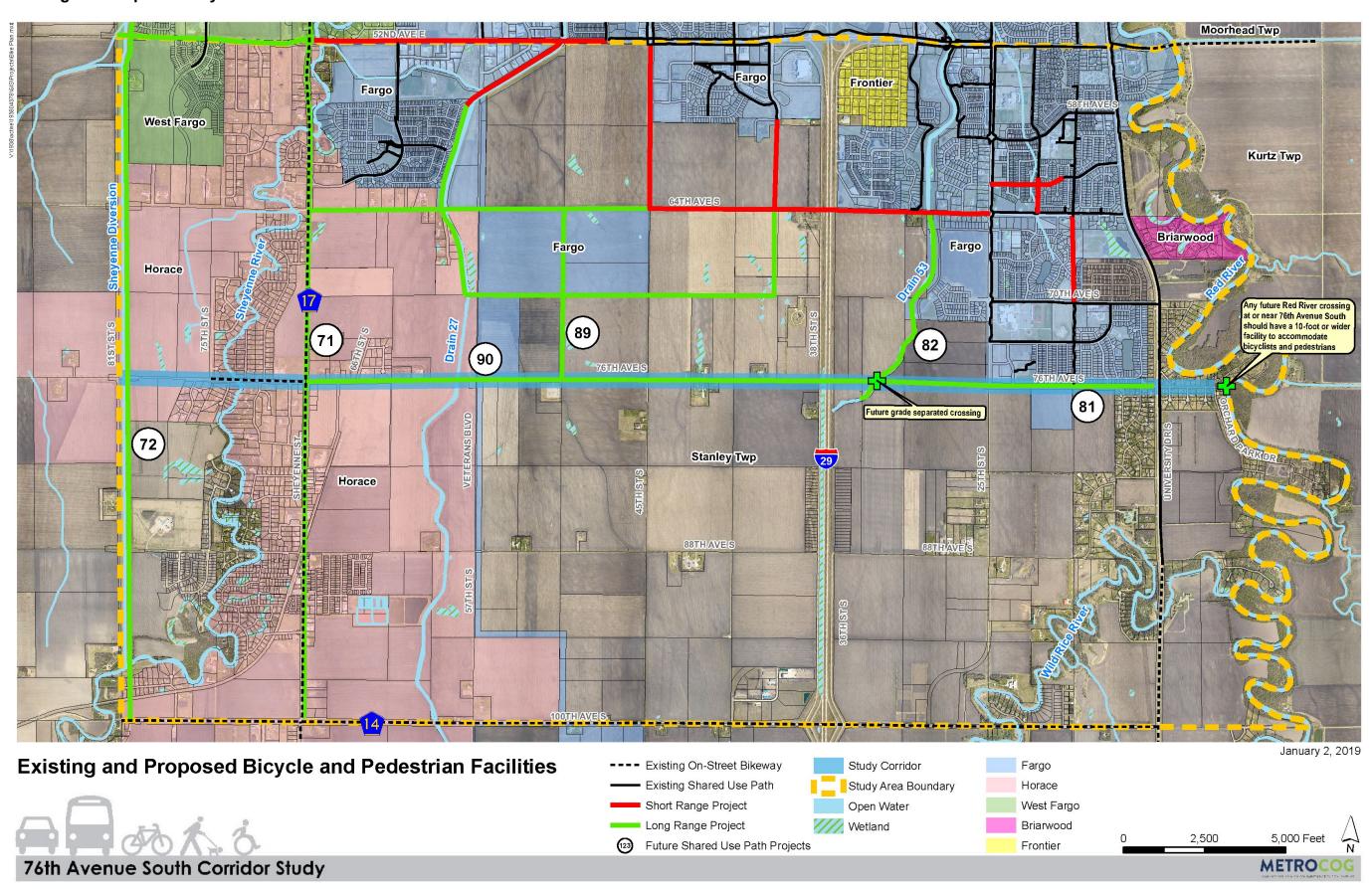
Bicycle and Pedestrian Facilities

Presently, 76th Avenue South has minimal bicycle and pedestrian facilities. The only noted multimodal friendly facility adjacent to the corridor is an on-street bicycle facility from 75th Street South to CR 17 comprised of wide shoulders along both sides of the roadway. This provides room for bicycles to ride but doesn't encompass the needs of pedestrians or less experienced cyclists. Figure 9 maps the existing and proposed pedestrian facilities in the area, showing long-term planning is anticipated to provide for more pedestrian and bicycle facilities along the corridor.

Transit Facilities

Metro Area Transit (MAT) bus does not currently operate a fixed-route transit service along 76th Avenue South. The 2016 – 2020 Transit Development Plan does not anticipate extending service to this area. However, the SWMTP shows a future transit corridor from 45th Street to 25th Street along 76th Avenue South as the area surround 76th Avenue South gets closer to bull build out.

Figure 9 – Existing and Proposed Bicycle and Pedestrian Facilities







ACCESS MANAGEMENT







ACCESS MANAGEMENT

Access management is the planning, design, and implementation of land use and transportation strategies to maintain a safe flow of traffic while accommodating the access needs of adjacent development. Most importantly, it reduces congestion and crashes, preserves road capacity, improves travel times, eases movement between destinations, and supports local economic development. Successful access management practices require multijurisdictional coordination as development occurs.

As the graphic in Figure 2 (page 6 of this report) shows, the functional classification of a roadway and the level of access are directly correlated. As the functional classification of the roadway increases, so does the amount of access control. The SWMTP travel demand model assumed ½ mile spacing between intersections for 76th Avenue South; however, if an expressway design is implemented, this would impact route selection throughout the study area, and most likely limit access points to 1 mile spacing or greater. The final facility type determination will play a large role in future access management guidelines along the corridor. The City of Fargo, City of Horace, and Cass County all have access management standards in some form.

Metro COG completed a Fargo/West Fargo Parking & Access Requirements Study in October 2018. This study looked at specific street typologies and listed very specific access recommendations based on the street type. For example, a mixed-use arterial type roadway had the following access recommendations:

- Traffic signal spacing at 600 to 800 feet;
- Unsignalized full access spacing at 300 to 400 feet;
- Right in right out spacing at 200 feet and;
- Driveway access to remain only on minor streets

This study will be an important reference once a future street type for 76th Avenue South is determined later in the study process.

The SWMTP reviewed the various jurisdictions access management policies noting Cass County had the most restrictive standards and the City of Horace had the least. The SWMTP made a recommendation to coordinate the access standards between the City of Horace and Cass County, reducing the need for county input within Horace's extra-territorial area (ETA). The recommendations from this study for both arterial roadways and collector roadways is shown on the following page.



Arterial Roadway Access Management Recommendation (Source: SWMTP 2016)

"Access control on arterial roadways should be limited to preserve the function and capacity of the resource. A maximum of four roadway access points per direction of the arterial. Where feasible these accesses should be aligned directly across from one another without offset creating four-way intersections making signalization or other traffic control easier and reducing delay through the corridor. No direct driveway access should be allowed onto the arterial system. Commercial uses should take their access from the collector system and allow for onsite internal circulation between businesses or for backage or frontage road facilities that serve traffic circulation needs.

Interchanges along I-29 should be treated differently as they not only impact the arterial road, but if access points are too close to the interchange ramp terminals it can also impact the function of the interstate. Interchanges represent some of the largest investments we make in our transportation system, and as such, should be afforded additional protections to preserve their function in perpetuity. Interchanges at 100th Avenue South, 76th Avenue South and 52nd Avenue South should have no intersections allowed within 2500 feet of interchange ramp terminals accessing I-29. Providing this measure of access control around interchanges allows for appropriate distance for weaving movements and during times of heavy use can keep ramp traffic from backing onto the mainline of the interstate."

Collector Roadway Access Management Recommendation (Source: SWMTP 2016)

"A minimum spacing of 300 feet is required between driveways and/or intersections. This standard may be modified to a minimum of 150 feet through an application process. Access permits will only be issued for the lessor standard upon review and determination by the City/County Engineer that granting of such a permit would not compromise the function, safety or capacity of the collector street at or around the location that access is granted."



ENVIRONMENTAL CONDITIONS



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ENVIRONMENTAL CONDITIONS

A preliminary environmental review of the following issues was completed for the 76th Avenue South corridor including: airport coordination, cultural resources, noise impacts, 4(f) and 6(f) properties, wetland/water resources, floodplain, right of way impacts, contaminated properties, farmland, environmental justice, and section 7 – threatened and endangered (TE) species. Table 4 lays out the results of the study and Figure 10 shows the existing water features, wetland areas, and FEMA flood zones.

Table 4 - Preliminary Environmental Review

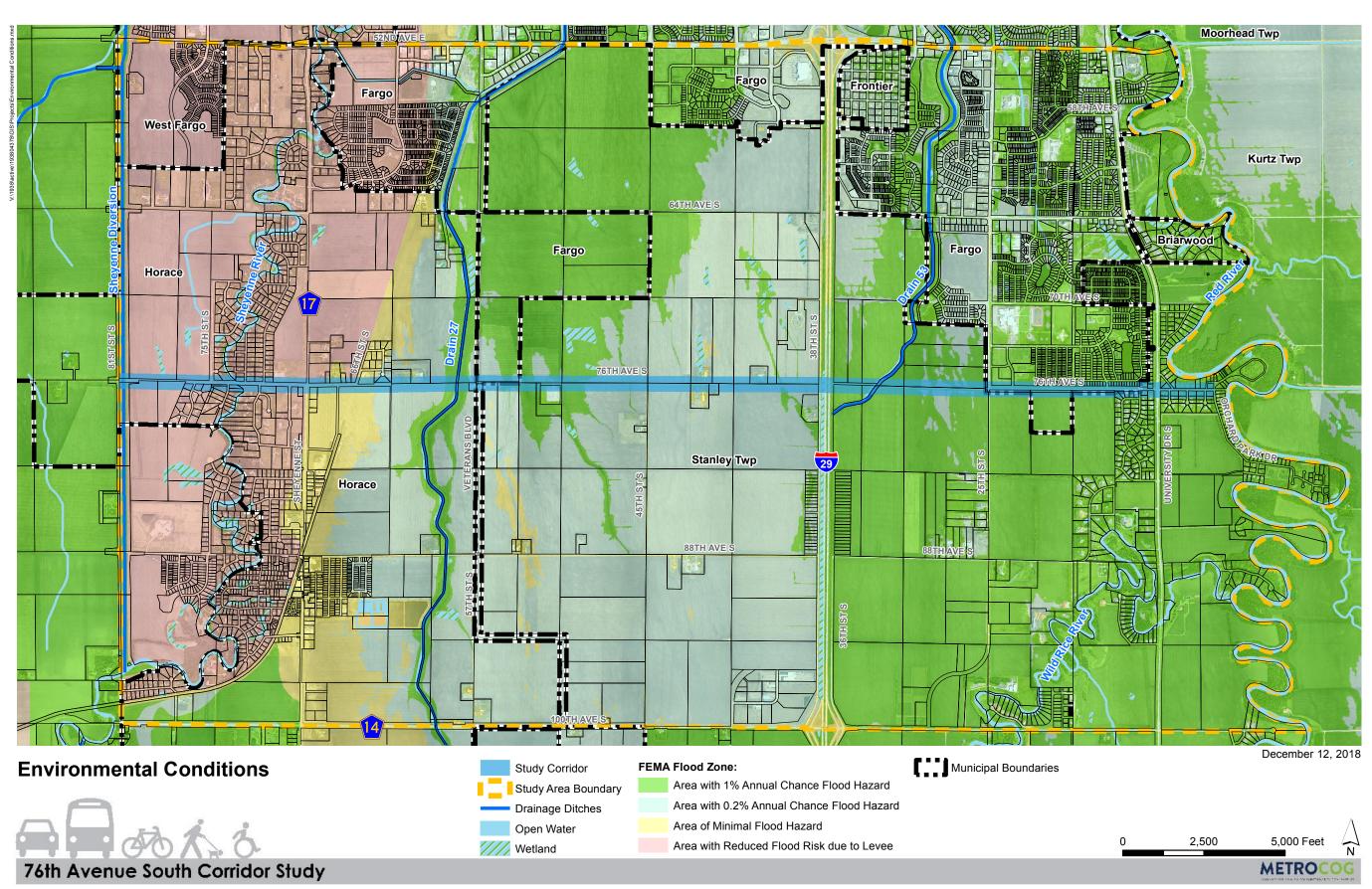
Environmental Issue	Preliminary Determination		
Airport Coordination	No Airports or Air Strips have been identified within the study area. However, the temporary use of construction equipment within the airport's Area of Influence may need to be coordinated with the FAA. According to the FAA Notice Criteria Tool, the project is in proximity to a navigation facility and in accordance with 77.9 the FAA recommends submitting a study request to obtain FAA clearance for any proposed roadway projects. FAA form 7460-1, Notice of Proposed Construction or Alteration should be submitted at least 45 days prior to construction to start the airspace study process, although sooner is recommended.		
Cultural Resources	No properties within or adjacent to the project are located on the National Historic Register or listed as a State Historic site. A Class I record search should be completed for the study area before corridor improvements move forward. Based on the results of a Class I study, a Class III field survey may be recommended prior to obtaining Section 106 Concurrence. No federal or tribal lands are located within or near the study area.		
Noise Impacts	If the resulting projects utilize federal funds through the Federal Highway Administration (FHWA), it is likely that the proposed improvements would fit the description of a Type 1 project as defined in the Title 23 Code of Federal Regulations Part 772.5: 1. The construction of a highway on a new location; or, 2. The physical alteration of an existing highway where there is either: • Substantial Horizontal Alteration. • Substantial Vertical Alteration. 3. The addition of a through-traffic lane(s). 4. The addition or relocation of interchange lanes or ramps added to a quadrant to complete an existing partial interchange; or, 5. Restriping existing pavement for the purpose of adding a through-traffic lane or an auxiliary lane; or, 7. The addition of a new or substantial alteration of a weigh station, rest stop, ride-share lot or toll plaza. If proposed roadway improvements on 76th Avenue are determined to be a Type I project under this definition then a noise analysis will be required to determine existing noise levels, determine noise impacts and, if required, determine noise abatements. Abatement measures could include berms, walls or pavement treatments.		

Environmental Issue	Preliminary Determination
4/fV/6/f) Proportion	Either temporary or permanent impacts to a publicly owned recreational properties could trigger a Section 4(f). Section 4(f) is based on the Department of Transportation Act of 1966 (Pub. L. 89-670, 80 Stat. 931) and prohibits the FHWA or other DOT agencies from using land from publicly owned parks, recreation areas, trails, wildlife and water fowl refuges, or public and private historic properties, unless there is no feasible and prudent alternative to that use. No parks or recreation areas are located adjacent to the study corridor; however, a trail connects to the 76th Avenue ROW between 17th Street S and 75th Avenue S and another trail crosses just east of Business 81.
4(f)/6(f) Properties	The Land and Water Conservation Fund Act (LAWCON) helps to preserve, develop and provide accessibility to outdoor recreation resources. Any land acquired or developed with LAWCON funds cannot be converted to a use other than its current outdoor recreational use unless replacement land is provided under Section 6(f) of the Land and Water Conservation Act, regardless of funding source (i.e local vs. state or federal) for the proposed project. Projects listed in the North Dakota State Comprehensive Outdoor Recreation Plan (SCORP) Land and Water Conservation Fund (LWCF) were reviewed in relation to the project corridor. No 6(f) properties were determined to exist within or near the Study limits.
Wetland Review/ Water Resources	The USFWS Wetland maps show other waters and wetlands along and crossing the corridor. The corridor has several freshwater emergent wetlands (PEM1Cx) within the stormwater ditches that parallel 76th Avenue and several of the crossing roadways. Temporarily flooded freshwater emergent wetlands (PEM1Ad) exist in some of the adjacent farm fields. A Freshwater Forested/Shrub Wetland (PFOA) crosses the corridor on the west side of the Sheyenne River. The Sheyenne River is a perennial riverine system (R2UBH) that travels through North Dakota. Although the segment that crosses the study corridor is not recommended for recreational use/navigation by the North Dakota Parks and Recreation Department (NDPRD), impacts to the river will require coordination with the NDPRD, North Dakota State Water Commission, US Army Corps of Engineers and Cass County. The Rose Coulee Drain is considered a freshwater emergent wetland (PEM1Fx) that crosses the corridor near Horace. Also, near Horace is a small seasonally flooded riverine system (R4SBC). A large emergent wetland system (PEM1Ax) runs parallel to I-94 and crosses the future corridor. At the far east end of the project, the Red River of the North (R2UBH). Lengthening of culverts and filling ditches to widen could result in wetland impacts. A field wetland delineation should be and action report to be submitted to the USACE for a Jurisdictional Determination.

Environmental Issue	Preliminary Determination
Floodplain	The Federal Emergency Management Administration (FEMA) has completed a flood hazard study throughout the corridor. On the far west side of the corridor 100-Year Special Flood Hazard Areas (floodplains) with no base flood elevations determined (Zone A) surround the Horace to West Fargo Channel, which acts as a diversion to the Sheyenne River and the Sheyenne River. The Rose Coulee Drain #27 is a 100-Year Special Flood Hazard Areas (floodplains) with base flood elevations determined (Aone AE). Outside of these areas, the majority of the corridor between 81st Avenue and I-29 is shown as protected from the 100-year flood by a levee system with a less that 1% annual chance of flooding or as 'other areas', which includes areas determined to be outside the 0.2% annual chance of flooding (500-Year Floodplain). From I-29 to the Red River, several areas exist as a 100-Year Special Flood Hazard Areas (floodplains) with base flood elevations determined. On the west side of the Red River, a 100-year Floodway exists that needs to remain free of encroachments. This area extends west approximately 200 feet from the edge of the Red River. If the roadway work impacts any of these noted floodplain areas, base flood elevations will need to be modeled for the Zone A floodplains and coordination will be required with the USACE, Cass County and the North Dakota State Water Commission.
ROW Impacts/Relocations	Temporary and permanent right of way impacts may occur with the proposed improvements. No relocations are anticipated with the project, however if relocations are to occur, they will need to be managed in accordance with state and federal laws and regulations.
Contaminated Properties	Due to the project location and nature of the planned work, there is little potential for encountering contaminated materials.
Farmland	If proposed improvements within the 76th Avenue corridor are federally funded AND will require ROW of any amount, the Farmland Preservation Policy Act (FPPA) must be addressed. According to the USDA websoil survey, the study corridor contains large areas of 'Prime Farmland' and 'Prime Farmland if Drained'. To confirm the location of these farmland types, form NRCS-CPA-106, Farmland Conversion Impact Rating for Corridor Type Projects will need to be completed and submitted to the Natural Resources Conservation Service (NRCS) under the US Department of Agriculture. In response to the submittal of form NRCS-CPA-106, the NRCS will provide a determination on the location of prime and unique farmlands and farmlands of statewide importance and provide a system for determining impacts to these areas. The form will provide an 'assessment score' for each feasible alternative being considered for the project. If the 'assessment score' is 160 points or greater, alternatives to avoid farmland impacts will need to be considered as part of the environmental review. An assessment of agricultural impacts including number of acres acquired, current land use, and severance of operations should be considered in the environmental documentation for the project. The discussion should also include proposed measures to avoid or reduce the impacts that can be implemented into the project.

Environmental Issue	Preliminary Determination
Environmental Justice	Executive Order 12898 applies to projects with federal funding or requiring federal permitting. The intent of EO 12898 is to ensure that agencies take appropriate steps to identify and address any "disproportionately high and adverse" human health or environmental effects on minority and low-income populations that may result from a federally supported action. A study area is usually defined as the project limits with a 1/4 mile buffer, however in a roadway project, the EJ study area is assumed to be the entire surrounding area that could be affected by negative changes to community connectivity. Since this is a corridor study, the project study area already contains the connecting roadways. The Environmental Protection Agency's (EPA) environmental justice mapping and screening tool (EJSCREEN) was used in conjunction with the Fargo-Moorhead Metropolitan Council of Governments' 2016 Title VI Annual Report to review the presence of low-income or minority populations within the study corridor. No readily identifiable minority or low-income populations were found. Therefore, it is assumed that the proposed action will not have disproportionately high or adverse human health or environmental effects on any EJ populations. If detours are used during construction, this review should be repeated for the areas potentially affected by the proposed detour to ensure that no EJ impacts are present.
Section 7 – TE Species	Cass County has 4 listed Threatened and Endangered species, as well as eight migratory birds protected/managed by the US Fish and Wildlife Service and protected under the Migratory Bird Treaty Act and the Bald and Golden Eagle Protection Act. Species that will require further consideration when the project is underway include the Gray Wolf, Northern Long-Eared Bat, Whooping Crane, and Dakota Skipper. If impacts are anticipated, a Biological Assessment may be required by the USFWS. No refuges or wildlife preserves will be impacted by the project.

Figure 10 – Environmental Conditions





RELEVANT STUDIES



RELEVANT STUDIES

A major component to understanding a corridor is to review previous plans. These plans lay the groundwork for transportation planning within the study area and provide invaluable input on the general mindsets surrounding the future vision. Related plans to 76th Avenue South are summarized below. Documents are listed in reverse chronological order, with the most recently completed listed first.

Sheyenne Street and 76th Avenue South Intersection Study (November 2018)

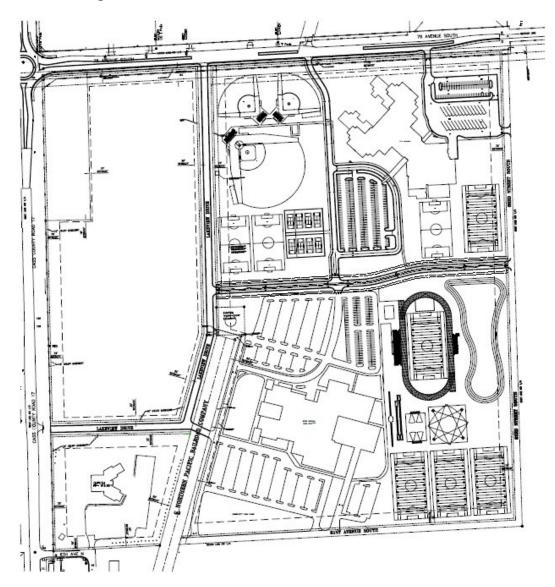
A traffic impact study was completed to identify traffic operations and safety impacts from the proposed West Fargo Middle School and High School on the intersections immediately adjacent to the school site. The study noted that the intersection of County Road 17 (CR 17) and 76th Avenue South is anticipated to become a roundabout in the future.

Even with the construction of this roundabout, delays are still expected at the intersections of 76th Avenue South and Lakeview Drive, 76th Avenue South and West Middle School Access, and CR 17 and Lakeview Drive once maximum enrollment has been achieved. However, these delays are expected to be confined to the peak 15 minutes before and after school. The study recommended a further evaluation of a second roundabout at CR17 and Lakeview Drive. This roundabout would provide corridor continuality with the planned CR17 and 76th Avenue South roundabout and provide additional traffic capacity for those entering and existing the school site.

Future West Fargo School Site (November 2018)

In September 2018 a bond referendum was passed to build a new high school and middle school on the south side of the West Fargo district, within the city limits of Horace. The new school site will be located at the SE corner of County Road 17 and 76th Avenue South and will be fed by the attendance area that encompasses the areas south of 40th Ave S on the west side of the Sheyenne River and south of 52nd Ave S on the east side of the Sheyenne River. Initially, the middle school will hold 900 students and can be expanded in the future to 1,200 students. The high school will be built to accommodate 1,000 students and can be expanded to 1,550 students if the need arises. Figure 11 shows the most current layout of the proposed new West Fargo Middle and High School site.

Figure 11 – Current Layout (November 2018 – Not Yet Approved) of the Proposed New West Fargo Middle and High School Site



Source: West Fargo School District

Fargo/West Fargo Parking & Access Requirements Study (October 2018)

This study lists four main goals which are to 1) develop guidelines that encourage safe traffic flow, as well as a comfortable walking and biking experience, 2) develop access and roadway guidelines that complement land use form, as opposed to just functional classifications, 3) reduce the need to build excess off-street parking, and 4) enable sustainable development patterns. This study does not include specifics to 76th Avenue South in its current condition. However, it will be used as a reference document as the planning process differentiates 76th Avenue South into varying segments of like context and identifies the future vision of the corridor segments.



2019-2022 Draft Transportation Improvement Program (September 2018)

The Transportation Improvement Program (TIP) lists surface improvements scheduled for implementation in the Fargo-Moorhead region during the next four fiscal years, where a fiscal year starts on October 1st and ends on September 31st. This document is developed in cooperation with the Minnesota Department of Transportation (MnDOT), the North Dakota of Department of Transportation (NDDOT), Metro Area Transit (MATBUS) of Fargo-Moorhead, local municipal and county jurisdictions, and other organizations and agencies eligible for project sponsorship. The draft TIP for 2019 – 2022 does not show any existing planned projects directly on the 76th Avenue South Corridor. However, it does include a grade separation of Interstate 29 (I-29) at 64th Avenue South to be constructed in 2020. 64th Avenue South is the mile section line future arterial roadway located directly to the north of 76th Avenue South. This project will have a major influence on trip patterns within the 76th Avenue South corridor study area.

Traffic Impact Study for New West Fargo Schools (September 2018)

A new West Fargo High School and Middle School complex is proposed on the south side of 76th Avenue South, east of CR 17. This traffic impact study was completed to identify the impacts of the proposed school site on the traffic operations and safety for the intersections of CR 17 at 64th Avenue South and CR 17 at 76th Avenue South. Analysis consisted of three scenarios; no-build (existing), initial school opening in 2020 (1, 800 students), and school at maximum capacity (2,750 students).

The study showed if no intersection improvements were made, and the school was at maximum capacity, the intersection of 76th Avenue South & CR 17 would operate at a LOS F for both school start and release times. Only minor delays were anticipated at the 64th Avenue South & CR 17 intersection; and were therefore not analyzed for further mitigation strategies. Further mitigation strategies for 76th Avenue South & CR 17 included adding a traffic signal with turning lanes or a single lane roundabout. Ultimately, the City of Horace and Cass County have determined that they will construct a single-lane roundabout at this intersection with free right turn movements serving traffic to and from the east.

2019-2023 Cass County Comprehensive Highway Plan (September 2018)

The Cass County Comprehensive Highway Plan identifies system principals and standards, evaluates the existing transportation system, identifies future system needs, develops a maintenance plan, identifies funding sources, and outlines implementation strategies for the operation and maintenance of the Cass County roadway network. The plan also provides a framework for long range highway and bridge planning decisions. The 5 Year Capital Improvement Plan for 2019-2023 lists the following projects on 76th Avenue South which would need to include:

- County Road 17 to 63rd Street 4-lane divided concrete grading & surfacing to be completed in 2019
- Roundabout at County Road 17 & 76th Avenue South Intersection



Cass County Comprehensive and Transportation Plan (July 2018)

The 2018 Comprehensive Plan is a broad vision and guide for the future of Cass County by providing guiding principles, strategies, objectives, and policies that address land use, growth management, and community development. This plan acknowledges the importance of intergovernmental coordination for 76th Avenue South due to its proposed future classification as a major arterial roadway.

Development potential along 76th Avenue South includes a new West Fargo High School/Middle School complex south of 76th Avenue South and east of County Road 17 and an interchange with I-29. In order to address projected development and proactively respond to the multijurisdictional nature of the road, Cass County has decided to take over jurisdictional ownership of 76th Avenue South as County Road 6 (CR 6). Improvements to the corridor have been programmed in the Cass County Capital Improvements Program for 2019 and 2021. After the urbanization of 76th Avenue South is completed, the county proposes to turnback portions to the City of Fargo and City of Horace.

FM Alternative Route & Traffic Incident Management Guidebook (December 2017)

The FM Alternative Route & Traffic Incident Management Guidebook is a document which was created to assist officials and emergency responders in the event of an emergency, where the diversion of traffic is necessary. The guidebook discusses general objectives and emergency response routes to help funnel large volumes of traffic, including trucks, to various areas dependent on the incident or event location. No routes or specifics to the 76th Avenue South corridor are referenced in this document.

Fargo-Moorhead Regional Freight Plan (September 2017)

The Fargo-Moorhead Regional Freight Plan (FMRFP) was developed to gain a better understanding of the transportation service needs of industrial and retail sectors in the local Fargo-Moorhead economy. The need for an interstate beltway or by-pass to keep trucks from passing through the urban core was discussed as part of recommended corridors for preservation. The Regional Freight Plan notes that related studies including the Traffic Operations Incident Management Study (TOIMS), LRTP, and SWMTP all identify in a varying level of degree that 76th Avenue South is an important corridor to preserve. The SWMTP takes this one step further, identifying 76th Avenue South as a fourlane southern bypass route with six-lanes between 45th Street and I-29.

2016-2020 Transit Development Plan (December 2016)

Metro Area Transit (MATBUS) provides fixed-route and demand-response transit service to the cities of Fargo, West Fargo, Moorhead, and Dilworth. There are currently no existing transit services along 76th Avenue South or any proposed improvements noted in the 2016-2020 Transit Development Plan.

Southwest Metropolitan Transportation Plan (SWMTP) (May 2016)

The Southwest Metropolitan Transportation Plan (SWMTP) was developed to address the steady growth of the area south of 52nd Avenue South and between 81st Street South and the Red River. This plan fully encompasses the 76th Avenue South study limits and will be a heavily referenced document during the planning process. Analysis completed as part of the SWMTP included a tiered growth approach for the best fit scenario for the years 2020, 2030, 2040, and 2040+, and a sensitivity analysis for four network alternative scenarios. Three of the four scenarios involved 76th Avenue South and are as follows; 76th Avenue South Beltway between I-94 and Cass County Road 15 (2040), 76th Avenue South – Grade Separation Only at I-29 (2030), and 76th Avenue South – No connection across I-29 (2030).

Based on the results of the various model analysis, the SWMTP identified projects needed to accommodate future growth assumptions. The projects identified, specific to 76th Avenue South are shown below in Table 5.

The opportunity to expand on or improve the existing multimodal facilities in the area was also examined in the SWMTP. These improvements include identification of a transit corridor along 76th Avenue South between 45th Street and 25th Street and two trail connections from 81st Street S to 45th Street and from 25th Street to University Drive.



Table 5 – SWMTP Identified Improvement Projects on 76th Avenue South

Year of Identified Improvement	Roadway Segment or Intersection	Identified Improvement
2020		
2020	CR 17 to I -29	Upgrade existing rural gravel 2-lane to a paved 2-lane
2020	25th Street S to University Dr	Upgrade existing rural 2-lane to an urban 2-lane
2030		
2030	48th Street S to I-29	Expand existing 2-lane to a divided 4-lane
2030	I-29 to 31st Street S	Construct interchange and divided 4-lane roadway
2030	31st Street S to 25th Street S	Construct 3-lane roadway
2030	76th Ave S & 48th Street S	Install Traffic Signal*
2030	76th Ave S & 45th Street S	Install Traffic Signal*
2030	76th Ave S & 38th Street S	Install Traffic Signal*
2030	76th Ave S & 31th Street S	Install Traffic Signal*
2030	76th Ave S & 25th Street S	Install Traffic Signal*
2040		
2040	CR 17 to 48th Street	Construct 3-lane roadway
2040	38th Street S to I-29	Expand 4-lane to a divided 6-lane and add loops to NW and SE quadrants of interchange
2040	76th Ave S & CR 17	Install Traffic Signal*
After 2040		
2040+	CR17 to 48th Street S	Expand 3-lane to a divided 4-lane
2040+	48th Street S to 45th Street S	Expand 4-lane to 6-lane
2040+	45th Street S to 38th Street S	Expand 4-lane to 8-lane
2040+	38th Street S to I-29	Expand 6-lane to 8-lane
2040+	I-29 to 31st Street S	Expand 4-lane to 6-lane
2040+	31st Street S to 25th Street S	Expand 3-lane to a divided 4-lane

Fargo-Moorhead Metropolitan Bicycle and Pedestrian Plan (2016)

The Bicycle and Pedestrian Plan is a sub-element of Metro COG's LRTP and is thus updated every five years and has a twenty-year planning horizon. The plan's purpose is to review existing issues and needs as they relate to bicycle and pedestrian facilities with a transportation component. Based on the area's needs, Metro COG develops goals, objectives, and recommendations to enhance safety and connectivity in the current bicycle and pedestrian network.

Through the public participation process various bicycle and pedestrian network improvements were identified. These improvements were categorized as either short-range or long-range projects within their corresponding jurisdiction. In the plan, Cass County has a proposed long-range project for construction of a shared use path along 76th Avenue South from CR 17 to 45th Street.

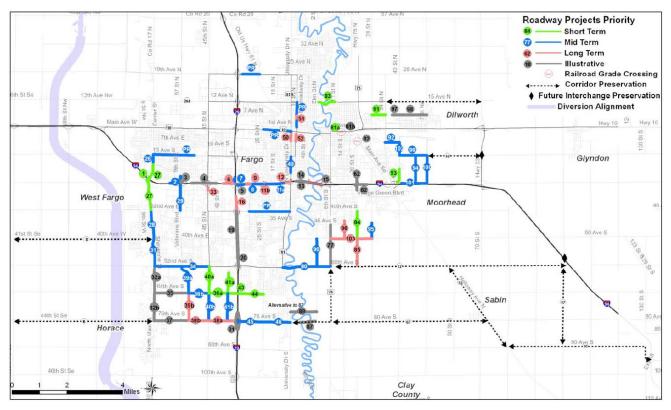


Metro 2040: Long Range Transportation Plan (July 2014)

Metro 2040 was completed in 2014 and is the long-range transportation plan (LRTP) for the Fargo-Moorhead metropolitan area. This plan guides how the region will grow and spend transportation dollars over the next twenty-five years. The LRTP identifies a non- fiscally constrained visioning plan and fiscally constrained projects for short-term, mid-term, and long-term completion. The projects along 76th Avenue South are listed below and shown in Figure 12. The projects are shown within their planning horizon years (short-, mid- and long-term). Illustrative projects indicate that funding is not available at this time but were identified in the travel demand model as needed to mitigate congestion between the years 2031 and 2040.

- Short-Term (2015-2020) None
- Midterm (2021-2030)
 - #45 New 4-lane arterial roadway from 38th Street SW to 25th Street South
 - #46 New 4-lane arterial roadway from 25th Street South to County Road 81
- Long-Term (2031-2040)
 - #38a New 4-lane arterial roadway from 45th Street South to 38th Street SW
 - #38b New 4-lane arterial roadway from 45th Street South to Veterans Blvd Extension
- Illustrative
 - #37 New 4-lane arterial roadway from County Road 17 to Veterans Blvd Extension
 - #21 New interchange at I-29 and 76th Avenue South
 - #87 Construct a new 2-lane bridge

Figure 12 - LRTP Fiscally Constrained Projects



Source: Metro 2040



South Diversion Master Transportation Plan (October 2013)

To reduce flood risk for the metropolitan area, the US Army Corps of Engineers (USACE) conducted a 2011 study which identified a 30-mile diversion alignment extending around Horace, Fargo, and West Fargo. The new river channel would begin at Cass County Highway 17 just south of Horace and terminate north of the confluence of the Red River and Sheyenne River near the City of Georgetown, Minnesota. In addition, an embankment would be constructed between the Diversion Inlet and the Red River and continue into Minnesota until it reaches high ground.

The Diversion Authority officially submitted "Plan B" as a revised footprint to the original preferred alternative following expressed concerns from the Minnesota DNR and others impacted by the diversion. As of late December 2018, the Minnesota DNR approved the permit for the FM Flood Diversion project, allowing the Diversion Authority to review the permit conditions and begin the next steps of project implementation. The 76th Avenue South roadway is proposed to have a major bridge structure crossing of the future Red River Diversion.

Go 2030 Fargo Comprehensive Plan (May 2012)

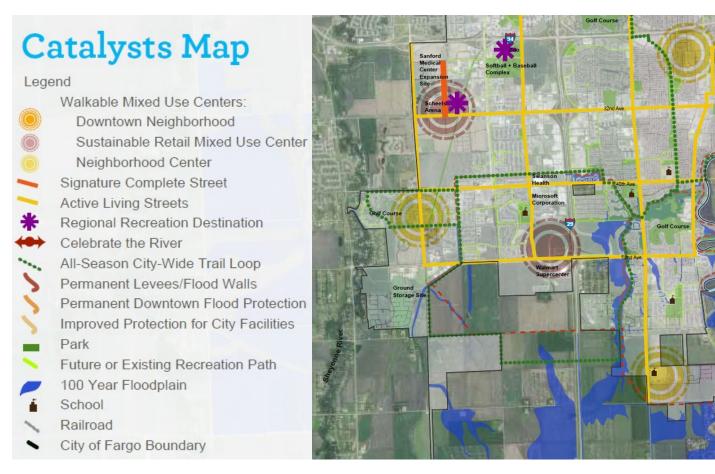
Adopted in 2012, Go2030 is the comprehensive plan for the City of Fargo. It represents the foundation for city policies related to growth and development. In the process of creating Go2030, city planners brought together residents, business owners, and policy makers to reach a consensus on a future vision of Fargo. This vision led to the development of guiding principles, key initiatives and catalysts, recommendations, and implementation steps. Transportation was listed as one of the nine guiding principles in the plan. Along with transportation, the guiding principles of water and environment, arts and culture, health, economy, neighborhoods, infill, and new development, and education, will also be considered in the vision of 76th Avenue South. Within these categories, thirtynine key initiatives were developed and ranked by priority. Below is a list of guiding principles, key initiatives, and where applicable, a ranking within the top twenty list of priority key initiatives. The guiding principles and key initiates listed below, will have a varying level of significance in the context of the 76th Avenue South corridor study.

- Transportation
 - Bicycle/Pedestrian Infrastructure (Ranking = 4)
 - Complete Streets (Ranking = 18)
 - Transportation Linkages Across the Red River
 - Intelligent Transportation System
- Water & Environment
 - Tree Canopy (Ranking = 11)
 - · Green storm water infrastructure
 - Air Quality
- Arts & Culture
 - Public art (Ranking = 3)
- Health
 - City-wide trail loop (Ranking = 6)

- Economy
 - Amenities & Beautification as an Economic Development Tool (#14)
 - Promote Connections and Infill within Strip Commercial Developments
- Neighborhoods, Infill, and New Development
 - Promote Infill (Ranking = 2)
 - Design Standards (Ranking = 5)
 - Quality New Development (Ranking = 9)
 - Housing for workforce and low-income residents
- Education
 - Safe Routes to School

Go 2030 defines a catalyst as an idea that has the potential to accelerate development and enhance quality of life. The only catalyst close to 76th Avenue South is a neighborhood center located just north of 76th Avenue South, and east of 25th Street at Davis High School. Neighborhood Centers are less dense and more residential in nature. These areas should incorporate neighborhood services such as schools, parks, and walkability enhancements.

Figure 13 – South Fargo Recreation Trail and Catalysts Map



Source: Go2030



Traffic Operations Incident Management Strategy (TOIMS) (March 2011)

The Traffic Operations Incident Management Study (TOIMS) was created to assist in the movement of people and goods in the event of an incident or emergency. This study identified a network of emergency alternate routes; low-cost roadway improvements; operational strategies and improvements; policies and protocols to enhance the existing emergency roadway network within the Fargo-Moorhead area. Important to 76th Avenue South, the TOIMS recommends adding the entire corridor to the list of Regionally Significant Transportation Infrastructure (RSTI) Corridors.

In addition to 76th Avenue South being identified as a RSTI corridor, it was also identified as being a long-term beltway option. The purpose of a beltway route is to provide a reliable, high speed bypass around the Fargo-Moorhead urban core that can be used for the movement of freight, for inter-regional travel wishing to avoid the urban area, as a reliever route to congested Interstates or arterials, or as an alternate route/evacuation route during incidents or emergency situations. Several key issues were identified with using 76th Avenue South as a beltway alignment. These issues include its overall proximity to a fast-growing urban area and its proximity to the City of Horace which creates access issues. Key identified improvements needed along 76th Avenue South to make it a beltway corridor are identified in the TOIMS as follows:

- Paving CR 6/76th Avenue South from CR 15 to 25th Street South, except for a segment in Horace from the Sheyenne River to CR 17.
- Constructing a new interchange at I-29/76 Avenue South
- Constructing a new four-lane Red River bridge at 76th Avenue South/80th Avenue South to accommodate a future four-lane section.
- Paving Clay County 67/80th Avenue South from the Red River to Sabin
- Constructing a new roadway alignment to bypass Sabin

South Red River Bridge Corridor Preservation (2009)

During an update to the Long Range Transportation Plan (LRTP) in 2009 local jurisdictions readdressed the topic of a future Red River Bridge crossing along either 70th or 76th Avenue South. Figure 14 shows the location and limits of these two alternatives as they were currently understood in 2009.

The topic of a future Red River Bridge crossing was not new and came after the following preceding studies:

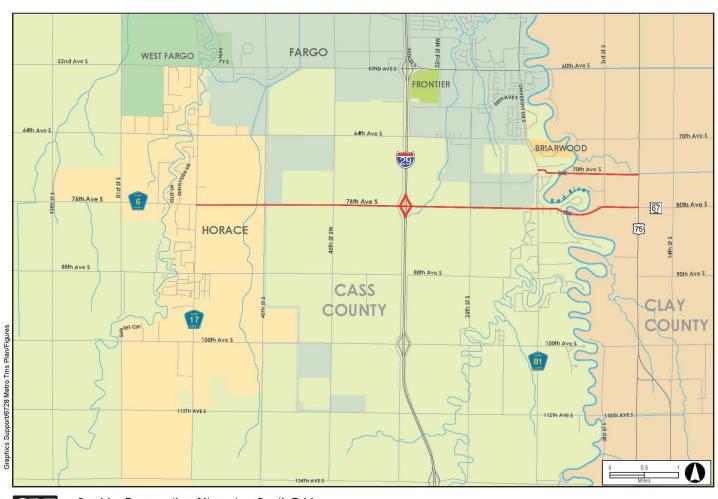
- Phase I Red River Bridge Corridor Study, March 1999
- Red River Corridor Study, Phase II Supplemental Report, May 2001
- Preliminary Geotechnical Study, South Side Red River Bridge and Corridor Study (Final Phase 3), October 2003
- Corridor Alignment and Bridge Alternatives Evaluation, South Side Red River Bridge and Corridor Study (Final Phase 4), October 2003



A memorandum summarizing input from local governments, the Minnesota Department of Transportation (MnDOT), and the North Dakota Department of Transportation (NDDOT) with respect to right-of-way preservation and the way the LRTP should address preservation of a bridge and roadway corridor was included as an appendix in the 2009 LRTP.

This memorandum stated a general agreement between agencies that the 76th Avenue South corridor is optimal due to its broad regional continuity. However, at the time of the LRTP update it was not critical to decide on a preferred alternative between 70th or 76th Avenue South, so both corridors would be preserved until the time came where a decision needed to be made. In terms of this study, future traffic projections do not indicate that a Red River Bridge will be needed in the growth year of 2045. However, consensus among stakeholders continues to be that a future Red River Bridge will be a vital connection in the long-term future and should be planned for.

Figure 14 – 70th and 76th Ave S Red River Bridge Corridor Preservation Alternatives



6728 073009 Corridor Preservation Alternates, South Bridge

Fargo-Moorhead Metropolitan Long Range Transportation Plan Fargo - Moorhead Metropolitan Council of Governments

Source: SRF



2028 Horace Comprehensive Plan (September 2007)

The 2028 Horace Comprehensive Plan discusses the city's infrastructural, geographical, and geological barriers to growth. The plan emphasizes that low quantities of surface and ground water limit the capacity of the wastewater treatment system and will limit future development if alternatives are not available. Without an expansion to the sanitary sewer system, onsite septic systems must be used, forcing development with very low density. Were these barriers to growth removed, the plan estimates that the population of Horace could reach 20,000 by the year 2030.

The comprehensive plan highlights desirable areas of development which include north of 88th Avenue South and east of County Road 17 and/or south of the developed parts of the city and east of County Road 17. The expansion of 64th Avenue South, 76th Avenue South, and 88th Avenue South to arterial roadways is also encouraged to provide convenient access. Future development will be dictated by the location of floodplains and the potential construction of a Red River Diversion. In the short term, the orientation of the city, with respect to the Sheyenne River and diversion, requires most of the new development to continue eastward. The population of Horace is less than 5,000; therefore, the city's ETA extends 1 mile beyond its border, based on the formula specified in the North Dakota Century Code (NDCC). When the population surpasses 5,000, the ETA may be extended to 2 miles. NDCC requires joint jurisdiction with the township or county in the outer half of the ETA.

Since the completion of the 2028 Horace Comprehensive Plan, the City of Fargo has extended sanitary sewer infrastructure to provide sanitary sewer service to the City of Horace. The City of Horace has recently begun the process of updating their comprehensive plan. The comprehensive plan update is anticipated to be completed in 2019. Coordination between this study and the comprehensive plan update will be ongoing.

2007 Fargo Growth Plan (2007)

The 2007 Growth Plan is a growth management plan that builds upon previous efforts to establish a comprehensive land use plan, which guides development of the City of Fargo's urban fringe and southern extraterritorial area (ETA). By state statute, Fargo exercises influence over an ETA that extends up to four miles beyond city limits. All the county land within the study area falls within the City of Fargo's ETA.

The 2007 Growth Plan designates two tiers for land development, with the purpose of restricting the leap-frog development which requires costly extension of city infrastructure. The plan states that growth over the first 20-year period (through approximately 2025) should occur in Tier 1, and that development in Tier 2 should be limited during that time. 76th Avenue South is entirely in Tier 1, meaning development is encouraged, where appropriate, such as next to existing development where adequate infrastructure is already in place. This tiered system became the basis of the geographical growth areas defined in the Southwest Metropolitan Transportation Plan (SWMTP) which was heavily referenced for this study.



ISSUES IDENTIFICATION



ISSUES IDENTIFICATION

By graphically combining the findings from previous studies, long term discussion items, and currently programmed improvements, Figure 15 tells a story about why this corridor study is needed now. It boils down to a need for multijurisdictional coordination and a unified vision regarding the functional purpose of 76th Avenue South in the future. Whether it's an arterial roadway or an inter-regional beltway, one thing is certain, corridor preservation and access management strategies need to happen now, especially with development continuing in the southwest metropolitan area from the cities of Horace and Fargo, a new West Fargo School Site, and the likely hood of permanent flood protection from the future Red River Diversion. A list of existing issues which will be addressed during the planning processes are listed below.

- Multijurisdictional ownership along the corridor with different viewpoints, guidelines, standards, and needs;
- Development is happening faster in the City of Horace and slower in the City of Fargo than anticipated in the SWMTP;
- The roadway typical section is a rural roadway section with a mixture of paved, gravel, and dirt surface types;
- Traffic volumes will increase as development continues in the southwest metropolitan area from the cities of Horace and Fargo;
- The cities of Horace and Fargo have not officially adopted updated future land use maps addressing new development trends occurring along the corridor;
- The future functionality of 76th Avenue in a regional planning context is unknown and needs to be determined;
- Corridor preservation in terms of access management and right of way have not been started;
- Multi-modal transportation elements are not present; and
- It is not currently a complete streets corridor in terms of both aesthetics or functionality

Figure 15 – Summary of Previous Study Elements and Programmed Improvements

