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10th

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University Drive & 10th Street Corridor Study

13th Avenue S to 19th Avenue N
Fargo, ND

Final Report

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Fargo-Moorhead Metropolitan Council of Governments

City of Fargo

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Metro COG is especially grateful to the community members who served on the project steering committee and to all those who contributed their time and feedback throughout the planning process.

Established to address regional planning needs, Metro COG serves as the designated Metropolitan Planning Organization (MPO) for the Fargo-Moorhead metropolitan area. Its mission is to coordinate transportation and community development efforts among federal, state, and local agencies, while promoting robust public engagement.

Metro COG's work spans multimodal transportation planning—including automobile, transit, bicycle, and pedestrian systems—as well as environmental coordination and intergovernmental collaboration. These efforts are essential to the success of the University and 10th Project and to the broader vision of a safer, more connected region.

The following individuals and groups were instrumental in the development and implementation of this corridor study.

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Study Overview

The University Drive and 10th Street Corridor Study (the study) focuses on improving the critical corridors of University Drive and 10th Street in Fargo, ND. These corridors are significant north-south roadways that provide access to key areas such as downtown, North Dakota State University (NDSU), the FARGODOME, Sanford Health Athletic Complex, multiple core neighborhoods, several schools, and the north Fargo Sanford Health campus.

The study evaluates the existing one-way pair between 13th Avenue S and 19th Avenue N. University Drive carries southbound traffic, while 10th Street carries northbound traffic. This segment is designated as US Highway 81. The study continues previous plans, including the *Core Neighborhoods Master Plan* and *Downtown InFocus Master Plan*. These studies identified opportunities to enhance livability and economic development through investment and improvements along these corridors.

The primary purpose of the study is to identify roadway improvements that can mitigate safety, speeding, traffic flow issues, and accommodate multiple modes of transportation. A major component of the study assesses the value of converting the one-way pair to two-way operations and the impacts such a change would have on roadway users, residents, and businesses. Other improvement types, including those that maintain the existing one-way pair, are also considered.

The key outcomes of the study include;

Maintain the Existing One-Way Pair: The assessment concludes that maintaining the existing one-way pair of University Drive and 10th Street is the most feasible option, though a conversion through the Downtown Subarea is still a potential and was evaluated against other downtown reconfiguration options. This recommendation is based on multiple rounds of public engagement feedback as well as detailed technical analysis. 2-way conversion on the north and south ends of the corridor, without roadway widening, created a significant amount of safety concerns, traffic redistribution to local roads, long delays to get to major destinations like the downtown campus, and the FARGODOME. With roadway widening, more than one hundred trees and various utilities would be impacted, while creating longer pedestrian crossings, and therefore not an alternative supported by the public.

Implement Safety Improvements: To address safety concerns, the assessment recommends implementing various safety improvements along the corridors. These include enhanced pedestrian crossings, improved signage, and traffic calming measures to reduce vehicle speeds. A critical element of this is to use a package of solutions in an attempt to control traffic speeds. This includes a series of signal retiming efforts, signage, and redesign portions of the study area.

Enhance Multimodal Accessibility: The assessment suggests enhancing multimodal accessibility by adding dedicated bike lanes, improving public transit facilities, and ensuring better connectivity for pedestrians. This vision is capstoned by signature reconfiguration alternatives through downtown that provide better opportunities for alternative modes of travel while prioritizing aesthetics and livability. Other solutions included a parallel bike route on 11th Street and enhanced pedestrian crossings to reduce conflicts with traffic.

Community Engagement: The assessment emphasizes the importance of ongoing community engagement to gather feedback and ensure that the proposed improvements align with the needs and preferences of residents and businesses in the area. The project included several thousand individual engagements, ranging from door-to-door visits to every residence and business along the corridor, to open house meetings, to focus groups meetings with key stakeholders.

Funding and Phasing Plan: The assessment recommends developing a comprehensive funding and phasing plan to ensure the successful implementation of the proposed improvements. This includes exploring various funding sources and prioritizing projects based on their impact and feasibility.

These recommendations are taken through an alternatives assessment aimed at improving the overall functionality and safety of the corridors while maintaining the existing traffic patterns.

The Study Implementation Plan details the steps necessary to transform the study's vision into actionable projects. It emphasizes the importance of project prioritization and funding strategies to achieve timely improvements in the transportation system.

Various federal, state, and local funds are available, with the City of Fargo, in coordination with FMMetroCOG leading efforts to secure funding for projects. Programs, including but not limited to, HSIP, TA, and Flex Funds along with discretionary grants like BUILD, SS4A, and CMAQ are highlighted as potential sources.

Background

Introduction

Study Area Overview

The University Drive and 10th Street corridors are significant north-south roadways in Fargo and provide access to key areas of the city such as downtown, North Dakota State University (NDSU), the FARGODOME, Sanford Health Athletic Complex, multiple core neighborhoods, several schools, and the north Fargo Sanford Health campus. See **Figure 1**.

The two corridors form a one-way pair between 13th Avenue South and 19th Avenue North, with University Drive carrying southbound traffic and 10th Street carrying northbound traffic. The one-way pair segment is designated as US Highway 81.

University Drive and 10th Street are two of the most diversely used corridors in the region, with heavy amounts of vehicle, truck, and bus traffic along the corridor, and heavy amounts of pedestrian and bicycle traffic along and across each corridor. To provide sustainable and equitable transportation recommendations, analysis documents existing facility types and identifies levels of service (LOS) for vehicles, bicyclists, pedestrians, and transit users.

Purpose of Study

The University Drive and 10th Street Corridor Study is to evaluate the existing one-way pair between 13th Avenue S and 19th Avenue N to identify roadway improvements that can mitigate safety, multimodal, and traffic flow issues that either exist today or are anticipated to be exacerbated by changes in travel patterns.

A major component of the corridor study will be assessing the value of converting the one-way pair to two-way operations, and the impacts that such a change would have for roadway users, study area residents, and businesses.

While the one-way to two-way conversion assessment is a vital component of this study, other improvement types (including some that maintain the existing one-way pair) will also be considered.

Study Phases

The University Drive and 10th Street Corridor have long served a variety of uses and priorities. After being designated as State Route 81, the streets were converted into a one-way pair in 1969 to improve traffic flow. Today, recent planning efforts—including the Downtown Fargo In Focus Plan, Regional Transportation Plan, and Core Neighborhoods Plan—identify these streets as vital corridors for moving people to and through the downtown area.

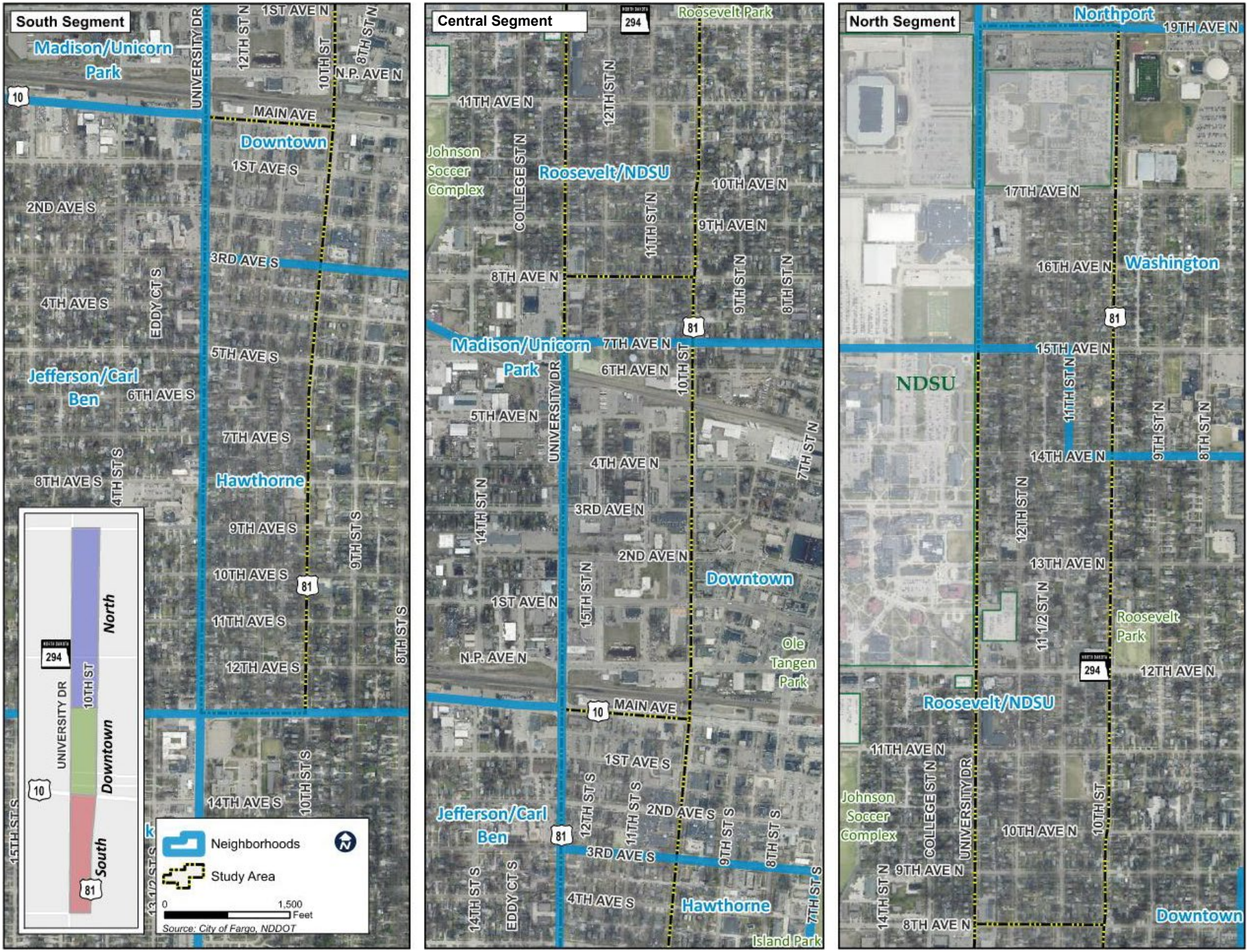
During recent planning efforts, several stakeholder groups expressed a desire to enhance comfort and safety for alternative modes of travel (walking, biking, and transit), as well as to stimulate economic development along the University Drive corridor.

This study was exploratory in nature, designed to assess current conditions and identify potential areas for future improvement without predefined implementation goals. This allowed for a methodical approach centered on extensive public involvement and detailed scenario and alternatives analysis.

The study was divided into two phases. The first phase, titled “Establish Corridor Vision,” was completed in 2022–2023. Its goal was to understand the long-term vision for the corridor in terms of roadway configuration and design. After the completion of phase one, the study was re-scoped based on guidance from city leadership.

The second phase, “Alternatives and Implementation,” was completed in 2024. This phase aimed to identify phased improvements and implementation strategies to address the issues identified in phase one, collectively working toward the established corridor vision.

Figure 1: Study Area



Related Studies

The University and 10th Street Study is a continuation of the family of plans that includes the *Core Neighborhoods Master Plan* and *Downtown InFocus Master Plan*. These studies are summarized below. Other regional plans that serve as foundation to this study include, but are not limited to, the *Fargo Transportation Plan*, *Metropolitan Transportation Plan*, *Metropolitan Bicycle and Pedestrian Plan*, *Transit Development Plan*, *Fargo Safe Routes to School Plan*, *Fargo/West Fargo Parking and Access Requirements Study*, and the *Metropolitan Freight Study*. Key takeaways from these plans are woven into the fabric of this study and referenced as necessary. Each plan is available at the Metro COG website.

Core Neighborhoods Master Plan

The *Fargo Core Neighborhoods Master Plan* was intended to provide a holistic approach for meeting the challenges in Fargo's most historic neighborhoods. These neighborhoods generally cover the area between the Red River, 25th Street, Interstate 94, and 19th Avenue N. The University Drive and 10th Street corridors are the primary north-south arterials through these neighborhoods and ensuring these corridors support neighborhood needs is critical in achieving the goals of the plan.

Related to transportation, one of the priority issues identified in the *Core Neighborhoods Plan* is the safety, quality of life, and land use impacts of traffic and major roadways. The most significant transportation issues that were identified are:

- Walking, biking, and transit have historically been secondary considerations, with emphasis placed on the efficiency of automobile traffic.
- There are pedestrian safety issues, especially along school walking routes.
- Homes fronting arterial roadways in Core Neighborhoods have absentee ownership rates nearly twice the Core Neighborhoods average.

Downtown InFocus Master Plan

The *Downtown InFocus Master Plan* was developed to establish a blueprint for the future of downtown revitalization and development. Major goals of the downtown plan are to foster inclusive growth and develop downtown into both a neighborhood for people to live in as well as a destination for business and entertainment.

To meet downtown revitalization goals, the master plan recognizes that transportation is a key component. The University Drive and 10th Street corridors serve as major arterials in and out of downtown, even if they are on the far west edge of the downtown area. General transportation goals for downtown include:

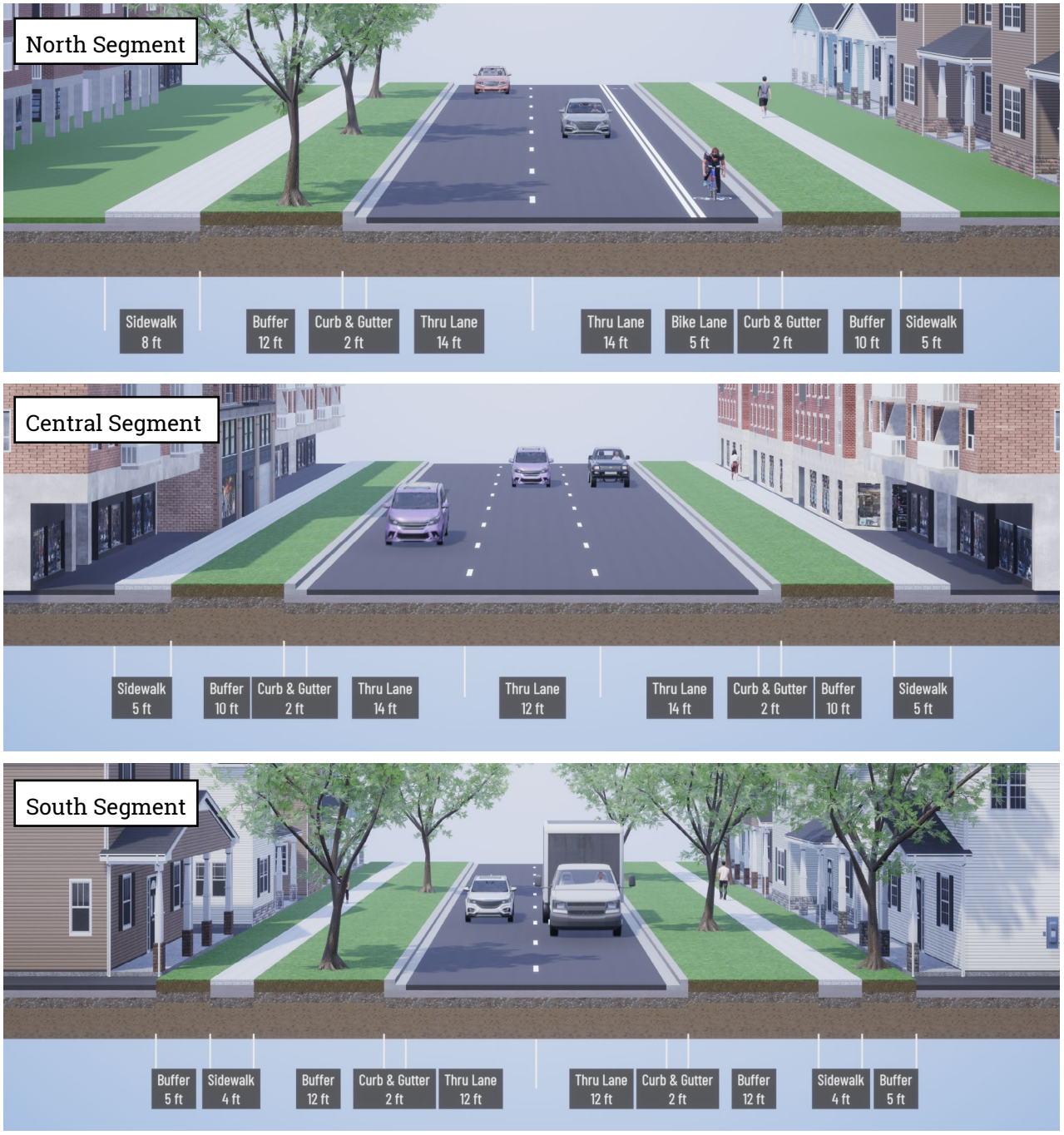
- Establish the role and design of all downtown streets so that future reconstruction results in an interconnected downtown network that serves all transportation modes.
- Reduce automobile reliance by creating a downtown bicycle network and enhancing transit stops.

Existing Roadway Infrastructure

University Drive

- One-way southbound traffic flows between 19th Avenue N and 13th Avenue S.
- The speed limit is 30 mph.
- University Drive is functionally classified as a Principal Arterial, meaning the route is intended to be a major traffic-carrying route. However, the corridor provides a significant amount of direct property access, a feature not typical of most arterial roadways. Recognizing the dual purpose of the corridor, the *Fargo-West Fargo Parking & Access Study* has categorized University Drive as a 'Mixed-Use Collector'.
- There are 2 lanes for traffic throughout most of the area, with a small stretch of 3-lane traffic between 3rd Avenue N and 2nd Avenue S, roughly corresponding with the study's downtown sub-area.
- Sidewalks are present along the entire corridor, with most segments having a grass boulevard to provide some separation between pedestrians and moving traffic. These boulevards are home to large mature trees that also provide shade and aid in separation. Boulevard widths vary along the corridor but are generally between 8 and 12 feet wide, though they are narrower under bridges and adjacent to some turn lanes.
- Bike lanes are present on the northern end of the corridor near NDSU; however, no such facilities are present south of 4th Avenue N.
- Pavement conditions along the corridor are generally good.

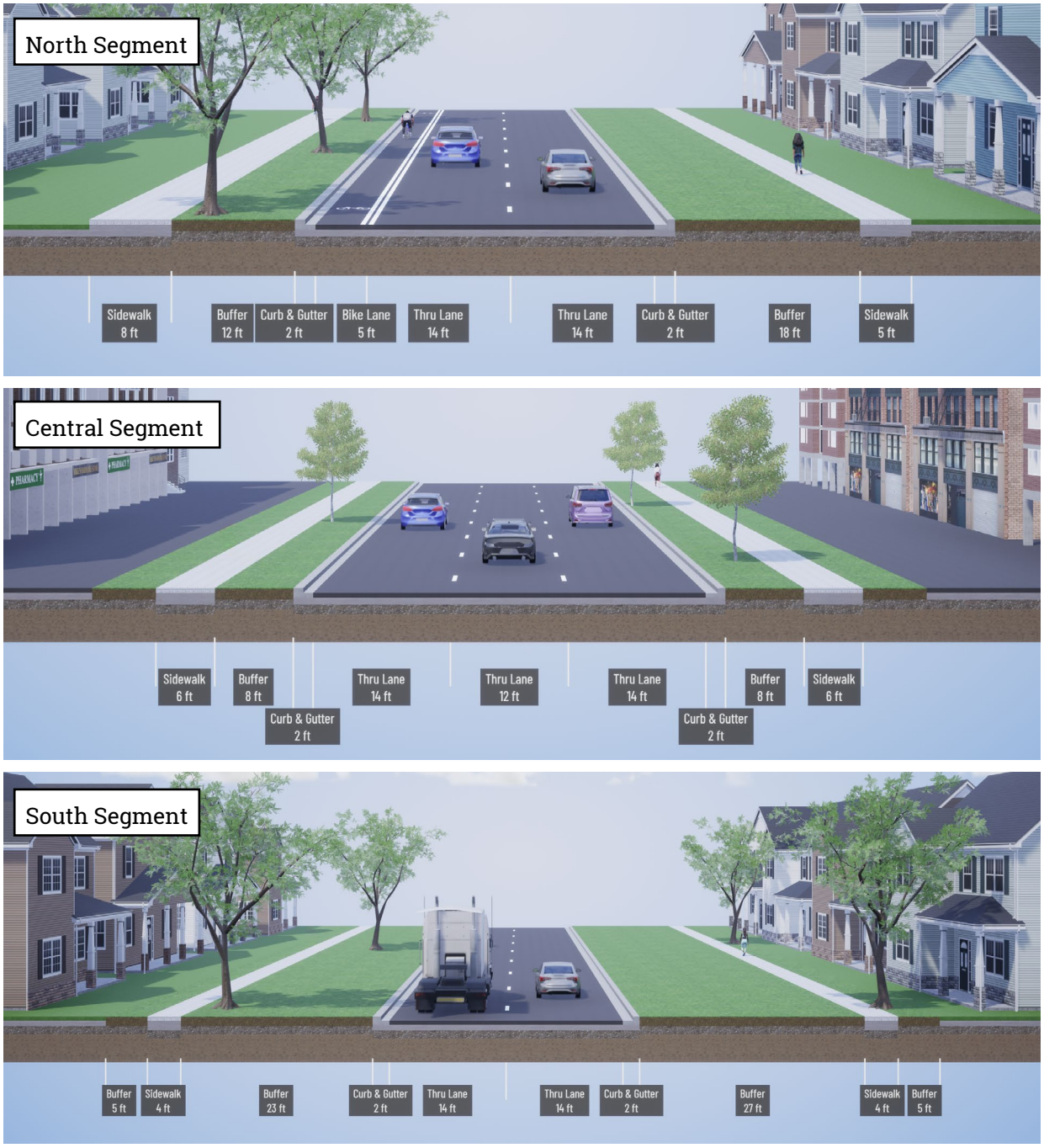
Figure 2: University Drive Typical Roadway Sections (Looking North)



10th Street

- One-way northbound traffic flows between 13th Avenue S and 19th Avenue N.
- The speed limit is 30 mph and pavement conditions are generally good.
- 10th Street is functionally classified as a Principal Arterial, but like University Drive, it provides significant amounts of direct property access. The *Fargo-West Fargo Parking & Access Study* categorized 10th Street as a 'Mixed-Use Collector', like University Drive.
- Traffic signals are present at higher-volume intersections. Signal density is highest in the downtown sub-area with 7 signals in one mile between Main Avenue and 12th Avenue N. Signal density is lower south of Main Avenue (5 signals per mile) and north of 12th Avenue N (3 signals per mile).
- There are 2 lanes for traffic throughout most of the area, with a small stretch of 3-lane traffic between 2nd Avenue S and 4th Avenue N, roughly corresponding with the study's downtown sub-area.
- Sidewalks are present along the entire corridor, with most segments having a grass boulevard to provide some separation between pedestrians and moving traffic. Boulevards are wider north and south of downtown, with widths typically at least 12 feet north of 12th Avenue N and widths over 20 feet south of downtown. Large mature trees are located in the wide boulevards. Narrower boulevards are present downtown, but widths are still typically around 8 feet. Like University Drive, boulevard widths tend to be narrower under bridges and adjacent to turn lanes.
- Bike lanes are present north of 4th Avenue N; however, no such facilities are present to the south.

Figure 3: 10th Street Typical Roadway Sections (Looking North)



Land Use

University Drive and 10th Street traverse some of Fargo's most historic neighborhoods. The combination of community age, network functional classification, and land use along the corridors are some of the most diverse in the city. See **Figure 4 and Figure 5**.

North Study Area

Surrounding land uses include NDSU to the west and mostly residential areas to the east. Commercial uses along the 19th Avenue at the north end of the corridor influence traffic patterns on the one-way pair, but most business accesses are located on 19th Avenue N.

Notable uses on the north end of the study area include the FARGODOME, and Sanford Health Athletic Complex along University Drive and Fargo North High School, H.A. Thompson and Sons Arena, and Roosevelt Elementary along 10th Street.

Central Area

Between 12th Avenue N and 7th Avenue N, land uses are a mix of residential (primarily single family) and light commercial. Between 7th Avenue N and Main Avenue, University Drive and 10th Street are on the west edge of downtown Fargo. Land uses are generally light commercial and multifamily residential. Notable uses on the downtown segment include NDSU's Barry Hall on 10th Street and Family Fare Supermarket, Pan-O-Gold Baking, and the Manchester Office Building on University Drive.

South Study Area

Running between Main Avenue and 13th Avenue S, adjacent land uses along 10th Street are primarily single family residential, with University Drive's land use south of 13th Avenue S being primarily commercial. While this sub-area is mainly residential, some notable non-residential uses include Bethany Retirement Living and the Agassiz School on University Drive and the Cass County Courthouse on 10th Street.

Figure 4: Corridor Land Uses

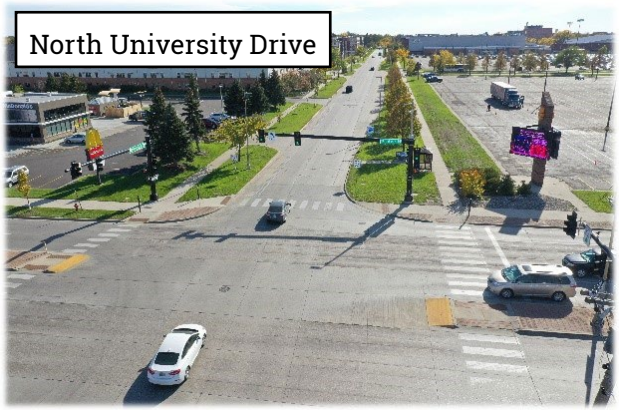
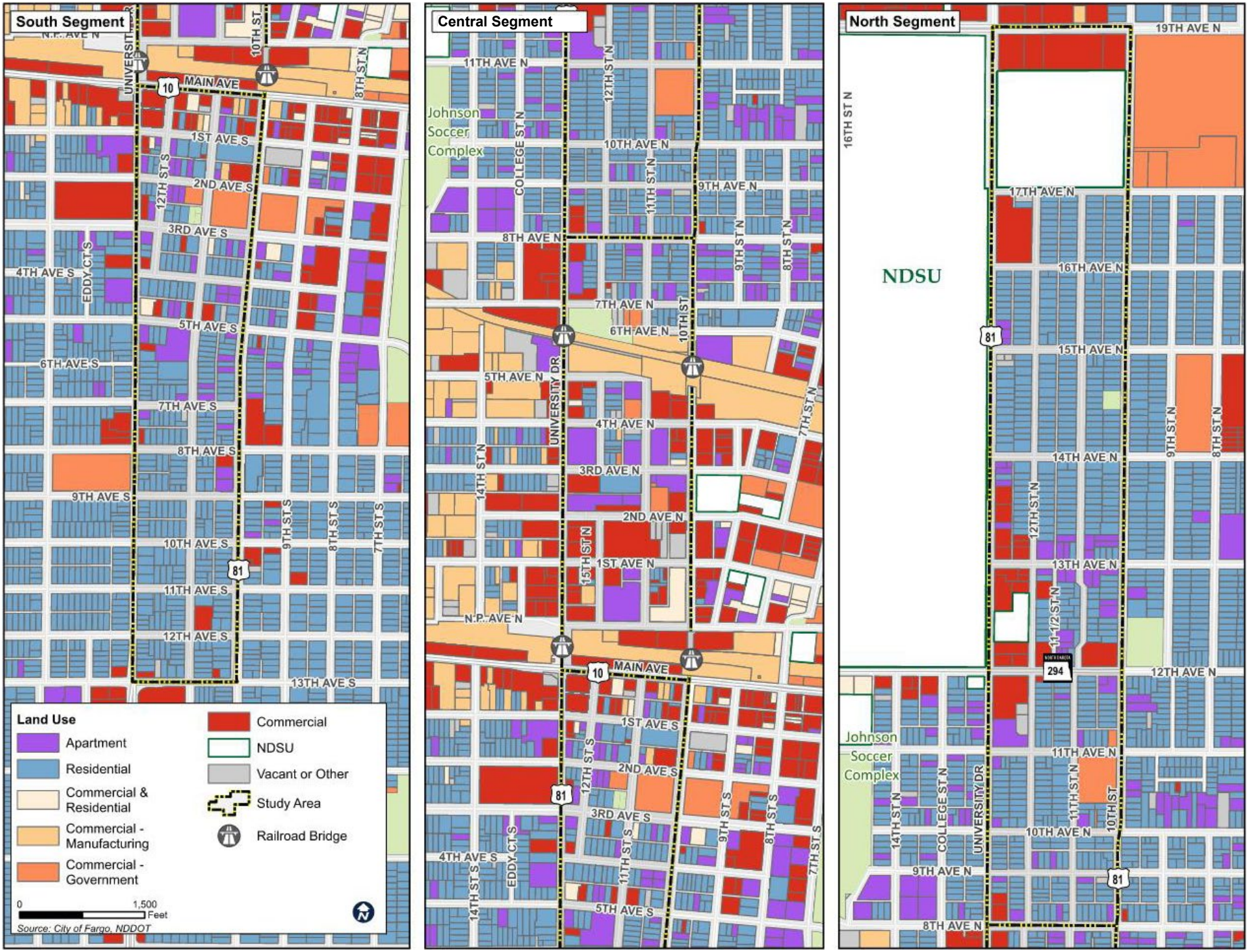


Figure 5: Study Area Land Use



Vehicle Traffic

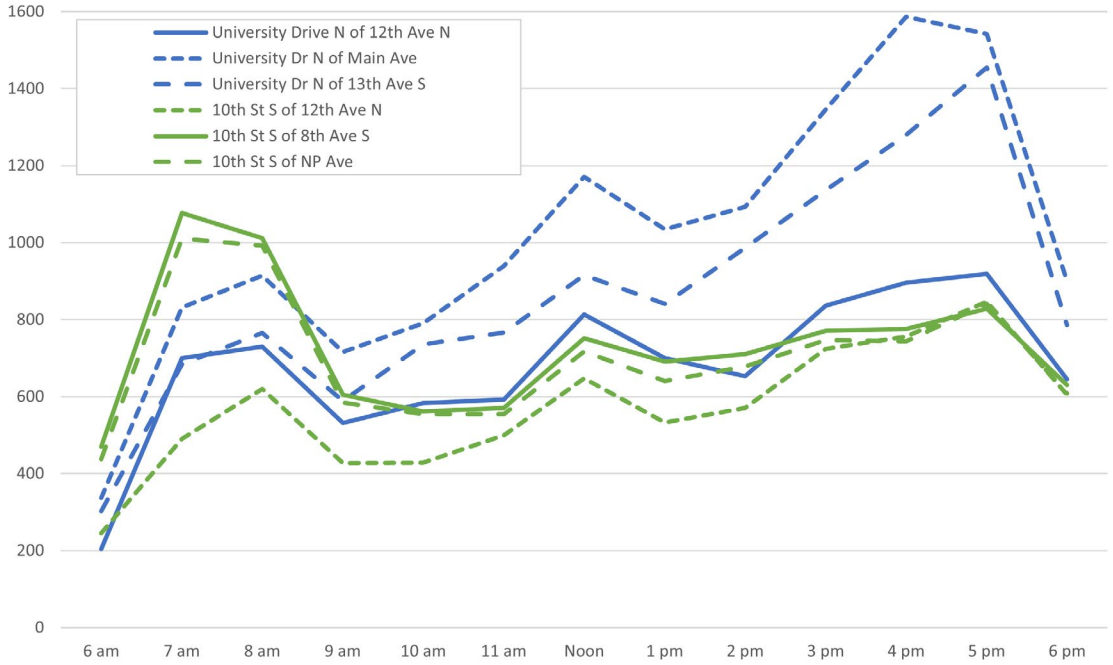
The University Drive and 10th Street corridors are important north-south corridors in Fargo, especially given their proximity and access to downtown and NDSU.

- Daily traffic volumes on University Drive range from a low of around 7,500 per day on the north end near 19th Avenue N to a high of around 17,000 vehicles per day just north of Main Avenue.
- Daily traffic on 10th Street is lower with a range from a low of around 6,000 vehicles per day near 19th Avenue N to a high of around 11,000 vehicles per day just south of Main Avenue. Interestingly, the maximum capacity of the corridor is currently inverse of the traffic volumes, with the most capacity on the north and the least on the south.
- Fridays are the highest traffic day of the week (around 13% higher than average) and Sundays are the lowest traffic day (around 28% lower than average). Fridays experience the convergence of events at the various event centers along the corridor and commuter traffic.
- Monthly traffic variations are generally minor. December sees the largest deviation from average, with around 11% less traffic than the average month. December is commonly a less active time period for NDSU and many major event centers.

Traffic Peaking Characteristics

Traffic peaking is characteristic of the Fargo-Moorhead region, with the AM peak hour beginning around 7 am and the PM peak hour beginning at 5 pm. See **Figure 6**.

Figure 6: Hourly Traffic Profile



- Outside of the AM peak period, traffic volumes are higher on University Drive throughout the day, with this especially evident in the PM peak period.
- A common trend is traffic commuting into the downtown business district during the AM peak hour. The PM peak hour sees both an exodus of daily workers from the area, but also an influx of visitors to the area as well to frequent restaurants, shopping, and alike.
- Around 7.2% of daily traffic occurs in the AM peak and around 9.2% of daily traffic occurs in the PM peak hour.

As shown in **Table 1**, University Drive and 10th Street provides regional transportation utility. When taken as a whole, this corridor is the third most highly traveled in the entire region. Events can generate 40 to 140% more traffic than usual on the corridors and Fridays alone see an increase of 13%.

Table 1: Average Annual Daily Traffic

Segment	University Drive	10th Street	Combined
South	15,500	11,800	27,300
Downtown	14,000	12,800	26,800
North	10,400	8,700	19,100

Level of Service

Level of service (LOS) is a letter grade between "A" and "F" that is assigned to transportation infrastructure to describe its performance related to the safe, comfortable, and efficient movement of people. See **Figure 7**. For vehicle traffic, level of service is typically a function of the amount of delay experienced as a result of traffic control. For this study, LOS was conducted with 2022 average daily traffic data. Levels of service for vehicle traffic are generally good on both corridors, with acceptable levels of service present throughout the day (LOS C). While not serious, some minor delays do occur during peak hours. See **Figure 8** and **Figure 9**.

- Peak hour delays on some side street during peak hours, but this is common for local streets intersecting with arterial roadways. Given the well-connected grid network, signals are in close proximity and can be used for corridor access during peak hour traffic.
- Generally speaking, one-way corridors are far simpler to maintain effective operations. Signal timing has reduced signal phases, and progression is a simple distance and speed calculation.
- Travel speeds remain relatively constant throughout the day along University Avenue, and throughout the corridor. While the cross-section does deviate from north to south, for the most part, it adjusts to the amount of turning traffic at key intersections. Travel speeds are also discussed in the Crash History section as they relate to safety.
- Traffic speeds deviate along 10th Street. Speeds are typically 5 mph faster north of 12th Avenue N than the area north of 13th Avenue S. As noted earlier, the northern most segment has low volumes and high capacity.

Figure 7: Level of Service Measure for Various Modes

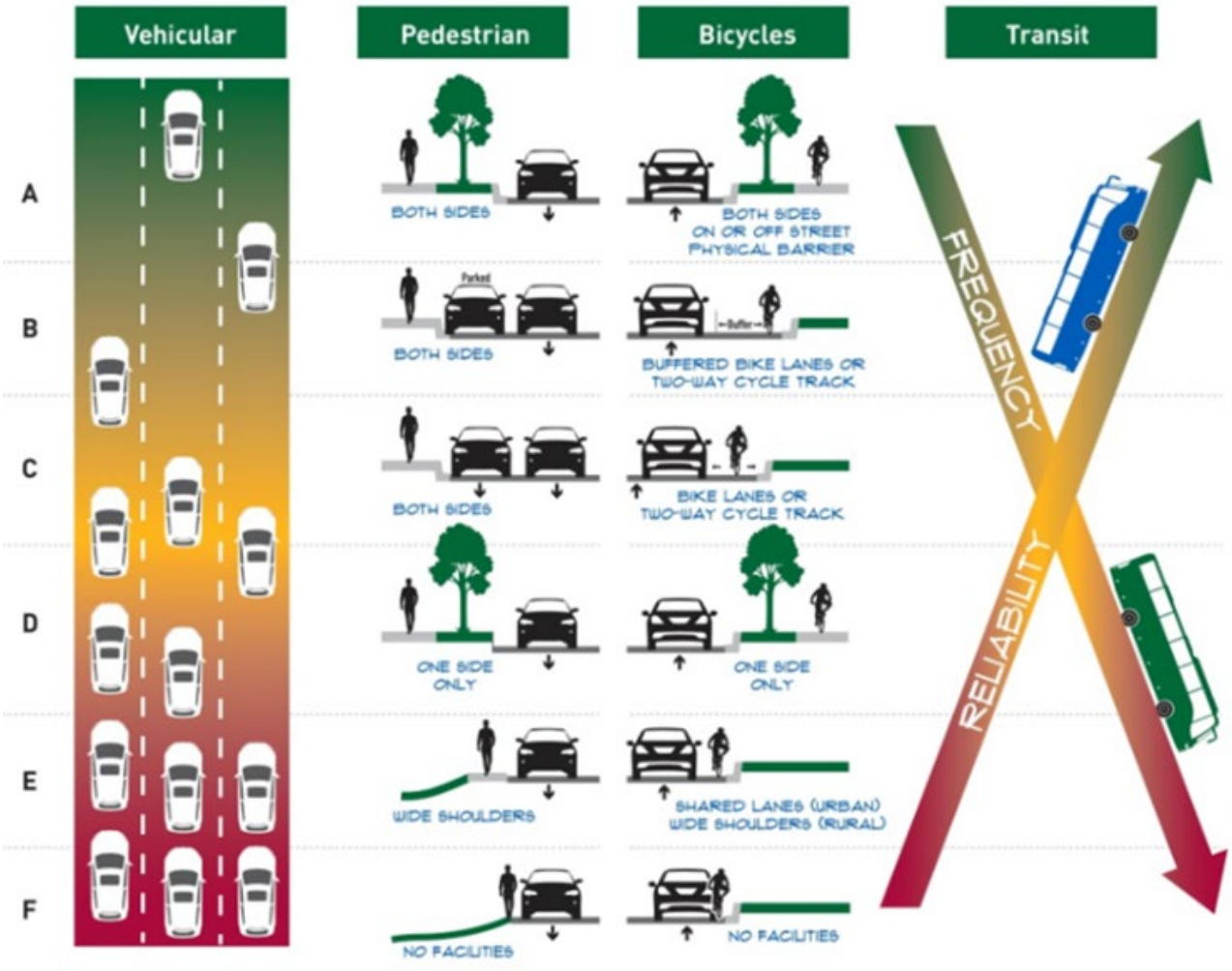
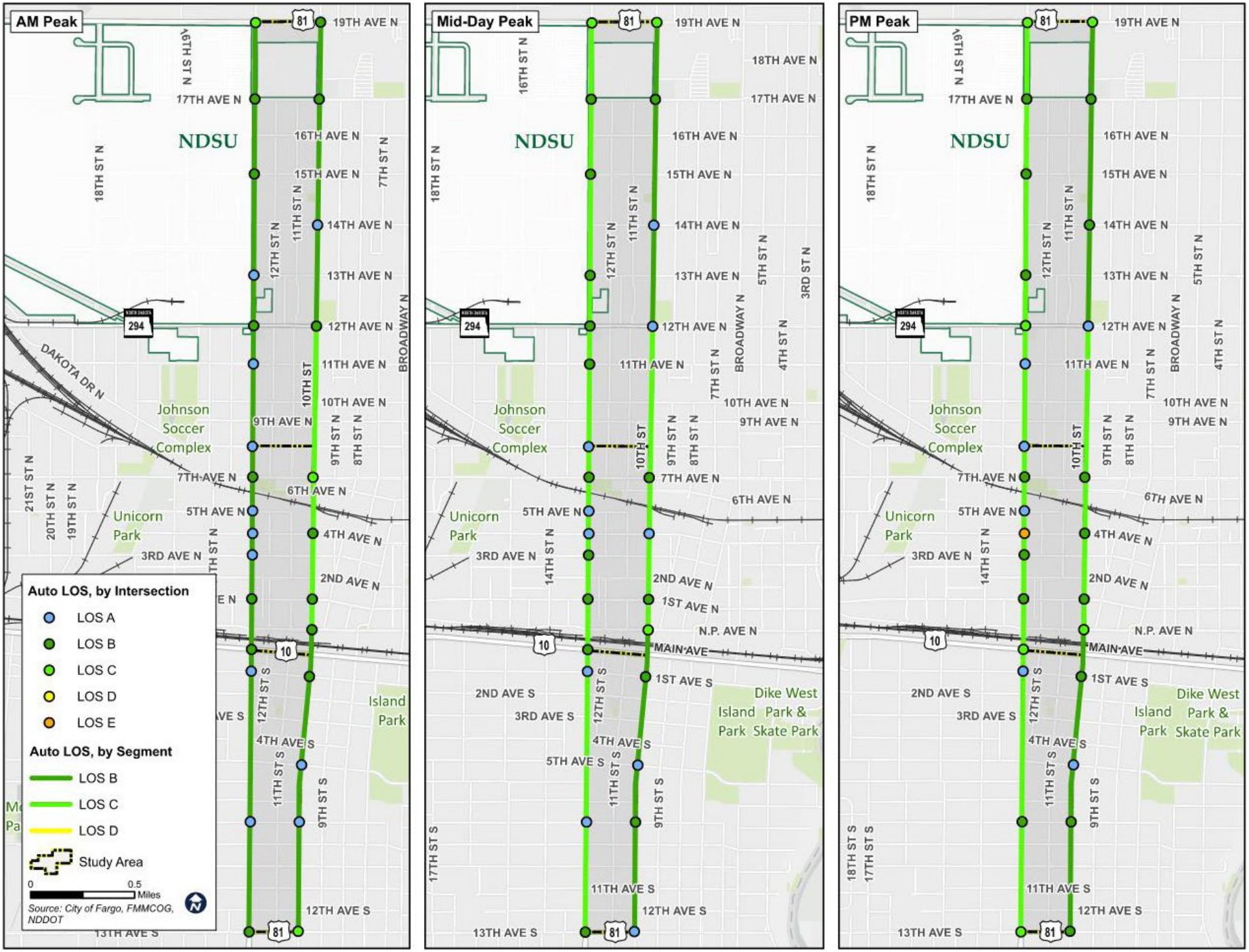


Figure 8: Existing Average Daily Traffic Volumes

Figure 9: Existing Vehicle Levels of Service

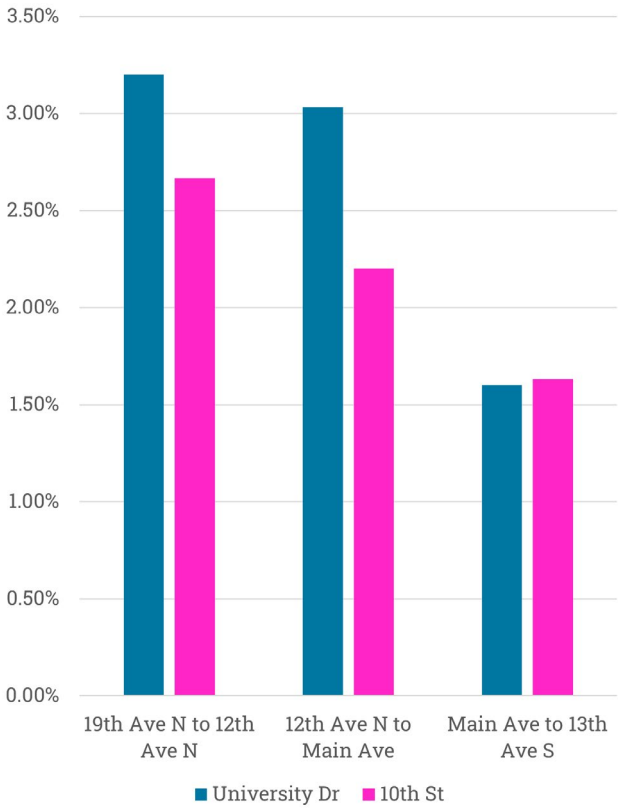


Freight/Truck Traffic

Truck traffic is generally low along the corridor, making up 2 to 3% of traffic. See **Figure 10**. Truck traffic is slightly higher on the north side of the corridor compared to the south side. While truck traffic is generally low, University Drive and 10th Street are the US 81 Business Route and part of the National Highway System, therefore maintaining acceptable operations for freight flows is important. Freight level of service (LOS) is a function of freight travel time reliability.

Freight LOS in the study area is generally good, with freight LOS C or better, with freight travel times during peak hour conditions being around 25% higher than they are in uncongested conditions. See **Figure 13**.

Figure 10: Truck Traffic by Segment

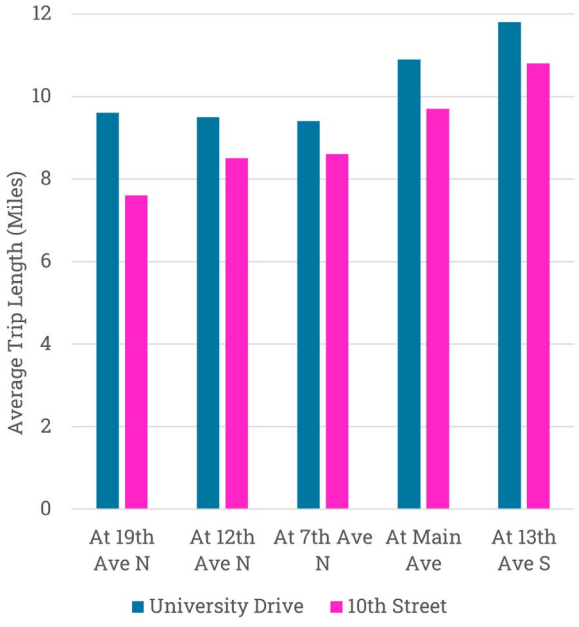


Regional Traffic

Analysis of trip length data shows that much of the vehicle traffic on the University Drive and 10th Street corridors has trip lengths around 10 miles in length, meaning that traffic from all over the Fargo-Moorhead area is using study area roadways to travel to major destinations like NDSU and downtown, among other locations. See **Figure 11**. Origin-destination analysis revealed the following:

- For traffic that starts or finishes its trip in the study area, the NDSU area and downtown are the highest activity areas.
- 75 to 85% of traffic traveling to NDSU or downtown Fargo uses I-29 as the primary north-south roadway rather than University Drive/10th Street if their trip origin is south of 13th Avenue S.

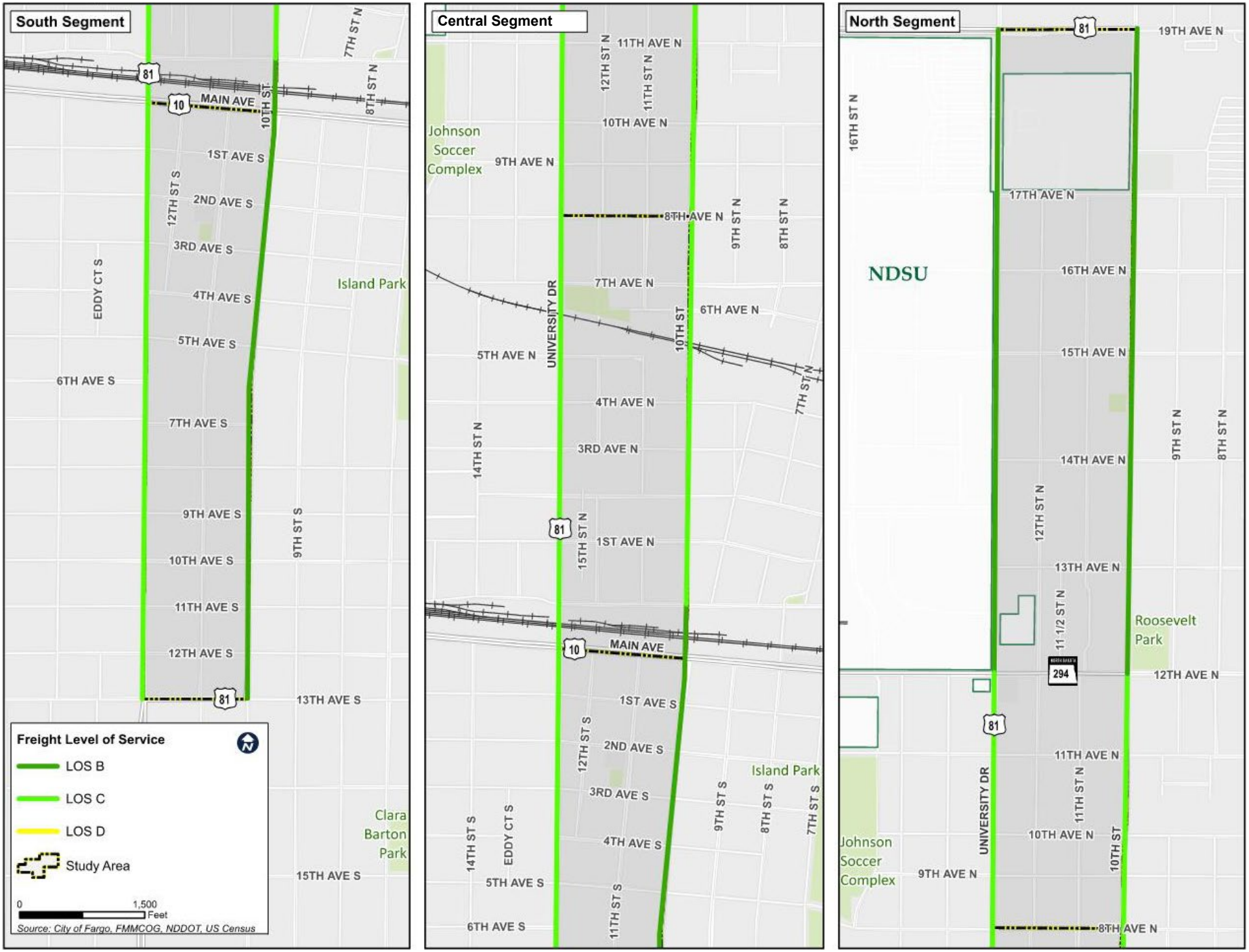
Figure 11: Trip Lengths by Segment



- For traffic at the north and south ends of the University Drive and 10th Street corridors, less than 10% of traffic uses either corridor end-to-end. Similar patterns were observed with truck traffic.

Figure 12: Starting/Ending Locations of Study Area Trips

Figure 13: Freight Levels of Service



Pedestrians

The University Drive and 10th Street corridors are in one of the highest pedestrian activity areas of the region. Major generators like NDSU and downtown draw in pedestrian activity, as does the presence of multiple schools like Fargo North and Roosevelt Elementary.

Level of Service

Level of service for the pedestrian mode is determined based on the design and presence of features that lend to pedestrian safety and comfort. Pedestrian activity is supported by the sidewalks on both sides of University Drive and 10th Street. Sidewalks are buffered from street traffic by grassy boulevards throughout the study area, improving pedestrian comfort and providing pedestrian Level of Service B.

Pedestrian Activity by Location

Pedestrian activity is considerably higher near NDSU compared to the rest of the study area, especially along University Drive. In the downtown area, pedestrian activity is notably higher on 10th Street than on University Drive given its proximity to downtown. **Figure 14** shows average daily pedestrian counts along and across the two corridors.

Mode Share

Around 8% of study area residents walk to and from work, which is double the Fargo average of 4%.

Latent Pedestrian Demand

Origin-destination data shows that a relatively high percentage of trips (29 to 48%, with higher rates near NDSU) starting in the study area are 2 miles or less in length, indicating there may be some latent demand for non- automobile traffic in the study area.

Pedestrian Crash History

While pedestrian facilities are generally good, there is a history of pedestrian crashes, with 8 pedestrian crashes (no fatalities) reported between 2017 and 2021. These crashes were evenly distributed across University Drive and 10th Street. All pedestrian crashes occurred north of Main Avenue, where pedestrian activity is the highest. All pedestrian crashes occurred at intersections, with 6 of 8 occurring at traffic signals. See **Figure 15**.

Pedestrian Crash Survivability

Safety data shows that pedestrians have a 90% chance of surviving a crash involving a vehicle at speeds under 20 mph, but this probability is reduced to 60% at 30 mph and further reduced to 20% at 40 mph.

Using speed data from StreetLight Insight, between 5 and 7% of traffic is traveling at speeds greater than 30 mph and around 3% of traffic is traveling at speeds higher than 40 mph.

Americans With Disabilities Act (ADA) Deficiencies

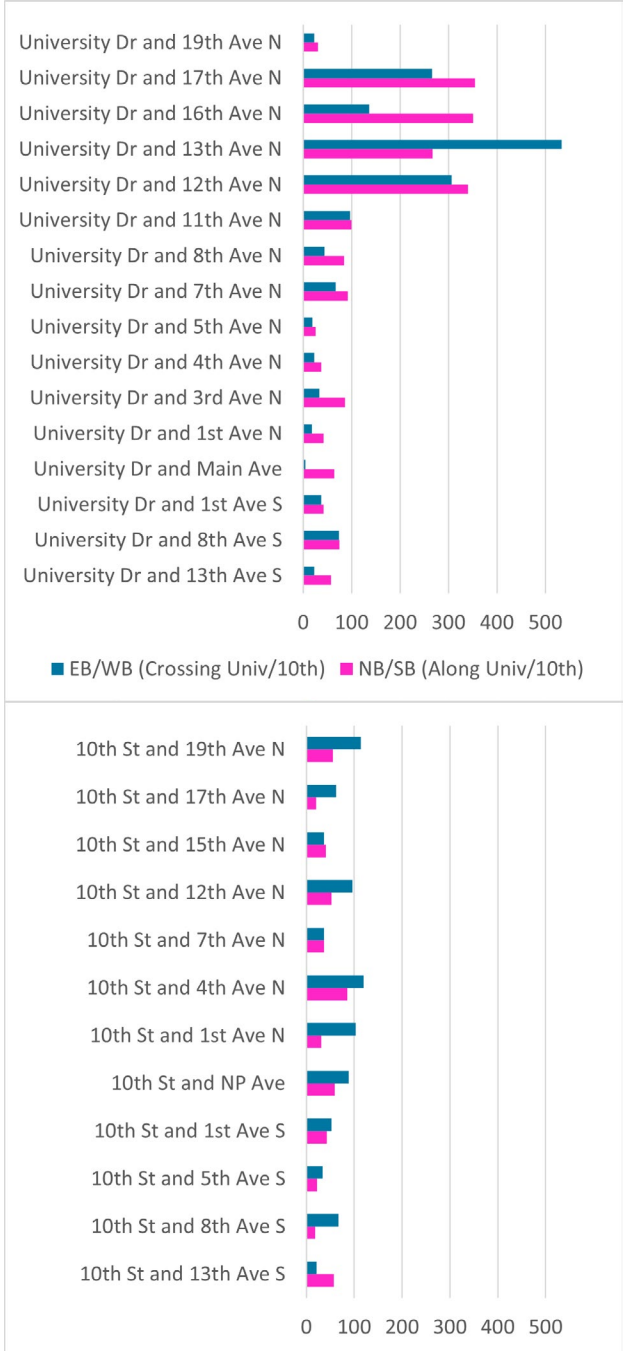
Detectable warning panels are not present at most intersections on University Drive south of 12th Avenue N and for most intersections on 10th Street south of 4th Avenue N.

Schools

Beyond NDSU, multiple schools are located in the study area, with Fargo North High School and Roosevelt Elementary located on 10th Street and Agassiz School located on University Drive. Ben Franklin Middle School is also in the study area (located on 8th Street N).

Traffic signals or pedestrian beacons are located adjacent to Fargo North, Roosevelt, and Agassiz.

Figure 14: Pedestrian Activity by Intersection

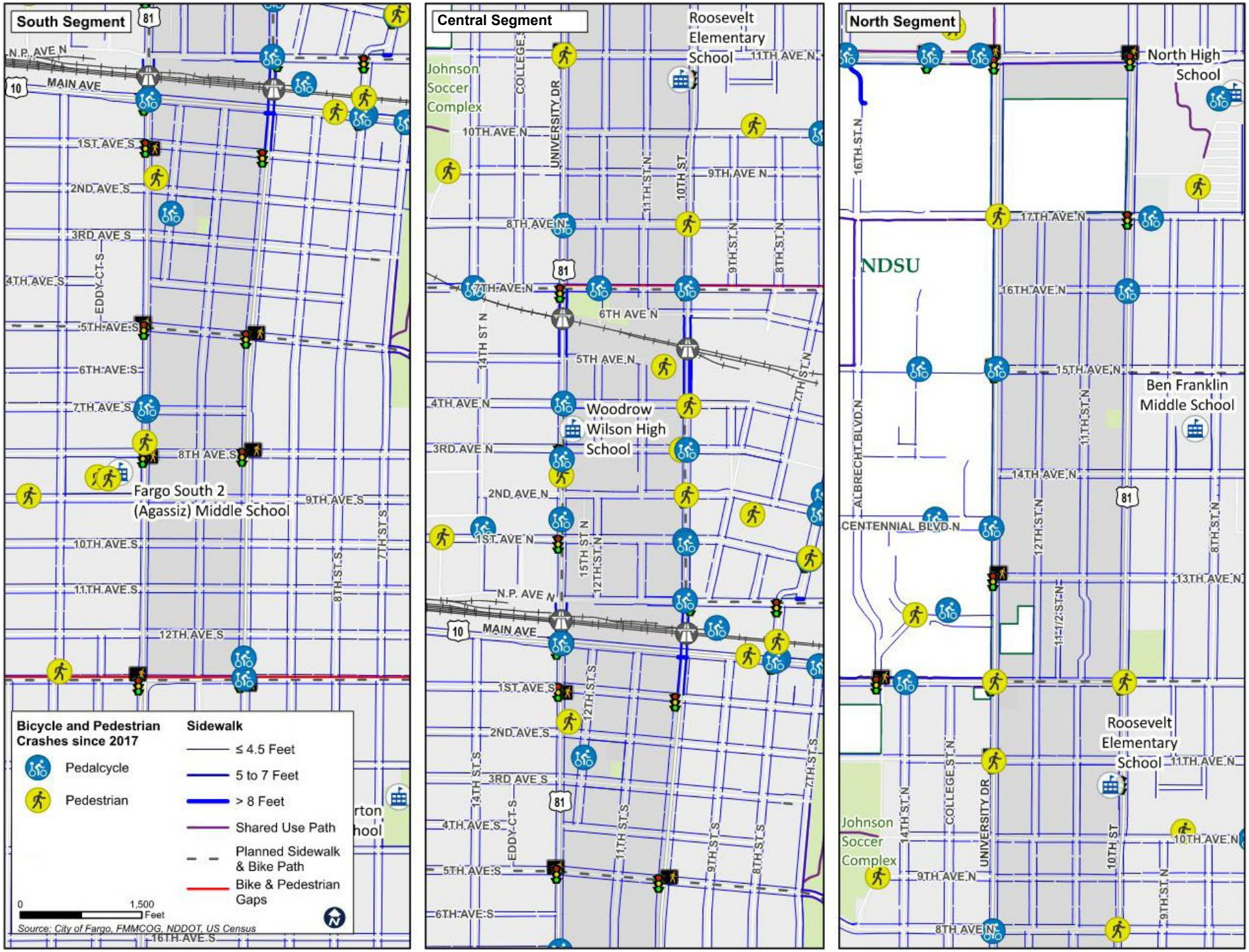


Controlled pedestrian crossings on 10th Street are more spaced out near Ben Franklin Middle School, with the nearest signals 2 blocks north and south of the school.

Controlled Pedestrian Crossings

Pedestrians are provided many controlled crossing locations via traffic signals, with signals spaced an average of 2 to 3 blocks from one another. The longest gap between traffic signals on University Drive is 5 blocks between 8th and 13th Avenues S. There are two segments of 10th Street where signals are spaced 5 blocks from each other, these being between 8th and 13th Avenues S and between 12th and 17th Avenues N.

Figure 15: Pedestrian Facilities, Generators, and Ped/Bike Crash History



Bicyclists

Bicycle facilities are inconsistent in the study area. Bike lanes are present on the northern segments of the University Drive and 10th Street corridors, but neither street has facilities on their respective southern segments.

Study Area Bicycle Level of Service

Bicycle level of service is an evaluation of bicyclist perceived safety and comfort with respect to motor vehicle traffic while traveling in a roadway corridor. It is affected by the type of facility provided, adjacent traffic volumes and speeds, the degree of separation between cyclists and traffic, and whether on-street parking is provided or not.

North of 4th Avenue North

Other than a small segment of 10th Street between 17th Avenue N and 19th Avenue N, buffered bike lanes are present along both University Drive and 10th Street north of 4th Avenue N. Where these on-street bike facilities are present, bicycle level of service B is provided, indicating generally comfortable conditions for cyclists on this northern part of the study area.

South of 4th Avenue North

There are no bicycle facilities south of 4th Avenue N, with no on-street facilities and no off-street facilities since sidewalks are not wide enough to accommodate bicycle traffic. Therefore, bicycle level of service is markedly lower on this segment, in the range of level of service D or level of service E. This is the result of no dedicated bike facilities combined with high traffic volumes.

Mode Share

Cycling makes up a higher percentage of trips in the study area compared to the Fargo average, however it is still fairly low. Data indicates that around 4% of study area residents commute to work by bicycle compared to 1% across the entire city of Fargo.

Latent Cycling Demand

Origin-destination data shows that a relatively high percentage of trips (29 to 48%, with higher raters near NDSU) starting in the study area are 2 miles of less in length, indicating there may be some latent demand for non- automobile traffic in the study area. This analysis suggests that there are opportunities to increase non-motorized mode shares through improvements that enhance comfort and convenience for cyclists.

Bicycle Crashes

There is a history of crashes involving cyclists, with 16 such crashes occurring between 2017 and 2021. Bicycle crashes have been split across University Drive (8 crashes – all north of Main Avenue) and 10th Street (9 crashes – 7 occurring north of Main Avenue). All bicycle crashes occurred at intersections, with half occurring at signals and half occurring at stop-controlled intersections. See **Figure 17**.

Surrounding Bicycle Network

Between downtown and 12th Avenue N, bicycle facilities on University Drive and 10th Street connect with several east-west facilities, with these facilities generally being spaced a few blocks from one another. East-west bike facilities are currently lacking north of 12th Avenue and south of downtown, however there are planned facilities on the north and south ends of the study (especially north of 12th Avenue N) that will enhance the multimodal network.

Figure 16: Short Distance Trips

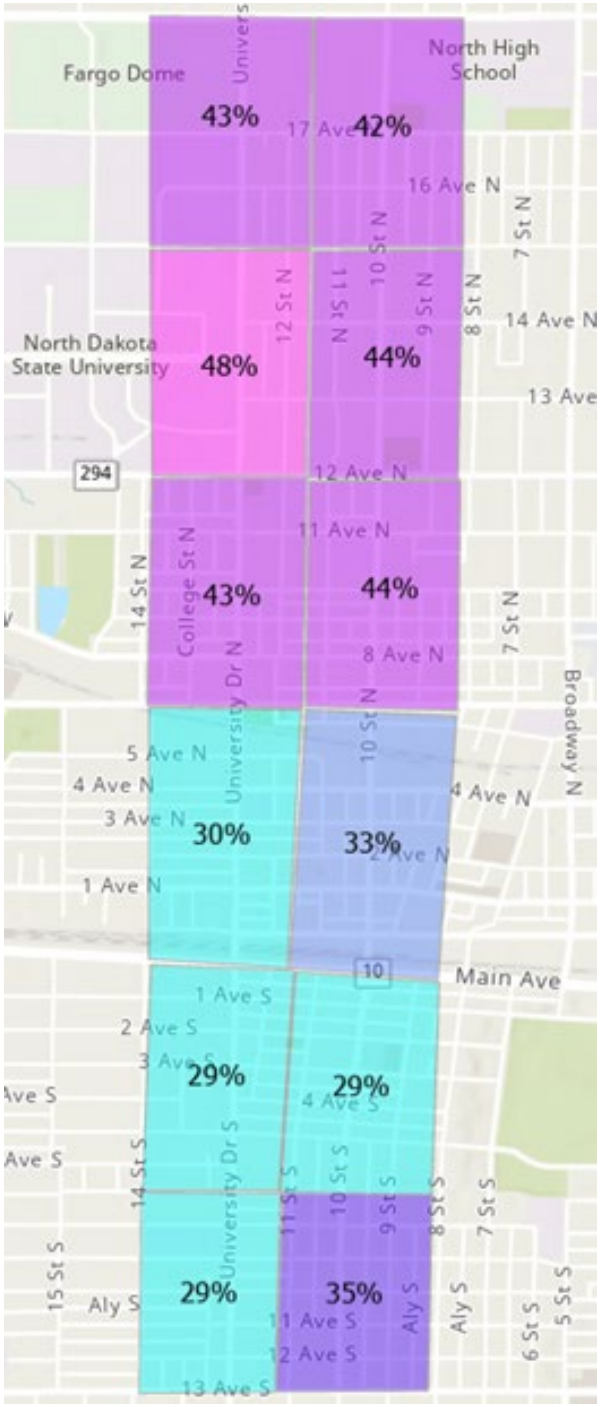
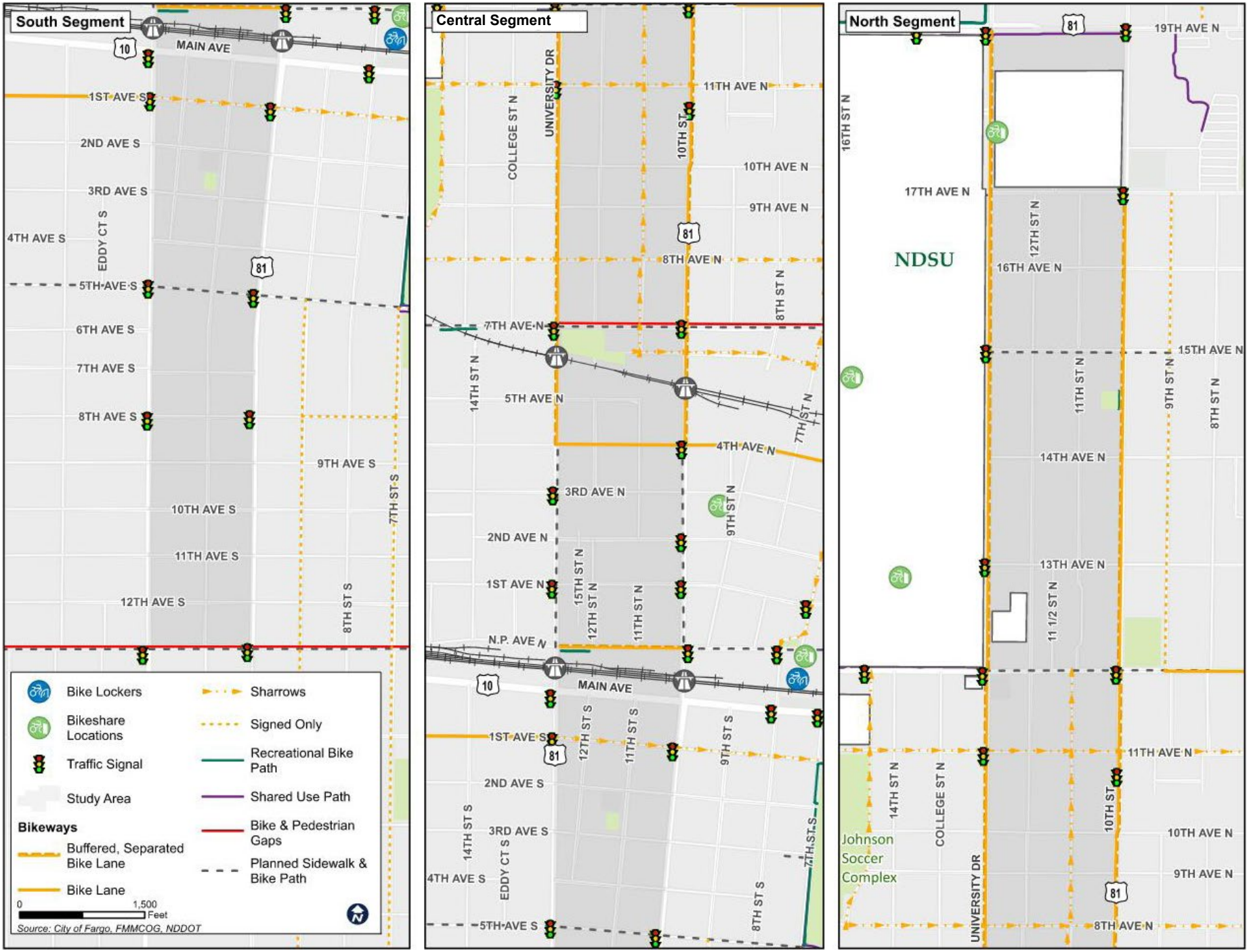


Figure 17: Bicycle Facilities



Transit

The University Drive and 10th Street corridors are some of the best supported transit corridors in the region. Transit riders in the study area have access to several bus routes that provide service to key locations like NDSU, downtown, West Acres, Osgood, and other activity centers along corridors like 13th Avenue S, 25th Street, and 32nd Avenue S. Major bus routes that serve the study area are listed in **Table 2**.

Transit Level of Service

Transit level of service describes the performance of a transit system and is determined by the number of hours per day where service is provided and the percentage of time where service is on time. The University Drive and 10th Street corridors are some of the most served transit corridors in the metropolitan area, so transit LOS A is provided throughout the study area.

Mode Share

Around 4% of study area residents use transit to commute to work, compared to the Fargo average of 1%.

Ridership

Based on information in the current MATBUS Transit Development Plan, the routes with the highest ridership are Route 15 and Route 33, which each have daily ridership numbers above 1,000 riders per day. These routes are the most used bus routes in the Fargo-Moorhead area, with Route 15 carrying a third of all Fargo/West Fargo transit riders and Route 33 carrying around 42% of all NDSU riders.

Other bus routes in the study area carry significantly lower numbers of passengers, with routes 13, 13U, 14, 17, and 18 carrying between 150 and 500 passengers per day.

NDSU Transit Activity

Students commuting between the NDSU main campus and downtown campus are a major driver of transit demand in the study area. 3 of the 15 most used bus stops in the metro area are located on north University Drive:

- University Drive N and NDSU Transit Hub: 680 boardings per day
- University Drive and 17th Avenue N: 150 boardings per day
- University Drive N and Niskanen Apartments: 150 boardings per day

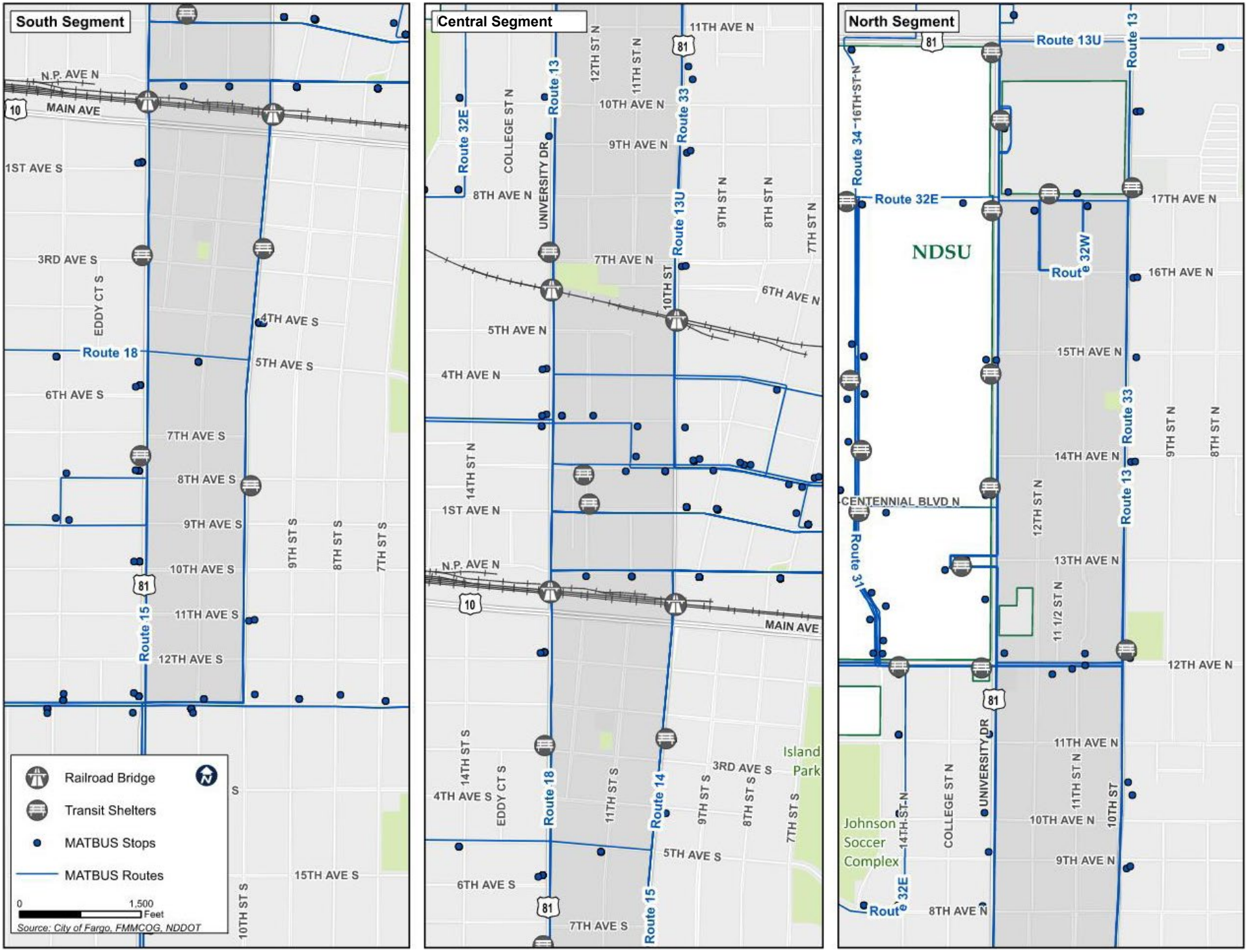
Traffic Impacts from Buses

Under existing roadway conditions, traffic is unimpeded by bus stops on University Drive or 10th Street since multiple through lanes are present. Analysis in the Future Conditions Assessment and Conversion Feasibility Assessment sections will however study how interactions between transit and vehicle traffic could impact traffic flow in revised roadway scenarios.

Table 2: Transit Routes

Route	Key Destinations	Bus Frequency			Average Daily Ridership
		Weekday Day	Weekday Evening	Saturday	
13	NDSU, Downtown, Northport	30 Minutes	60 Minutes	Same as Weekday	400
13U	NDSU, Downtown	30 Minutes	60 Minutes	Same as Weekday	250
14	Downtown, South University Drive, 32nd Avenue S, 42nd Street, West Acres	30 Minutes	60 Minutes	Same as Weekday	500
15	Downtown, 13th Avenue South, West Acres	15 Minutes	30 Minutes	30 Minutes during the Day, 60 Minutes in the Evening	1,050
33	NDSU Main Campus and Downtown Campus	7 to 10 Minutes	-	-	1,200
17	Downtown, 7th Avenue North, 26th Street North, 12th Avenue North	60 Minutes	60 Minutes	60 Minutes	150
18	Downtown, 25th Street South, 32nd Avenue South, Osgood, 52nd Avenue South	60 Minutes	60 Minutes	60 Minutes	180

Figure 18: Transit Facilities



Crash History – Overall Trends

The past five years of crash data (2017-2021) was analyzed to assess study area crash patterns and identify potential safety issues that can be mitigated with roadway improvements. See **Figure 20** and **Figure 21** for crash information by intersection and segment.

General Trends

- Angle crashes are the most common crash type (52% of crashes). A notable trend is that 16% of angle crashes were a result of red light running compared to the Fargo average of 9%.
- Around 35% of crashes occurred away from intersections. Crash potential between intersections is increased by existing access densities being well above what is typically recommended on arterial roadways.
- There is a history of bicycle and pedestrian crashes north of Main Avenue (8 pedestrian crashes, 15 bicycle crashes). These crashes are generally split across University Drive and 10th Street, with most occurring at intersections.

Access Density and Related Crash Potential

Along both University Drive and 10th Street, property access is much greater than typical arterial roadways.

Existing access densities and comparisons to desirable access densities are detailed in **Table 3**. While reducing accesses to standards is not feasible or practical in many instances, the intent of this comparison is to help illustrate one of the primary sources of crash rate discrepancy between expected and actual. The stark contrast between standards and existing illustrate how differently this corridor would be designed if it were to be built in a non-developed area today.

Impacts from High Access Density

High access densities (especially on arterial roadways with high traffic volumes) increase crash potential and disrupt traffic flow. Research provided by the City of Fargo, FMCOG, and NDDOT shows that each additional access point along a 1 mile stretch of roadway increases crash rates by around 4% and reduces traffic speeds by around 0.25 mph.

Figure 19: Crash Types Summary (Manner of Collision)

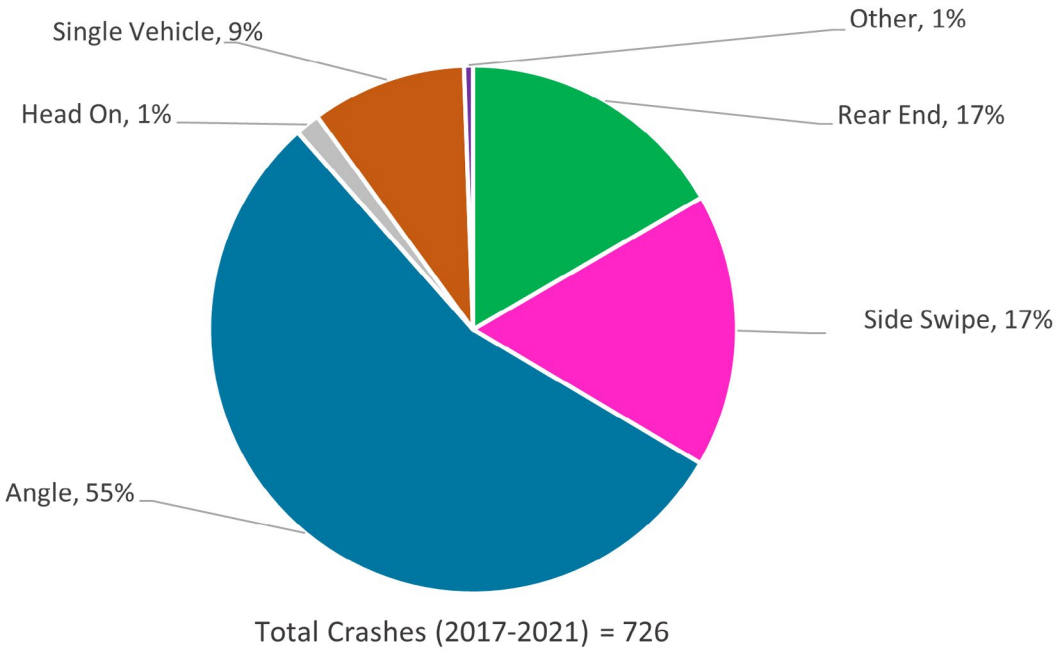


Table 3: Access Densities

Roadway	Segment	Access Density (Per Mile)	NDDOT Guidelines (Accesses Per Mile)	Local Guidelines (Accesses per Mile)
University Drive	19th Avenue N to 12th Avenue N	32	12	26
	12th Avenue N to Main Avenue	43		
	Main Avenue to 13th Avenue S	57		
10th Street	12th Avenue N to 19th Avenue N	72		
	Main Avenue to 12th Avenue N	53		
	13th Avenue S to Main Avenue	31		

Figure 20: Intersection Crashes by Manner of Collision

Figure 21: Segment Crashes by Manner of Collision

Travel Speeds

Through public and stakeholder engagement, speeding along the corridor was one of the most common complaints. While most traffic is within 5 mph of the speed limit, there are some outliers and 85th percentile speeds are closer to 40 mph than the 30 mph posted speed limit. 2022 field-collected speed data is displayed in **Figure 22**. Drag racing and other high-speed drivers are a small percentage of overall traffic volume but leave a lasting memory on those who witness it and who live along the corridor. Additionally, accidents at higher speeds can have more devastating crash impacts and reduce overall corridor safety. These events occur mostly in the early hours between 12 am and 6 am (**Figure 23**).

Figure 22: 2022 Field-Collected Speed Data

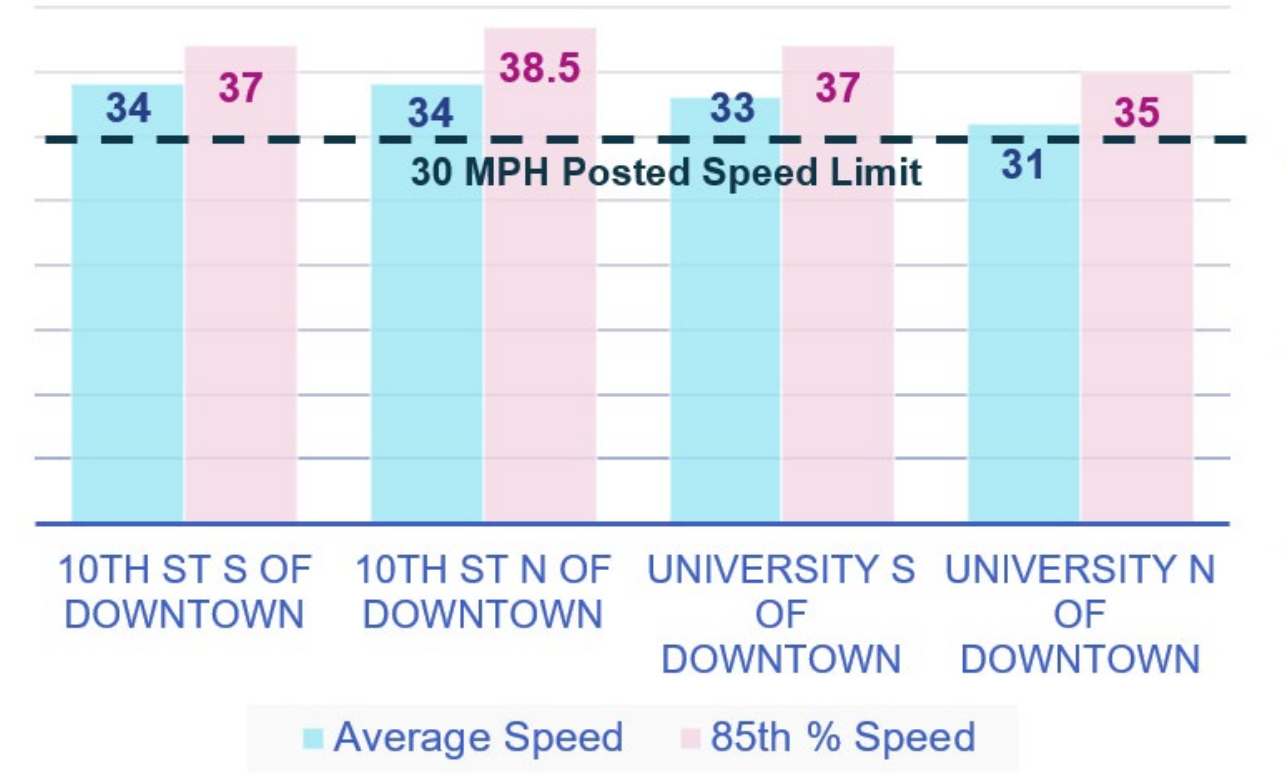
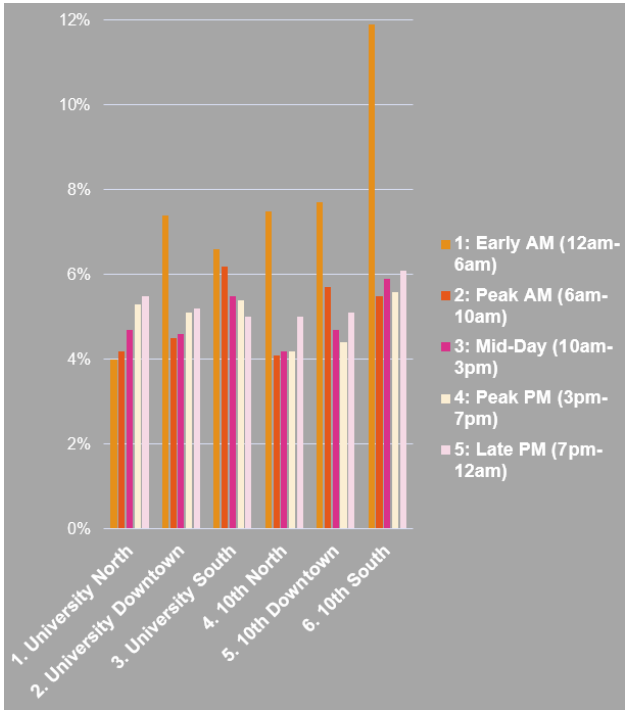


Figure 23: Percentage of Traffic over 40 MPH



Crash Severity

A review of crash severity indicates that injury crashes occur at a higher rate in the study area compared to the Fargo city average. See **Figure 24**.

- 30% of study area crashes resulted in injuries, compared to 23% across the entire City of Fargo.
- Over half (55%) of injury crashes were angle crashes.
- No fatal crashes were reported from 2017 to 2021.

Intersections Above the Critical Severity Rate

Only 1 intersection has a crash rate that exceeds the critical severity rate, a calculated statistical metric used to identify locations with disproportionately high numbers of injury crashes.

University Drive and Main Avenue – 38% of crashes were injury crashes, with half of injury crashes being angle crashes. Based on available data, this intersection is in the top 10% of high severity crash rate intersections in Fargo. A review of details for each injury crash at this location did not reveal any trends related to red-light running or excess speeding.

A noteworthy feature of this intersection is the northbound lane between Main Avenue and NP Avenue. All other intersections along University Drive in this area have no northbound traffic which could interfere with driver expectancy. A review of crash data does not suggest crash trends related to this northbound lane; however this condition should be monitored given its uniqueness.

Intersections Above the Fargo Average Severity Rate

Injury crash rates at the following intersections exceed the Fargo average, but do not exceed the critical severity rate (See **Figure 25**):

- University Drive & 3rd Avenue N (15/19)
- University Drive & 5th Avenue S (11/14)
- University Drive & 1st Avenue N (13/26)
- 10th Street & 13th Avenue S (8/22)
- 10th Street & 1st Avenue N (39/53)
- 10th Street & 4th Avenue N (12/22)
- 10th Street & 19th Avenue N (10/15)

Angle crashes were the most represented crash type at all the intersections listed above. Across these 7 intersections, an average of 63% of crashes are angle crashes compared to the Fargo average of 31%. A noteworthy feature of the study area is the historic neighborhood context that has buildings closer to the roadway and many more large trees compared to much of Fargo. Buildings and trees can restrict sight lines, increasing angle crash potential.

Segments Above the Fargo Average Severity Rate

No roadway segments had injury crash rates exceeding the critical severity rate; however, most of the University Drive Corridor and 1 segment of the 10th Street corridor have severity crash rates exceeding the Fargo average. These segments include (See **Figure 26**):

- University Drive: 5th Avenue S to 13th Avenue S (rear end crashes are the most common).
- 10th Street: 13th Avenue S to 5th Avenue S (angle crashes are the most common).
- 10th Street: 7th Avenue N to 12th Avenue North (angle crashes are the most common).

Access densities are high on each of these segments (mostly from private or commercial driveways), which combined with sight line issues from trees and buildings, could contribute to elevated crash rates. (See pages 119 and 139 for recommendations.)

Figure 24: Crash Severity

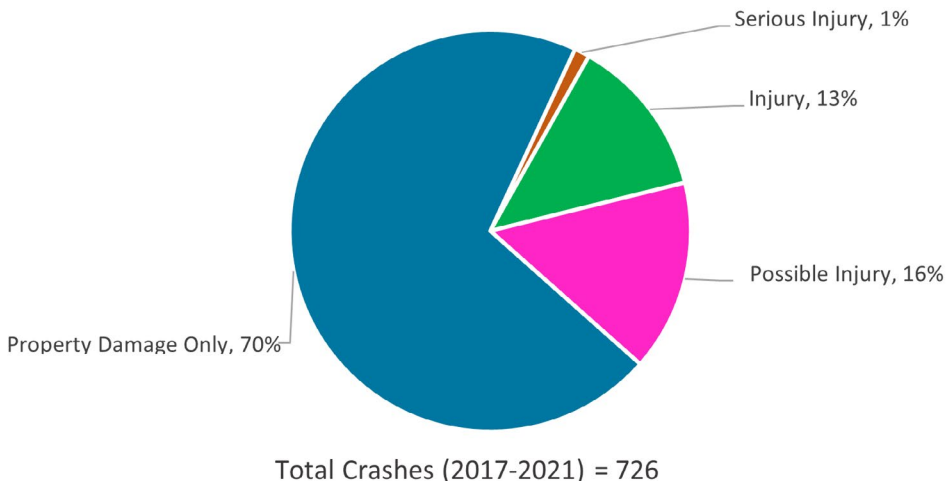


Figure 25: Intersection Crashes by Severity

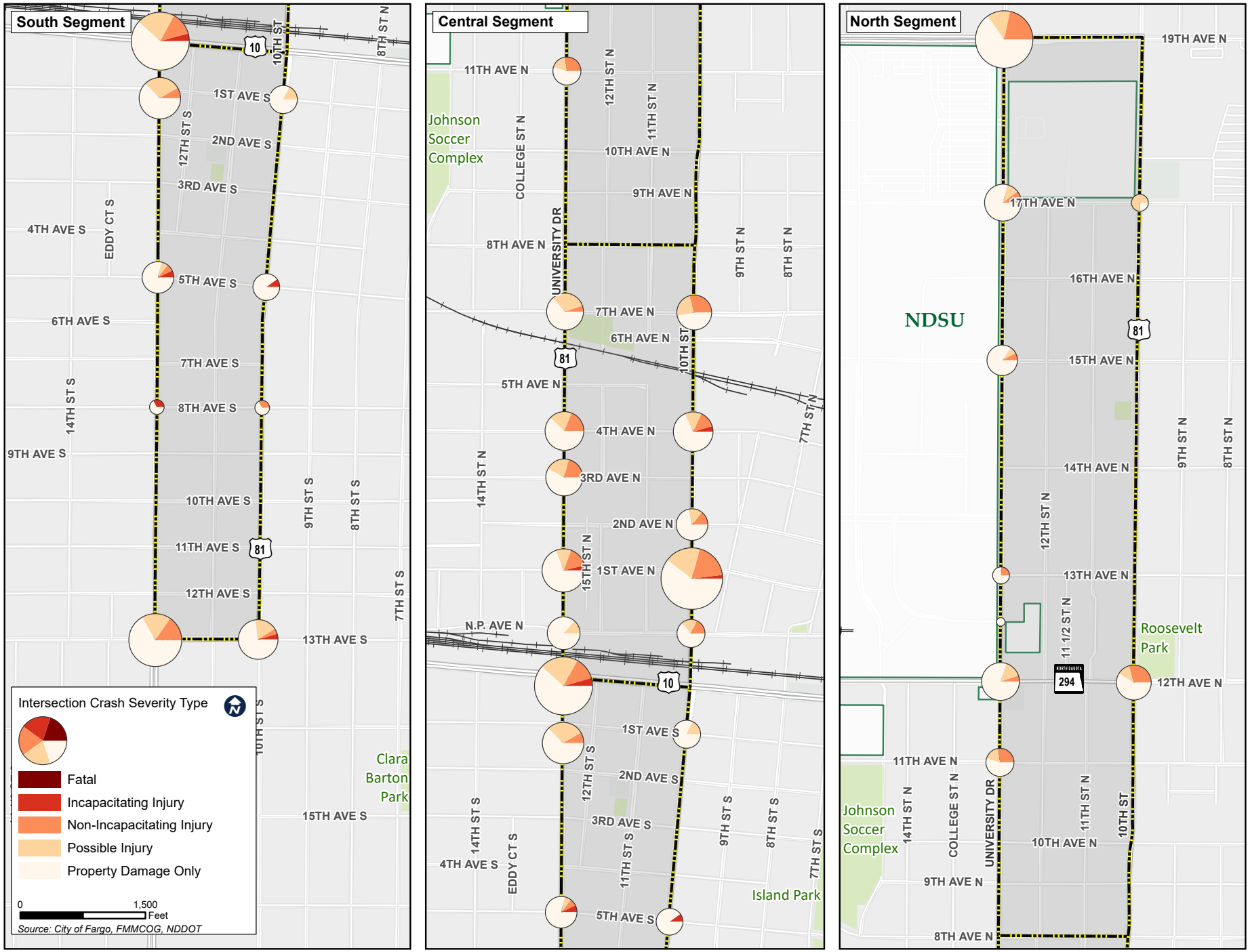


Figure 26: Segment Crashes by Severity

Crash Rates

Intersection and segment crash rates were calculated to identify locations with disproportionately high crash rates. This analysis used the critical crash analysis methodology, which applies statistical methods to identify high crash locations. If a location has a crash rate that exceeds the calculated critical crash rate, it is likely that existing roadway design is contributing to elevated crash rates.

Note that high crash rate locations were identified based on crash rates documented in the recent *Fargo Transportation Plan* (2016-2020 crash data). Rates from this plan were used to ensure methodological consistency when comparing study area crash rates to city-wide crash rates.

Intersection Crash Rates

Intersections Above the Critical Crash Rate

12 intersections have crash rates that exceed the critical crash rate, with angle crashes being the most represented crash type at each intersection. These intersections are listed in **Table 4**, with this table also including notable roadway features and other crash-related information at these high-crash intersections.

Trends that were observed at multiple intersections include red light running and excess vehicle speeds.

Intersections Above the Fargo Average Crash Rate

6 intersections have crash rates that are above the Fargo average, but below the critical crash rate. Intersections in this category do not necessarily have crash issues that should be mitigated, however crash trends should be monitored to see if crash rates increase.

These intersections are:

- University Drive and 3rd Avenue N
- University Drive and 2nd Avenue N
- University Drive and 13th Avenue S
- 10th Street and 4th Avenue S
- 10th Street and 7th Avenue N

Like most of the study area, angle crashes were the most represented crash type at each intersection except University Drive and 2nd Avenue N, where rear end crashes were most represented.

Table 4: Intersections Above the Critical Crash Rate

Road Name	Intersection	Most Common Crash Types	Notable Roadway Features	Other Comments
University Drive	19th Avenue N	Angle (56%) Head One (20%)	Negative EB/WB left turn lane offset; Unique configuration with one-way traffic only on north approach; Driveways within intersection functional area	Head on collisions (Only EB/WB vehicles)
	15th Avenue N	Angle (69%) Rear End (23%)	No dedicated left turn phases; High pedestrian activity area may cause distractions	
	12th Avenue N	Angle (55%) Rear End (20%)	High volume driveways within intersection functional area	
	8th Avenue N	Angle (73%) Rear End (19%)	Two-way stop controlled intersection; Sight distance issues; Driveways within intersection functional area	
	7th Avenue N	Angle (42%) Rear End (32%)	Sight-distance issues; Driveways within intersection functional area	Excess vehicle speeds (37% of crashes)
	4th Avenue N	Angle (76%) Rear End (11%)	Two-way stop controlled intersection; Driveways within intersection functional area	Excess vehicle speeds (36% of crashes)
	1st Avenue N	Angle (50%) Sideswipe (23%)	Double WB left turn lane operates in flashing yellow arrow during off-peak periods; Drivers may still be acclimating to recent striping changes; Lane skews on east and west approaches	Red light running (23% of crashes)
	NP Avenue	Angle (39%) Sideswipe (26%)	Two-way stop controlled intersection; Skewed east-west approaches; Northbound turn lane is atypical of the rest of the corridor; Sight distance issues	
	Main Avenue	Angle (45%) Rear End (21%)	Northbound receiving lane toward NP Avenue is a recent change	
10th Street	1st Avenue N	Angle (74%) Rear End (15%)	Sight distance issues	Red light running (19% of crashes)
	3rd Avenue N	Angle (33%) Single Vehicle (28%)	Two-way stop controlled intersection; Sight distance issues; High activity driveways within intersection functional area	
	15th Avenue N	Angle (71%) Sideswipe (13%)	Two-way stop controlled intersection; Sight distance issues; Driveways within intersection functional area; Parked vehicles	

Segment Crash Rates

This analysis was a broader analysis that evaluated crash patterns along longer segments of roadway rather than focusing on isolated intersections.

Segments Above the Critical Crash Rate

Three segments of study area roadways have crash rates above the critical crash rate. These segments and notable information for them can be seen in the table to the right (**Table 5**).

Trends common to all high-crash roadways segments are dense signal spacing and dense access spacing (especially due to residential/ commercial accesses), with dense access spacing also appearing to contribute to many crashes away from intersections.

Segments Above the Fargo Average Crash Rate

Two roadway segments have crash rates above the Fargo average, but below the critical crash rate. As such, crash rates should be monitored. These segments are:

- University Drive: 5th Avenue S to 13th Avenue S
- 10th Street: 7th Avenue N to 12th Avenue N

Angle crashes are the most represented crash type on both segments. Access densities are high on both segments, from residential driveways onto each corridor.

Table 5: Roadway Segments above the Critical Crash Rate

Road Name	Segment	Most Common Crash Types	Notable Roadway Features	Other Comments
University Drive	19th Ave N to 12th Ave N	Angle (40%) Rear End (25%)	5 signals in one mile; Dense access spacing (32 per mile)	59% of crashes occurred away from intersections
	4th Ave N to 5th Ave S	Angle (45%) Sideswipe (26%)	Southbound lane drop at 3rd Ave S; 5 signals in 3/4 mile; Dense access spacing (52 per mile)	40% of crashes occurred away from intersections
10th Street	5th Ave S to 7th Ave N	Angle (53%) Rear End (18%)	7 signals in one mile; Dense access spacing (30 per mile)	34% of crashes occurred away from intersections

Figure 27: Dense Access Spacing on 10th Street (Between 2nd Ave N and 4th Ave N)

Figure 28: Intersection and Segment Crash Rates

Study Area Demographics

Demographics often influence the characteristics of travel in an area, and an understanding of study area demographics can help identify specific infrastructure needs in the area.

To support potential recommendations coming from this study, special attention was paid to the following demographic groups. See **Figure 29**.

- Children aged 14 and under
- Adults aged 65 and older
- Low income
- Households with no vehicle

These groups often benefit most from quality nonmotorized facilities as they tend to be less reliant on single occupancy automobile travel compared to other demographic groups.

Analysis below is based on American Community Survey data.

Adults Aged 65 and Older

Generally, older adults tend to walk at slower paces and can sometimes have difficulties navigating poor walking surface conditions. As a result, they are typically over-represented in pedestrian fatalities compared to the general population.

Around the study area, older adults are most represented on the south end of the study area and least represented on the north end of the study area near NDSU. See **Figure 30**.

Children Aged 14 and Under

School-aged children who walk or bike to school should have safe and comfortable sidewalks and bike facilities to get to and from school.

The study area has fewer school-aged children compared to other areas of the Fargo-Moorhead area; however, concentrations are higher on the north and south ends of the study area. See **Figure 31**.

Low Income Populations

Low-income populations tend to use pedestrian and bicycle infrastructure at a higher rate than the general population. As such, quality non-motorized infrastructure should be provided to ensure equitable transportation opportunities.

A threshold of 1.5 times the poverty level is typically used when identifying low-income populations. Using this definition for low income, such populations are most represented in the downtown area and in the northern part of the study area near NDSU.

Based on American Community Survey data, low-income populations are over 2 times the Fargo average in the north and downtown portions of the study area. See **Figure 32**.

Households With No Vehicle

Households with no vehicle are the most reliant on nonmotorized travel and are most represented in the downtown area where around 30% of households do not have a car.

This is more than double the Fargo average. Households with no vehicle are also more represented than the Fargo average in the southern part of the study area, however, are less represented than the Fargo average in the northern part of the study area near NDSU.

Figure 29: Study Area Demographics

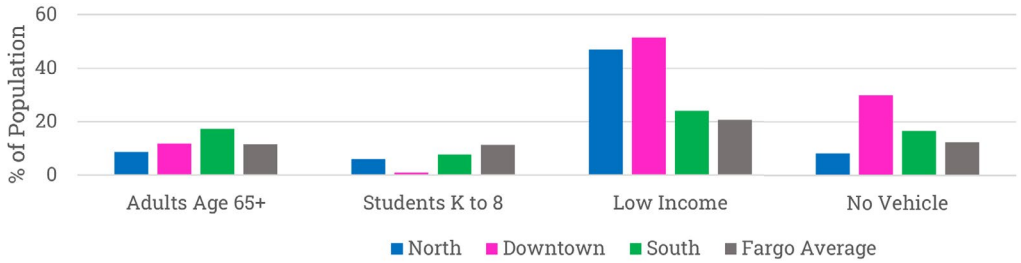


Figure 30: Adults Aged 65 and Older

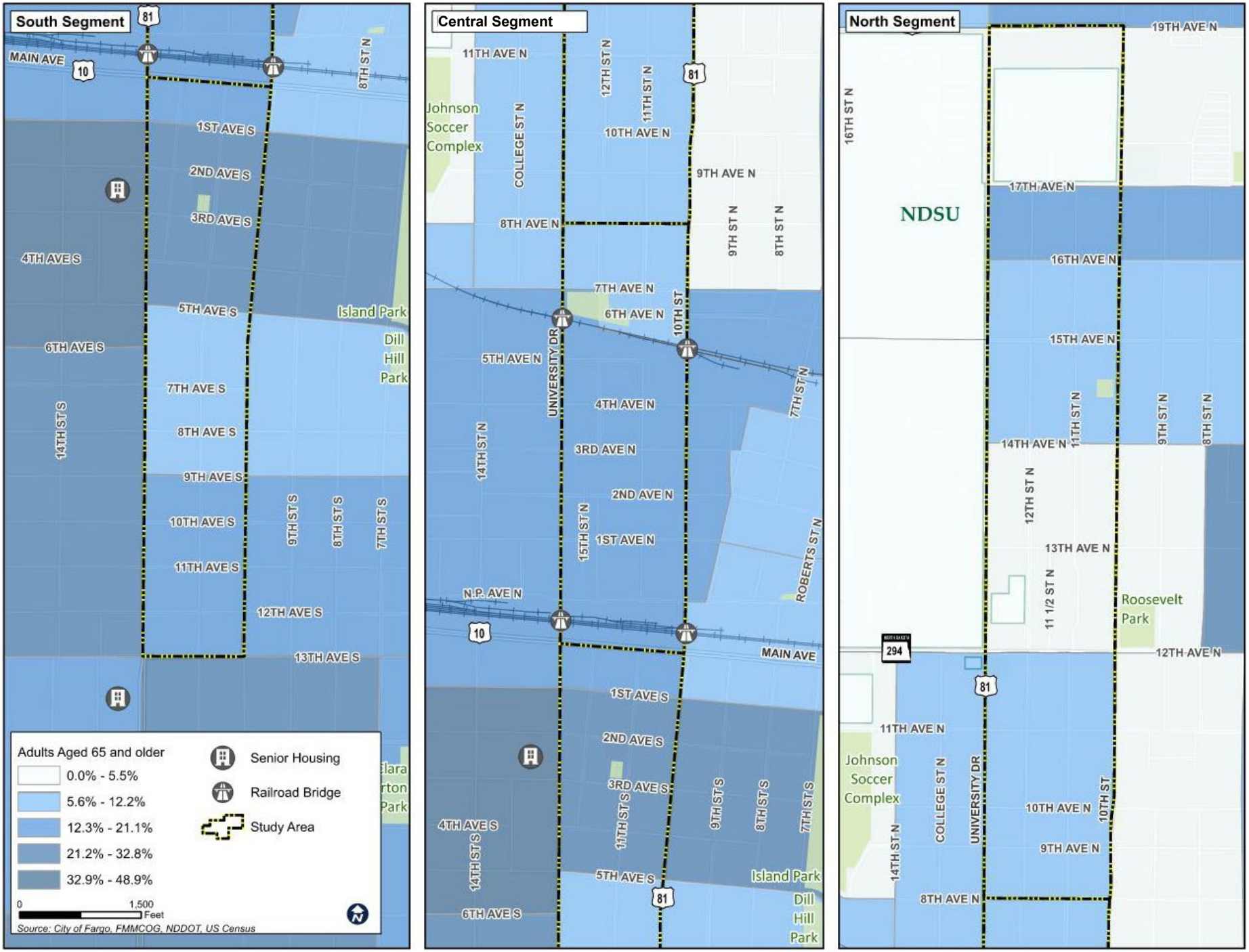


Figure 31: Students Kindergarten through 8th Grade

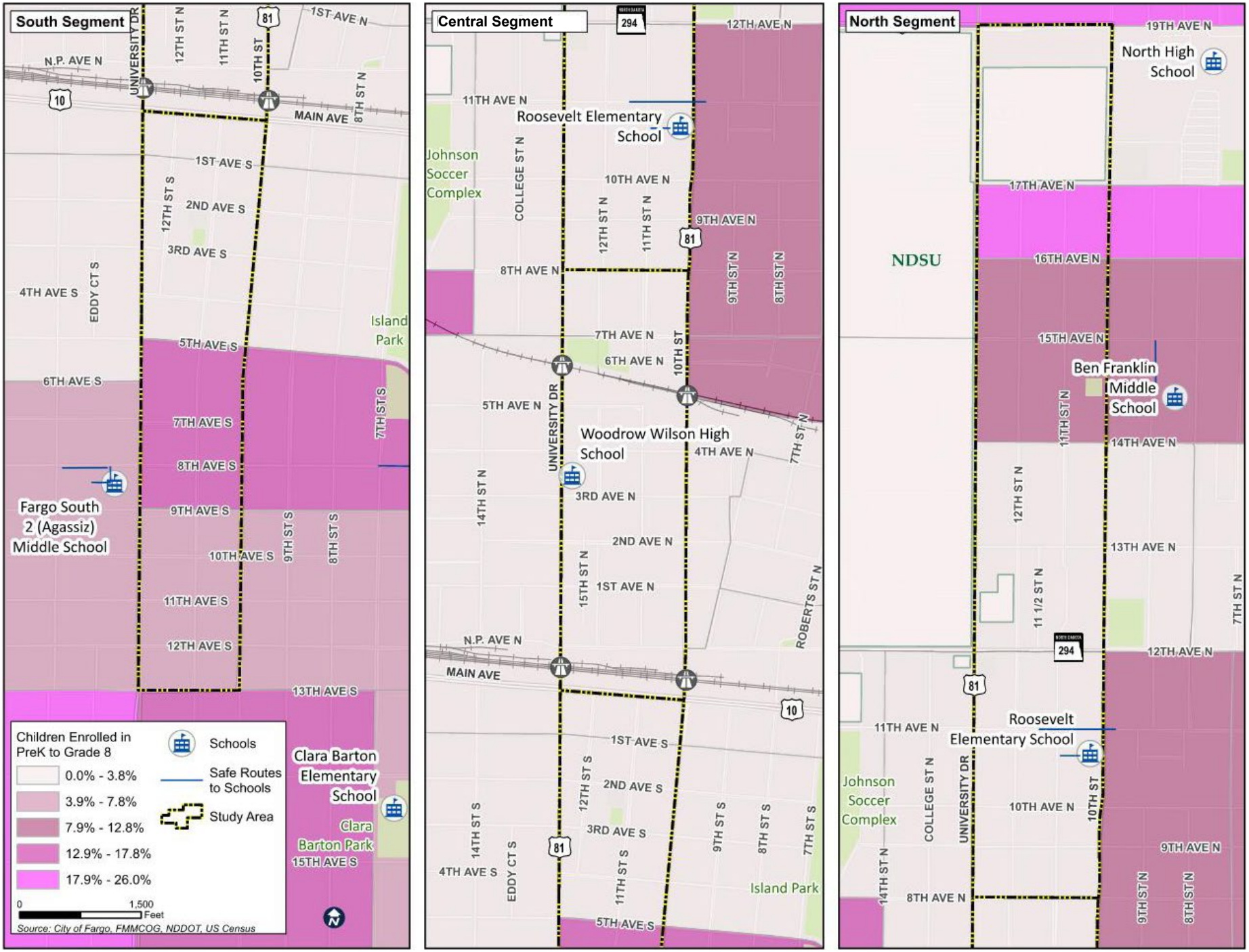
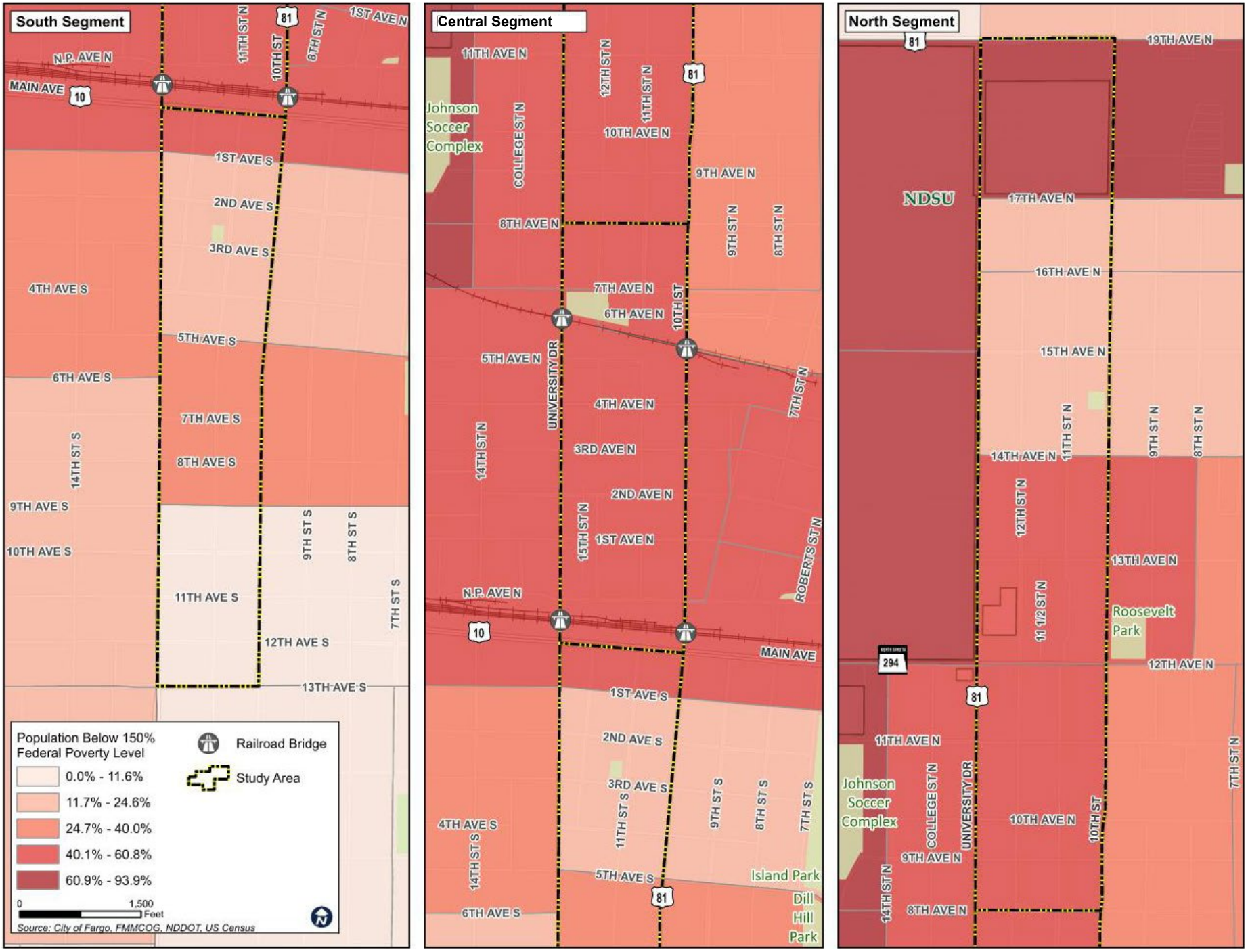


Figure 32: Low Income Populations



Redevelopment Potential

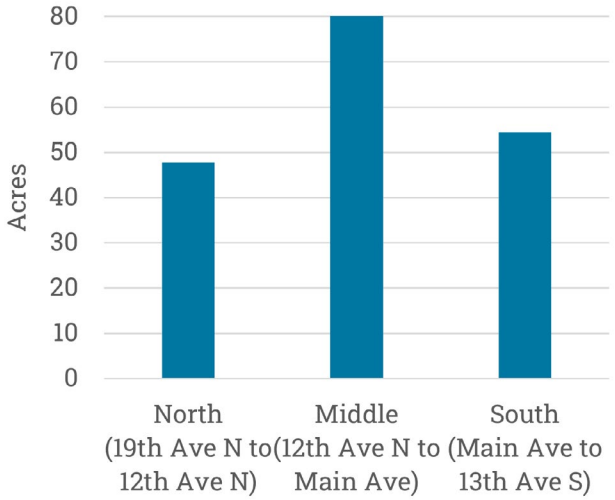
A high-level assessment was conducted to understand potential redevelopment that could occur in the future. This analysis is not intended to recommend locations for redevelopment but to identify where redevelopment could be expected in the mid to long term.

Methodology

This analysis evaluates redevelopment potential as most significant under the following conditions:

- **Most likely**: The value of buildings is less than the land value.
- **Somewhat likely**: The value of buildings is less than twice the land value and adjacent to properties meeting the "most likely" criteria.

Figure 33: Potential Redevelopment Areas



Potential Redevelopment Areas

Based on these criteria, the highest redevelopment potential is generally between Main Avenue and 7th Avenue N. This is consistent with redevelopment trends that have been seen in the downtown area for the past decade.

Redevelopment has the potential to impact traffic patterns in the future, and this will be considered in more detail as part of future conditions and alternatives analyses that will be completed in subsequent phases of this corridor study.

Redevelopment may also provide an opportunity to reconfigure, combine, or eliminate access points along the corridor in favor of using access from side streets, single point (one access point for multiple destinations), or alleyways. Access point reconfiguration could take place during development approvals and/or corridor improvement projects.

Figure 34: Recently Redeveloped Site at NP Ave and 10th St N

Event Traffic

Events at the FARGODOME and the Sanford Health Athletic Complex result in days with considerably more traffic compared to a typical day. The FARGODOME alone hosts more than 100 events in a typical year, and expansion plans would likely see that number increase considerably.

To best quantify traffic increases on especially high-volume days, data from StreetLight Insight was obtained for the following conditions:

- 2021 Average Day
- 2021 NDSU Football Home Games
- 2021 NDSU Men's Basketball Home Games

Data was obtained for locations on University Drive, 19th Avenue N, 17th Avenue N, 15th Avenue N, and Albrecht Boulevard.

Traffic Increases During Events

- Across all data collection locations, NDSU football games bring around 90% more traffic to the FARGODOME/Sanford Health Athletic Complex area compared to an average day.
- NDSU men's basketball games draw only slightly above average daily traffic volumes to the area (around 7% more than an average day)
- On a % difference basis, traffic impacts on event days are most significant on the NDSU campus (i.e., on Albrecht Avenue, 15th Avenue, and 17th Avenue) rather than on the roadway system around campus.
- Traffic increases on University Drive are however still notable, with 2,000 to 3,000 more vehicles per day observed on football game days compared to a typical day. See **Figure 36**.

Traffic Operations During Events

To understand how atypical high traffic volumes during events may impact study area traffic operations, turning movement data was collected at the following intersections before and after a sold-out concert at the FARGODOME on 3/19/2022.

- University Drive and 17th Avenue N
- 10th Street and 19th Avenue N
- 10th Street and 17th Avenue N
- 18th Street and 19th Avenue N
- 18th Street and 12th Avenue N

Traffic operations analysis was performed at the above intersections during both the arrival and departure periods of the event, and analysis found acceptable traffic operations at all intersections under the existing one-way pair configuration.

Figure 35: Focus Area for Event Day StreetLight Data Analysis

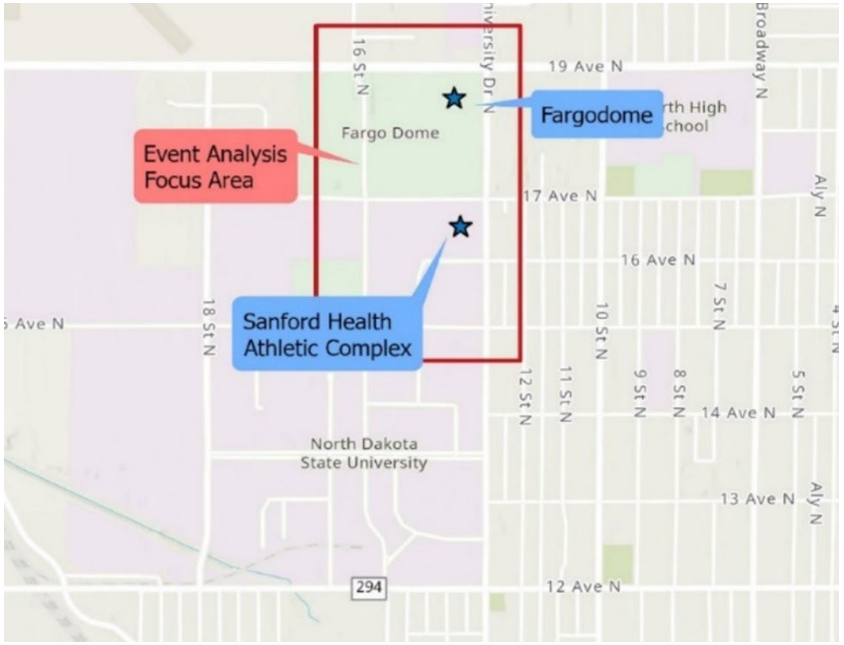
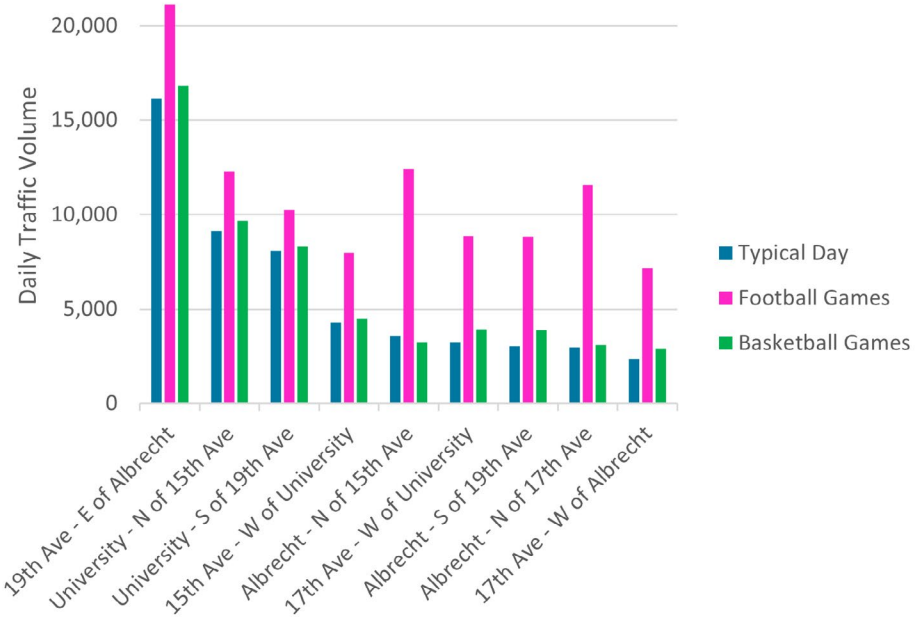


Figure 36: Event Traffic Compared to Typical Traffic by Location



Origins and Destinations of Event Traffic

To help understand event traffic patterns, origin-destination data was obtained for three scenarios:

- Typical day during the NDSU school year.
- Day of sold-out concert event at the FARGODOME (Elton John; March 2022).
- 2021 NDSU Homecoming.

Key takeaways from this analysis are provided below.

Typical Day

- On a typical day, the most common starting point for trips toward the NDSU campus/ FARGODOME are north Fargo and the area around West Acres.
- The most common trip length to the campus area is between 5 and 10 miles (31% of trips).
- 34% of trips to the campus area are under 2 miles in length.

Concert at the FARGODOME

- On the concert day that was evaluated (Elton John in March 2022), around 40% more traffic was observed traveling to the NDSU/ FARGODOME area compared to a typical day.
- The most significant increase was seen in trips between 5 and 10 miles in length, with origin-destination data showing a higher concentration of trips originating in the vicinity of West Acres.
- In contrast to a typical day, only 11% of trips are under 2 miles in length.

NDSU Homecoming

- Data from NDSU's 2021 Homecoming shows around 140% more traffic to the NDSU/ FARGODOME area compared to a typical day.
- The distribution (% age-wise) of trip lengths follows a typical day during the NDSU school year, however with elevated traffic volumes.

Figure 37: Trips Lengths and Volumes by Scenario

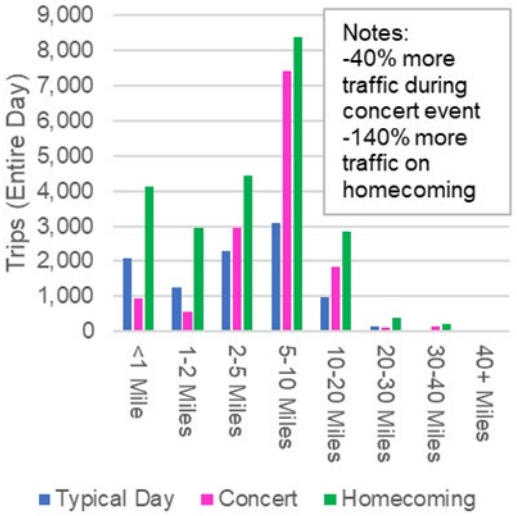
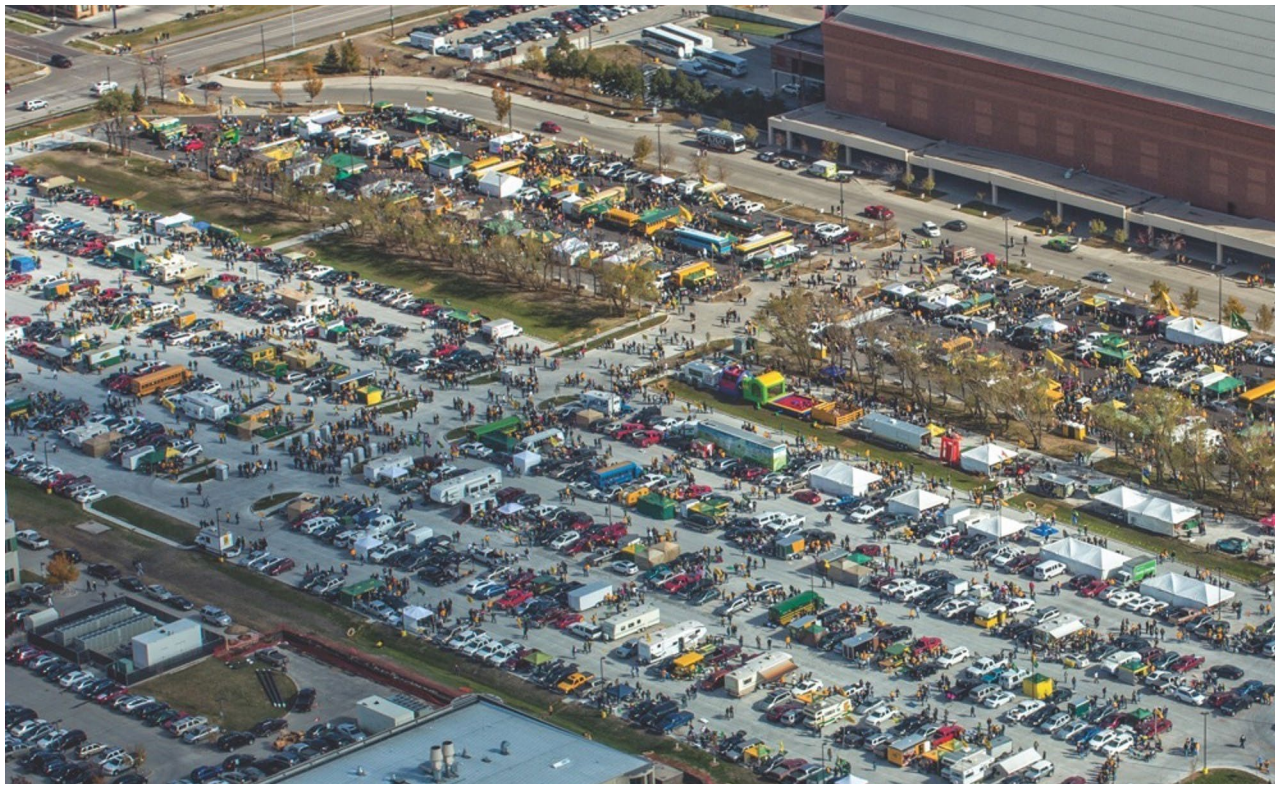


Image 38: Event at the FARGODOME



Visioning

Early Engagement & Urban Design

Purpose

University Drive and 10th Street Corridor have long been a site of diverse uses and priorities. After their designation as State Route 81, the streets were converted to a one-way pair to improve traffic flow in 1969. Today, recent plans including the *Downtown Fargo In Focus Plan, Regional Transportation Plan, and Core Neighborhoods Plan* identify these streets as central to the movement of people to and through the downtown area. Issues identified in these plans include high crash rates and frequent mention of speeding cars and unsafe or unpleasant conditions for pedestrians and cyclists, particularly at intersections in the downtown area.

The idea of conversion of University and 10th Street to two-way traffic has been the subject of public discussion for many years, the potential design configurations and implications on traffic, circulation, and development potential - particularly in the core area- have not been previously studied in this level of detail.

This "Visioning" phase of public engagement was an effort to restart and re-frame discussion around these two corridors agnostic of lane configuration. The **Visioning Phase** was designed around the following outcomes:

- Inform the public that the University and 10th Street Corridor Study is underway, and provide a clear explanation of the goals and scope of this study.
- Understand and document opportunities and issues raised by each stakeholder group related to the corridor overall and the areas with which they are most familiar.
- Identify information the public would like to see accompanying design configurations shared later in the process, in order to feel informed to evaluate those alternatives.

This Visioning phase also engaged a variety of stakeholders representing voices of the business, development, and real-estate communities, as well as public officials in interviews in order to:

- Understand how changes to the street may or may not impact existing and future businesses, particularly in the central core.
- Understand how the design and function of these streets may impact the future development potential of the corridor, particularly in the central core.

Activities

Between May and September 2022, the project team conducted a series of engagement tasks and deployed engagement tools to gather input from general public and different stakeholder groups along the corridor, including: residents, business owners, developers, commuters, students, institutions, city planning staff, transportation managers, and more, to determine how the streets currently function, and could function in the future, given the surrounding neighborhood fabric and land use. These tasks and tools included the following:

- In June, postcard mailers with project information and invitation to survey mailed to 6,435 households in neighborhoods surrounding the corridor.
- During this phase, public surveys hosted on SurveyMonkey with 395 responses. Included in the survey were a series of open comment prompts around a theme, to which survey respondents provided over 1,701 short-answer responses.
- Digital collaborative map hosted on the MetroCOG project site, which invited visitors to add concerns and ideas tied to geographic points (also with the ability to reply to other comments), with 101 comments received during this phase.
- For each of the three neighborhood areas, North, Downtown, and South, 1-hour virtual focus groups were moderated by the project team in September. These events received 33 RSVPs and 19 attendees.
- Project-dedicated phone (text and call) and email channels were established which received 9 messages as of September 16, 2022.
- Throughout the engagement phase, social media posts on Nextdoor, Facebook, Instagram, and Twitter informing the public of the project survey, collaborative map, and neighborhood focus groups.
- One-on-one interviews with 11 selected stakeholders at the request of the SRC.

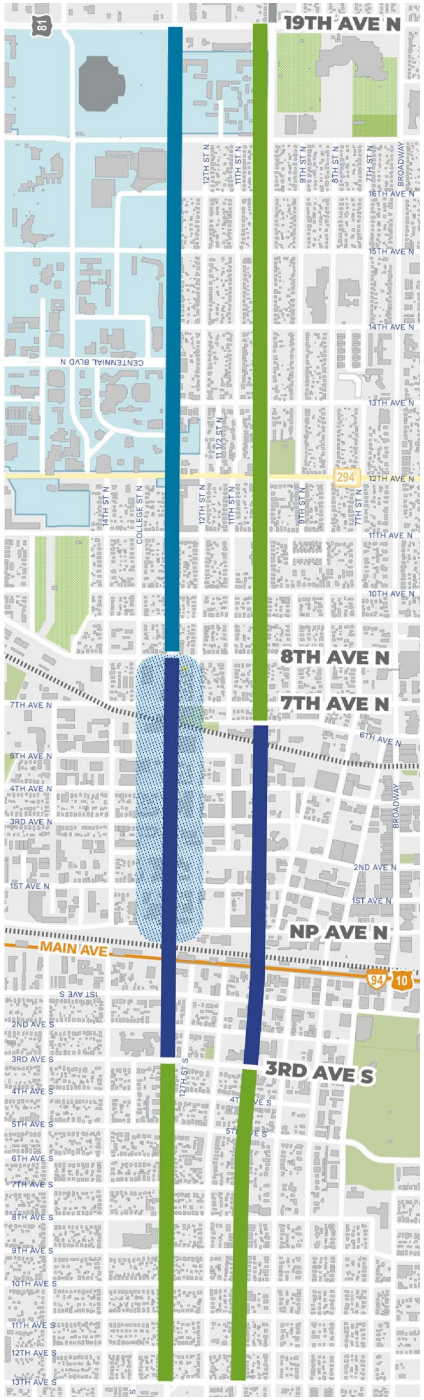
The project team also conducted 3 days of "door knocking" along the corridor during the month of July to distribute project information and engage in informal conversations with residents, employees, and business owners. With assistance from MetroCOG staff, the project team initiated contact with every single property fronting or immediately adjacent to University Drive and 10th Street within the study area. This included over 600 residences and 60 businesses visited; conversations with 60 residents and 30 business owners and employees.

Executive Summary of Key Findings

For the majority of stakeholders, improving University and 10th means increasing safety and lessening confusion on the street, while maintaining aspects that work well to move people and goods North and South. The most frequent sentiments received during the Visioning phase of engagement are summarized below.

- **"It's fast" / "Stop the speeding" / "Stop the drag racing":** Across all areas and stakeholder groups, speeding and drag racing were a top concern. These comments were often followed by a request for additional law enforcement or installation of speed control devices or cameras. Many stakeholders who expressed a desire to enforce the speed limit, also expressed a desire to maintain efficiency for their typical commute. Drag-racing was often the first complaint offered by residents, employees, and business owners. Those noted experiencing drag racing, called issue to not only the safety conditions for those crossing or walking along the street, but also the noise pollution and exhaust smells caused by the vehicles. Stakeholders experience these issues not just at night, but all times of day.
- **"Is this about converting to two-way?":** Regardless of how the conversation began, discussion about University Drive and 10th Street eventually resulted in a stakeholder expressing a preference for or against one-way to 2-way conversion. These conversations were often founded in assumptions about the impacts of conversion that may or may not be accurate (widening the street, loss of parkway or trees, traffic congestion, etc). These assumptions should be addressed directly in the next phase of public engagement as design alternatives are explored.
- **"I've seen accidents happen...":** Regardless of the location, most stakeholders have witnessed accidents or near-misses along the corridor. Many shared stories of cars driving the wrong direction on the street.
- **"It gets you where you need to go":** Many individuals see value in the functional role these streets facilitate efficient cross-town movement, and view University Drive and 10th Street as fundamentally different from other streets in the grid. Many expressed the sentiment that the streets seem to function well today and did not see value in making changes, particularly big changes.
- **"Whatever happens, it has to work for events too"**: A majority of stakeholders recognize that University Drive plays a critical role in moving people to and from major events. This sentiment was obviously strongest from stakeholders living or working in the North section near NDSU.
- **"I'd rather bike on a side street":** Regardless of the location along the corridor, stakeholders expressed that University Drive and 10th Street are not preferred bike routes. Individuals who bike cited aggressive drivers, speeding, and lack of other cyclists as primary reasons.
- **"We have these big, beautiful trees":** [North and South Neighborhoods] Residents in both the North and South corridor areas expressed concerns for the loss of and an appreciation for the mature trees and greenery in those areas. Design changes that impact the width of the parkways are likely to receive significant pushback from residents.
- **"The West side of Downtown won't "pop" until something changes":** [Downtown Area Specific] Particularly crossing Downtown, there is general agreement that 10th Street feels like the far western edge of what feels like "Downtown". Some attribute this to the quality of the street; others to the shift toward auto-oriented land uses at this point. For stakeholders in commercial and residential development, brokers and owners, there is a sentiment that changing the character of these streets will be key to realizing the development potential west of the Downtown Core.

Figure 39: Corridor Segment Map



Summary of Segment Potential and Vision

The Greater Fargo-Moorhead Community acknowledge that University and 10th Street, today, play a different role in the street network than other streets in the grid. Although people expect the traffic along these streets to move more quickly and efficiently than adjacent streets, there is consensus that speeding and unsafe conditions for people crossing the street need to be addressed if any improvements are made. Colors refer to sections below: Central Area (navy blue), NDSU area along University Drive (light blue), Residential areas (green).

Central Area Vision

University Drive and 10th Street from approximately 2nd Avenue S to 7th Avenue N

Most businesses currently fronting University and 10th in Downtown are either auto-oriented or destination retail or office. Given the proximity to the Downtown Core and the desirability of those parcels carrying zoning incentives offered by parcels located in the DMU, there is likely to be significant redevelopment pressure on this area to convert to a higher density mixed-use urban form. This shift is already taking place. The majority of stakeholders agree that today the character of University Drive and 10th Street in proximity to Downtown is not consistent with Downtown's character.

If the Central Area is to realize its potential as an extension of the Downtown core - with respect to commercial and residential density and character - the quality of University and 10th Streets today must change to better suit this mixed-use vision.

Potential concepts brought forward by members of the public included:

- Generous and contiguous sidewalks and pedestrian scale lighting.
- Signalized intersections with pedestrian safety infrastructure.
- On-street parking where possible.
- Slower vehicle speeds.
- Reduced number of curb cuts disrupting the pedestrian path.
- Elevated edge landscaping and street trees more similar to Downtown Core.
- Building positioning and design that engages the street.

North Segment near NDSU

University Drive from 19th Avenue N to 8th Avenue N

Prevailing plans and current land ownership suggest that **University Drive north of 8th Street N will continue a slower evolution toward mid-density residential redevelopment with mixed-use blocks radiating from existing commercial nodes at 7th Street N and 12th Avenue N.** Additional density along these blocks will further reinforce the need for University Drive to serve as a transit corridor between NDSU/FARGODOME and the Downtown Core. The FARGODOME plays a critical role in the evolution of this corridor and any potential expansions could help pave the way for additional multi-modal connectivity points around traffic management during major events.

Potential concepts brought forward by members of the public included:

- A multimodal streetscape with robust accommodations for cyclists, pedestrians, and transit.
- Additional crossing opportunities to create safer midblock pedestrian connections.
- Green edges and tree canopy to provide a buffer for residential properties.
- Active management and safety enforcement of event-related traffic and parking.
- Well-maintained intersections and pedestrian crossing infrastructure at all times of year.

North and South Segments along 10th Street and University South

10th Street from 19th Avenue N to 7th Avenue N; University Drive and 10th Street south of 3rd Avenue S

Residents living in the North and South areas envision a future where these streets are quieter, and safer, and maintain or enhance the residential qualities of the broader context. Concerns about potential negative effects on things that create that character (mature trees, parkway, residential uses) were strongly expressed and would be considered counter to the community vision. Residents and Institutional stakeholders in these areas recognize the need for these streets to carry more traffic than their parallels in the grid, but feel strongly that the design and engineering solutions must preserve the residential character and quality of the adjoining blocks.

Potential concepts brought forward by members of the public included:

- Mature trees and consistent greenery.
- Pedestrian safety and speed reduction infrastructure implemented where possible.
- Well-maintained intersections and pedestrian crossing infrastructure at all times of year.
- Slower vehicle speeds.

One word to describe the Uni|10 Corridor today?

One word to describe the Uni|10 Corridor tomorrow?

Land Use and Urban Design Key Takeaways

Four existing plans informed the analysis of development potential along the Corridor, the *Fargo InFocus Downtown Plan*, *Fargo Core Neighborhoods Plan*, *Transportation Plan*, and the *NDSU Campus Facilities Master Plan*. These plans provided a grounding of development and density ambition identified for different sub-geographies along the corridor which has already been vetted by community members and City leaders as part of the engagement for each aforementioned plan.

A summary of key takeaways from these plans was overlaid with information gleaned from stakeholders representing property-ownership and development interest in and around Downtown, as well as NDSU Facilities and FARGODOME leadership. The findings below and map on the page that follows illustrate some of the critical takeaways from each plan, as well as stakeholder insights that should influence the Vision for future character and land form along each street as they cross through Fargo's neighborhoods and Downtown.

- **Density should increase as you approach the DMU.** Currently, outside of the Downtown Mixed Use (DMU) zone, there are commercial zones that allow housing only as a conditional use. The Downtown Plan recommended that commercial areas along University, west of Downtown, and near Island Park and Main should be rezoned to allow, by right, a greater range of housing types and densities to enabling the construction of multi-family or townhouse development types.
- **Core Neighborhood Plans maintain single-family use for many blocks to the North and South.** Many residents of the neighborhoods to the North and South expressed a strong desire to maintain the residential character and mature trees within their neighborhoods. This sentiment is reflected in the Core Neighborhoods Future Land Use maps for these areas. Although the Core Neighborhoods and Downtown Plan recommend many land use or zoning changes that invite higher-density redevelopment, the *Core Neighborhoods Plan* retains single-family residential designation of blocks along 10th Street N, north of 8th Avenue N, and both streets south of 3rd Avenue S. Notably, University Drive north of 7th Avenue N shifts to multi-family in the Future Land Use proposed for the Roosevelt Neighborhood, continuing to the west.
- **NDSU Students will continue to live as close to campus as possible.** Many properties fronting University Drive are owned by NDSU, Alumni or Greek organizations or are otherwise student-focused in design or use. This is most prevalent near the University and 12th Avenue N intersection. NDSU students are likely to continue pursuing housing immediately adjacent to campus as single- or multi-family properties become available. The University has no current plans to further redevelop along University Drive. Recent development along this campus edge reinforces the feeling that University Drive along this segment is actually a part of the campus itself. Much of the property facing NDSU along University Drive is currently owned or managed by NDSU alumni and Greek organizations. As campus needs evolve—such as increased demand for student housing or other university-related functions—these parcels may be considered for future changes or enhancements. If developed as housing, the redevelopment is likely to take the form of higher density and mixed use buildings, which will make this segment feel less characteristically residential.
- **Plans agree that 7th Avenue N at University is a node that should continue to grow.** The *Downtown and Core Neighborhoods Plans* agree that the area around the intersection of 7th Avenue N and University Drive - where Fargo Brewing, Family Fare Supermarket and 701 Eateries are located - should continue to expand into a Mixed Use Neighborhood Commercial node reaching north, west, and southwest from the intersection. The co-location of several destination food and beverage, entertainment, and personal services in this area and the higher density residential development to the southeast will mutually benefit most if connections for people walking, biking, and driving also continue to improve. Today, the railway underpass is a particular pain point for people walking or biking in the area.

Table 6 and 7: Corridor Frontage by Land Use Category

Frontage on University (LF)

Land Use Type	Study Area Overall		North (above 10th Ave N)		Downtown (10th Ave N & Main St)		South (below Main St)	
Commercial	6,446	24.0%	1,632	13.4%	3,732	54.0%	1,083	14.0%
Mixed Use	190	0.7%	0	0.0%	0	0.0%	190	2.5%
Low Density Residential	7,320	27.3%	2,115	17.4%	911	13.2%	4,293	55.5%
Medium Density Residential	1,141	4.3%	935	7.7%	0	0.0%	206	2.7%
High Density Residential	4,583	17.1%	2,405	19.7%	974	14.1%	1204	15.6%
Public & Institutional	5,147	19.2%	4,847	39.8%	0	0.0%	300	3.9%
Parking	650	2.4%	100	0.8%	200	2.9%	350	4.5%
Industrial	286	1.1%	0	0.0%	286	4.1%	0	0.0%
Utility & Other	584	2.2%	0	0.0%	584	8.5%	0	0.0%
Vacant	480	1.8%	150	1.2%	220	3.2%	110	1.4%

Frontage on University (LF)

Land Use Type	Study Area Overall		North (above 10th Ave N)		Downtown (10th Ave N & Main St)		South (below Main St)	
Commercial	3,427	13.2%	300	2.6%	2,487	35.0%	640	8.5%
Mixed Use	120	0.5%	0	0.0%	50	0.7%	70	0.9%
Low Density Residential	13,356	51.3%	6,897	61.3%	1,912	26.9%	4,457	59.2%
Medium Density Residential	1,000	3.8%	672	5.9%	50	0.7%	278	3.7%
High Density Residential	2,645	10.2%	1,250	11.0%	965	13.6%	430	5.7%
Public & Institutional	3,411	13.1%	1,602	14.1%	349	4.9%	1,460	19.4%
Parking	1,142	4.4%	431	3.8%	521	7.3%	190	2.5%
Industrial	230	0.9%	0	0.0%	230	3.2%	0	0.0%
Utility & Other	376	1.4%	0	0.0%	376	5.3%	0	0.0%
Vacant	321	1.2%	150	1.3%	171	2.4%	0	0.0%

FARGODOME EXPANSION
University Drive plays a critical role in the flow of vehicles and people to Fargodome events. The Fargodome is currently studying an expansion of its permanent seating and possibility of a Convention Center.

NDSU CAMPUS & STUDENTS
Many properties fronting University are owned by NDSU, Alumni or Greek organizations or are otherwise student-focused. The University has no current plants to further redevelop along Univeristy.

CORE NEIGHBORHOODS ROOSEVELT PLAN
Identifies area as Mixed Use Neighborhood Commercial with expectation of increased density as development happens over time in the area.

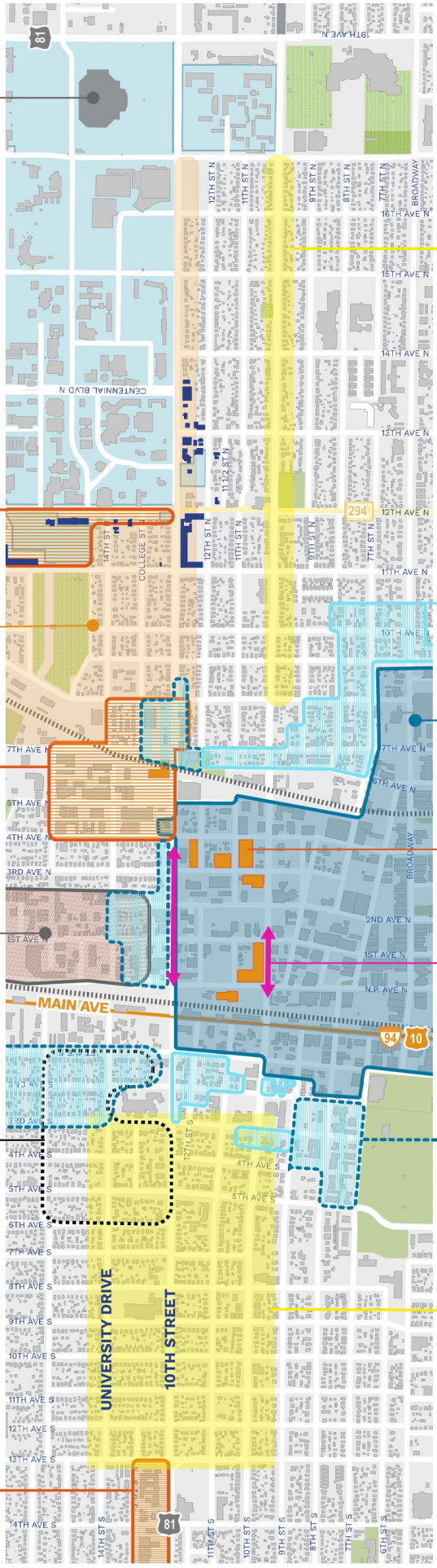
CORE NEIGHBORHOODS ROOSEVELT PLAN
Proposed future land use identifies area as Multi-Family Residential where Single-Family largely exists today

CORE NEIGHBORHOODS MADISON/UNICORN PARK PLAN
Proposes future land use to focus on Mixed Use Neighborhood Commerical

INDUSTRIAL& CREATIVE BUSINESS GROWTH AREA
Area has seen increase in creative business adaptive reuse within historically industrial and light industrial area. Trend is likely to continue with growth of Drekker Brewing complex to the west.

JEFFERSON NEIGHBORHOOD HISTORIC OVERLAY DISTRICT
Large scale redevelopment or increased density less likely due to designation

CORE NEIGBORHOODS LEWIS & CLARK
Proposes future land use to focus on Mixed-Use Neighborhood Commerical



CORE NEIGHBORHOODS WASHINGTON PLAN
Future land use maintains single-family housing fronting both sides of 10th Street

DOWNTOWN PLAN
Proposes parcels within 600' of DMU MR-3 Zoning designation eligible for Density Bonus

DOWNTOWN PLAN
Downtown Core zoning defined as "DMU" - or Downtown Mixed use, intended to encourage higher density and urban character that feels like a contiguous extension of the current Downtown Core

NEW MIXED-USE DEVELOPMENT
Mixed use mid- and high-density residential developments have infilled blocks between University & 10th in recent years

PEDESTRIAN-ORIENTED RETAIL
Arrows indicate blocks with pedestrian-oriented businesses or retail buildings with entrances fronting University or 10th

DOWNTOWN PLAN
Identifies areas currently zoned Commercial with Residential as Conditional Use, with overlay allowing denser, mixed use, as-of-right transition zone

CORE NEIGHBORHOODS WASHINGTON PLAN
Future land use maintains Single-family housing fronting both sides of 10th and University

Figure 40: Land Use & Development Considerations

Summary of Findings by Geographic Area

Engagement Approach

The engagement approach divided the corridor into three primary sections which follow neighborhood boundaries: North (north of 7th Avenue N, including Roosevelt / NDSU, Horace Mann, Washington, and beyond), Central (Downtown and Madison/Unicorn Park), and South (south of Main Avenue including Hawthorn, Jefferson / Carl Ben, and beyond). The summary by geography included below synthesizes feedback collected from the survey, as well as focus groups and collaborative map tool as of August 31, 2022.

Resident Focus Group Feedback

During the focus groups, a series of quotes received from the public survey were shared to spur discussion. Quotes shared were specific to the geographical segment, and residents then shared reactions and their own experiences on the corridor.

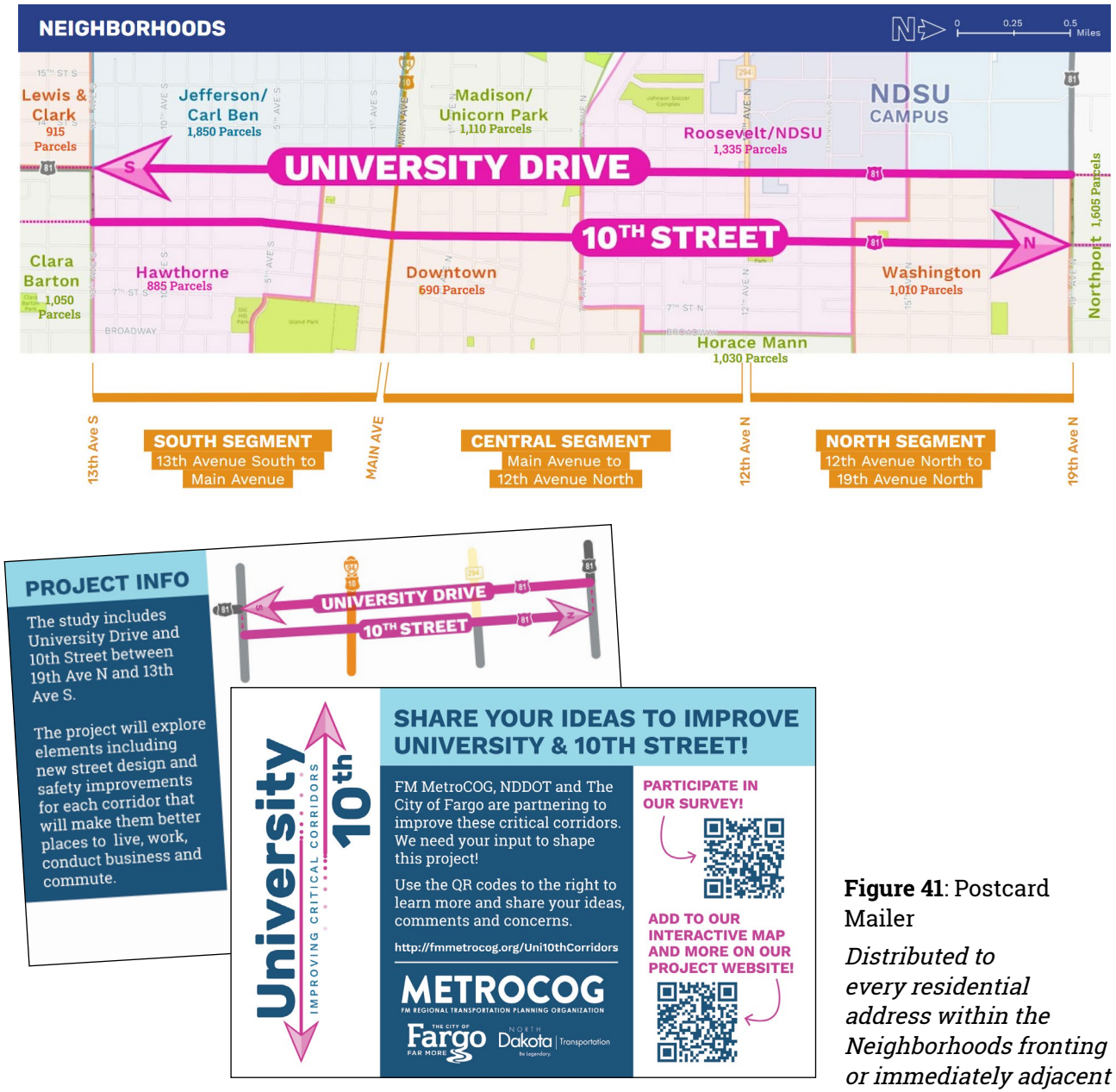


Figure 41: Postcard Mailer

Distributed to every residential address within the Neighborhoods fronting or immediately adjacent to the Corridor Study Area.

- **The Central Area could feel like part of Downtown… but urban design must change.** University Drive and 10th Street will start to feel more like an extension of Downtown as the character of buildings and uses facing the street become more pedestrian-friendly. Today, University Drive between 4th Avenue N and NP Avenue are home to several businesses with pedestrian- oriented frontage. Similarly, the development of a new mixed-use project west of 10th, between 1st Ave N and NP Avenue will create a sense of enclosure that is more characteristically similar to the Downtown Core than the auto-centric commercial and industrial parcels to the west. However, the design of this new residential project is evidence of how the current conditions along 10th Street are impacting urban design. The new building provides no openings or circulation to 10th Street, the longest contiguous building face.
- **Residential development between University Drive and 10th Street is likely to continue.** There is a perception shared by residents and project stakeholders that those who want to live close to downtown are willing to live between University and 10th Street, but not west of University. University Drive and 10th Street were both described as the psychological "edge" of the Downtown Core. Many attribute this to the volume of traffic and width of the street feeling dramatically different than the Central area east of 10th Street.
- **People have embraced the industrial character around 1st Avenue N.** Although Industrial and Light Industrial uses exist throughout the Central Area, there is a notable different in attitude toward the area surrounding 1st Avenue N. Stakeholders describe this area as a "creative warehouse district", suggesting that continue adaptive re-use rather than large scale redevelopment would be the preferred future for this area as it extends to the west toward Drekker Brewing and large scale entertainment expansion of their brewery site.

Figure 42: Conditions on 10th Street do not Encourage Pedestrian-Oriented Design

New Mixed-use residential development is anchored by a restaurant at 10th Street and NP Avenue, but the longest face of the building turns its back on 10th Street. This type of design will continue as long as 10th Street exists in its current form.

North Segment

(approximately 12th Avenue to 19th Avenue N)

Area Profile

The Northern Section of the Corridor is primarily residential with significant institutional presence. The North segment consists of the neighborhoods of Roosevelt/NDSU, Horace Mann, Washington, and Northport. NDSU fronts University Drive from the west north of 12th Avenue N, and University uses and student housing face University from the east, intermixed with residential and small commercial uses. In addition to the presence of NDSU, neighborhood- serving schools Roosevelt, Holy Spirit, and Washington Elementary Schools; Ben Franklin Middle School, and North High School, as well as places of worship, are all located along the corridor. University and 10th also provide access to area destinations Bison Sports Arena, FARGODOME, and Hector International Airport. University Drive and 10th Street serve as gateways to and from Northern destinations and Downtown for through-drivers. This part of the Corridor streets has substantial boulevard buffers that separate the vehicle lanes from the sidewalks on both sides.

Engagement Summary

What Is Working Well

- The mature tree-lined boulevard design acts as a buffer for homes and pedestrians, contributing to the "neighborhood feel" and providing privacy and safety.
- Drivers have easy access to Downtown and North Fargo destinations, as well as South Fargo.
- Residents find it easy to access their driveways for pulling in and backing out.

Critical Concerns

- Observed speeding and the lack of speed limit enforcement are major concerns. Opinions extend to excessive noise caused by speeding cars, with specific mentions of speeding cars making turning movements from neighborhood streets onto University Drive and 10th Street into fast-moving traffic, or crossings for pedestrians and cyclists difficult. Many individuals have mentioned crashes they have experienced or witnessed.
- Event traffic management for FARGODOME and Bison Sports Arena needs specific attention to minimize pedestrian / vehicle conflicts, improve traffic and parking communication with out-of-town visitors, and maintain traffic flow and easing congestion and impact on neighbors.
- Drag racing is perceived at all times of day.
- Obstructed sight lines are caused by views impeded by snow piles and foliage in different seasons.
- Driver confusion, aggression, and unpredictability occur at intersections, bike lane start and end points, bus stops, lane alignment changes, and faded lane markings throughout the corridor. There is a desire for consistency in through lanes.
    - The intersections and lane markings on 10th Street and 12th-17th Avenue N are problematic.
    - Drivers frequently travel the wrong way on one-way streets.
    - Street conditions, including potholes and lane striping, are a concern.
- Depressed property values and deteriorated conditions of residential buildings are attributed to the characterization of 10th Street and University Drive as "busy roads" or "unsafe".
- Delivery trucks frequently block bike lanes and/or travel lanes.
- Traffic congestion during peak periods and maintaining traffic flow along the corridor as a crosstown artery, as well as traffic light timing synchronization, are critical concerns
- Pedestrian crossing safety is compromised by sight lines, car speed, waiting conditions, lack of signals, and distracted drivers. There are specific mentions of safe crossings for K-12 and NDSU students.
- Cyclists feel unsafe riding on University Drive and 10th Street and prefer enhanced bicycle streets such as 9th Street N and 14th Street N. Many cyclists currently use smaller side streets to avoid conflict with bus stops.

"...as a bicyclist I avoid 10th St and University at all costs. The traffic on both is very fast, and drivers are extremely rude."

-Survey Response

"On the University bike lane southbound, there is the point where it "disappears"...There are all sorts of safety and comfort issues related to this bike lane..."

- North Area Resident

North Segment

(approximately 12th Avenue to 19th Avenue N)

Fine FAST Efficient One way Convenient Great

Busy Perfect Good

Figure 43: North Segment, Land Use & Development Considerations

Central Segment

(approximately 2nd Avenue S to 7th Avenue N)

Area Profile

The Central Segment of the corridor, from Main Avenue to 12 Avenue N, is a mix of commercial, industrial, residential, and institutional uses. This part of the Corridor falls within the Renaissance Zone. University Drive is considered the western boundary of what was defined as the Downtown Area by the *Downtown Fargo In Focus Plan*. All parcels in this area are zoned "Downtown Mixed Use" by the City's zoning ordinance. University Drive and 10th Street serve as multi-lane gateways to and from Downtown for drivers North and South of the area, as well as I-29 and 25th Street for through-drivers to cross the City. Four viaducts allow traffic to flow underneath two active railways in this area. Neighborhoods that make up this area are Downtown and Madison/ Unicorn Park. In recent years, several new high- rise residential developments have increased residential density between University Drive and 10th Street, significantly.

Engagement Summary

What Is Working Well

- Drivers have easy access to Downtown and North Fargo.
- Railroad viaducts allow drivers to flow under active railway.
- People are familiar with and comfortable with the current circulation to and through downtown.

Critical Concerns

- Driver confusion, aggression, and unpredictability were common comments. Incidents were often noted at intersections (University Drive & 10th Avenue N), bike lane start and end points, around bus stops, and where lane alignment changes or markings have faded along the corridor. Specific locations or situations mentioned by stakeholders included University Drive and 10th Street at 4th Avenue N, where the bike lane starts on 10th Street and ends suddenly on University Drive.
- Street conditions, including potholes and lane striping, are problematic.
- Drivers have difficulty circling around the block after missing a business entrance.
- There is a perception that University Drive and 10th Street are barriers. Many expressed a need to increase walkability and safety, or to connect the area between University Drive, 10th Street, Main Avenue, and 7th Avenue N to the rest of Downtown.
- Pedestrian crossing safety is a key concern. Issues include car speed, lack of signals, and distracted drivers.
- Obstructed sight lines are caused by snow piles and foliage in different seasons.
- University Drive and 10th Street feel unsafe to ride, and many cyclists prefer to use smaller side streets. There is a preference for enhanced bicycle streets such as 9th Street N and 14th Street N, which also avoids conflict with bus stops.
- Main Avenue and 7th Avenue N underpasses are often cited as feeling unsafe due to narrow lane size (many cars are too large for the lanes), cars driving in the bike lanes (7th Avenue N), or lack of bike facilities. The dark and narrow pedestrian experience feels unsafe.
- Drivers frequently travel the wrong way on one-way streets.
- Delivery trucks often block travel lanes.
- Noise pollution from speeding vehicles and large trucks is a concern.
- Traffic congestion and traffic signal timing synchronization during peak periods are issues, and there is a desire to maintain traffic flow as a crosstown artery.
- Speed and lack of speed limit enforcement are related issues. Concerns include perceived safety at pedestrian and bike crossings, past witness of vehicle crashes, and notable traffic signal/sign ignorance. Drag racing continues to be a common concern for Downtown Area stakeholders.
- Vehicle turning movements from neighborhood streets onto University Drive and 10th Street into fast-moving traffic are common complaints.

Central Segment

(approximately 2nd Avenue S to 7th Avenue N)

Uncomfortable, Chaotic, Perfect, **Efficient**, Speed, Great, Crowded, Fast, **Busy**, Convenient, **Good**, Useful, Utilitarian, Adequate

Figure 44: Downtown Segment, Land Use & Development Considerations

Central Segment

(approximately 2nd Avenue S to 7th Avenue N)

Figure 45: Retail Frontage with Pedestrian Character *On-street parking and buildings fronting the street edge are present on University north of 3rd Avenue N.*

Figure 46: Downtown Segment (at 7th Avenue N)

South Segment

(approximately Main Avenue to 13th Avenue S)

Area Profile

The Southern Section of the Corridor, from Main Avenue to 13th Avenue S, is primarily residential in character, consisting of the neighborhoods of Jefferson/Carl Ben, Clara Barton, Hawthorne, and Lewis & Clark. University Drive and 10th Street serve as gateways to and from Downtown for through-drivers. Additionally, several neighborhood-serving institutions such as schools and places of worship are located along the streets. This part of the Corridor streets has substantial parkway buffers that provide privacy and distance between pedestrians and passing vehicles.

Engagement Summary

What Is Working Well

- Mature tree-lined streetscape as a buffer for homes and pedestrians; contributes to "neighborhood feel" and provides privacy and safety.
- Driver access to Downtown, North, and South Fargo.
- Ease of access to resident driveways for pulling in / backing out.

Critical Concerns

- Noise pollution from congestion at peak times, speeding vehicles, and large trucks.
- Drag racing was a critical issue for residents. Specific mention of drag racing passed Institutional land uses and schools as a key concern.
- Observed speeding and lack of speed limit enforcement. Related issues include perceived safety at pedestrian and bike crossings, difficulty as a pedestrian or cyclist at crossings, cars turn from neighborhood streets onto University Drive and 10th Street into fast- moving traffic, noise, vehicle crashes, and traffic signal/ sign ignorance.
- Obstructed sight lines impeded by snow piles and foliage in different seasons. Specific mention of LED signage distracting drivers and hiding pedestrians.
- Driver confusion, aggression, and unpredictability at intersections, bus stops, lane alignment changes, and faded lane markings throughout the corridor. Desire for consistency of through lane(s). Specific locations or situations mentioned by stakeholders included:
  - Turning left onto 10th Street from 13th Avenue S
  - University Drive and 2nd Avenue S merging from 3 lanes to 2
  - Drivers traveling wrong-way on one-ways
  - Street conditions (potholes, lane striping).
- Concerns raised over property values and residential building appearance fronting the corridor. Suspicion that corridor-facing residential properties are less desirable due to safety or comfort concerns.
- Delivery trucks blocking travel lanes.
- Traffic congestion during peak periods and maintaining traffic flow/corridor as crosstown artery; Traffic signal timing synchronization.
- Desire for Safe crossings for K-12 students.
- The University Drive and 10th Street Corridor feels unsafe to ride and many cyclists currently use smaller side streets. Also avoids conflict with bus stops.
- Increasing commercial development encroaching on neighborhood.

South Segment

(approximately Main Avenue to 13th Avenue S)

Noisy need Loud Convenient Efficient Fine Busy
Functional Good Quick Fast

"Keeping the big beautiful trees that line those streets is very important. If we can just figure out a way to slow down the traffic and boost the curb appeal in some sections, that would make a huge difference."
- Survey Respondent

Figure 47: South Segment
Mature trees line both University and 10th and are often located very close to the curb

Figure 48: South Segment
Residents in Northern and Southern neighborhoods expressed concerns about visibility at intersection where snow is piled high in peak winter conditions

Summary of Findings by Tool

Public Survey

A public survey was open from July 5 to August 26, 2022. Postcard mailers containing a QR code and web address for the survey were sent to all residential addresses within neighborhoods bordering the Study Area, including those immediately adjacent to its northern and southern edges. These mailers were sent to physical addresses, not to property owners outside the area—so recipients may have included both tenants and owners of apartment or multifamily complexes.

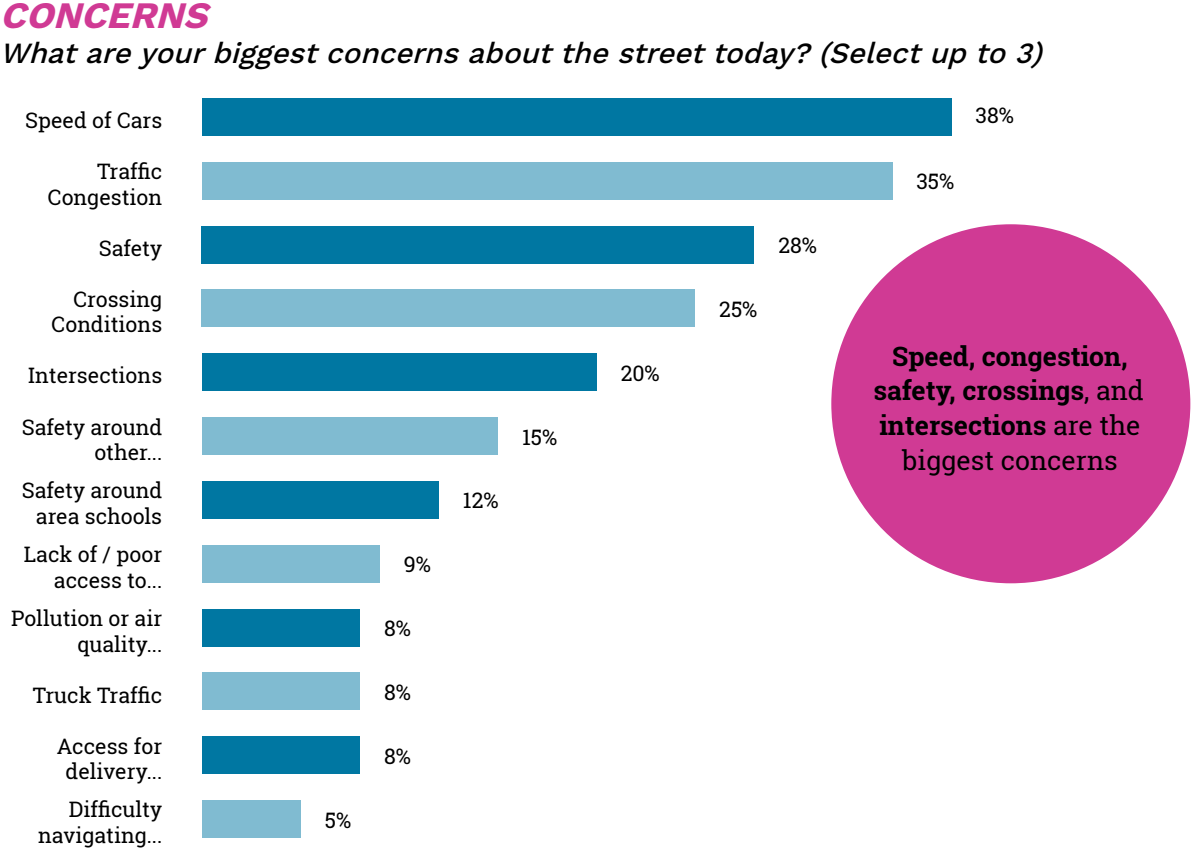
- A total of 395 surveys were completed with a 91% completion rate.
- Respondent stakeholders from all three sub-geographies were represented in the data: North - 104 of 395 (26%), Downtown - 17* of 395 (4%), and South - 132 of 395 (34%). The remaining respondents indicated they were not residents in a corridor neighborhood, skipped the question, or responded "other" (36%).
- 64% of respondents are residents of a neighborhood along the corridor.
- 94% of respondents self-identified as White / Caucasian.
- 55% of respondents self-identified as ages 25-44.
- Even split of male and female respondents; handful of skips, prefer not to say, non-binary, and gender fluid responses.
- 89% of respondents indicated using the University Drive and 10th Street Corridor several times a week or more.
- For trips along the Corridor, typical travel modes included: Drive myself (99.7%) Walking (21%) Bicycle (14.3%).

**Building leasing and management at all multi-family properties within the Downtown Segment were provided with project information and distributed to their residents. Because the majority of the Downtown Area is comprised of commercial, office, and institutional properties, the project team conducted in-person intercept interviews at all businesses along the corridors in the Downtown area. The findings of these interviews are represented in the Stakeholder Interview section found on page 62.*

Top Priorities according to all survey responses:

- Efficient movement of people and goods (cars and trucks).
- Minimizing the potential of severe crashes.
- Making sure people of all abilities feel safe walking along or crossing these streets.
- Maintaining or increasing tree cover and green space.

Figure 49: Public Survey Concerns



Stakeholder Interviews

Development Community Stakeholders

Development professionals spoke of how the area between University Drive and 10th Street west of the Downtown Core has the potential to see residential and commercial development, however the high-speed, crash-prone streets are currently undesirable for tenants and customers and act as barriers.

Planning and Policy Stakeholders

Planning and policy stakeholders see changes to the corridor as having the potential to increase development and investment. They want to invest once and get it right for the future. There is a noticeable disinvestment in properties along corridor with properties with worse appearances having even lower property values. There is a desire to coordinate changes with all affected City stakeholders, Public Works, MATBUS, Planning, and the Renaissance Zone.

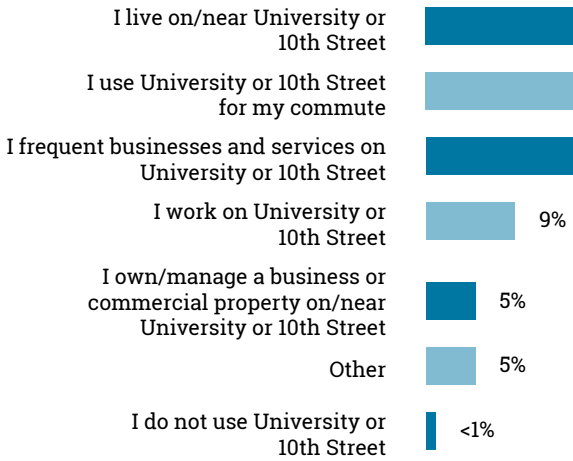
Business-Owners

For business-owners, their location on the corridor allows many customers to access business via the University Drive and 10th Street Corridor. They have concerns over expenses such as sign updates and parking lot restriping if there are significant changes made to roadway configurations. See **Figure 51**.

Figure 50: Travel Patterns of Survey Respondents

Who uses University and 10th Street, how often, and how do they travel?

What is your relationship to University Drive and 10th Street? (Select all that apply)

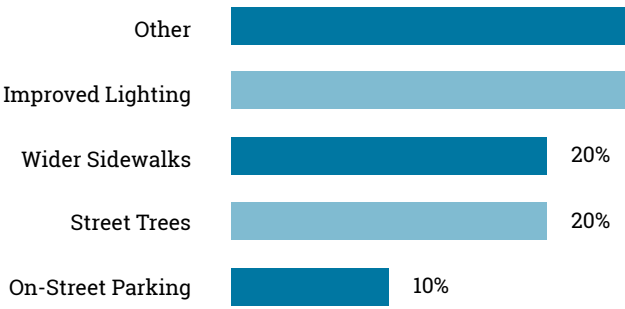


- Those who **live nearby, commuters, and customers** of area businesses
- **89%** of respondents use the corridor **several times a week or more**
- Typical **travel modes** are:
  - Drive myself (99.7%)
  - Walking (21%)
  - Bicycle (14.3%)

Figure 51: Responses from Businesses

BUSINESSES

What changes to the street and sidewalk around your business would improve your ability to run your business or attract customers? (Select all that apply)



- Other Included:
  - Truck parking at gas stations
  - Better traffic flow, especially for trucks and deliveries
  - Off-Street Parking
  - Improved traffic
  - Reducing alcohol and drug use in the area

Community Assumptions & Questions

During the Visioning engagement process, stakeholders were not directly asked for their opinions on converting University Drive and 10th Street to two-way travel. However, many shared their assumptions and concerns about the potential impacts of such changes. A key finding from this phase is that these assumptions need to be addressed as the project progresses.

Assumptions and Concerns

- People think the road might need to be widened, which would mean losing greenery and private property.
- There's a belief that slower traffic and frustrated drivers will cause bottlenecks at busy intersections without turn lanes and behind bus stops.
- It's assumed that traffic delays and noise will get worse during events at the FARGODOME and Bison Sports Arena.
- Some think residents will have to pay Special Assessments.
- There's a concern that the project will cause unnecessary disruption and government spending.
- People worry that safe pedestrian and bike crossings will decrease with traffic coming from both directions.
- There's a belief that familiar street users will be more confused.
- It's assumed that pulling in and out of residential driveways will be harder.
- Some think property values will go down.

Support for Conversion to Two-Way Operations

For those who support converting the streets to two-way operations, their reasons include:

- Narrowing the corridor and slowing traffic might increase patronage to local businesses.
- Slower traffic is believed to increase safety and bike and pedestrian usage.
- Some think crash rates will decrease.
- There's a belief that there will be less traffic.
- People think drag racing activity will decrease.
- It's assumed that traffic and drag racing noise pollution will decrease.
- Repairing neighborhoods currently bisected by streets might increase community cohesion.
- There's a belief that confusion and wrong-way driving will decrease.

Externalities and Additional Concerns

In addition to concerns about the streets themselves, stakeholders also had concerns about the external impacts of any improvements to the University Drive and 10th Street Corridor, including:

- Worry about the road encroaching into greenery and boulevard areas.
- Belief that increased traffic will affect quieter neighborhood streets.
- Concern about slower car access to destinations and event centers like Downtown, FARGODOME, NDSU, North Fargo, and the airport.
- Frustration about paying Special Assessments for street changes when improvements to this section of the Corridor are still recent.
- Strong desire to preserve mature trees along University Drive and 10th Street, with many citing tree canopy and greenery as essential to the neighborhood character.
- Any design alternatives study should provide traffic impact analysis, as increased traffic is a major concern for residents.
- Residents want clarity on the funding strategy if a streetscape project is identified and have expressed concerns about paying Special Assessments for street changes.
- Event management impacts associated with any potential streetscape change should be clearly presented.
- The current capacity and expanded seating scenario for FARGODOME should be considered.
- Travel delay or impacts on travel to other destinations and event centers like Downtown, FARGODOME, NDSU, North Fargo, and the airport should be clearly presented.

Future Conditions Assessment

This *Future Conditions Assessment* has been prepared to establish a future (year 2045) traffic condition that will be the basis of subsequent alternatives analysis for the University Drive and 10th Street corridors.

Demographics Projections

Demographic changes (specifically changes in population and employment) are a major factor in changes in the transportation landscape.

The study area development vision that is the basis for traffic projections documented in this report is largely based on the *Downtown InFocus* plan and the *Core Neighborhoods Plan*. Information from these two plans has been incorporated into 2045 demographic data in the Fargo-Moorhead travel demand model, which is a model that is used for transportation planning purposes in the region.

Within the study area, the following changes are expected by 2045:

- 5,000 additional households
- 12,000 additional jobs

Maps showing changes in study area households and jobs are shown in **Figure 54**.

Central Area

The most significant changes are expected in the central area / Downtown subarea. Downtown development trends seen over the past 15 years are expected to continue, with an increase in higher density commercial and mixed use redevelopment expected.

The future land use concept established in the *Downtown InFocus* plan is shown in **Figure 52**.

Other Parts of Study Area

Redevelopment is also expected away from the central area, albeit to a lesser degree. Notable redevelopment includes mixed used development along University Drive, 7th Avenue N, and 12th Avenue N.

Future land uses beyond the downtown subarea are shown in **Figure 53**.

Figure 52: Downtown Future Land Use

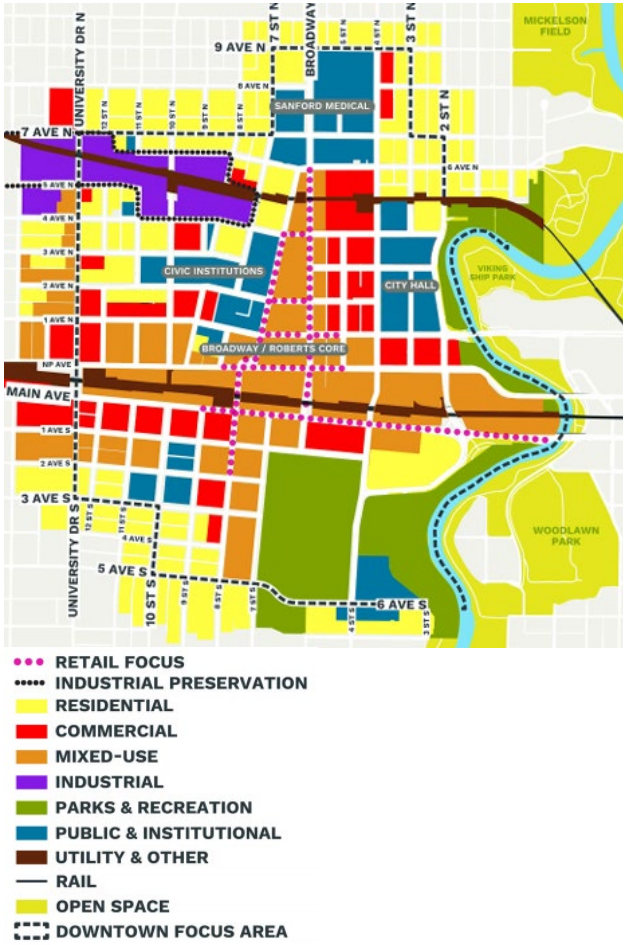


Figure 53: Future Land Use of Surrounding Area

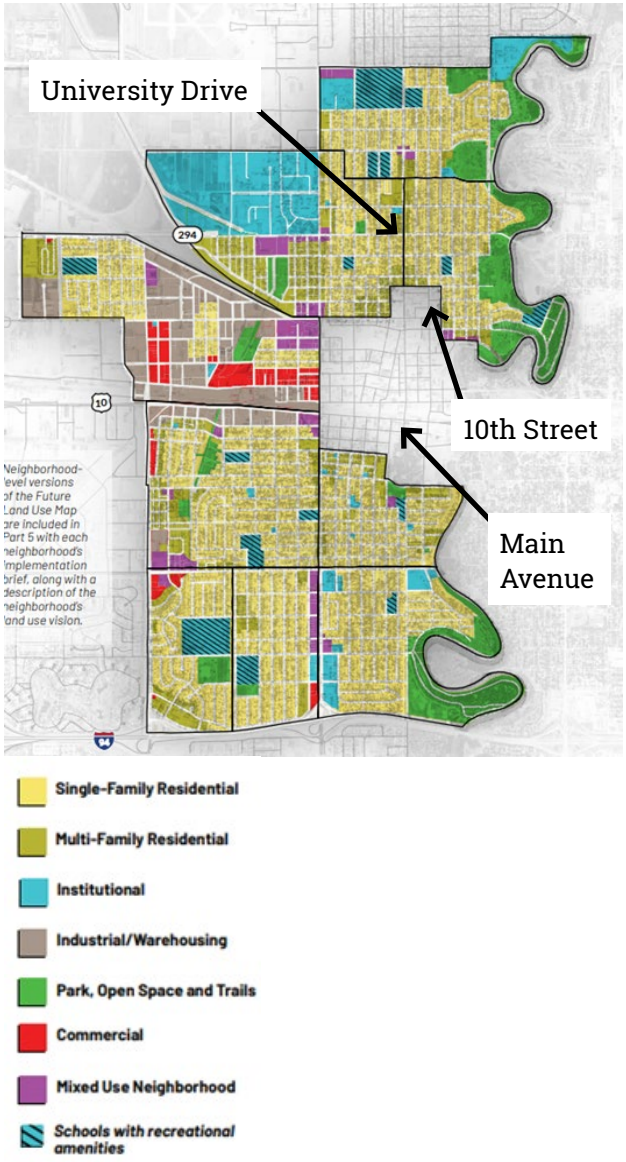
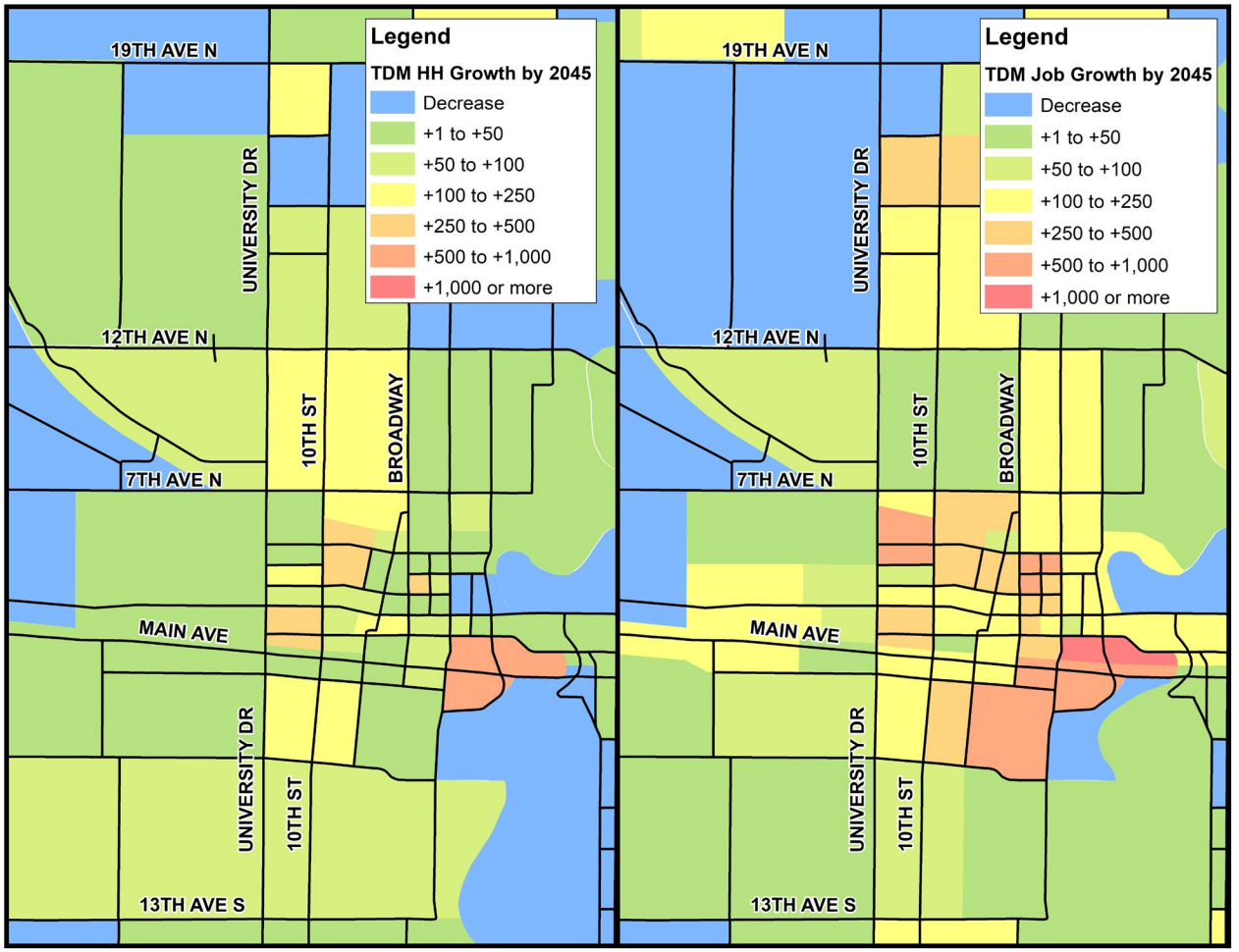


Figure 54: Changes in Study Area Households by 2045



Traffic Projections

Using demographic projections that are aligned with recent planning efforts, the Fargo-Moorhead regional travel demand model was used to estimate 2045 traffic conditions in the study area. See **Table 8**.

Travel demand models estimate traffic demands as a function of spatially allocated household and employment data, using key roadway attributes like the number of travel lanes, speed limits, and roadway functional classification to determine which roadways are most likely to be utilized to travel between trip origins and destinations.

The travel demand model was used to estimate 2045 daily traffic volumes under a No Build condition (i.e. maintaining the existing one-way pair on University Drive and 10th Street).

Nonmotorized Demand

Using origin-destination data from the travel demand model, changes in nonmotorized traffic between now and 2045 were estimated. Origin-destination pairs are calculated within the model taking into the number and type of trips generated within different areas and the amount of time that it takes to travel between these different areas on the modeled roadway network.

Given the significant amount of mixed-use redevelopment that is expected downtown, the number of short-distance trips between locations in the downtown area is expected to increase. Note that vehicle traffic drawn to the downtown area is also expected to increase significantly since major growth areas away from the downtown area (i.e. south Fargo, West Fargo, south Moorhead) will also generate trips to a future downtown with increased employment and recreation centers.

Modeling results show the following:

- Trips confined in the downtown area are expected to **increase by a factor of 3.6** by 2045 – it is reasonable to expect that many of these trips can be walking or biking trips.
- Longer-distance trips with a trip-end outside the downtown area are however also expected to increase significantly, with modeled origin-destination data showing such trips **increasing by a factor of 2.6** by 2045 – it is likely that these trips would continue to be vehicle trips.
- While downtown non-motorized traffic is expected to grow at a higher rate than downtown automobile traffic – it is expected that automobile traffic will still be the dominant travel mode. To illustrate this, modeled origin- destination data under 2045 conditions shows that only **around 7% of downtown travel will be short-distance trips** (compared to 4% in existing conditions modeling).

Vehicle Traffic Growth by 2045

- Daily 2045 vehicle traffic volumes throughout the study area are shown in **Figure 55**.
- A summary of changes in daily traffic volumes between 2022 and 2045 are summarized for each segment in **Table 7**.
- By 2045, the maximum daily traffic volumes on each corridor are expected at the following locations:
  - University Drive: 17,900 vehicles per day north of Main Avenue (15,500 vehicles per day today).
  - 10th Street: 15,500 vehicles per day south of NP Avenue (11,700 vehicles per day today).

Table 8: 2045 Vehicle Traffic Summary

Roadway	Average 2045 ADT (% Change From Existing)		
	North of 7th Avenue N	Between 7th Avenue N and 2nd Avenue S	South of 2nd Avenue S
University Drive	10,800 (+7%)	15,400 (+12%)	16,100 (+23%)
10th Street	8,400 (+8%)	13,600 (+18%)	12,800 (+13%)

2045 Traffic Operations

Using 2045 traffic projections, levels of service for each travel mode were evaluated. This analysis includes passenger cars, freight vehicles, pedestrians, cyclists, and transit riders. See **Figures 58, 59, and 60**.

It is important to note that this analysis assumes existing traffic control and intersection geometries at all study intersections except University Drive and 4th Avenue N (traffic signal is assumed for 2045 conditions). As such, some deficiencies listed above could be mitigated through spot-level intersection improvements.

2045 Vehicle Level of Service

Vehicle operations with estimated 2045 traffic volumes were evaluated using 13-hour traffic simulation models (Vissim).

Hourly traffic volumes in the 2045 No Build scenario were estimated based on forecasted changes in daily traffic volumes between now and 2045, if directional distributions of traffic remain how they are today.

Traffic operations are expected to remain generally acceptable through 2045, with deficient operations (LOS E or worse) limited to a few locations during peak traffic periods.

AM peak, mid-day peak, and PM peak intersection levels of service at each study area intersection are shown in **Figure 56**, with deficiencies also listed below.

- University Drive & 1st Avenue N (AM LOS F)
- 10th Street & 1st Avenue N (AM LOS F)
- University Drive & Main Avenue (AM LOS E)
- 10th Street & NP Avenue (PM LOS E)
- University Drive & 13th Avenue S (AM LOS F)
- 10th Street & 13th Avenue S (AM LOS F, PM LOS E)

A review of approach delays shows that future deficiencies are largely a result of increased side-street traffic volumes (especially in the downtown area) and not as a result of north/south traffic on University Drive or 10th Street.

Figure 55: 2045 Average Daily Traffic

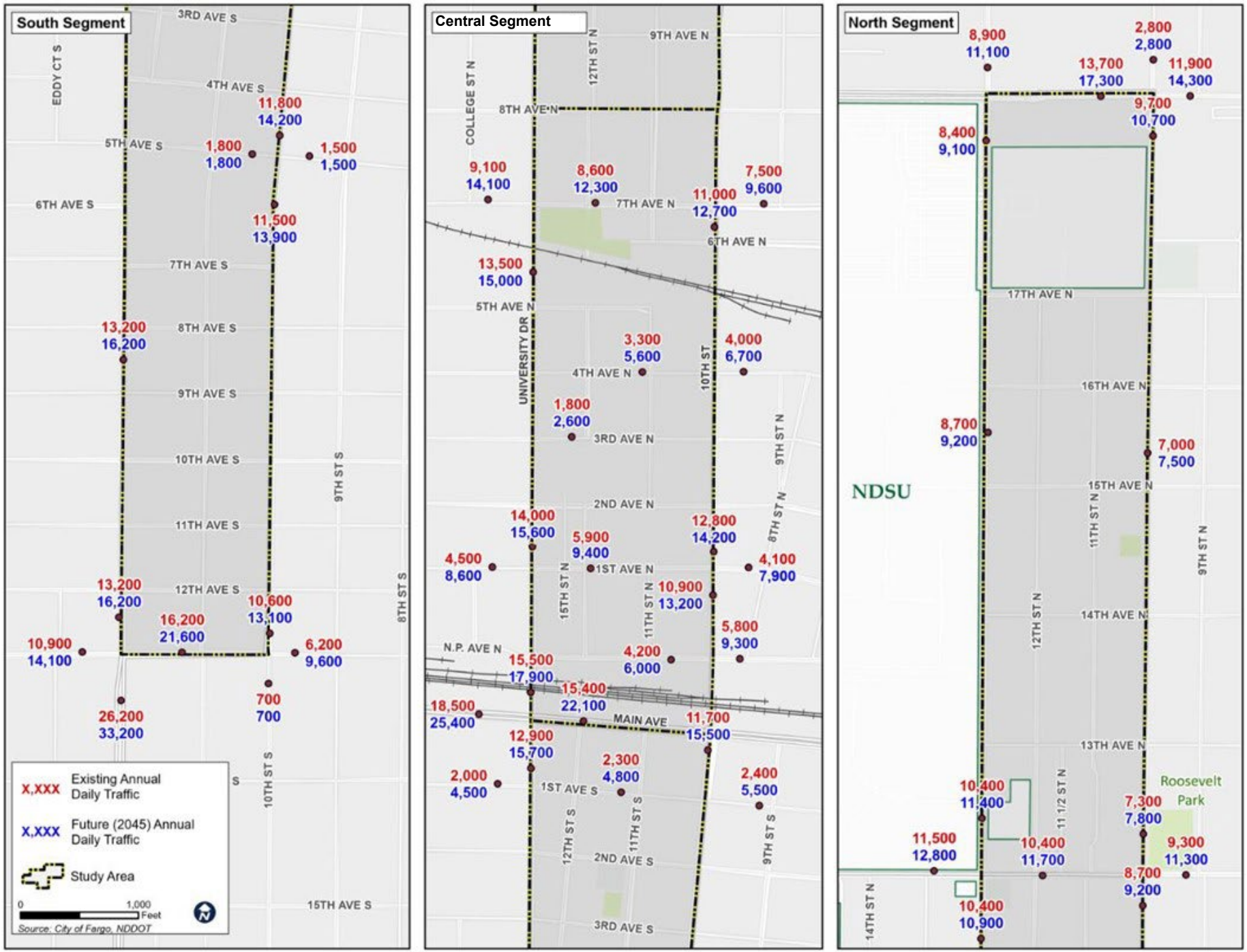
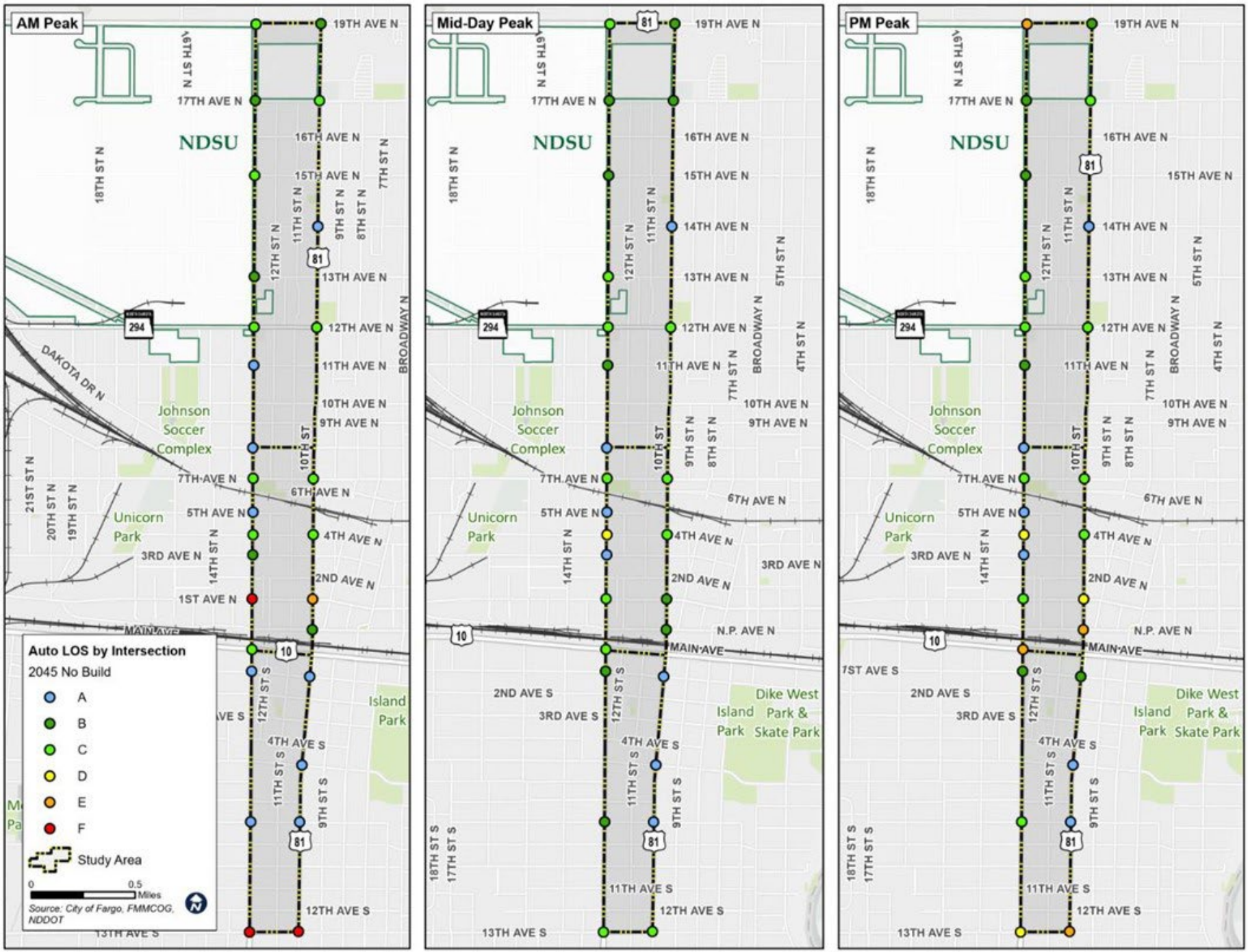


Figure 56: 2045 Vehicle Levels of Service



2045 Freight Level of Service

Northbound and southbound travel time reliability is good throughout the study area, resulting in freight level of service C or better on University Drive and 10th Street (**Figure 58**).

- **University Drive**: Peak hour travel times are around 34% higher than free flow travel times.
- **10th Street**: Peak hour travel times are around 25% higher than free flow travel times.

2045 Pedestrian Level of Service

With no roadway cross-section changes, but continued development in the area, pedestrian levels of service are expected to remain acceptable, with LOS B expected throughout the study area (**Figure 59**).

2045 Bicycle Level of Service

Since northbound and southbound traffic increases are expected to be modest (10 to 20% increase, on average), bicycle level of service is expected to remain good (LOS B) where bike facilities are present (north of 4th Avenue N). The bicycle level of service is, however, poorer (LOS D) south of 4th Avenue N due to a lack of existing bike lanes or shared use paths (**Figure 60**).

2045 Transit Level of Service

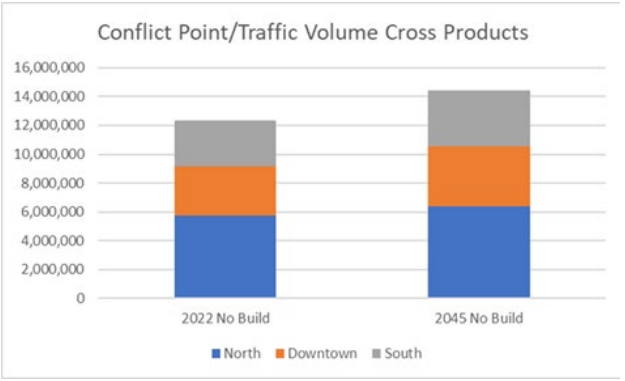
Transit level of service is expected to remain good due to the number of transit routes serving the area, with LOS B expected through 2045. Peak hour traffic congestion may result in some sporadic bus delays, however it is not expected these events will occur frequently enough to significantly impact transit level of service.

Roadway Safety

Roadway safety impacts from traffic growth were quantified by calculating a cross-product between traffic volumes and intersection conflict points at both public intersections and private driveways.

Based on this approach, crash exposure is expected to increase by around 17% if no roadway changes are made through 2045.

Figure 57: 2022 vs 2045 Study Crash Exposure



Summary of 2045 Traffic Conditions

Generally, traffic conditions in the study area are expected to remain acceptable through 2045. Beyond some additional peak hour vehicle congestion at some intersections, significant changes are not expected compared to existing conditions.

If no changes are made to the study area roadway network, the most noteworthy transportation issues are:

- Traffic increases will exacerbate already elevated crash rates in the study area (see Existing Conditions Report for detailed discussion about study area crash history).
- Some peak hour congestion at select intersections (especially in the downtown area and at the intersections with 13th Avenue S).
- Lack of good bicycle facilities south of 4th Avenue N.

2045 Traffic Conditions documented here will serve as the basis for comparison when evaluating potential roadway conversion options for the University Drive and 10th Street corridors.

Figure 58: 2045 Freight Level of Service

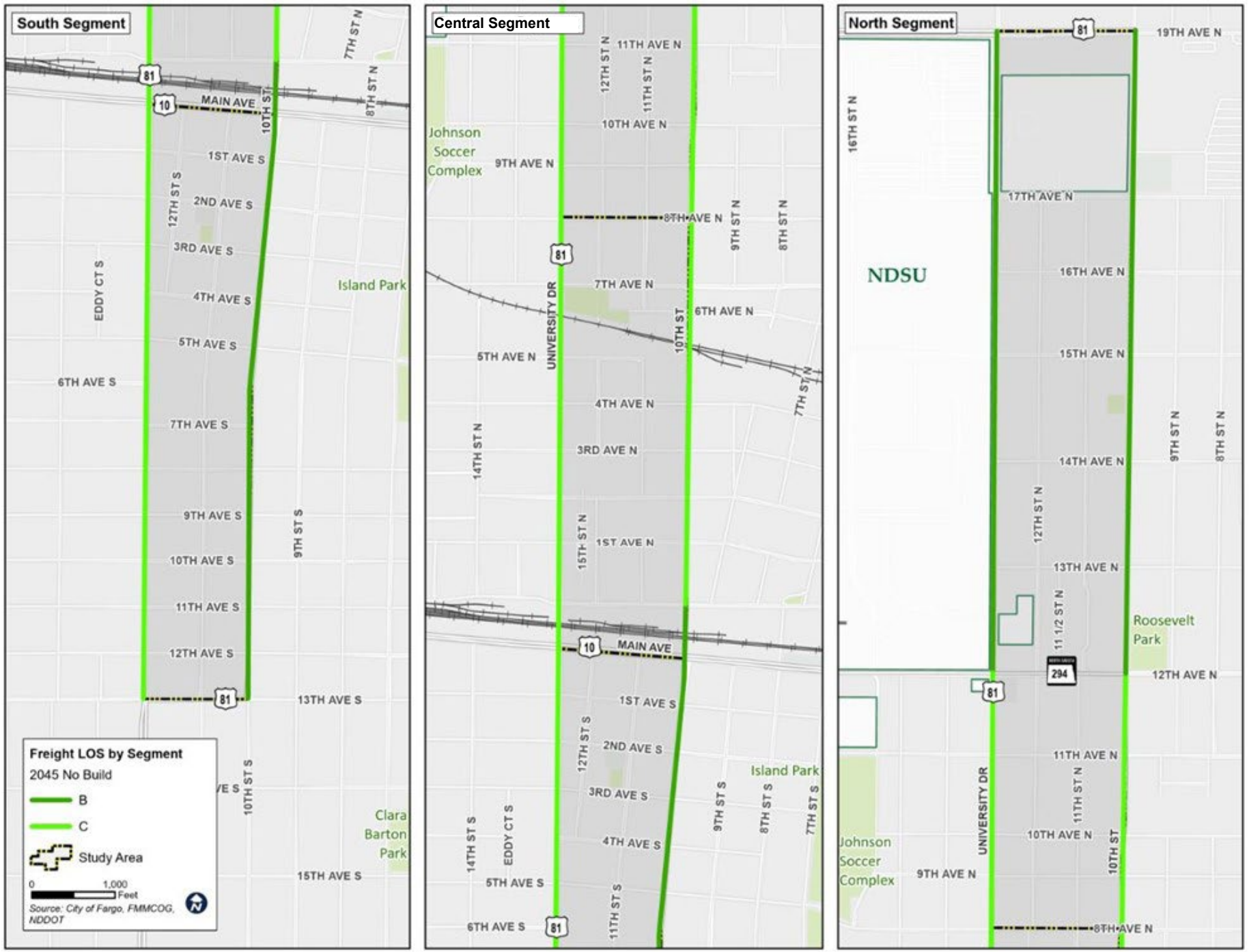


Figure 59: 2045 Pedestrian Level of Service

Figure 60: 2045 Bicycle Level of Service

Conversion Feasibility Assessment

Introduction

This *Conversion Feasibility Assessment* report has been prepared to document analysis related to expected transportation-related changes associated with the potential conversion to 2-way traffic operations on University Drive and 10th Street in Fargo.

Analysis Emphasis

Analysis completed for this report is intended to understand the viability of different conversion options on a broad level. This initial analysis is meant to identify conversion options that appear to be viable from a traffic flow and traffic safety perspective, and to discard non-viable alternatives.

At this stage, this analysis is not intended to answer specific questions related to spot-level improvements like pedestrian crossing improvements, precise connection points to the city bike network, bus stop locations/ configurations, or traffic control changes. Such considerations were factored in as part of subsequent phases of the University Drive and 10th Street Corridor Study and detailed in the Alternatives Development & Assessment section.

Travel Demand Under Two-Way Operations

A conversion to two-way operations on University Drive and 10th Street would have a major impact on route selection for drivers traveling to, from, or through the study area.

To estimate how traffic patterns would change, the Fargo-Moorhead regional travel demand model was utilized. More specific information related to the travel demand model and its inputs can be found in the previous section, Future Conditions Assessment.

The travel demand model was used to estimate average daily traffic volumes (ADT) under the following scenarios:

2045 No Build

Daily traffic volumes in the 2045 No Build scenario are shown **Figure 61**. More detailed discussion about this scenario is presented in the Future Conditions Assessment report.

2022 and 2045 Full Conversion

This assumes that both University Drive and 10th Street are converted to two-way operations between 19th Avenue N and 13th Avenue S.

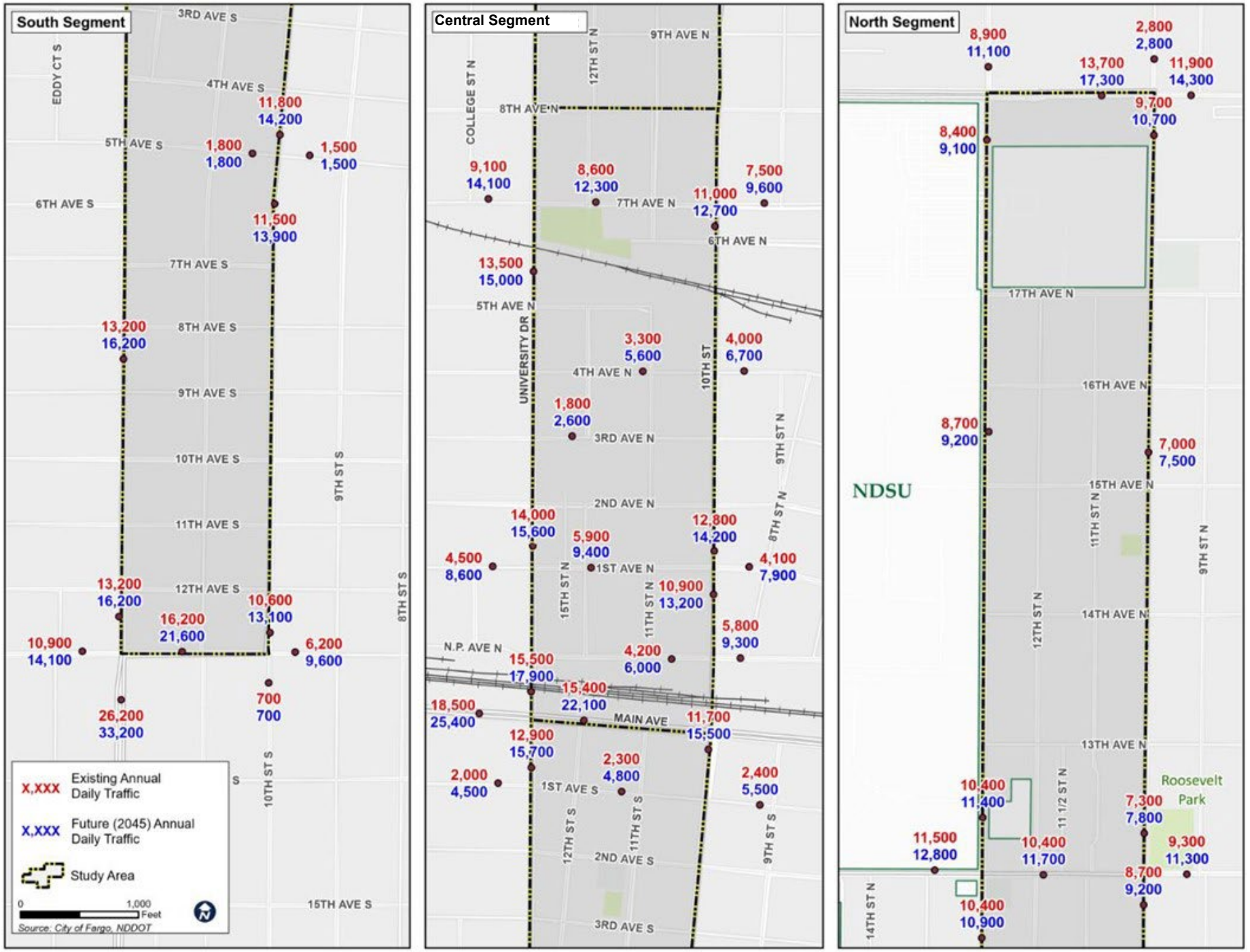
Travel demand modeling assumes a 3-lane section on each converted roadway throughout the study area (one through lane in each direction with a center left turn lane).

2022 and 2045 Partial Conversion

This assumes that University Drive and 10th Street are only converted to 2-way operations in the central area (between 4th Avenue N and 2nd Avenue S).

Travel demand modeling assumes a 3- lane section where operations are converted to 2-way traffic, with 2 northbound lanes and 1 southbound lane on 10th Street and 2 southbound lanes and 1 northbound lane on University Drive. The existing roadway configuration is assumed for the remainder of the study area.

Figure 61: 2045 No Build Scenario Average Daily Traffic



Conversion Options

Using estimated traffic conditions described above, the following 1-way to 2-way traffic conversion options were considered:

Minimum impact conversion (2-way traffic between 19th Avenue N and 13th Avenue S)

- Keeps improvements within existing roadway footprint.

Maximum benefit conversion (2-way traffic between 19th Avenue N and 13th Avenue S)

- Assumes some curblines will need to be moved for roadway expansion, especially north and south of downtown. Would have impacts on items (trees, utilities) immediately adjacent to the current curbline.

Central Area only conversion (2-way traffic between 4th Avenue N and 2nd Avenue S)

- Utilizes available roadway width downtown to accommodate 2-way traffic while maintaining 1-way traffic on narrower north and south parts of the corridors.

Key Conversion Considerations

There are several key factors to consider when converting from 1-way operations to 2-way operations.

Traffic Signal Changes

Major traffic signal revisions and additions will be required at all signalized intersections if 2-way operations are implemented. Signal heads will need to be provided for the second travel direction, and many locations will require protected phases that do not currently exist.

Intersection Sight Distance

Improvements will be needed to ensure clear sight lines on intersection corners if conflicts can come from two directions. Items that could block sight lines include trees/vegetation, light poles, and other utilities. See **Figure 62** for an example.

Transit Impacts

Buses can stop in a travel lane without completely blocking traffic due to another adjacent travel lane moving in the same direction. If 2-way operations are implemented on narrower segments where only 2 lanes can fit, stopped buses can block traffic without the addition of bus turnouts or similar facilities.

Driveway Access/Overlapping Left Turns

There are many access points along the study area corridors that cannot be reasonably relocated, especially residential access points. If 2-way traffic flow is implemented, there could be an increase in the number of overlapping left turning movements for accesses on opposite sides of the roadway. Overlapping left turns may pose safety hazards and should only be implemented in specific situations. In sections that do not include a third lane, opposing lane dividers or medians are not options due to a lack of space. See **Figure 63**.

Figure 63: Overlapping Left Turns

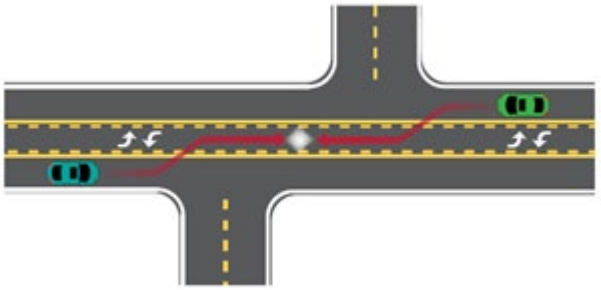


Figure 62: Intersection Sight Distance Issue

Evaluation Methodology

Roadway conversion options were evaluated based on numerous criteria to best understand positive and negative elements of each option. These criteria are:

- Vehicle-to-vehicle crash potential.
- Pedestrian exposure and crash survivability.
- Level of service for vehicles, pedestrians, cyclists, transit, and freight.
- Latent vehicle demand.
- Vehicle travel time.
- Impacts to transportation infrastructure, other utilities, and trees.
- Project costs and reinvestment potential.

Explanations of how all criteria were evaluated are provided in **Figure 64**.

Figure 64: Evaluation Methodology Details

ITEM AND ICON	METRIC EXPLANATION
Crash Potential	Crash potential calculated based on the volume inflation in the segment crossed with changes/increases in conflict points of the general segment and intersections
Survivability	Based on ITE diagram, survivability determined based on average speed throughout the day in that corridor
Exposure	Based on the length of pedestrian crossings and whether a pedestrian faces conflicts from one or two directions of moving traffic
Level of Service	• Vehicle – Based on delays experienced at study intersections • Ped – Function of pedestrian safety and comfort, based on sidewalk presence, degree of separation from moving traffic, number of traffic lanes, and amount of vehicle traffic • Bike – Function of bike safety and comfort, based on bike facility presence, pavement quality, number of travel lanes, and the amount of speed of adjacent vehicle traffic • Bus – Based on the number of hours of transit service, on-time performance likelihood, and the number of buses per hour • Freight – Based on travel time reliability on a normal day, which compares peak hour travel times to free-flow (off-peak) travel times
Latent Demand	The percentage of trips that would need to find an alternative path to get to their destination due to congestion.
Travel Demand	Based on simulated travel times during peak and off-peak periods. Event-day travel times were adjusted based on a comparison of event-day traffic to typical traffic
Impact	Traffic Signals: Number of signalized intersections that would require updates or replacements to accommodate conversion Utilities: Number of utility poles (power, lighting, etc.) that would need to be removed or relocated to accommodate new road layout Trees: Number of trees that would need to be removed or relocated to accommodate new road layout Widening: The width the footprint of the roadway would need to expand if roadway/corridor changes
Cost Impact and Reinvestment Potential	Cost Impact: Planning level cost estimates were developed for each alternative, considering both construction and engineering/administration costs. Where possible, it is assumed that changes are made through roadway striping revisions (Minimum Impact alternative and Downtown Only alternative) rather than roadway reconstruction (Maximum Benefits/Impacts alternative) Reinvestment: An estimate of how study area property values may change with roadway improvements. This is based on the likelihood of a parcel redeveloping, current property values relative to comparison sites, estimated property value impacts from changes in traffic delays, and research-supported data connecting public investments to private investments. Where applicable, transparent coins represent the difference compared to no-build option.

Note: Icons correspond to items presented on evaluation results provided for each conversion option.

Minimum Impact Conversion

The Minimum Impact Conversion converts University Drive and 10th Street to 2-way operations throughout the study area (19th Avenue N to 13th Avenue S), however minimizes impacts by keeping roadway widths how they are today.

Key features are:

- Between 19th Avenue N and 4th Avenue N: 1 through lane in each direction with no turn lanes.
- Between 4th Avenue N and 2nd Avenue S: 1 through lane in each direction with 2-way left turn lane.
- Between 2nd Avenue S and 13th Avenue S: 1 through lane in each direction with no turn lanes.

Figure 65 provides a summary of roadway features like lane configurations, typical roadway sections, utility locations, and generalized vehicle conflict point diagrams for access points.

Evaluation

Evaluation results for the Minimum Impact Conversion are provided in **Figure 66**.

Key takeaways for the Minimum Impact Conversion are:

- This is the poorest performing option for vehicle traffic. Vehicle levels of service are expected to be much lower after this conversion, with widespread LOS F during peak and off-peak traffic conditions. Operations are expected to be especially poor south of downtown where traffic is highest but turn lanes cannot fit within the existing roadway width.
- Peak hour vehicle travel times are expected to increase by around 10 minutes on the south segment alone, with further 5 minute increases expected on the downtown and north segments.
- Vehicle-to-vehicle crash potential is expected to increase because of the increased number of permitted movements at intersections/access points throughout the study area.
- 2-way traffic also increases pedestrian exposure since pedestrians now face two directions of moving traffic when crossing University Drive or 10th Street.
- This is the best performing conversion option related to pedestrian safety. Reduced vehicle levels of service are expected to have some benefit to pedestrians since reduced vehicle speeds associated with traffic congestion result in reduced likelihood of fatal crashes involving pedestrians. Note that two- way traffic does increase pedestrian exposure since pedestrians now face two directions of moving traffic when crossing University Drive or 10th Street.
- While curblines are not moved in this scenario, there will still be impacts to 23 traffic signals (to accommodate new traffic movements), to 58 trees, and to 27 light poles.
- The estimated project cost for this option is around $3.7 million. The value of redevelopment potential associated with this option is between $4.8 million and $8.3 million.

Figure 65: Minimum Impact Conversion - Characteristics

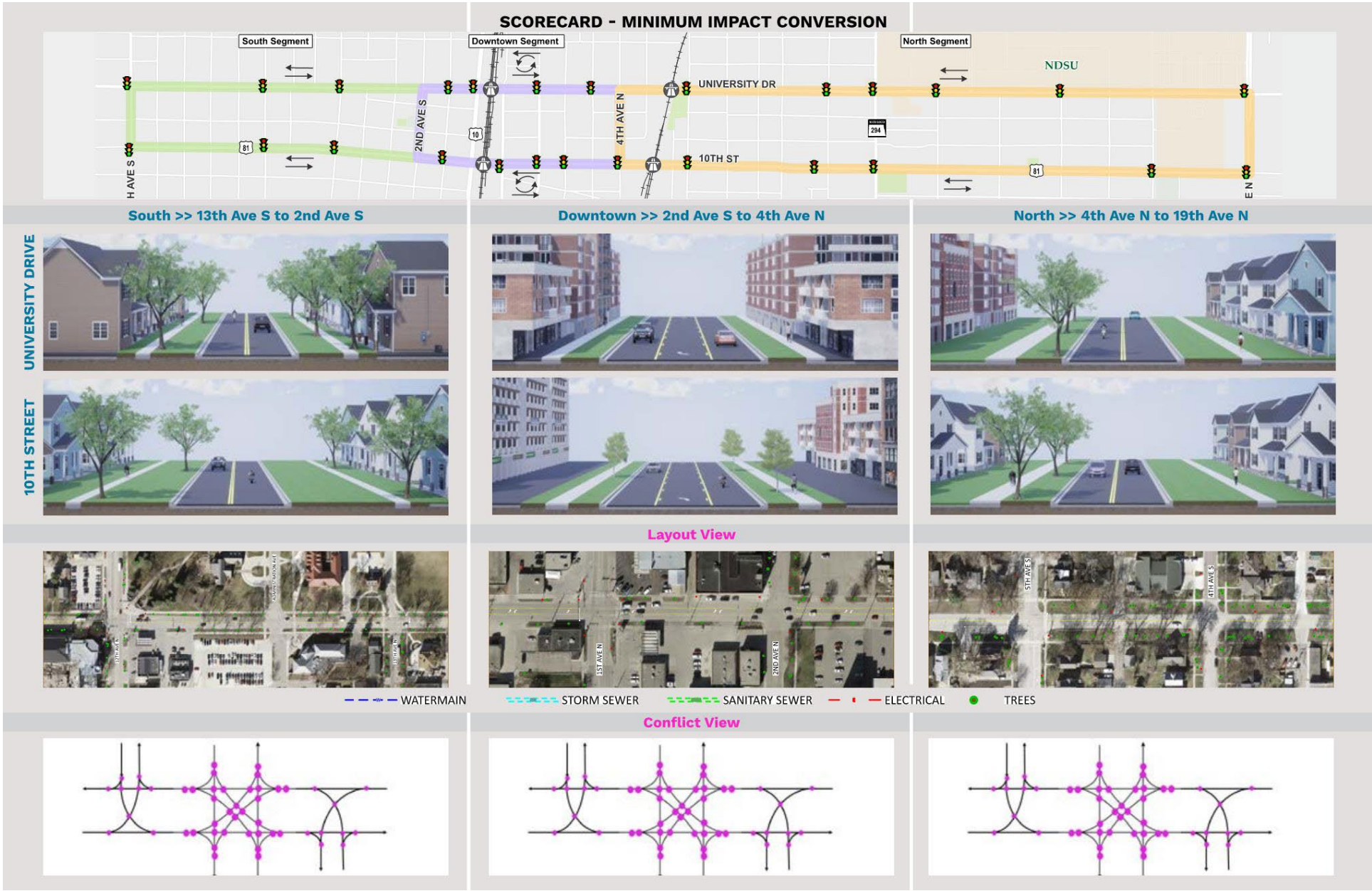
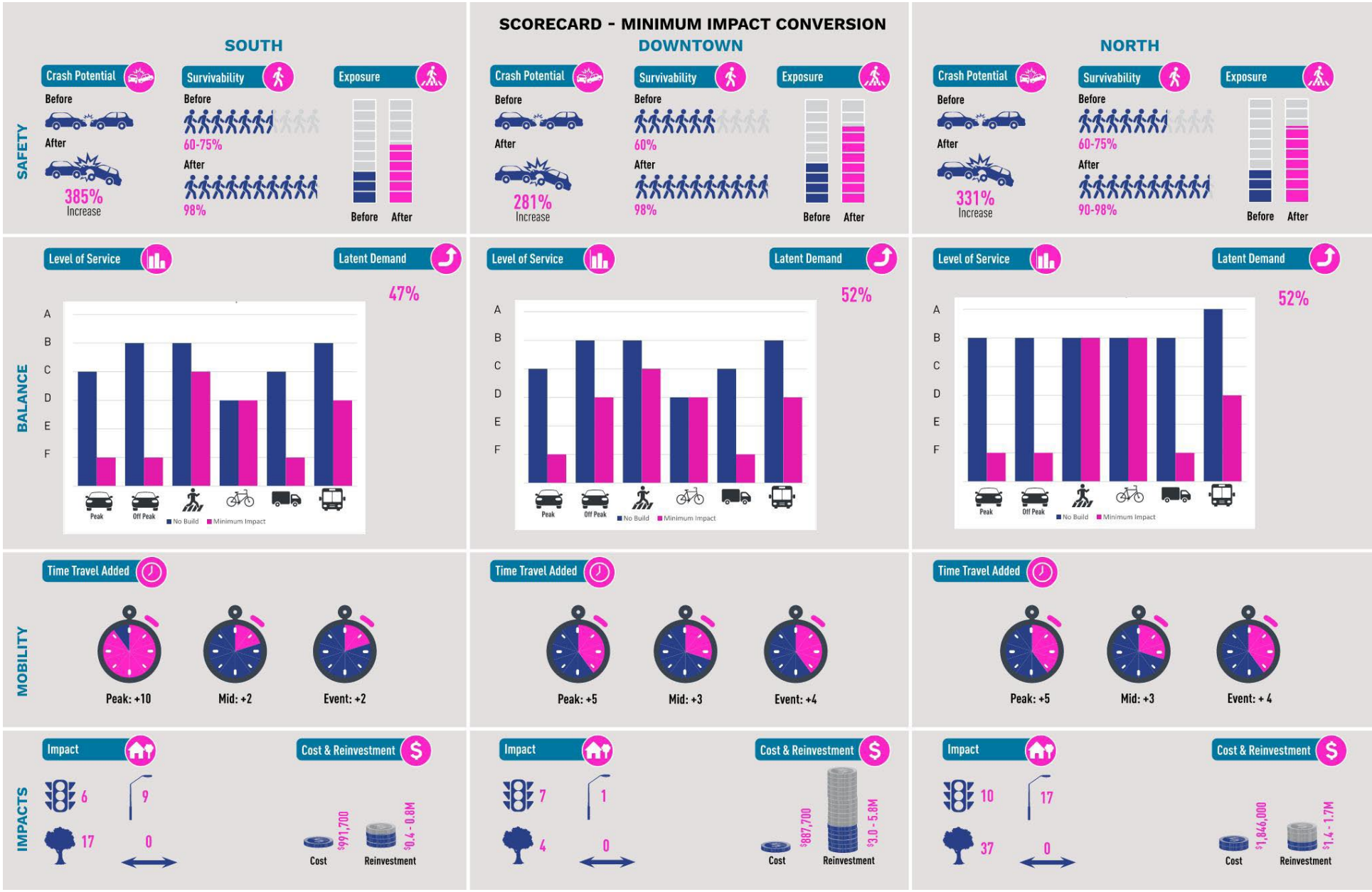


Figure 66: Minimum Impact Conversion - Evaluation



Maximum Benefit Conversion

The key difference between this option and the Minimum Impact Conversion option is that the Maximum Benefit option moves curblines on the north and south segments to accommodate a 2-way left turn lane throughout the study area.

Figure 67 provides a summary of roadway features like lane configurations, typical roadway sections, utility locations, and generalized vehicle conflict point diagrams for access points.

Evaluation

Evaluation results for the Maximum Benefit Conversion are provided in **Figure 68**.

Key takeaways for the Maximum Benefit Conversion are:

- Vehicle traffic is expected to experience poor operations at LOS F during peak periods, however performance is better in off-peak periods when compared to the Minimum Impact conversion. Off-peak vehicle level of service is expected to be LOS C/D.
- Travel time increases are lower than in the Minimum Impact Conversion, however impacts are still expected. South segment peak hour travel times are expected to increase by around 4 minutes, and downtown peak hour travel times are expected to increase by around 3 minutes. Travel time impacts are less noticeable north of downtown.
- Vehicle-to-vehicle crash potential is expected to increase because of the increased number of permitted movements at intersections/access points throughout the study area. Based on the crash potential methodology used for this analysis, crash potential impacts are expected to be similar to the Minimum Impact Conversion, however the added 2-way left turn lanes on the north and south approaches will mitigate some rear-end crash potential by providing some storage space for left-turning vehicles.
- Two-way traffic also increases pedestrian exposure since pedestrians now face 2 directions of moving traffic when crossing University Drive or 10th Street.
- Reduced vehicle levels of service are expected to have some benefit to pedestrians since reduced vehicle speeds associated with traffic congestion result in reduced likelihood of fatal crashes involving pedestrians. Benefits are slightly lower on the south segment when compared to the Minimum Impact option, however pedestrian crash survivability is still expected to be above 90%.
- This conversion option has the greatest amount of impacts and associated costs due to the widening of the roadway on the north and south segments. The 5 feet of roadway expansion required on the north and south segments results in impacts to 125 trees (130% more than the Minimum Impact conversion) and 159 light poles (174% more than Minimum Impact conversion). 23 traffic signals would also need to be revised to accommodate new traffic movements. Underground utilities, as shown in **Figure 67**, would also be impacted.
- This option has the highest estimated project cost at $16.7 million. Reinvestment potential associated with this option is valued at $7.9 million to $13.4 million.

Figure 67: Maximum Benefit Conversion - Characteristics

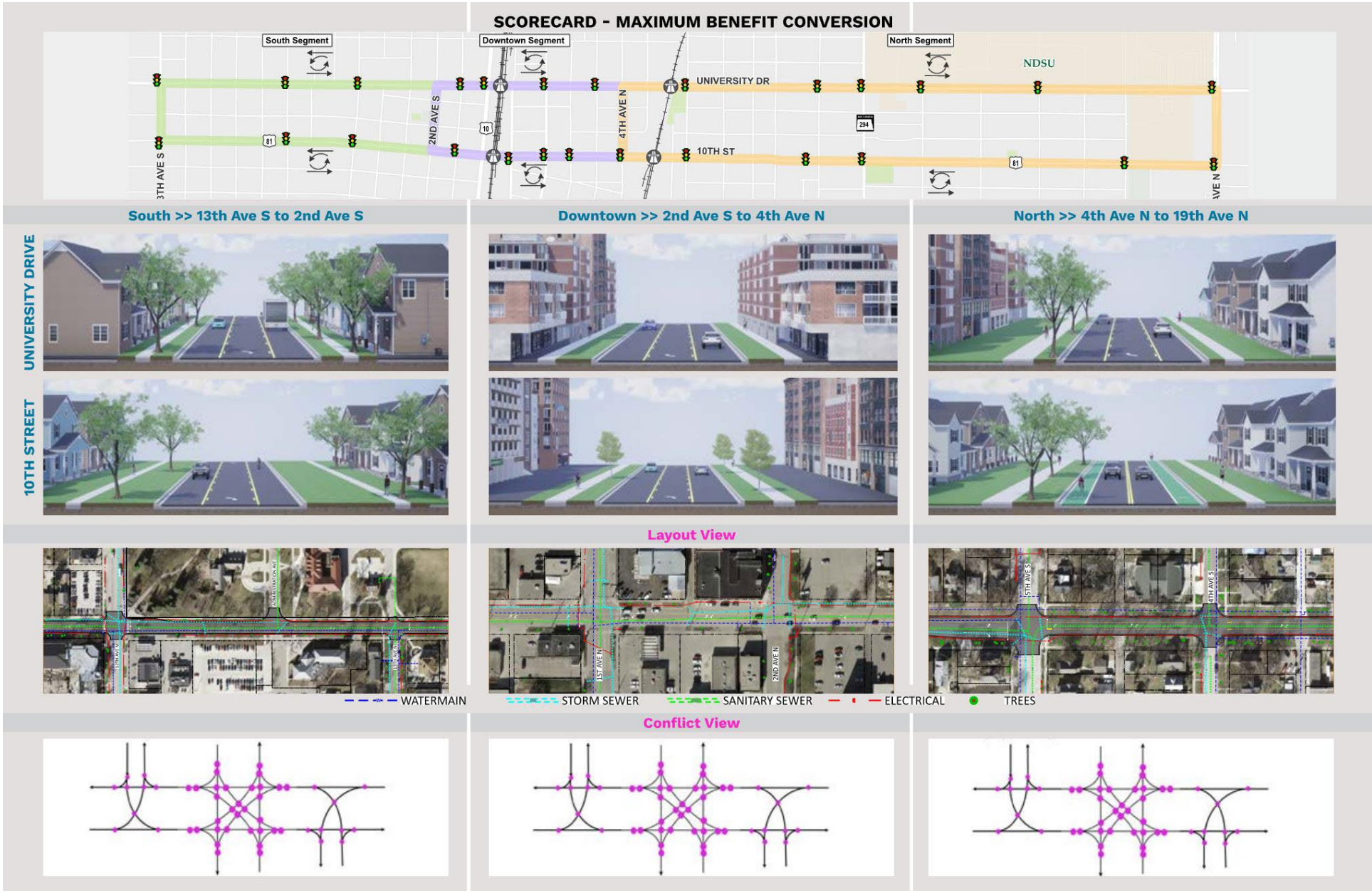
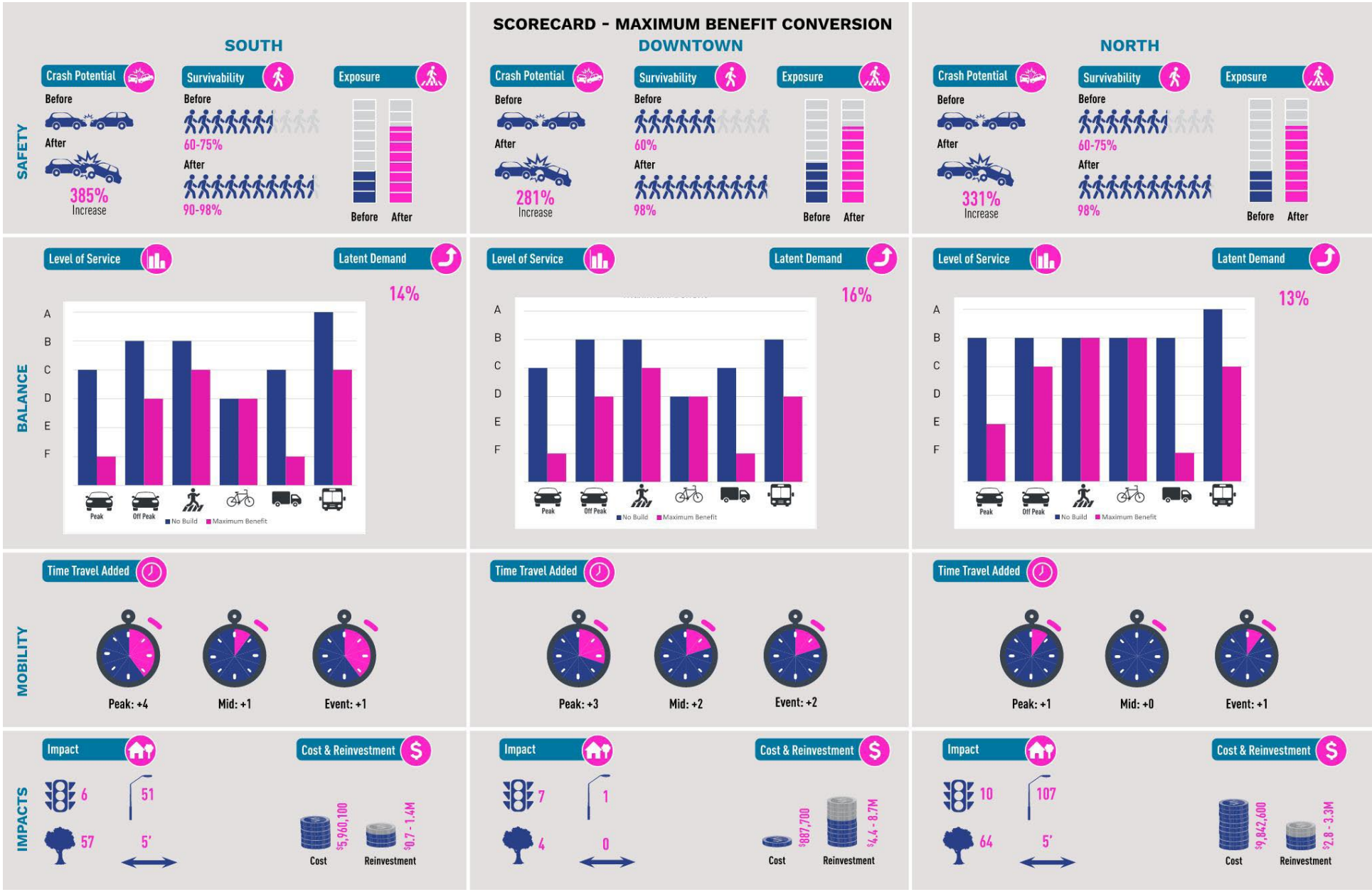


Figure 68: Maximum Benefit Conversion - Evaluation



Central Area Only Conversion

The Central Area Only conversion leverages the available roadway space downtown while maintaining existing operations on the north and south segments where widening is challenging and traffic demands exceed the capacity of a 2-lane roadway section.

This option converts traffic to 2-way operations between 4th Avenue N and 2nd Avenue S by having one through lane in each direction and a 2-way left turn lanes.

Figure 69 provides a summary of roadway features like lane configurations, typical roadway sections, utility locations, and generalized vehicle conflict point diagrams for access points.

Evaluation

Evaluation results for the Central Area Only Conversion are provided in **Figure 70**. Key takeaways for the Downtown Only Conversion are:

- This option provides the best vehicle operations of all conversion options. Peak hour LOS F is still expected in the downtown area, however LOS C is expected elsewhere during peak periods and LOS C or better is expected through the entire study area during off-peak periods.
- Modest travel time increases are expected downtown (around 2 additional minutes in the peak hour), but increases are lower in the Central Only Conversion compared to the other conversion options.
- Vehicle-to-vehicle crash potential is expected to increase in the downtown area because of the increased number of permitted movements at intersections/ access points, however the continuation of 1-way operations on the north and south segments results in reduced crash potential on these segments compared to the full 2-way operations conversion options.
- 2-way traffic also increases pedestrian exposure in the downtown area since pedestrians now face two directions of moving traffic when crossing University Drive or 10th Street. Pedestrian exposure is lower on the north and south segments where 1-way operations are maintained.
- Reduced downtown vehicle levels of service are expected to have some benefit to pedestrians since reduced vehicle speeds associated with traffic congestion result in reduced likelihood of fatal crashes involving pedestrians. No benefits are expected on the north and south segments where one-way operations are maintained.
- This conversion option has the lowest amount of impacts to infrastructure, trees, or utilities. 7 traffic signals, 4 trees, and 1 light pole would be impacted in the downtown area, with no impacts on the north and south segments. Underground utilities, as shown in **Figure 69**, may also be impacted.
- This option has the lowest estimated project cost at $900,000. This however also has the highest estimated redevelopment value at $12.1 million to $21 million.

Figure 69: Downtown Only Conversion - Characteristics

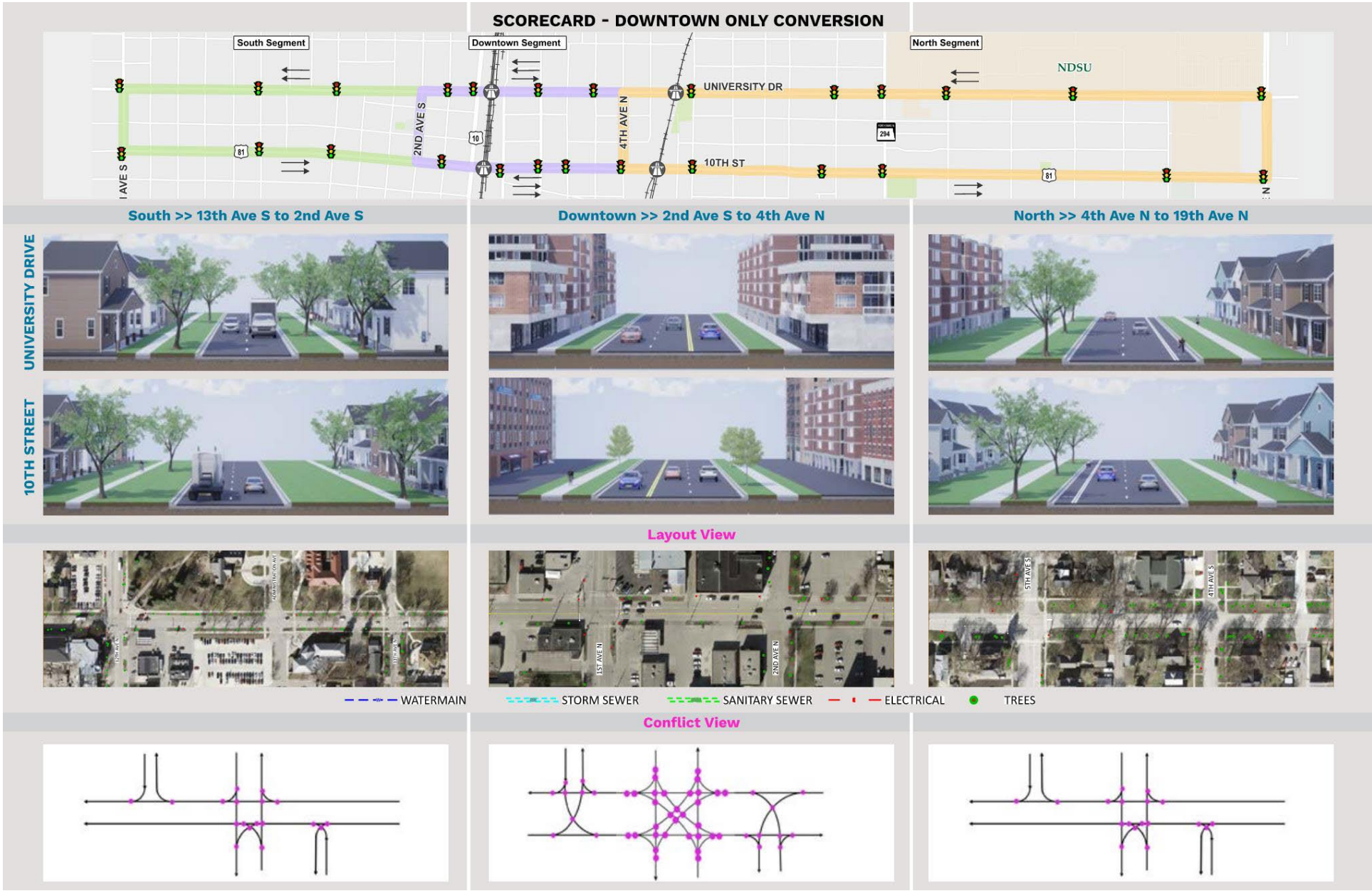


Figure 70: Downtown Only Conversion - Evaluation

Relevant Local Examples

During initial phases of the project, University Drive and 10th Street was heavily compared to the 1-way pair conversion on NP and 1st Avenues. However, as **Table 9** shows, these are very different corridors that carry different amounts of traffic, provides connectivity for different distances, and has different right-of-way needs.

North-South Connectivity

Throughout the analysis and engagement, the project team continually heard and saw the only viable north-south route west of the river is University Drive and 10th Street. The closest alternative is I-29 which is several miles west and does not connect to destinations like the University Drive and 10th corridors. This is due to railroad lines, the river, and Interstate 94. Several arterials end at the railroad tracks with most collectors stopped at the railroad tracks, Interstate, or river.

In contrast, Main Avenue through downtown has several alternative routes nearby to reroute traffic that are functionally classified as such and makes sense from a driver's perspective. These end points are displayed in **Figure 71**. The traffic models showed that a road diet for Main Avenue wouldn't be effective, but post-construction operates well due to multiple parallel routes with excess capacity. Unlike Main Avenue, University Drive and 10th Street lack alternative north-south routes through downtown, with I-29 being several miles west and unsuitable for this purpose with its lack of connections to the neighborhoods, downtown, and the University.

Table 9: Local Example Comparison

Criteria	NP / 1st Avenue	University / 10th Street
Peak Traffic Volumes	9,605	27,300
Length	1 Mile	3 Miles
Land Use	Downtown / Fringe	NDSU/ FARGODOME, Downtown, Core Neighborhoods
Maximum Roadway Width	50 Feet	30 Feet

Image 71: Alternative Route Feasibility

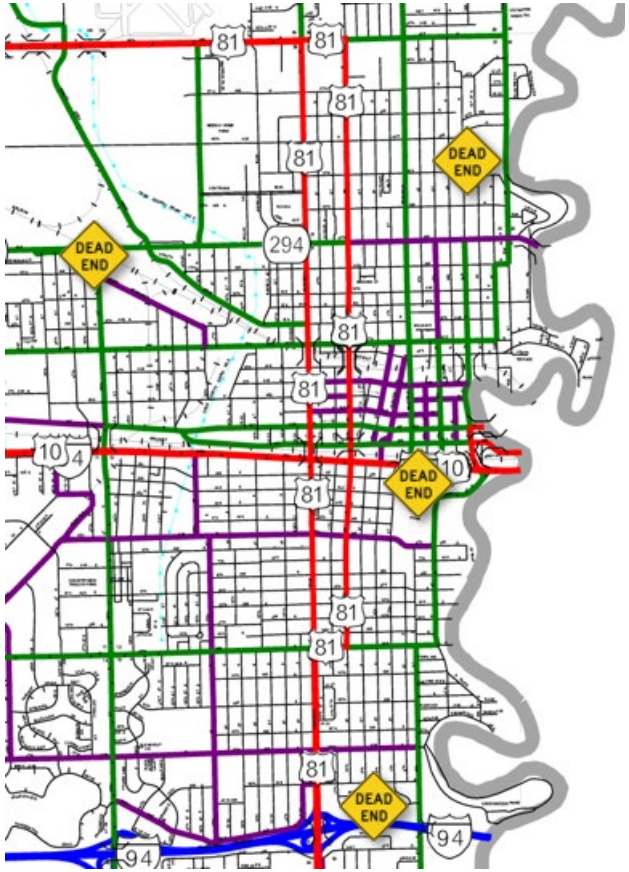
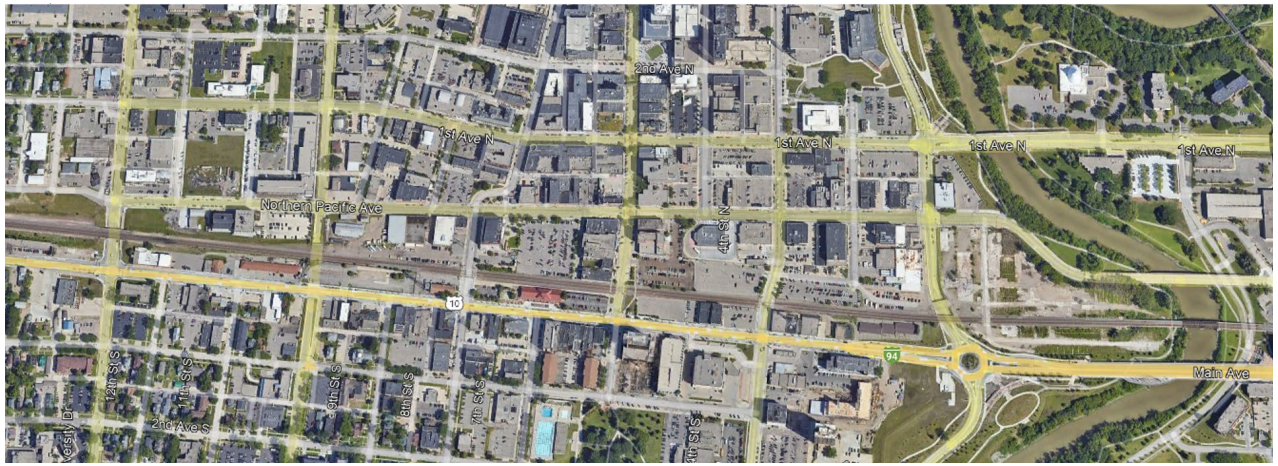


Image 72: Main Avenue Alternative Routes



Summary of Conversion Analysis

Analysis found that converting to 2-way operations is expected to have the following outcomes:

- No conversion options that were considered are expected to improve level of service for any travel mode.
- Vehicle level of service and travel times are expected to be most negatively impacted by conversion to 2-way operations.
- A Downtown Only conversion would minimize vehicle delays with two-way traffic flow, however peak hour LOS F is still expected.
- All conversion options increase vehicle-to-vehicle crash potential.
- Traffic speed reductions associated with two-way traffic flow have safety benefits for pedestrians and cyclists, however 2-way operations introduce more potential conflict points between vehicles and bike/ped traffic.

Figure 73 shows a comparison of all alternative impacts.

Engagement Considerations

Comments received by the project team early on were opposed to the potential conversion due to the connectivity University Drive and 10th Street provides for the City.

Those that lived directly along the corridor were most concerned about keeping street trees and the aesthetics of the corridor in place. While those that were interested in the conversion were most interested in making the corridor quieter, slower, and more multimodal friendly for their neighborhoods.

The corridor-wide conversion did not meet these priorities in numerous ways:

- Without widening the corridor, University Drive and 10th Street experience gridlock, increasing travel times by 8 to 20 minutes. This would create worse conditions for those that use the corridor as a connection to Downtown, NDSU, and nearby neighborhoods.
- Under the no widening scenario, as much as 50% of traffic would need to find alternative routes through local neighborhood streets which would increase noise and congestion in those areas.
- With widening, the corridor would impact 125 trees, 175 signal/light poles, and be too costly for implementation. This contrasts the preferences of those living along the corridor.
- For those in favor of the conversion to quiet the corridor and improve multimodal facilities, the widening concept would increase road crossing lengths, and under either scenario, the conflict potential between vehicles and non-motorized users increased. However, vehicle speeds would significantly decrease, lessening the likelihood of serious and fatal crashes.
- Under none of the conversion scenarios did biking become more viable or transit become more efficient. In some cases, conditions became less favorable for those modes.

Figure 73: Alternatives Comparison Impacts Summary

IMPACTS						
		SAFETY	MODAL BALANCE	EFFICIENCY	IMPACTS AND COSTS	KEY TAKEAWAYS
	Do Nothing					Functions well aside from safety
NORTH	Minimum Impact Conversion					Worse in all regards when compared to No Build
	Maximum Benefit Conversion					Worse in all regards when compared to No Build
DOWNTOWN	Minimum Impact Conversion					Worse in all regards when compared to No Build
	Maximum Benefit Conversion					Worse in all regards when compared to No Build
	Downtown Only Conversion					Advantage of slower speeds in high crossing areas Less circuitous routing for traffic and emergency vehicles Disadvantage of increased conflicts and failing peak hours of traffic operations
SOUTH	Minimum Impact Conversion					Worse in all regards when compared to No Build
	Maximum Benefit Conversion					Worse in all regards when compared to No Build

Conversion Feasibility Engagement

Engagement Focus

Following the evaluative phase, the project progressed to traffic modeling, a critical step in assessing the current state of the corridor and comparing it with potential alteration scenarios. These scenarios included a "do nothing" approach, conversion without widening, conversion with widening, and the identification of a downtown-only conversion scenario. This evaluation considered metrics such as safety, modal balance, efficiency, costs, and other impacts.

The key takeaway from this analysis was the recognition that while there is no perfect solution, the downtown-only conversion scenario showed potential in enhancing circulation and accessibility for all modes, addressing high pedestrian activity, and potential crashes in the downtown segment. Crucially, this scenario aimed to achieve these goals without significant roadway widening, potentially reducing implementation costs.

To communicate the process and gather valuable input from the community, a public input session was scheduled for October 12th, 2022. This session offered an opportunity for the public to engage with comprehensive findings and proposed solutions for the University Drive and 10th Street corridors. During the session, synthesized information was presented, including corridor-wide concepts, traffic modeling results, and the conversion scenarios.

Communication Outlets: Who Heard about the Open House

The promotion strategy for the October 12th, 2022 public input session was executed with precision, utilizing both digital and printed channels to create a far-reaching and inclusive outreach. This strategy was instrumental in ensuring this phase the project's visibility across diverse audience segments, leveraging various platforms for maximum impact.

Key Highlights:

- Fargo Forum Advertisements: Utilizing the Fargo Forum helped to reach a broad audience, effectively informing residents and stakeholders about the event.
- City Hosted Social Media Event: Capitalized on a strong social media presence, with 20,000 followers, to generate excitement and encourage community participation through interactive engagement.

Image 74: Social Media Communication Post

- Email Campaign: Implemented a targeted email campaign, reaching out to 240 subscribed to stakeholders, ensuring a high level of personalization and minimal bounce-backs.

The comprehensive approach, which included traditional print media, dynamic social media channels, and direct email outreach to previously engaged community members, was crucial in enhancing community awareness and engagement. The inclusion of direct emails to those already engaged offered a personalized touch, reinforcing the community's connection to the project. This multi-faceted strategy exemplifies effective use of diverse communication platforms to engage a wide audience in important community events.

Open House Summary

The open house featured a dynamic approach to engaging attendees, initially focusing on discussions around a series of informative boards. These boards visually detailed various aspects of the project, offering insights into the proposed changes and setting the stage for further dialogue.

The public input session featured 6 comprehensive boards, each detailing various aspects of the project's assessment and potential conversion scenarios. 4 of these boards were dedicated to showcasing distinct scenarios: the first illustrating the implications of no change, another focusing on a Downtown-only conversion, a third depicting the scenario with maximum benefit (full conversion), and a fourth highlighting the minimum impact conversion. These boards served as focal points for discussion, clearly illustrating the potential outcomes and implications of each scenario.

Additionally, a legend board was prominently displayed, explaining all the metrics measured during the project. This board played a crucial role in helping attendees understand the criteria and data driving the project decisions.

The final board provided an overarching view of the project. It was designed to give an overview and direct attendees to the project website. This online resource offered further information, including a detailed project video, and provided an opportunity for visitors to subscribe for more updates. The strategic use of these boards effectively communicated the complexities and nuances of the project, facilitating informed discussions and enhanced community engagement.

Following the board discussions, a presentation was given, shedding light on the key findings and the reasoning behind the conclusions at each project stage. This presentation complemented the information on the boards, providing a deeper understanding of the project's nuances. The event culminated in a structured Q&A session, allowing for direct and meaningful interaction between the project team and the attendees, thereby fostering a collaborative and informative atmosphere. This sequence of board discussions, presentation, and Q&A effectively facilitated comprehensive communication and engagement with the community.

Engagement Summary

The diverse range of public opinions, concerns, and suggestions regarding the project were thoroughly explored, highlighting major themes and specific viewpoints expressed by community members. These discussions covered a spectrum of topics including future planning, the preference for minimal alterations versus full corridor reconstruction

Image 75: Fargo City Commission Meeting

to accommodate 2-way traffic flow, and the integration of multi-modal transportation. Moreover, a detailed compilation of individual comments and questions raised during the public engagement process are presented.

Major Themes or Topics of Interest/ Concern Raise by Participants

- A noticeable inclination towards minimal changes with some enhancements.
- Discussion about incorporating various modes of transport like bus, bike lanes, and pedestrian paths.
- Requests for more pedestrian-friendly measures on 13th Avenue S, like traffic calming measures and protected bike lanes.
- Concerns about the impact of proposed changes on large vehicle movement, property values, and tree conservation.
- Emphasis on maintaining current corridor configurations to avoid increased commute times and negative impacts on property values, with a focus on addressing safety and speed issues through alternative measures.

Questions/Comments from the Q&A Period

- Queries about snow removal, the functionality of a combined bus/bike lane, and emergency travel scenarios.
- Questions regarding communication on safety standards and the use of pedestrian hybrid beacons.
- Funding inquiries, including the potential for special assessments.
- Inquiries about stakeholder engagement and the potential impact on neighborhood connectivity.

- Discussions about long-term planning beyond the immediate corridor and comparisons with similar community projects.
- Questions about traffic flow and lane widths specific to North Dakota/Fargo.
- Questions about widening University Drive to carry future traffic growth.

Key Observations and Insights

The analytical overview of insights and observations garnered from the public engagement activities summarized the notable preferences expressed by participants. It highlighted their support for minimal changes with enhancements, and their thoughts on various project aspects. Additionally, it shed light on unique perspectives and innovative suggestions that emerged during the discussions, offering a deeper understanding of the community's stance on the project.

Insights Gained from Discussions and Interactions

- **Preference for Do-Nothing Option with Enhancements**: A general consensus supporting minimal changes with specific pedestrian enhancements.
- **Desire to Preserve Natural Elements**: Strong opposition to road widening that would result in tree loss.
- **Downtown-Only Support**: Recognition of the distinct needs and functions of different sections of the corridor.
- **Positive Feedback on Engagement**: Appreciation for the opportunity to provide input and learn about the project.
- **Tax and Assessment Concerns**: A common desire for safety and functional improvements without increased taxes or special assessments.
- **Reframing the Do-Nothing Option**: This suggestion to label the "do-nothing" concept as "minimal enhancements" to better reflect the nature of proposed changes and influence public perception.

City Commissioner Meetings

City Commissioners were provided with several briefings to ensure they were fully informed of the public feedback received to date, thereby enabling a comprehensive understanding of the upcoming presentation. These briefings were conducted at the recommendation of City staff. As no vote was taken during these sessions, their purpose was strictly informational and did not constitute consensus-building ahead of any formal decision-making process.

The presentation summarized, in detail, the public feedback to date as well as the technical findings related to two-way conversion of the corridors. The suggestion from City staff and the team was to remove the 2-way conversion alternatives on the North and South Segments but looked to maintain the Downtown only alternative to be carried into the next phase of the alternative analysis. The City Commission concurred with the suggestion and approved advancing to the next phase of the study in that manner. With the determination of carrying the downtown only alternative into the next phase, it was decided to ensure clarity for communication that the "Central Area" would henceforth be referred to as the "Downtown Area" for the next phase and on. Minutes can be found in Appendix A.

Image 76: Informative Boards on Display at the Open House

Image 77: Public Engagement Open House Boards and Attendees

Alternatives Development & Assessment

Process

To develop project alternatives, in-person engagement and technical analysis were combined to form options that would meet the most needs while limiting potential pitfalls.

The **Existing and Future Conditions Assessment** analyzed what is happening on the corridor today and predicted what it could look like in the future given population change, land use, and modal split.

Corridor Visioning and Listening Sessions focused on community engagement and receiving input from the public. Numerous events were held to gain input from a wide range of residents. Events included in-person and virtual options as well as meetings with the City of Fargo Commissioners.

The **Conversion Feasibility Analysis** was completed to analyze expected transportation-related changes associated with the potential 2-way conversion. Only 1 alternative, the downtown-only conversion, was carried forward from this phase.

Six alternatives were developed that were intended to resolve a myriad of spot and corridor-wide issues and opportunities. The alternatives included:

- Downtown Reconfiguration Options
- Crossing Safety Improvements
- Bicycle Connectivity Enhancements
- Traffic Calming
- Crash History Considerations
- Event Management

The University Drive and 10th Street Corridor Study is different from other corridor studies in that most other studies have multiple "full-build" alternatives that presents different options that are either all or nothing. The study is a combination of solutions that provides alternatives for the corridor segments and/or smaller-scale needs that may not be present throughout the corridor.

Downtown Reconfiguration

Background

The purpose of the downtown improvement, based on direction received from the Study Review Committee was to enhance multimodal comfort and safety for this segment of the corridor, while meeting the needs of the commuters and downtown businesses. Downtown presents a unique opportunity as it is the only portion of the study area with 3 lanes of roadway along both University Drive and 10th Street. The Downtown area also has the most redevelopment potential, especially along University Drive. This area has very high numbers of pedestrian and bicycle crossings, a lack of alternative bicycle routes, and high crash rates. Given that, this segment has the highest amount of signalized crossings.

Alternatives

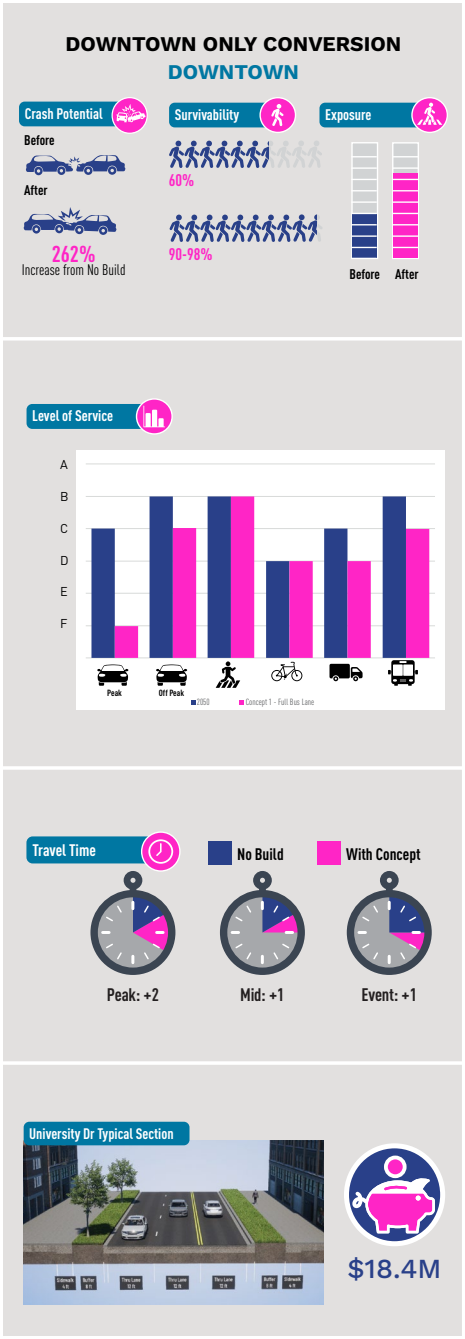
The following Alternatives were analyzed:

- Do Nothing
- Downtown Only Conversion (**Figure 78**)
- Shared-Use Path and Bus Turnouts (**Figure 79**)
- Raised 2-Way Cycle Track (**Figure 80**)
- Raised 1-Way Cycle Track (**Figure 81**)

The Alternatives are presented here in the same format as they were presented in public meetings and with officials. This format allowed for a lot of information to be displayed at one time in a digestible manner.

For engagement with the public and analysis purposes, the alternative with 1-way bike facilities was combined with the 2-way bike facilities. Benefits of 1-way bicycle facilities include easier transitions in the railroad underpasses and more space for streetscaping, while benefits of 2-way bicycle facilities include access to both corridors without out of the way travel and designing for what would otherwise be "wrong way" riders. Both alternatives can be incorporated into later phases of project development if deemed valuable.

Figure 78: Downtown Only Conversion Layout and Scorecard



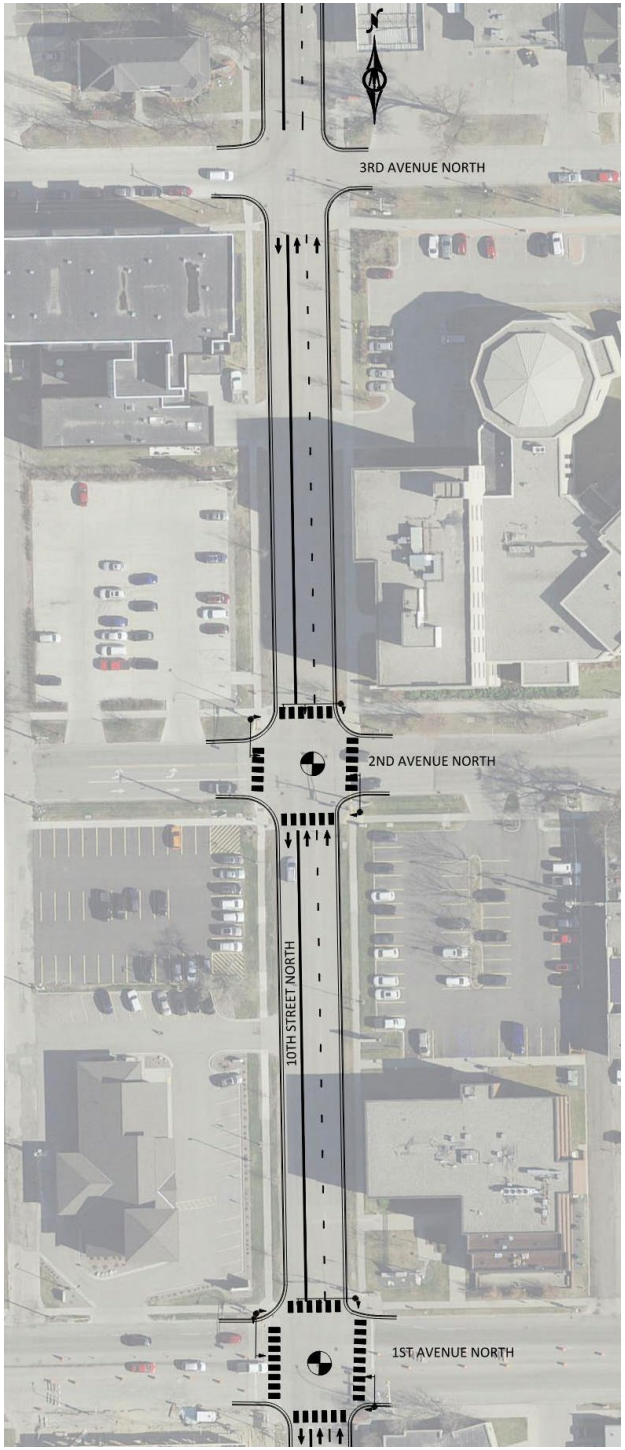
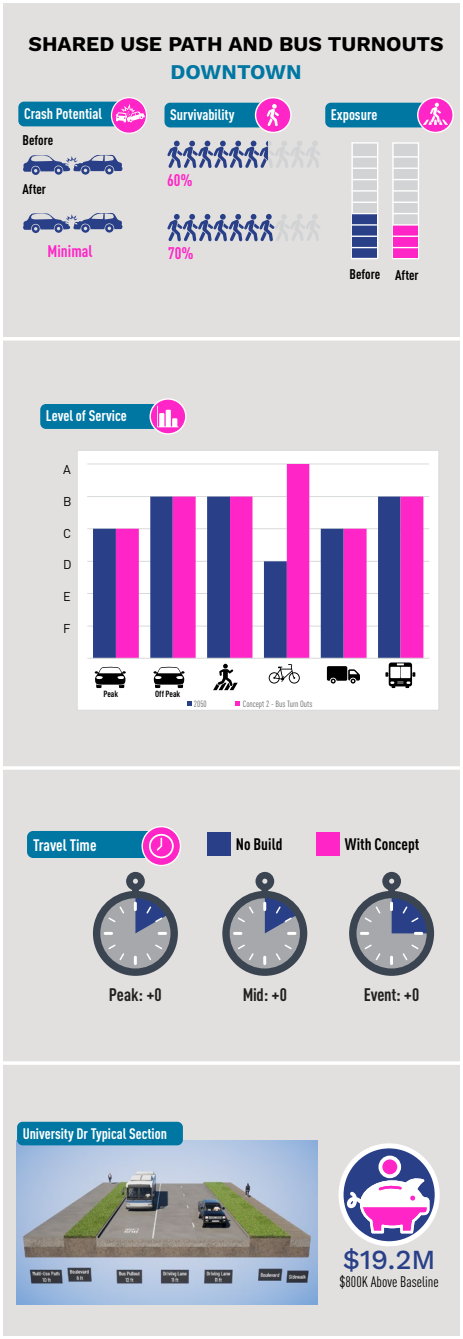
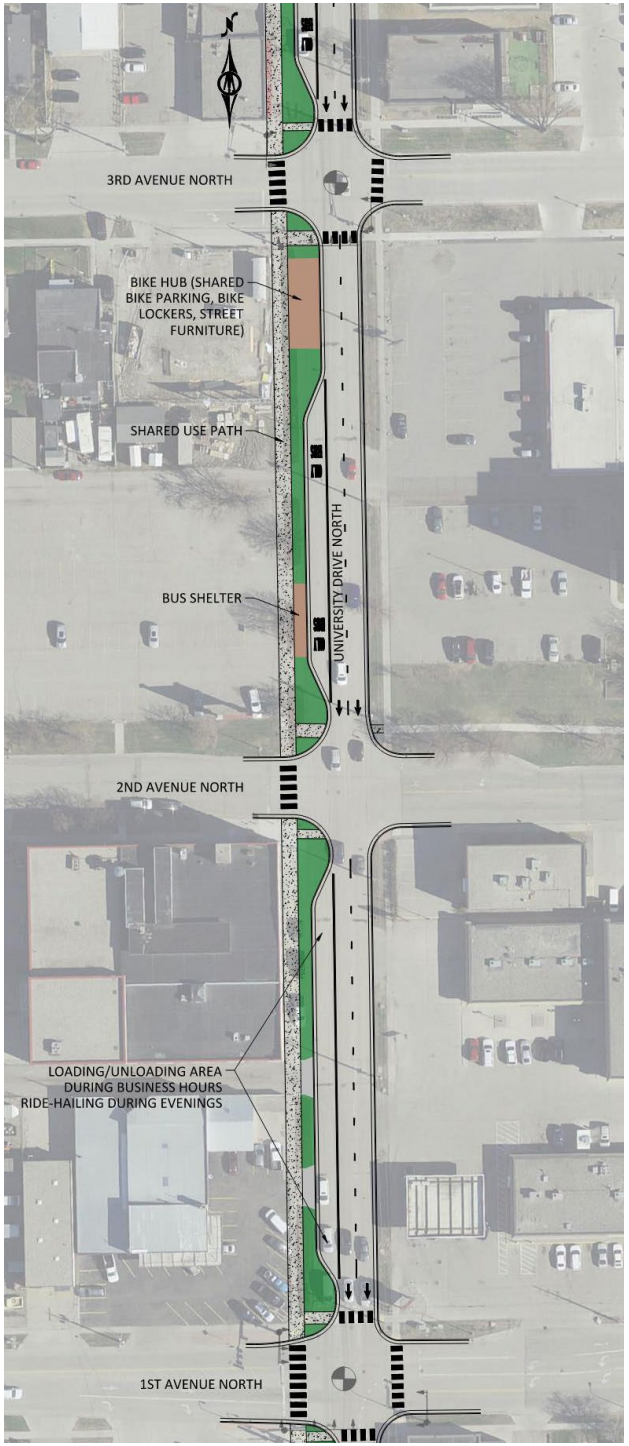


Figure 79: Shared-Use Path and Bus Turnouts Layout and Scorecard





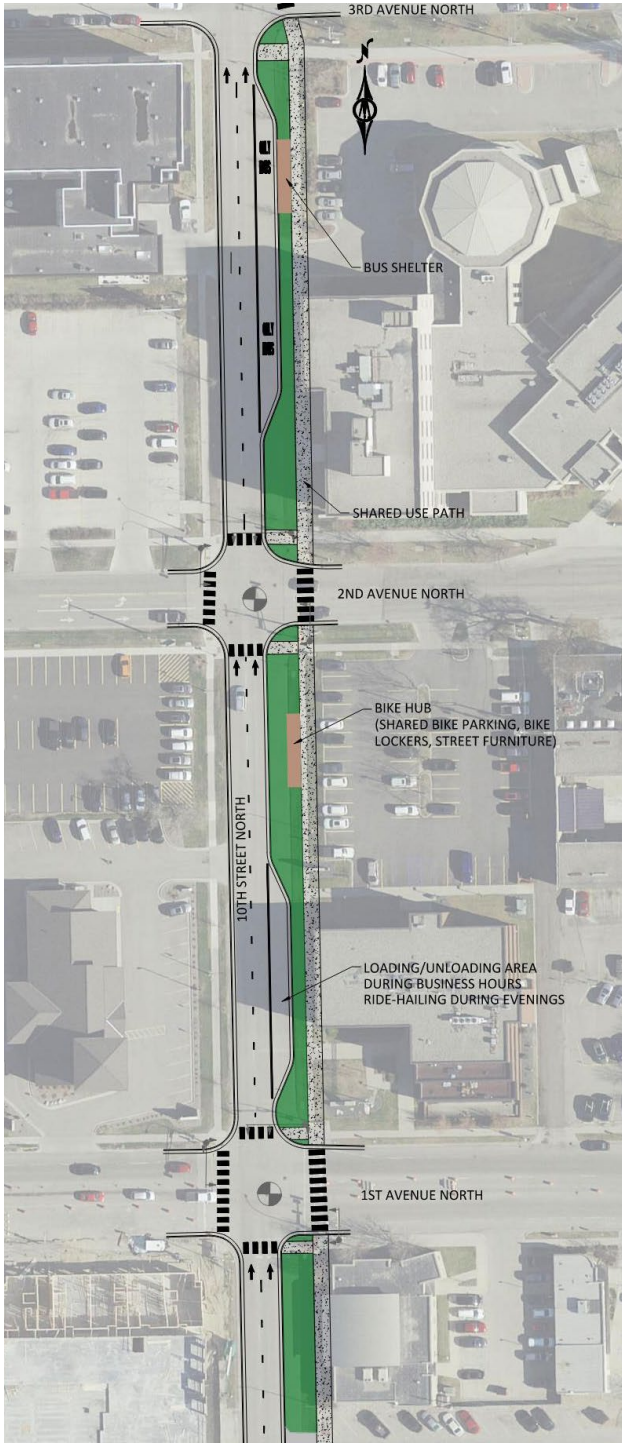
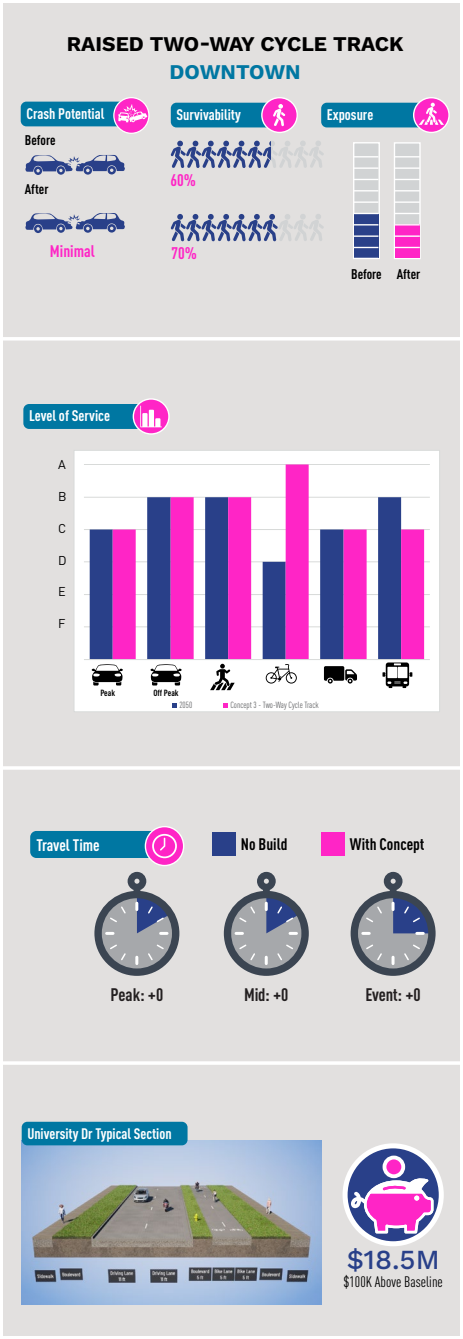
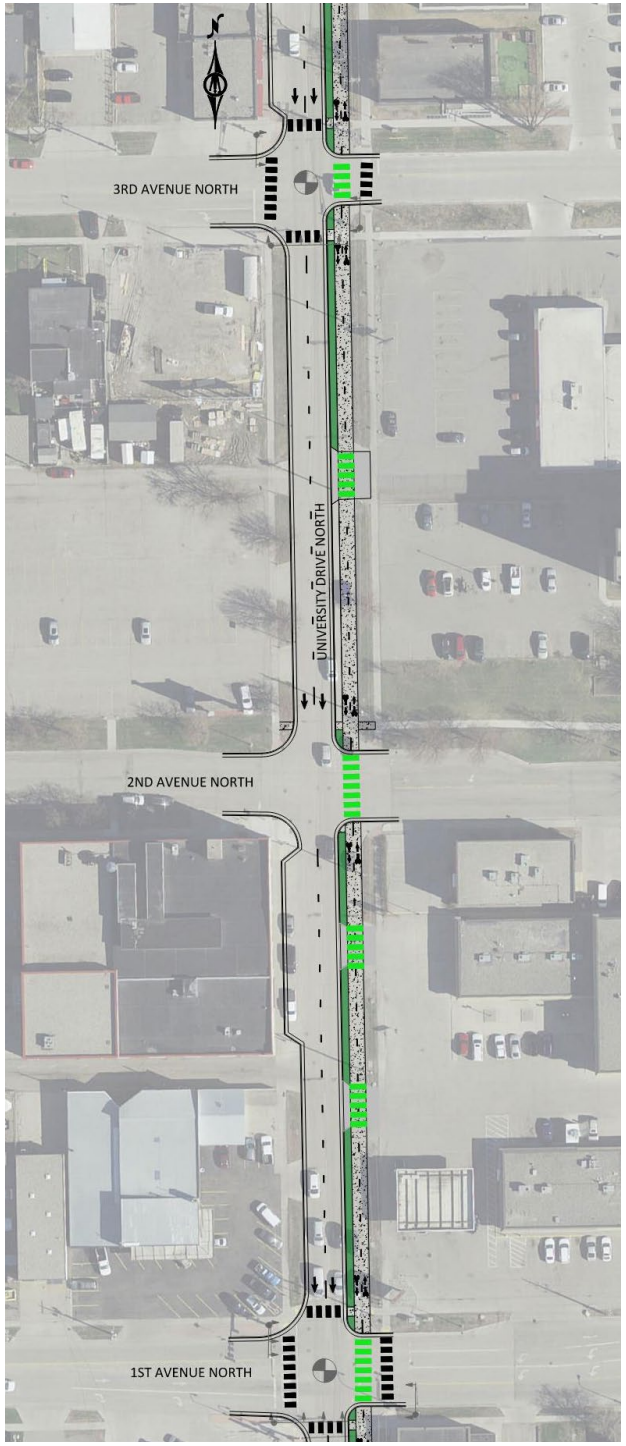


Figure 80: Raised 2-Way Cycle Track Layout and Scorecard





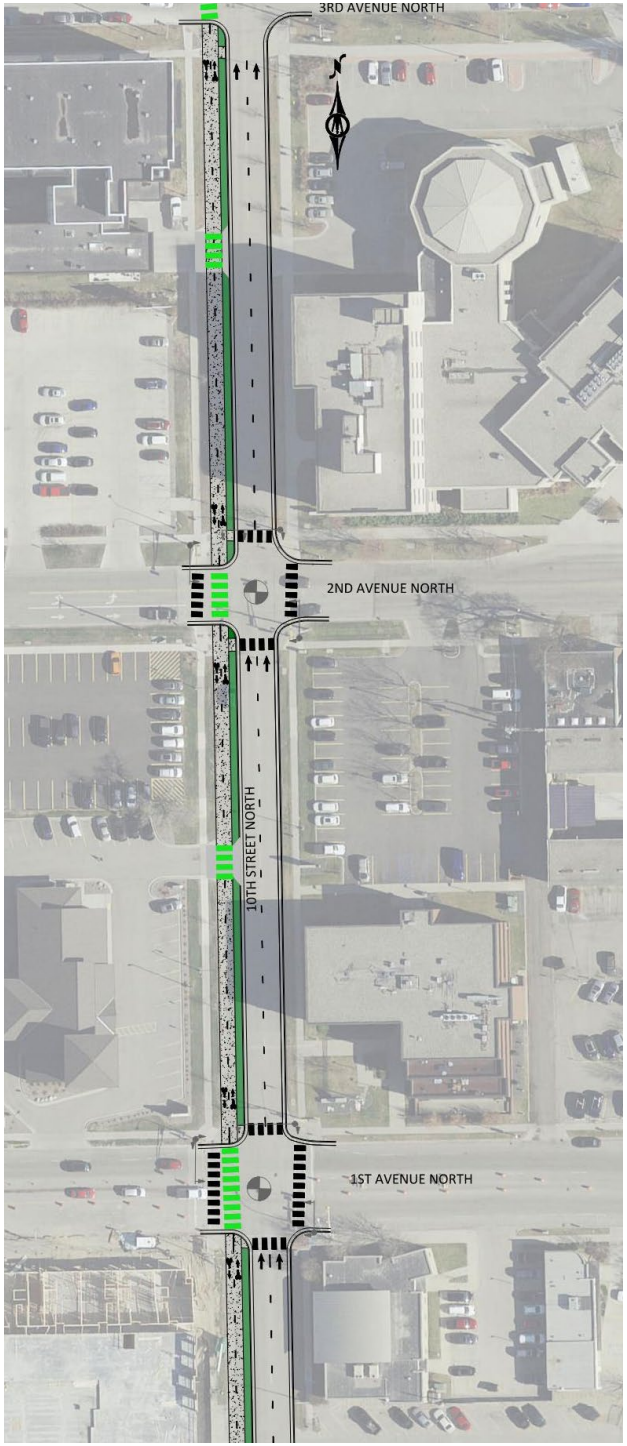
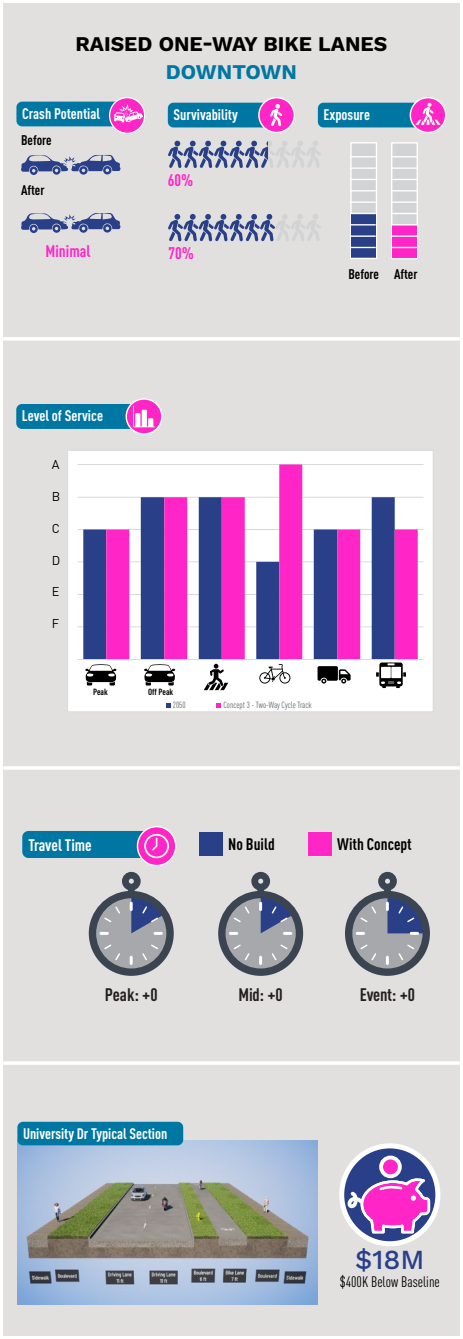


Figure 81: Raised 1-Way Cycle Track Layout and Scorecard



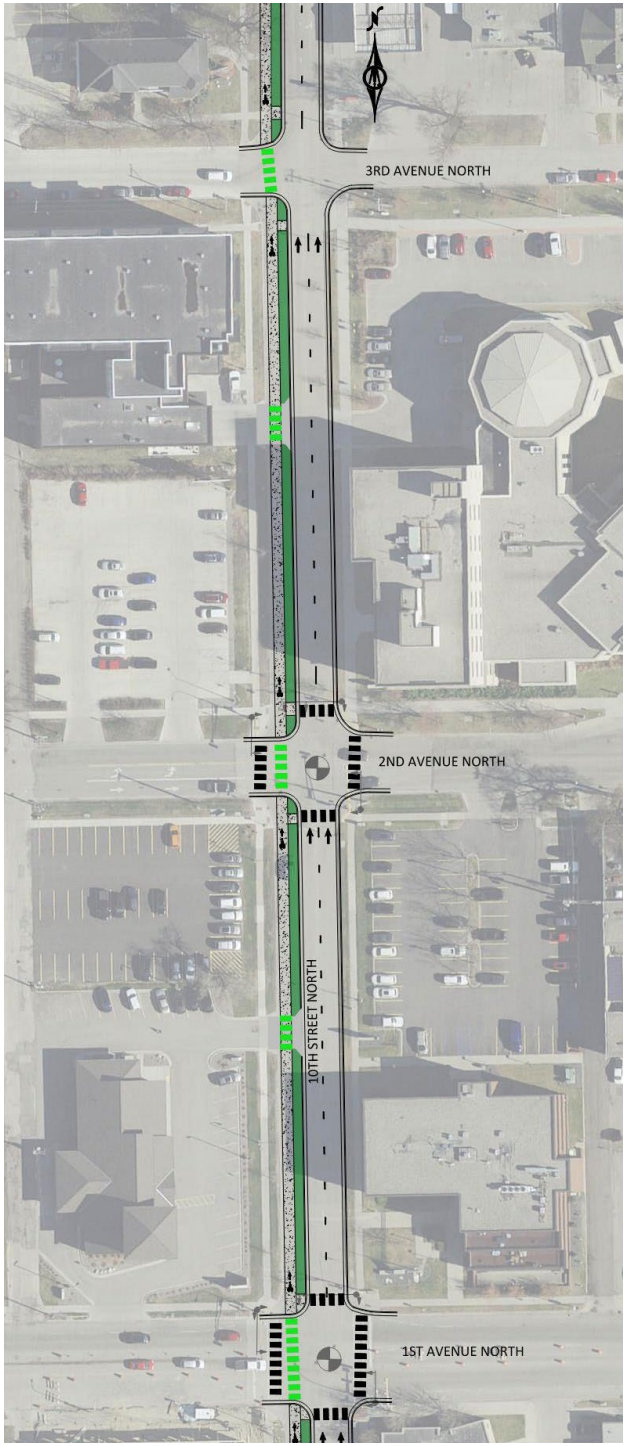
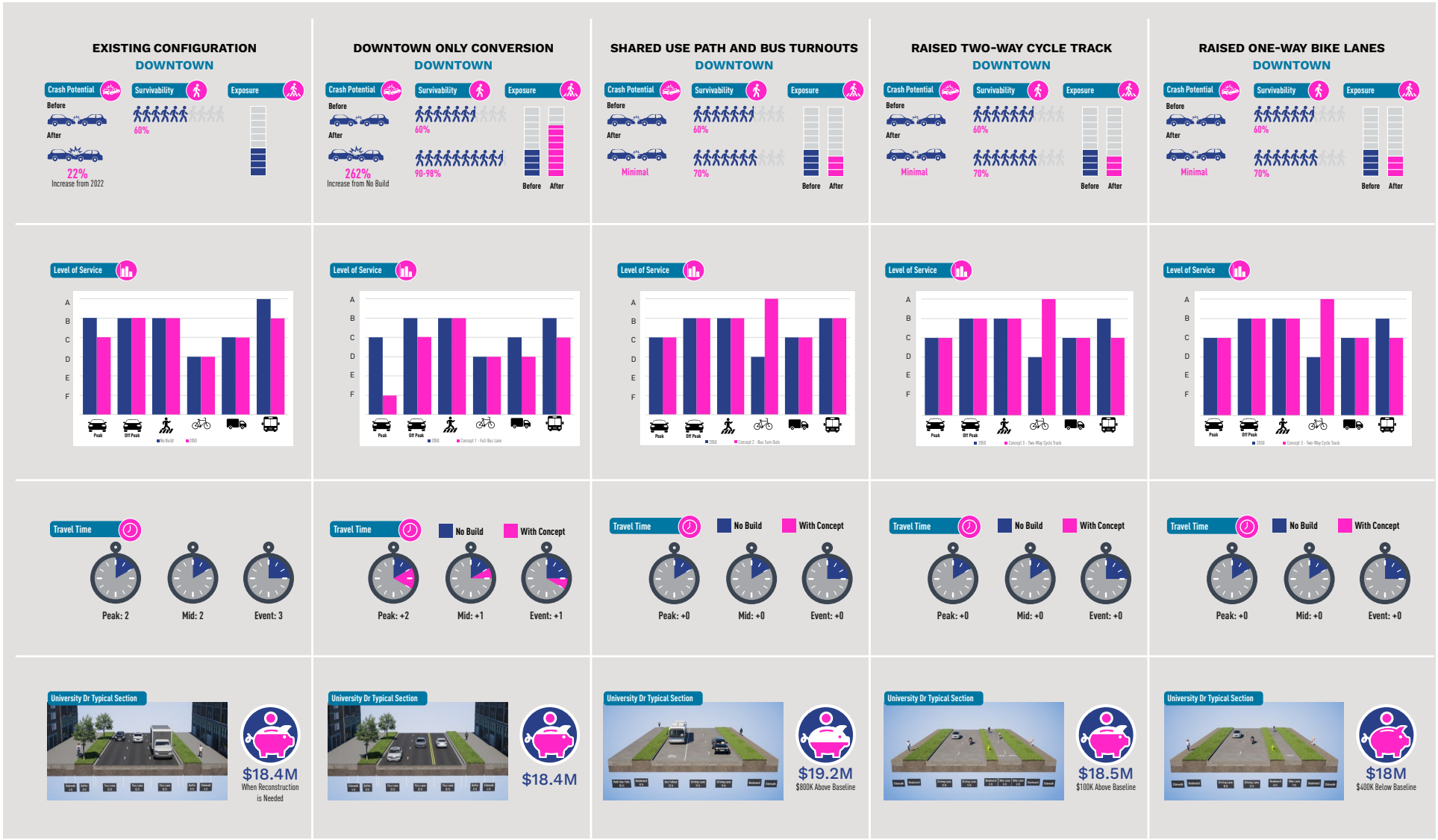


Figure 82: Comparison of Downtown Alternatives



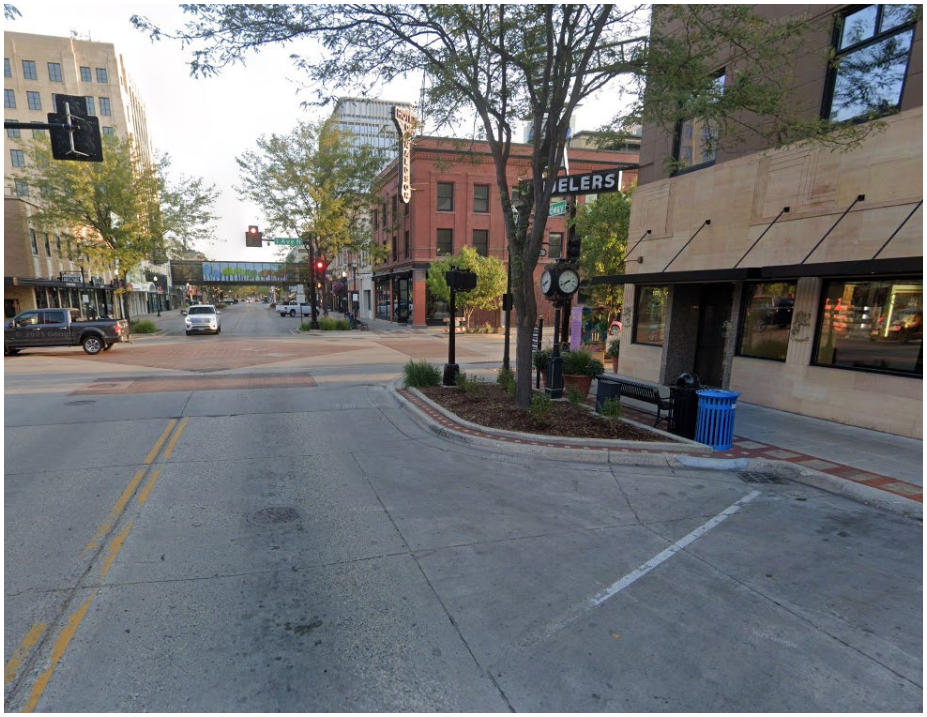
Aesthetics Plan

A downtown aesthetics plan was derived from precedent downtown corridors in Downtown Fargo. These locations include Main Avenue, Broadway, and NP Avenue. Main Avenue (**Figure 85**) from 12th Street to 2nd Street went through a recent reconstruction in 2019-2020 bringing in multiple downtown streetscape elements, and crosses both University Drive and 10th Street with an overpass. Those relevant to the University Drive and 10th Street Corridor Study include the incorporation of boulevard trees, planting beds, benches, and roadway lighting. Broadway (**Image 84**) runs parallel to University Drive and 10th Street and runs through the heart of Downtown Fargo. It was reconstructed in 2004, and includes key elements such as boulevard trees, planting beds, benches and pedestrian-scale lighting. NP Avenue (**Image 83**), between University Drive and 10th Street was reconstructed in 2015 to include boulevard trees, raised planting beds, and 1-way separated bike lanes, and was expanded further east to 8th Street in 2023.

Image 85: Main Avenue

Image 83: NP Avenue

Image 84: Broadway



Two-Way Traffic Conversion

Converting University Drive and 10th Street to 2-way traffic operations through the downtown segment leaves the existing curbs and grassed boulevards as they are today. This presents opportunities to provide understory trees along the east side of University Drive due to the overhead powerlines, and additional overstory trees along the west side of University Drive and along 10th Street. Additional street lighting can be added to enhance the sidewalk facilities.

Figure 86: Alternative One Aesthetic Plan

Road Diet with Bump-Outs and Shared Use Path

Reducing the number of traffic lanes on University Drive and 10th Street allows for the addition of a shared use path and bus pullouts with bump-outs. This concept would require the removal of trees along the west side of University Drive and the east side of 10th Street, though it would present an opportunity to provide more canopy trees along the roadway. Additional opportunities include street lighting, benches, bike parking, and planter beds along the shared use path.

Figure 87: Alternative Two Aesthetic Plan

Road Diet with 2-Way Bicycle Facility

Reducing the number of traffic lanes on University Drive and 10th Street allows for the addition of a 2-way bicycle facility. The addition of the bicycle facility uses the existing sidewalk locations as well as the existing boulevards which means existing trees should be able to remain. Smaller, ornamental trees could be planted along one or both sides of the bikeway, while canopy trees can be added along the opposite side. Ornamental trees would be most appropriate under power lines and where space is constrained to limit walking and biking obstacles. Additional opportunities include street lighting and urban streetscaping using colored and stamped concrete.

Figure 88: Alternative Three Aesthetic Plan

Downtown Reconfiguration Scorecard

The Downtown Reconfiguration Scorecard (**Figure 89**) presents a comparative analysis of different alternatives. The alternatives were evaluated based on criteria such as vehicular reliability, pedestrian crossing safety, bicycle facility connectivity, transit efficiency, aesthetic potential, construction costs, and public support.

The **current layout** offers the best vehicular reliability and transit efficiency, but at the detriment of other travel modes and with minimal public support.

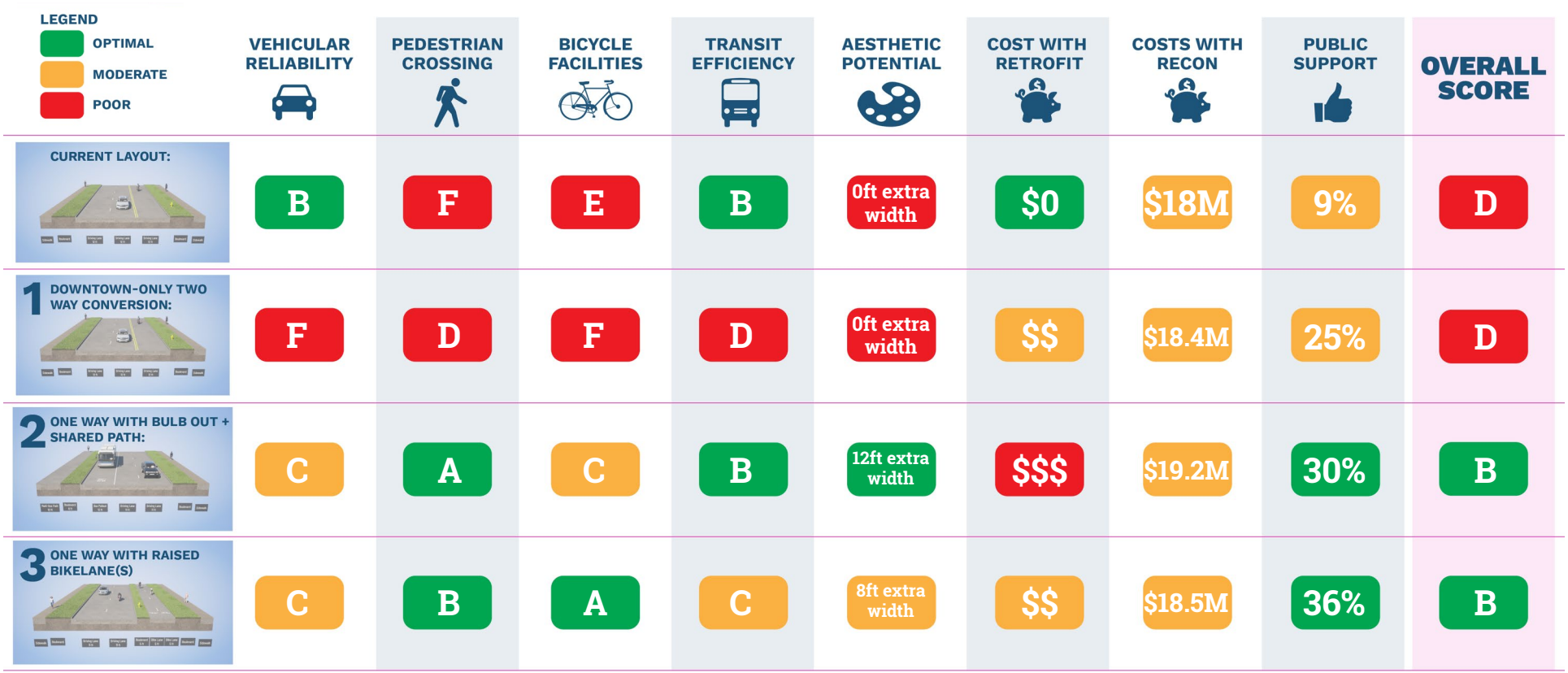
Alternative 1, Downtown-Only 2-Way Conversion, is effective in reducing traffic speeds; however, it introduces new or additional challenges for other modes of transportation. The cost of this alternative is like that of other build alternatives. University Drive and 10th Street are State Routes through the corridor, so if a portion of the roadways are converted to two-way the City would lose federal funding for one of the two-way corridors to adhere to State policy.

Alternative 2, 1-Way with Bulb-Out and Shared Path, prioritizes shorter pedestrian crossings, improved aesthetics, bicycle facilities, and bus stop space over vehicular efficiency. This alternative has the highest construction costs.

Alternative 3, 1-Way with Raised Bikelane(s), focuses on improving pedestrian crossing safety and bicycle facility connectivity, which lowers both vehicular reliability and transit efficiency. This alternative costs less than Alternative 2 and had the highest public support.

Overall, **Alternative 2, 1-Way with Bulb-Out and Shared Path, and Alternative 3, 1-Way with Raised Bikelane(s)**, offered the best balance for all modes of travel, opportunity for aesthetic enhancements, and public support.

Figure 89: Downtown Reconfiguration Scorecard



Crossing Safety

Background

University Drive and 10th Street are some of the busiest and most difficult to cross roadways in the area. There are over 3,600 kids enrolled at 9 different schools within 1/2 mile of the corridor. This number does not include students enrolled at NDSU, who travel by foot and bicycle across this corridor. Approximately 12% of all metro-wide pedestrian/bicycle crashes occur along these corridors. Based on bicycle counters and records, there are more than 1,800 bikes on the NDSU campus. In addition, University Drive sees more buses per hour than any other corridor in the metro. By the end of 2025, segments of University Drive will see 19 buses an hour. Due to the large number of non-drivers in the area, it is critical to have safe crossings at intersections.

Solutions

Existing crosswalks should be improved based on the amount of pedestrians/bicyclists, crash history, and daily traffic levels using the following tools. See **Figures 97, 98, and 99** for potential deployment locations along the corridor.

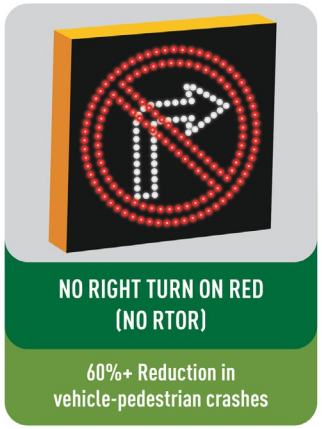
Figure 90: LPI

Leading Pedestrian Interval (LPI): This tool allows pedestrians to begin crossing before traffic is given the green light. This pedestrian-only time can range between 3 and 7 seconds and allows pedestrians to enter the intersection before vehicles. Entering the intersection first increases visibility and ensures pedestrians and bicyclists have ample amount of time to navigate the crossing. Implementing LPI may reduce vehicle-pedestrian crash potential by up to 60%.

Figure 91: POOFYA

Pedestrian Omit on Flashing Yellow Area (POOFYA): This tool prevents a flashing yellow arrow for vehicles when a conflicting pedestrian signal phase is called. This reduces the potential conflicts between pedestrians and vehicles. It creates separation between the modes and can reduce the potential for crashes by up to 28%.

Figure 92: No RTOR

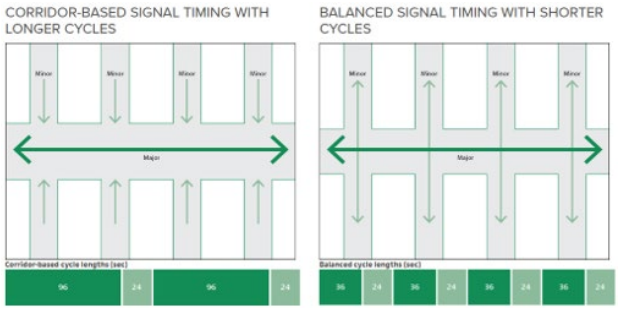


Restricted Right Turn: This tool prevents vehicles from making a right turn on red during a pedestrian walk phase. It has the potential to reduce vehicle-pedestrian crashes by up to 60%.

New Crossing Locations at Existing Intersections: Rectangular Rapid Flashing Beacons (RRFB) are activated when a pedestrian pushes a button. Vehicles are required to stop for pedestrians while lights are flashing which increases their visibility and safety. RRFBs can reduce crashes up 74% and is a proven countermeasure locally and nationally. The 1-way design of the corridors increases the ease of deployment at full intersections.

Half Cycle Traffic Signals: By using half-cycles, traffic signals will alternate more frequently between red and green lights. This reduces the waiting times for pedestrians and reduces the potential for crossing during red signals, mitigating the safety benefits of traffic signals altogether. Shorter cycle lengths will also mean pedestrians and bicyclists have more frequent opportunities to cross the street.

Figure 93: Half Cycle Traffic Signals



Future Considerations

Signal Timing Adjustments - Pedestrian Scramble: A pedestrian scramble temporarily stops all vehicular traffic and allows pedestrians to cross in any direction, including diagonally, at the same time. This prevents vehicular movements during this time. Case studies show a potential for up to 67% reduction in vehicle-pedestrian crashes. This tool is especially convenient if crossing both legs of the intersection is common. It is likely to reduce vehicle LOS by approximately one letter grade and requires additional pavement marking, additional pedestrian signal heads and push buttons, and requires adjusting signal timings.

The NSDU campus provides the opportunity to include pedestrian scrambles at University Drive and 12th Avenue N as well as University Drive and 17th Avenue N due to the increased foot and bicycle traffic to university destinations. This type of installation has been successful in the region, as it was deployed on the University of North Dakota (UND) campus in Grand Forks, ND. See **Figure 94**.

Figure 94: Pedestrian Scramble at UND

Figure 95: University Drive and 12th Avenue N

Figure 96: University Drive and 17th Avenue N

Figure 97: Pedestrian Crossing Improvement Plan - North Subarea

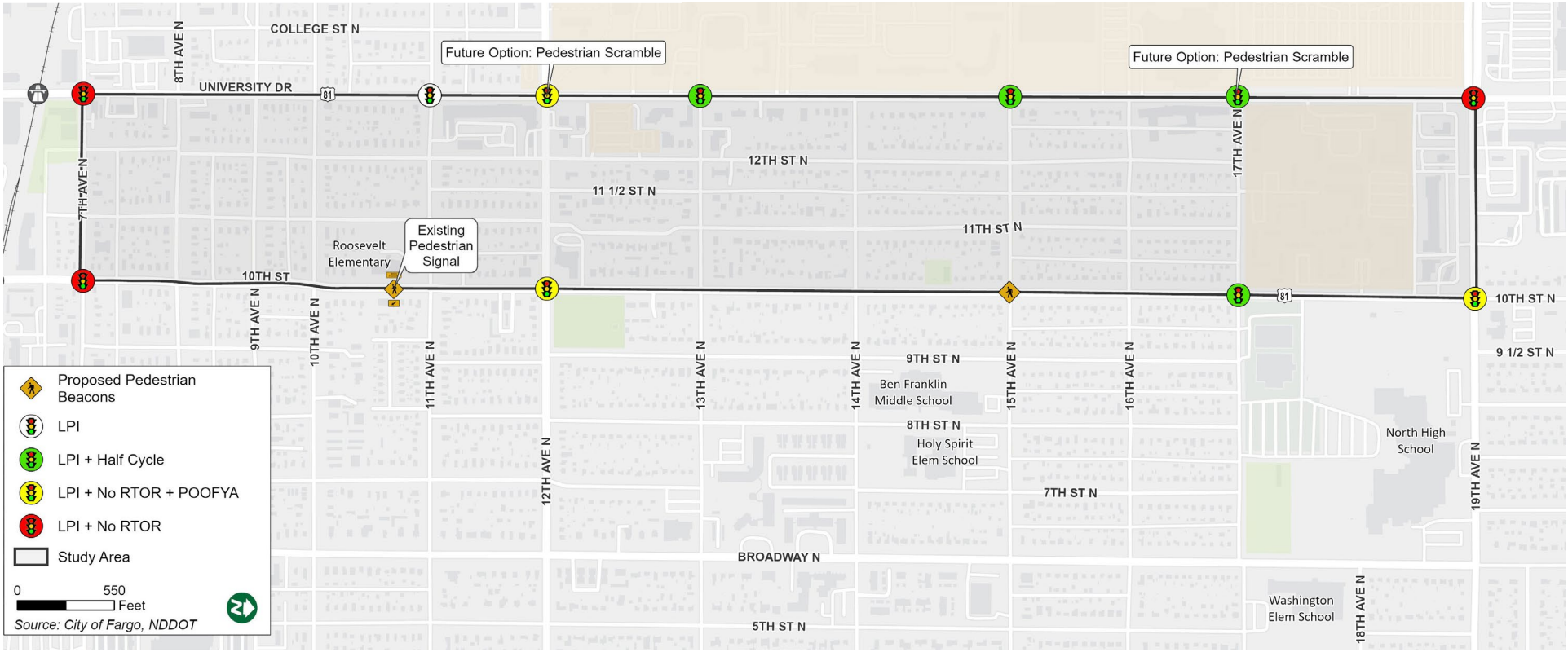


Figure 98: Pedestrian Crossing Improvement Plan - Downtown Subarea

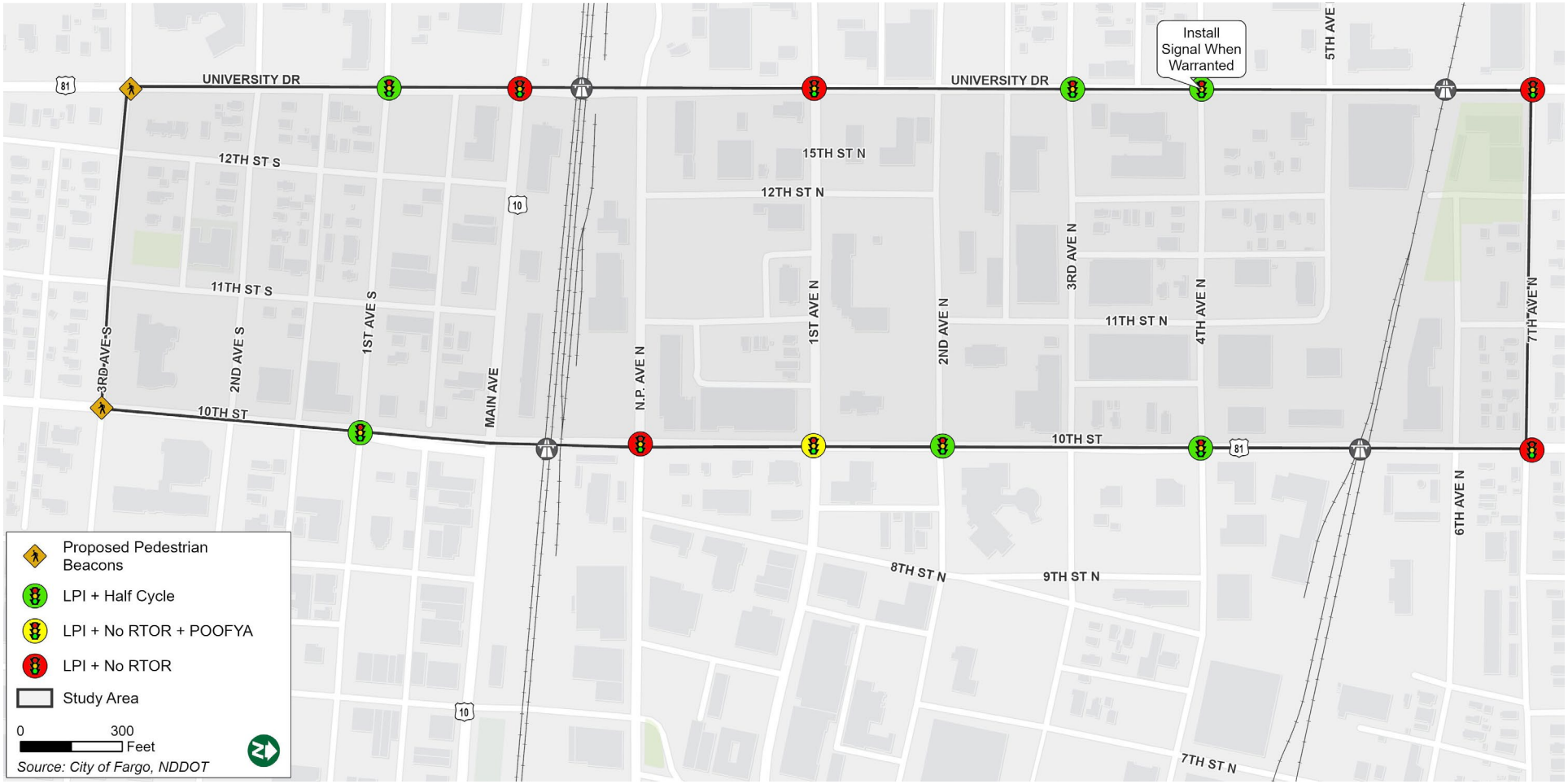


Figure 99: Pedestrian Crossing Improvement Plan - South Subarea

Bicycle Connectivity

Background

The Downtown and North segments of the study area generate a significant number of trips, with 44% and 31% respectively, being under 2 miles. This distance could be easily covered by bicycle if appropriate facilities were provided. Additionally, connectivity to other areas in Fargo is a challenge. Railroad underpasses create major barriers where the street narrows and bicyclists are forced into the flow of traffic or forced onto a narrow sidewalk. Railroads also serve as barriers where no safe crossings exist. Bike facilities along University Drive and 10th Street in the North Subarea stop short of the Downtown Subarea, and only east-west bikeways exist in the South subarea.

Solutions

Not all bicyclists are the same. Adult bicyclists can be categorized into three primary groups: Interested but Concerned, Somewhat Confident, and Highly Confident. **Figure 101**, adopted from the MnDOT Bicycle Facility Design Manual, provides examples of bicyclists in these categories. This framework, developed by planners in Portland, OR and supported by research, identifies distinct types of bicyclists based on their comfort and willingness to bicycle, as well as their percentage of the population.

It's important to note that people may not fit into a single user profile, and a bicyclist's profile may change within a single day. For example, someone who is comfortable bicycling in a bike lane when traveling alone as part of their commute may prefer to ride on a sidepath or shared-use path when traveling with children.

A second consideration when reviewing the bicycle connectivity within the study area is looking at the adjacent corridor context. Traffic volumes and speeds play a critical role in determining the proper bicycle facility. As shown in **Figure 100** more separation from bicycles and vehicles is preferred as speeds and volumes increase.

Looking at University Drive and 10th Street, both corridors would be considered high volume and high speed roadways. The recommendations for each segment are shown on **Figures 102, 103, and 104**. Bike facility recommendations include bicycle boulevards, shared-use paths, and separated bike lanes.

Figure 100: FHWA Bikeway Selection Guide Matrix for Urban Roadways

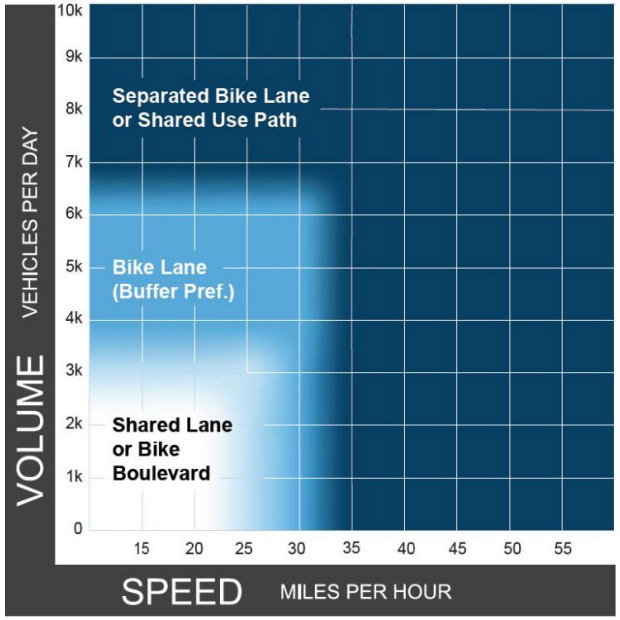


Figure 101: AASHTO Guide for the Development of Bicycle Facilities, 5th Edition

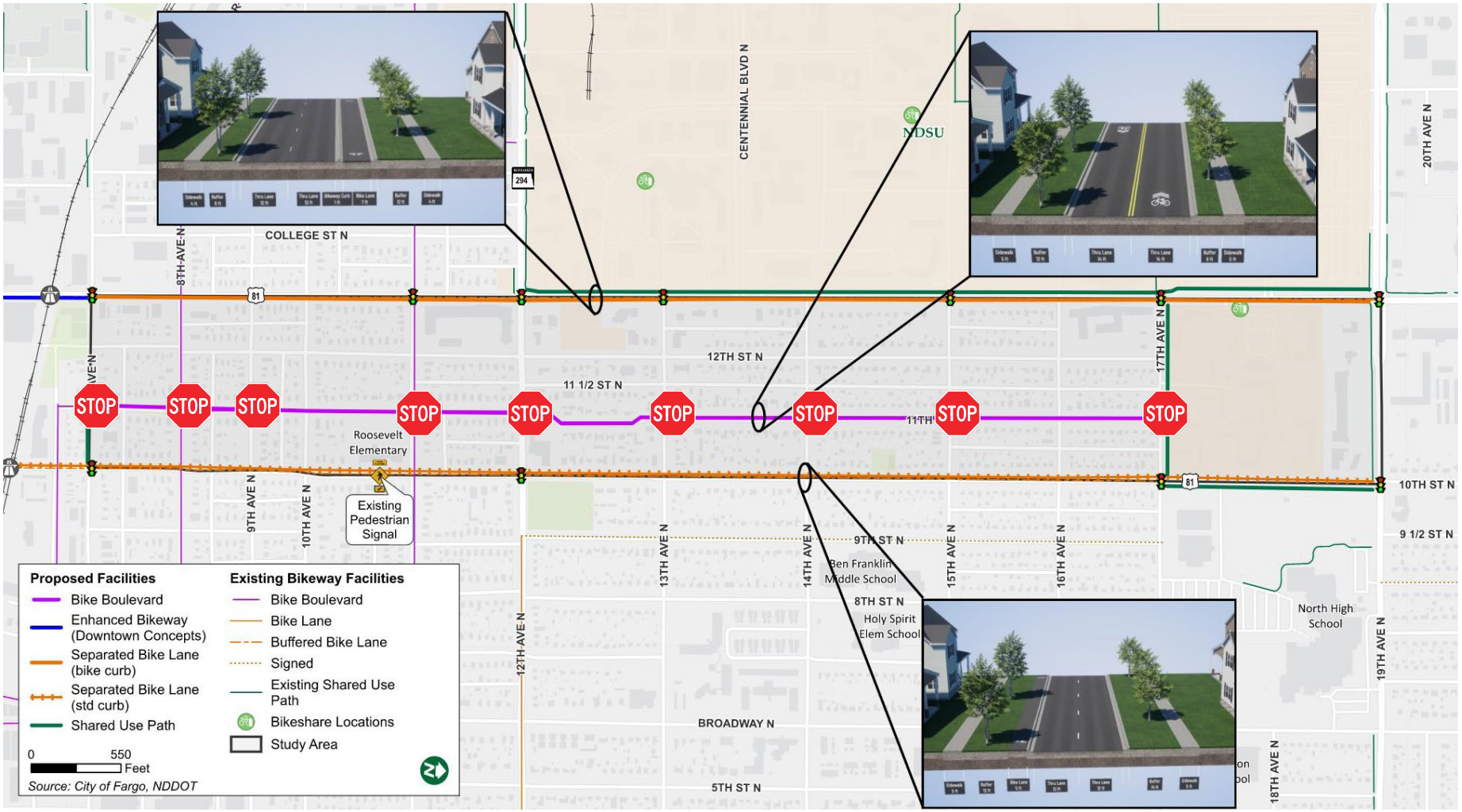
Comfort Typology of Bicyclists

Design User Profile	Non-Bicyclist	Interested but Concerned	Somewhat Confident	Highly Confident
Bicycling Preferences	Uncomfortable bicycling in any condition, have no interest in bicycling, or are physically unable to bicycle.	Often not comfortable with bike lanes; may bike on sidewalks even if bike lanes are provided. Prefer off-street or separate bicycle facilities or quiet or traffic-calmed residential roads. May not bike at all if bicycle facilities do not meet needs for perceived comfort.	Generally prefer more separated facilities, but comfortable riding in bicycle lanes or on paved shoulders if need be.	Comfortable riding with traffic; will use roads without bike lanes.
Percent of Population	31–37%	51–56%	5–9%	4–7%

The **North Subarea** has bike lanes along both University Drive and 10th Street. However, with high volumes of traffic and high off-peak speeds it is recommended that these facilities be converted to separated bike lanes. This would provide the highest amount of comfort to all users and has the potential to heavily increase the usage of the bike facilities. The educational destinations of NDSU along University Drive and Fargo North High School along 10th Street make adding a shared-use path along the right side of these corridors a long-term priority.

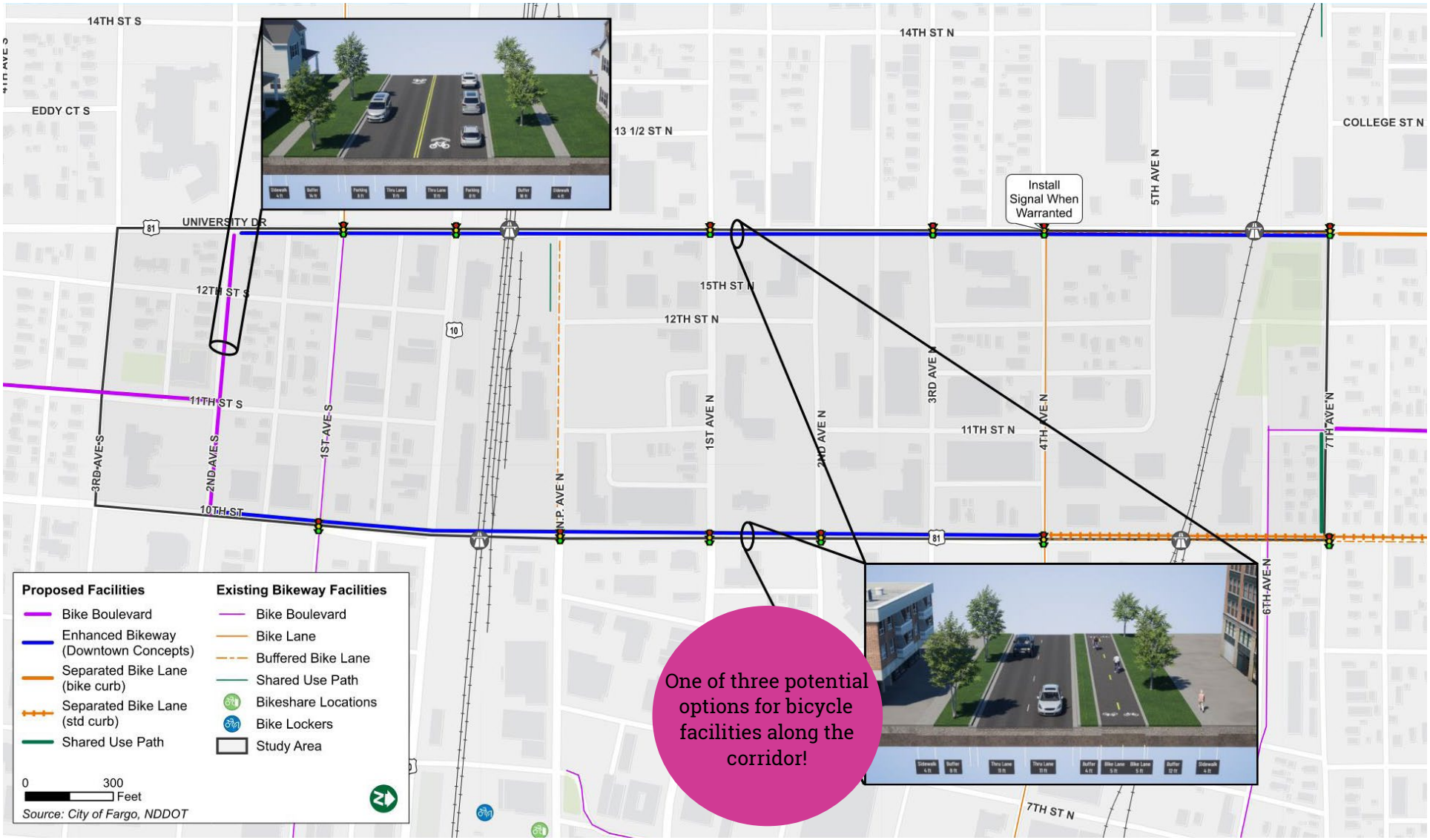
While further study will be necessary, 11th Street should be improved before being designated as a bicycle boulevard. Bike boulevards are described in MetroCOG's Bike/Ped Plan. The routes were chosen due to their low volume and low speed,while adding improved major crossings to the benefit of bicyclists and traffic calming. These improvements include traffic control upgrades at 12th Avenue and moving stop signs from 11th Street to the side streets to enable smooth continuous traffic. At the transition point from the North subarea to the Downtown subarea, along 7th Avenue N, there is a gap in the shared-use path near 10th Street N that should be filled.

Figure 102: Proposed Bicycle Facilities - North Subarea



The **Downtown Subarea** lacks any bicycle facilities along University Drive and 10th Street. Potential bicycle facilities include a shared-use path or a two-way cycle track. The key piece of this segment is getting bicyclists through the railroad underpasses near 5th Avenue N and Main Avenue. At the transition point from the Downtown subarea to the South subarea, along 2nd Avenue S, a bicycle boulevard should be added to connect the Downtown bicycle facilities to the bicycle boulevard along 11th Street S.

Figure 103: Proposed Bicycle Facilities - Downtown Subarea



The **South Subarea** lacks bicycle facilities along University Drive and 10th Street. Both University Drive and 10th Street have narrow roadways that can not accommodate the addition of bike lanes. Due to the mature tree growth along the corridors, converting sidewalks to shared-use paths was also not feasible. To connect bicyclists from Downtown to 13th Avenue S and vice versa, it is recommended to create a bicycle boulevard along 11th Street S. At 13th Avenue S, there is not a bicycle facility to connect to, but there is excess capacity in the roadway in the westbound direction. The recommendation is to reallocate the roadway, reducing westbound traffic lanes to one lane and using the space to widen the existing sidewalk to a shared-use path from 13th 1/2 Street S to 9th Street S. This can tie into future recommendations of the F-M MetroCOG's *Bicycle and Pedestrian Plan* to create bicycle facilities along 13th Avenue S.

Figure 104: Proposed Bicycle Facilities - South Subarea

Traffic Calming

Background

Through community engagement efforts, calming traffic was found to be one of the most significant priorities along the corridor. This is due to fast speeds in the 85th percentile, around 10 mph above the speed limit along with occasional higher volumes of collective speeding at night (**Figure 105**).

Solutions

While traffic calming can encapsulate many roadway treatments, a handful have been selected for the University Drive and 10th Street Corridor which can be seen in **Figures 110, 111, 112, and 113**.

Enhanced Rest-in Red Signal Modification: Rest-In-Red is a traffic signal timing strategy in which signals at all approaches remain in the red phase until a vehicle is detected at the stop bar. Enhanced Rest-in-Red, based on recent examples from across the country, introduces speed sensors upstream of the signal to combat speeding along problematic corridors. As vehicles approach the intersection, their speed will be detected. If they are traveling at or below a predetermined threshold, the green phase will be activated, and they can continue traveling as normal. If their speed exceeds that threshold, the signal will remain in red until they reach the stop bar, at which point, the green phase will be activated. This approach is relatively new, but recent case studies have shown that it has the potential to improve speed compliance and reduce speed related crashes (**Figure 107**). Data on a system implemented in Albuquerque has shown a 3-11 mph reduction in the 85th percentile speed along their corridor. Most importantly, resting-in-red along this corridor has effectively eliminated the most dangerous speeding events that are 10-40 mph above the speed limit.

Figure 105: Percentage of Traffic over 40 MPH

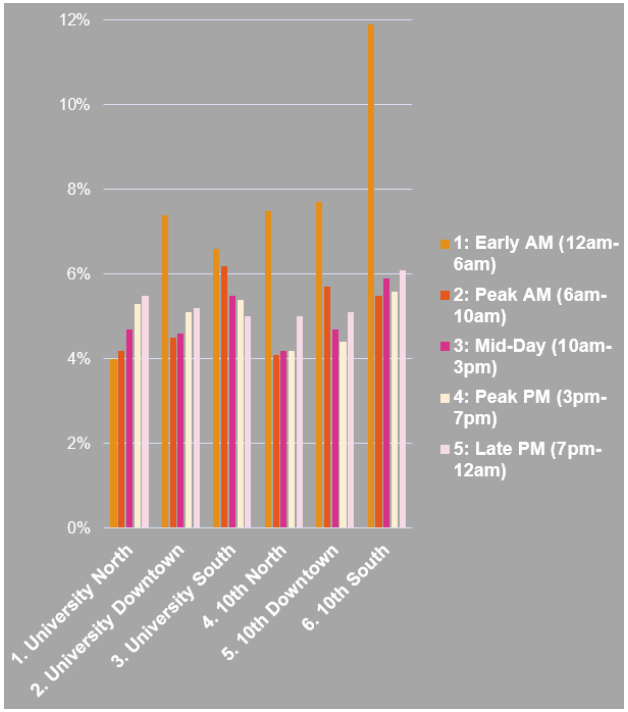
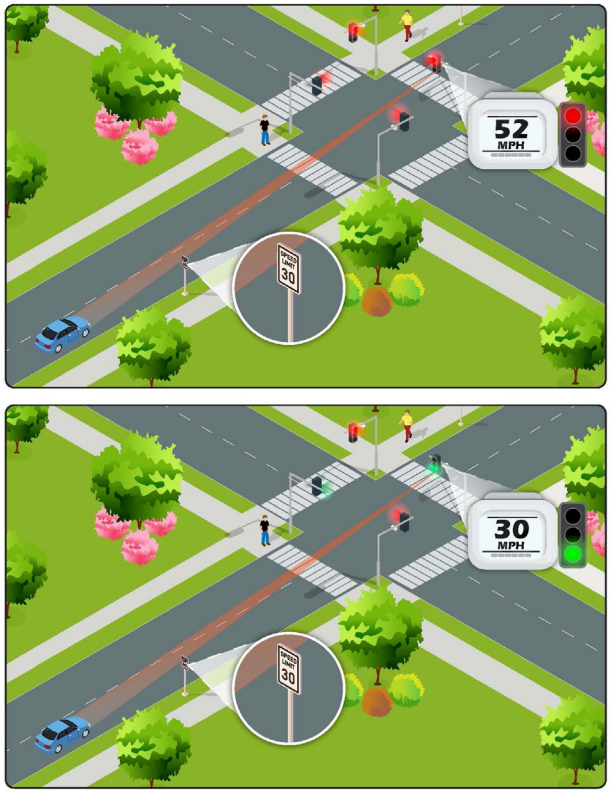


Figure 106: Enhanced Rest in Red



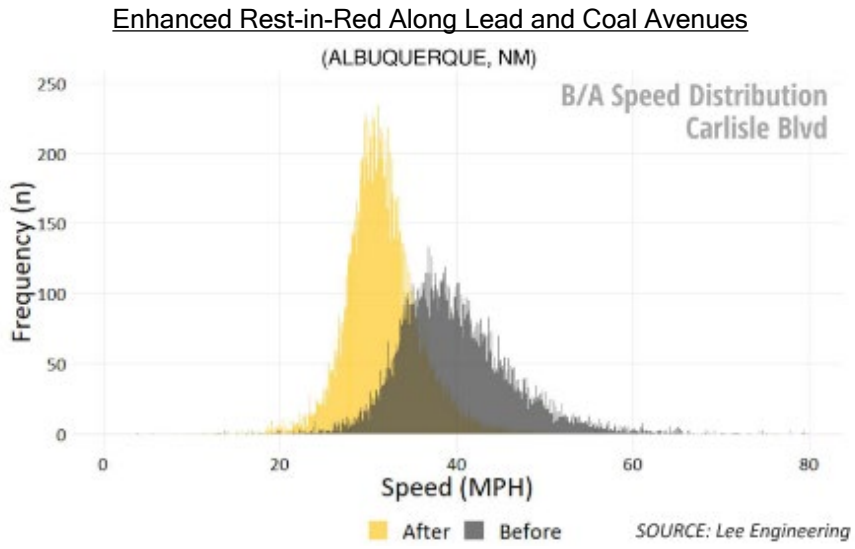


Figure 107: Enhanced Rest in Red Case Study in New Mexico

Road Diets and Curb Extensions: Curb extensions help to narrow the roadway, both physically and visually. Extensions reduce the crossing distance for pedestrians and bicyclists while visually signaling to drivers that they are entering a new space and to slow down. They also help to tighten curb radii and encourage slower turning speeds.

Figure 108: Dynamic Speed Display Signs

Figure 109: Signal Timing to Speed Limits

Curb extensions can be a part of a road diet which reconfigures the roadway to improve traffic flows and increase safety for all users. Downtown and 10th Street north of 17th Street are candidates for road diets in the long-term but temporary bulb-outs will manage costs while slowing traffic in the short-term. A long term road diet can provide a decrease in speed by approximately 5 mph while bulb-outs at intersection can provide a decrease in speed by approximately 4 mph.

Dynamic Speed Signs: These signs could be placed near speed limit signs that alert drivers to their current speeds. These could also be placed right before key pedestrian crossing locations that are not signalized. They have been found to reduce speeds by up to 7 mph near the immediate location of the sign but have reduced effects as drivers get further from the feedback sign. In addition, signs have reduced effectiveness over time.

Corridor Signal Timing: Signal cycle lengths could be set for a selected travel speed so that if faster vehicles are traveling along the corridor, they will not be able to travel continuously along it. Signal timing modifications can be reinforced with signage and media campaigns to educate drivers.

Traffic Calming Policies

Along with the engineering and implementable concepts, the plan includes policy recommendations to enhance corridor safety. These recommendations, though requiring further investigation, have been researched regarding their local impact. They are relatively low-cost and offer greater community benefits along with the traffic calming and safety measures.

Automated Traffic Enforcement (ATE) Regulations: Although ATEs are not currently outlined in North Dakota Century Code, the City of Fargo is advocating for their implementation to enhance safety. These traffic cameras have been used nationwide, reducing crashes and speeding, as seen in Cedar Rapids, Iowa, where enforcement is based on miles per hour over the speed limit. Despite their positive impact on speeding, these cameras can be perceived as revenue generators and may create a division between law enforcement and the community.

Ticket Rates: While state-level ticket rates apply to speeding and traffic violations, Municipal Fines can be locally set by Commission vote. This allows for targeted enforcement in specific areas or citywide, including additional fines for running red lights or speeding. Similar to ATE, this approach has shown positive results in MN.

Community Policing: Community policing positively impacts traffic safety and community improvement by encouraging safer behavior through data-driven enforcement and strategic policing. It identifies where and when issues occur and strategically places officers for on-the-ground enforcement. 'Informational tickets' serve as first infractions, providing crash statistics and local data to discourage unsafe driving. Partnerships between law enforcement and healthcare agencies can fund these initiatives. While beneficial, community policing may increase upfront costs for materials and analysis.

Figure 110: Traffic Calming Plan - North Subarea

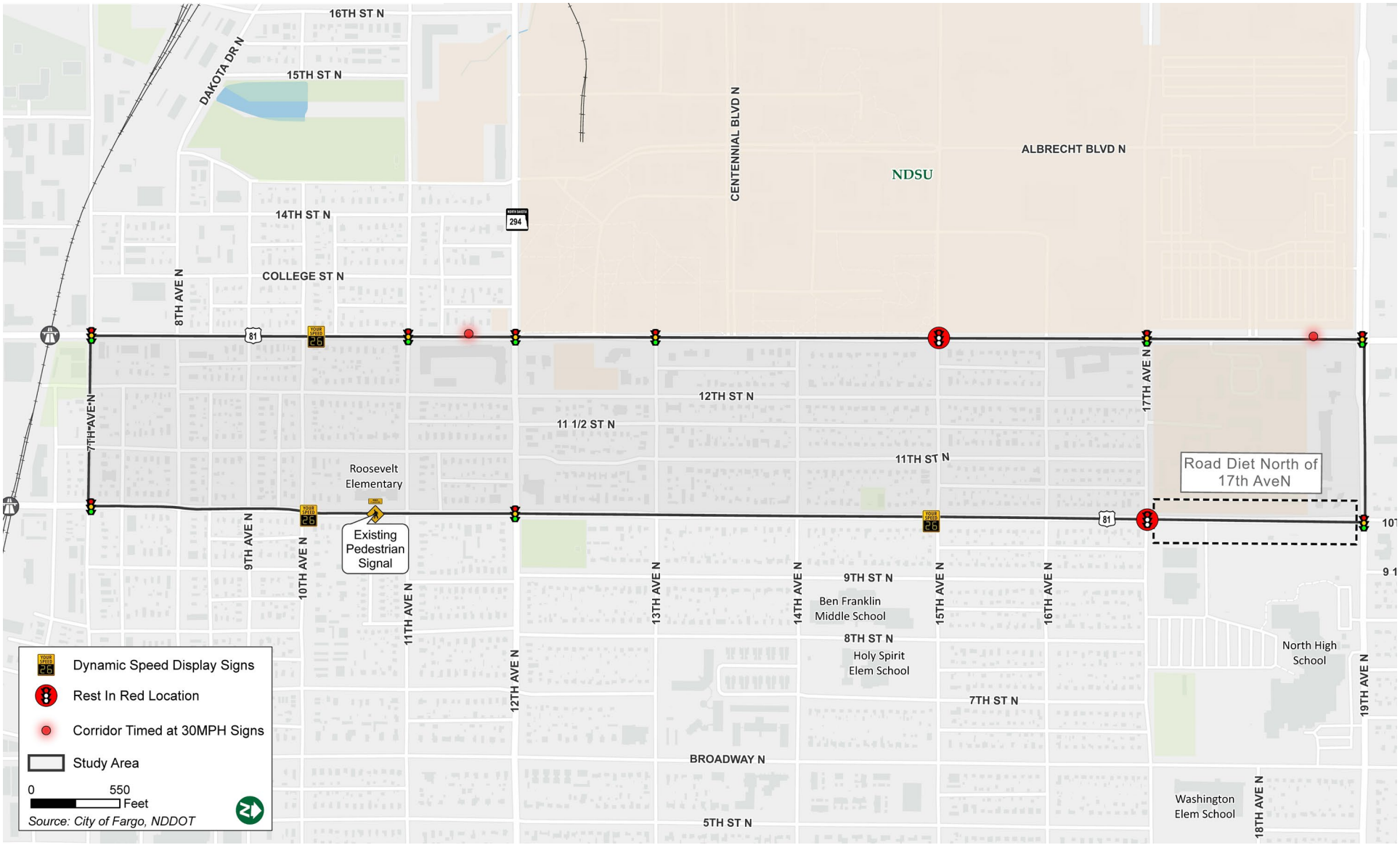


Figure 111: Road Diet between 17th Avenue N and 18th Avenue N

Figure 112: Traffic Calming Plan - Downtown Subarea

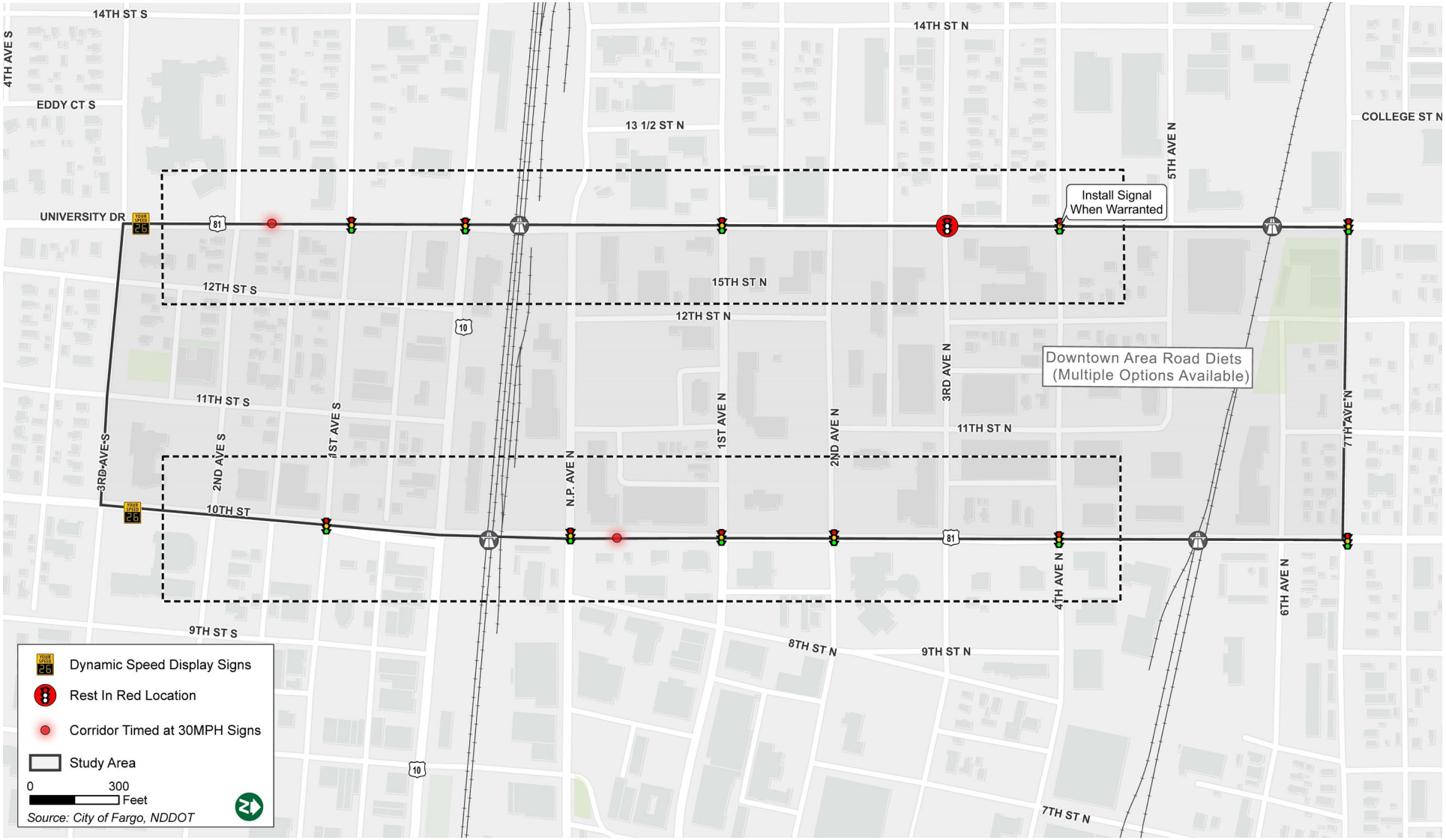


Figure 113: Traffic Calming Plan - South Subarea

Crash History

Background

The University Drive and 10th Street Corridor experiences a high rate of crashes, with 7 of the top 10 highest crash rate intersection located along it. The corridor also has 23% more Angled Crashes than the City of Fargo average, which tend to be more severe. Overall, 45% of the corridor is above the 'Critical Crash Rate' meaning that crashes are occurring at a more frequent and more serious rate than similar locations around the City.

Solutions

There are a number of solutions that could be implemented along the University Drive and 10th Street Corridor to reduce the risk of crashes, and when they do occur, the severity. These areas can be seen in **Figure 116, 117, and 118**.

Access Management (Figure 115): Access on to and off of the corridor is 2.5 to 6 times denser than current NDDOT Standards. This means that there are a higher number of driveways with entrances/exits on the corridor than recommended, which may lead to an increased number of angled and rear-end crashes. Opportunities exist for improvements in commercial areas, but few exist in more residential areas. It may also be challenging to retrofit without a roadway reconstruction project or business reconfiguration plan so a phased implementation is encouraged as redevelopment occurs and the corridor segments are reconstructed.

Line of Sight Obstructions: Along the corridor there are many obstructions that may block a driver's view of other motorists, bicyclists, and pedestrians. These items include tree, utility boxes, and utility poles. Opportunities to relocate utilities away from the corridor or underground should be taken advantage of. The City of Fargo maintains a street tree replacement policy which is aimed at improving sight lines. It is not recommended to remove trees from the corridor as a whole, but to systematically replace trees with narrower trees or to plant new trees in a nearby area.

Law Enforcement Blue Lights (Figure 114): Blue lights on top of traffic signals are designed to help law enforcement monitor and enforce red-light violations more effectively. These lights illuminate simultaneously with the red traffic signal, allowing police officers to clearly see from a distance or different angles when the signal is red, even if their view of the main traffic signal is obstructed. This system helps officers identify drivers running red lights without the need to closely follow or position themselves in risky locations. It is not automated enforcement and is ineffective if not monitored and enforced.

Figure 114: Traffic Signal Blue Lights

Figure 115: Access Density Example

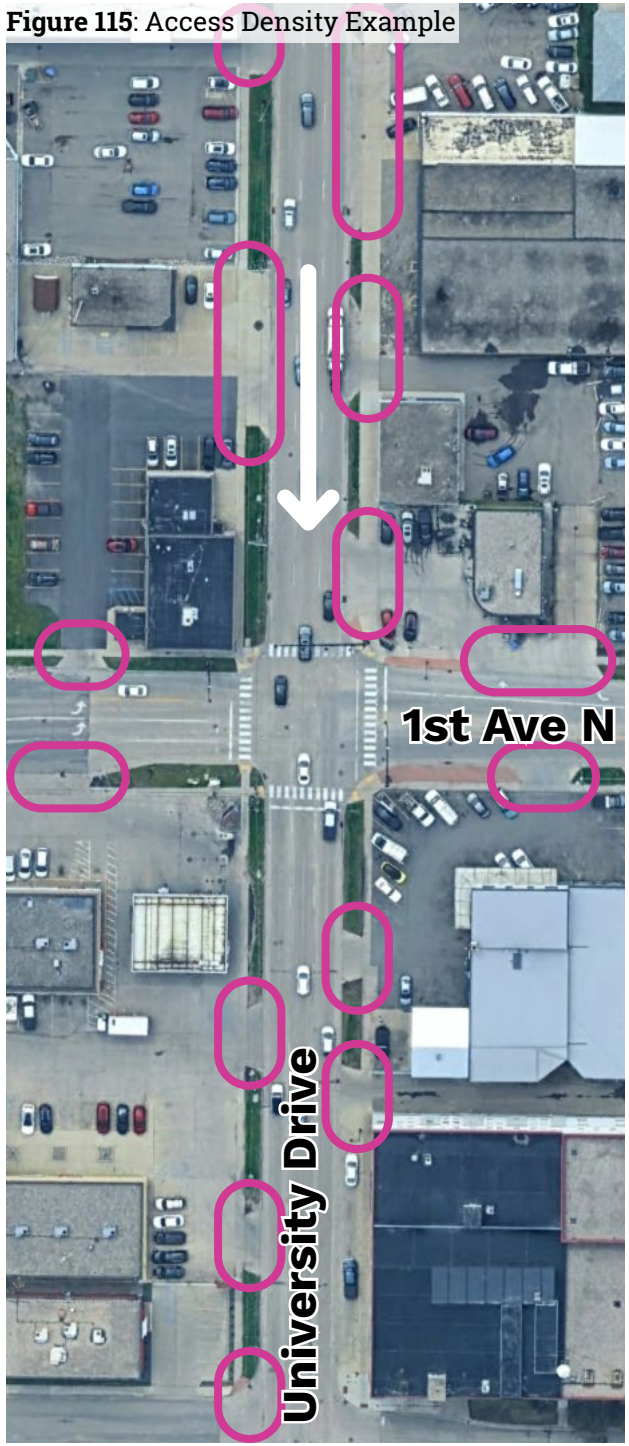


Figure 116: Safety Driven Improvements - North Subarea

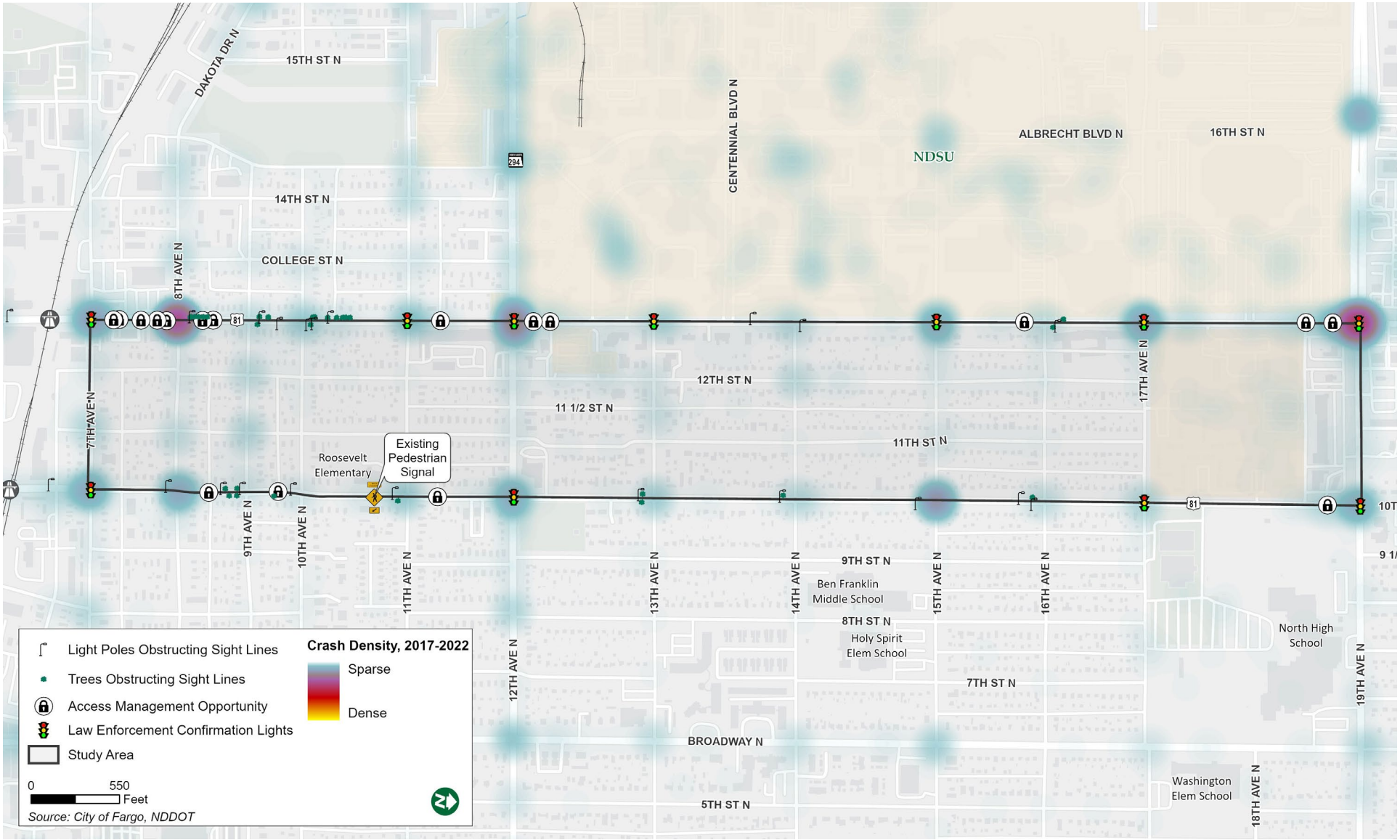


Figure 117: Safety Driven Improvements - Downtown Subarea

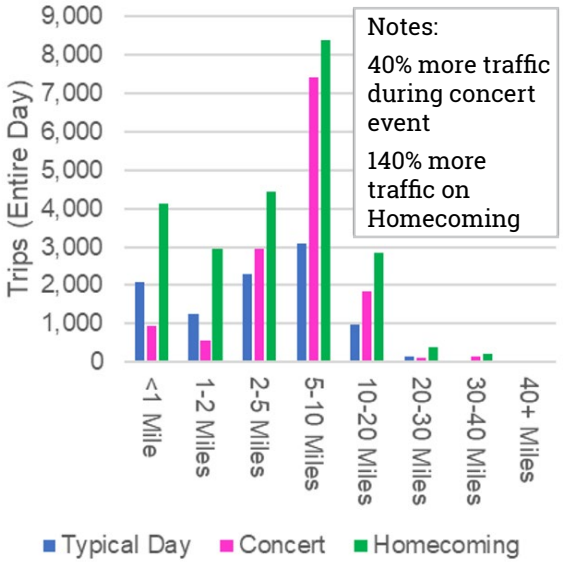
Figure 118: Safety Driven Improvements - South Subarea

Event Management

Background

Events at the FARGODOME, Sanford Health Athletic Complex, Newman Outdoor Field, the NDSU Campus, and Downtown bring thousands of more vehicular trips than a typical non-event day. While the number of events depend on the time of year, they create stress on the transportation system which could be better equipped to handle these demands.

Figure 119: Event Days compared to Non-Event Days



Solutions

Various solutions may be implemented to mitigate and improve the conditions of the transportation system on event days.

Event Improvement Plan: Through an analysis of current and projected future conditions an event improvement plan was created. While further study of the area may be necessary, **Figure 122** is one possible option.

In the Event Improvement Plan, it is recommended to install **Dynamic Messaging Signs** (**Figure 120**). These signs display real-time information to drivers, allowing them to make informed decisions about upcoming traffic conditions. Information about congestion, road closures, and travel times can all be displayed.

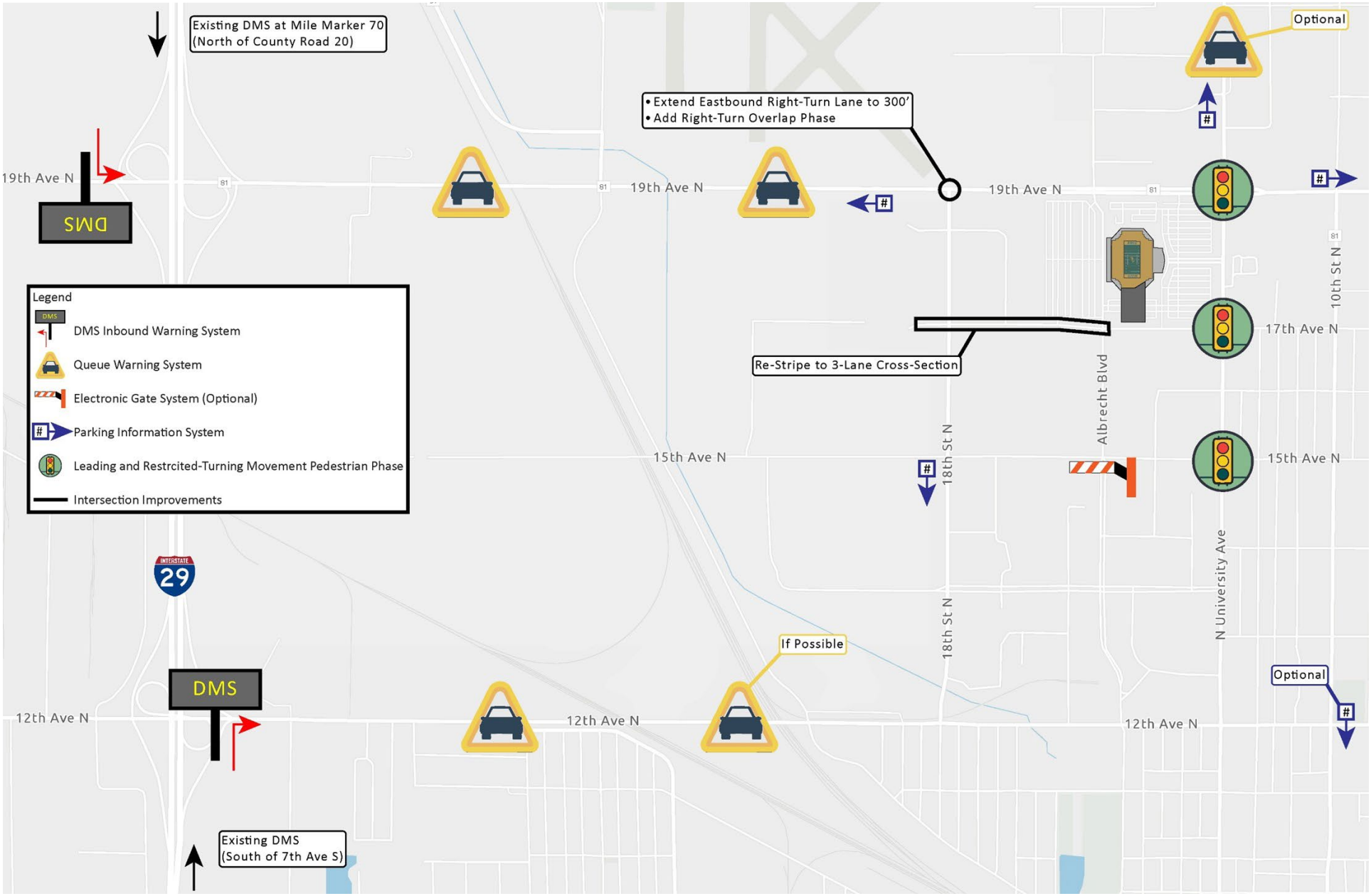
Parking Information Systems have also been recommended (**Figure 121**). Signs displaying nearby parking facilities allow drivers to see what facilities are full and which still have capacity. This helps to prevent unnecessary circulation and may help to alleviate congestion.

Adaptive Signal Control (ASC) is designed to optimize traffic flow by adjusting traffic signal timings based on real-time conditions. During event traffic, ASC systems use sensors to monitor vehicle presence and traffic patterns, dynamically altering signal phased to reduce congestion and improve travel times. Real-time adjustments helps minimize delays, reduce stop-and-go driving, and enhance overall traffic efficiency.

Figure 120: Dynamic Messaging Signs

Figure 121: Parking Information Systems

Figure 122: Potential Event Improvement Plan



Alternatives Engagement

A final phase of public engagement centered around sharing proposed solutions, based on community priorities identified in the visioning phase, and soliciting feedback on the possible interventions. This phase of engagement included direct stakeholder conversations, in person engagement of various methods, and a robust digital feedback opportunity. To ensure that all voices were provided an opportunity to be heard, marketing played a key role in getting the word out on the various feedback mechanisms.

Communication Strategies

To broadcast the various input opportunities, a variety of marketing strategies were used to create a large amount of attention around the project. This included social media posts, website updates, a digital billboard, and Burma shave signs to drive traffic to the events and digital engagement. These tools were used before, during and following the in-person engagement events in accordance with Metro COGs Public Participation Plan.

Social Media Posts

Social media posts were shared multiple times during the engagement period by the City of Fargo, Metro COG, and other agency partners to bring attention to input periods.

Website Updates

FargoStreets.com was utilized to drive attention to the project website to gain more survey feedback on the various alternatives presented.

Chloroplast Road Signs

Creative signs were placed along both University Drive and 10th Street with clever verbiage to direct residents and corridor users to the project website.

Mailers

Over 4,300 postcards were sent to property owners along the corridor to promote the open house as well as the project website.

Fliers

Fliers were placed throughout downtown in various businesses to promote the open house and the project website.

Digital Billboard

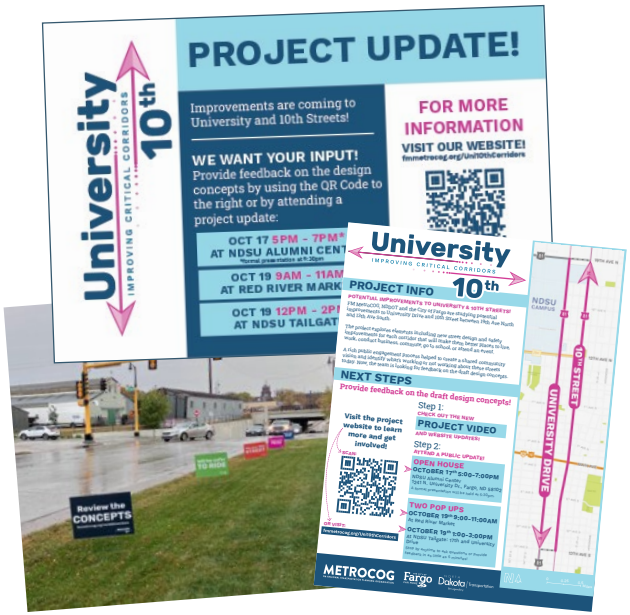
A digital billboard was used along Main Avenue to bring attention to the open house, the pop-up events, and the project website.

Video

The project video was updated to highlight the recent alternatives and corridor wide improvements.

E-Blast

An e-blast was sent to the listserv that had been built during the project lifespan to promote the various engagement opportunities.



Engagement Strategies

The project team employed a variety of engagement strategies to ensure comprehensive community involvement and gather valuable feedback. Targeted listening sessions with specific stakeholder groups allowed for in-depth discussions on particular concerns, ensuring highly relevant and actionable feedback. Public engagement also included direct interaction through open house and pop-up events, where the general public reviewed project details and provided input on proposed alternative configurations for the downtown section of the corridor. Digital engagement complemented these efforts by offering convenience and broader reach, enabling community members to review project information and provide feedback remotely.

Listening Sessions

Listening sessions were conducted with specific stakeholder groups to gather in-depth insights and address particular concerns. The following listening sessions were:

Stakeholder Focus Group

When: October 18, 2024 9am - 11am

Location: Downtown Community Partnership

Attendees: 7 (Representing NDSU Athletics, Local Event Firms, and Community Organizers)

Format: Formal presentation by the project team followed by Q+A

Additional Outreach: Team members met with staff at the FARGODOME as a key stakeholder with vested interest in corridor efficiency.

Figure 123: Study Engagement Materials

Business Focus Group

When: October 18, 2024 11am - 12pm

Location: Downtown Community Partnership

Attendees: 11 (Representing Downtown specific business and Business Associations)

Format: Formal presentation by the project team followed by Q+A.

StrongTowns Focus Group

Members of the project team met with a local chapter of StrongTowns.

Listening Sessions Key Takeaways

Stakeholder Focus Group: Concern for speed and through traffic and how it relates to safety, quality of life (walking, noise + their connections to health), and property values.

Business Focus Group: Improve walkability and Downtown feel, but keep downtown accessible for drivers to patronize businesses. Balance professional expert recommendations with public desires.

StrongTowns Group: Expressed a preference to slow traffic and pursue opportunities to make corridor more friendly for multi-modal transportation.

In-Person Engagement

Open House and Pop-up Events

The open house and pop-up events allowed the general public to provide feedback on corridor-wide solutions and proposed alternative configurations for the Downtown section of the Corridor. Participants interacted directly with project team members, discussing the various corridor wide solution, and giving feedback between different configurations for the corridor through downtown (between 7th Avenue N and 2nd Avenue S). The following open house and pop-up events were:

Open House

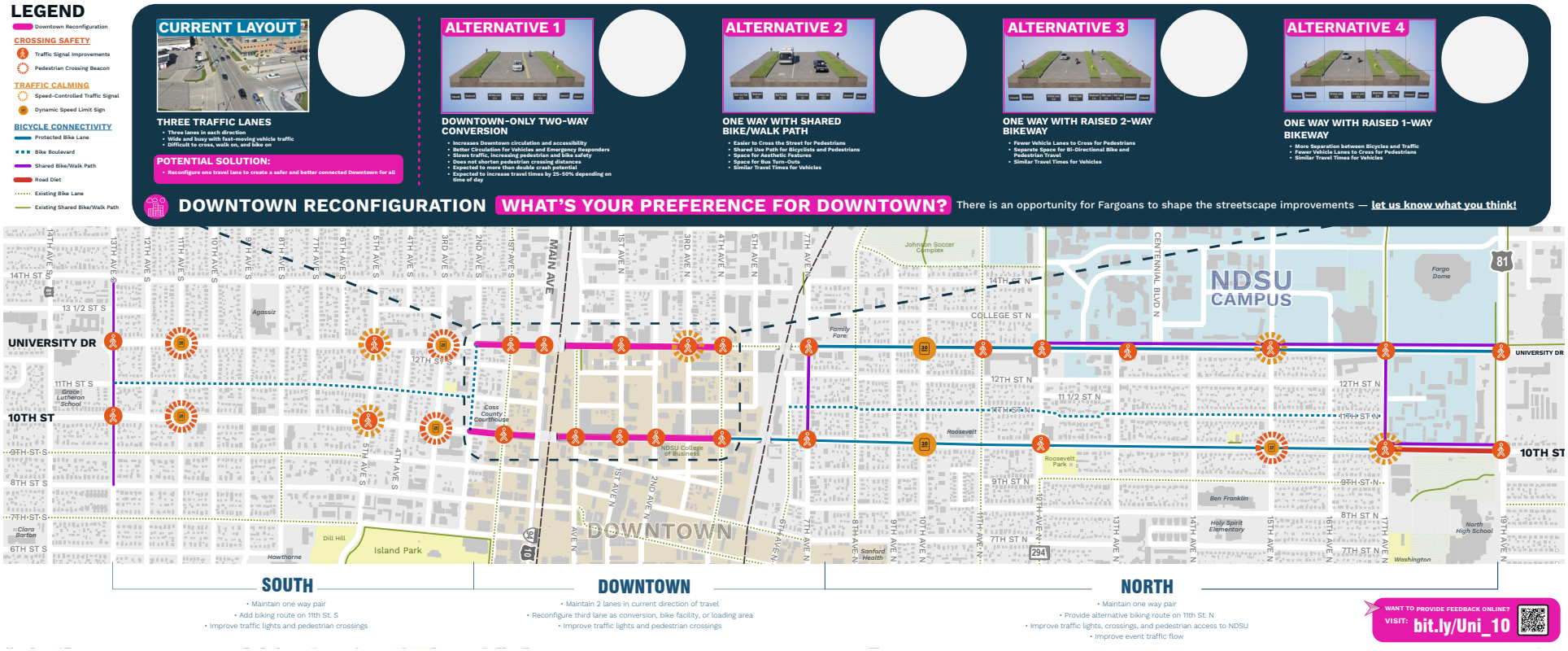
When: October 17, 2024 5:30pm - 8:00pm

Location: NDSU Alumni Center

Attendees: 45

Format: Formal presentation by the project team followed by Q+A and alternatives input exercise.

Figure 124: Downtown Reconfiguration Engagement Materials



Pop-Up Meetings

Red River Market Pop-up

When: October 19, 2024, 9am - 12pm

Location: Broadway Square

Attendees: 45 ping-pong ball votes; estimated 100+ booth visitors

Format: Pop up with informational boards, discussion, and alternatives input exercise.

NDSU Pop-up

When: October 19, 2024, 1pm - 4pm

Location: NDSU Thunder Alley Tailgate at the FARGODOME

Attendees: 141 ping-pong ball votes; estimated 250+ booth visitors

Format: Pop up with informational boards, discussion, and alternatives input exercise.

Roosevelt Neighborhood Association Soup Social

When: December 12, 2024, 5:30-7:30

Location: Roosevelt Elementary School

Attendees: Estimated 52 Neighborhood Association Members

Format: Event popup with informational booth to discuss project with attendees.

In-Person Engagement Key Takeaways

Public Open House: Slow down traffic; Combine engineering and enforcement.

Red River Market Pop Up: Regular corridor users expressed persistent concerns about excessive vehicle speeds and strongly supported improved pedestrian/bicycle facilities and more intuitive street navigation.

NDSU Pop Up: As frequent corridor users, participants consistently identified specific safety concerns including speeding vehicles and inadequate crossings, with particular emphasis on transit improvements near campus.

Figure 125: In-Person Support Chart

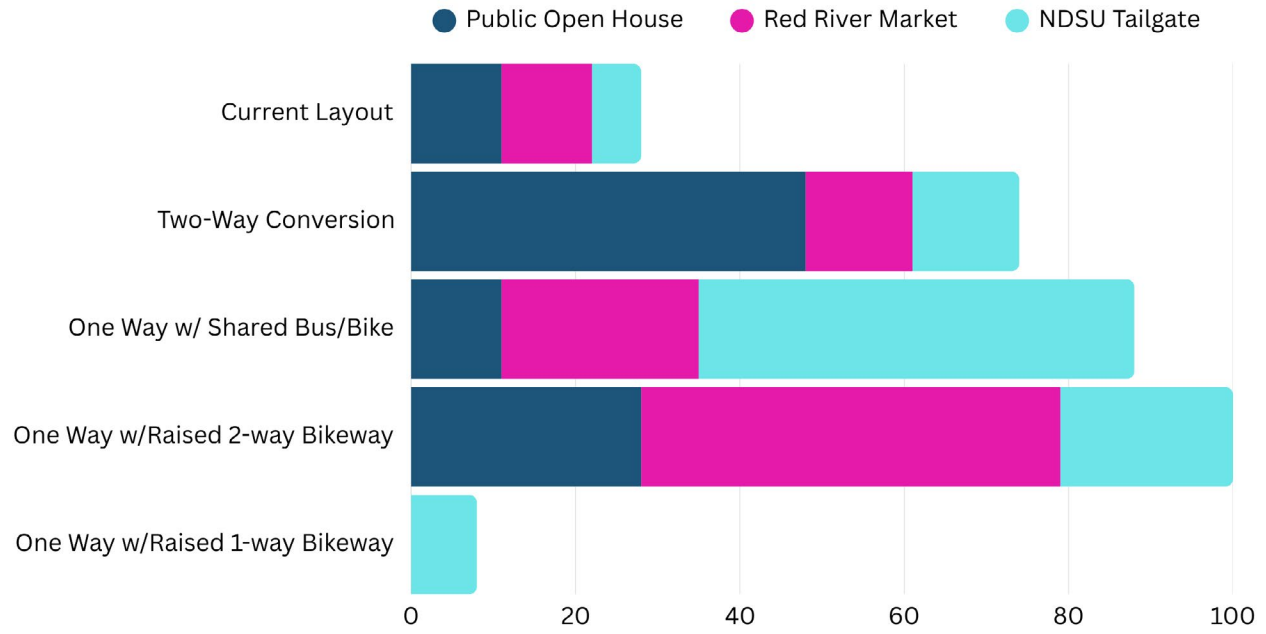


Figure 126: Red River Market Pop-Up

Virtual Engagement

To accompany the variety of in-person engagement opportunities, a multitude of digital tools were created to hear from the public on all elements of the alternatives proposed. This included an interactive map that overlaid the corridor-wide solutions to enable comments including likes, dislikes, concerns, and other ideas. Along with this map, the downtown layouts were displayed, accompanied with surveys, to gain feedback on which layout would be most optimal.

- When: October 16 - November 1, 2024
- Online Input Map Responses: 77, with an additional 52 discussion comments
- Online Survey Responses: 24
- Format: Informational StoryMap, survey, and interactive map exercise.

Virtual Tools Key Takeaways

Survey Responses to Corridor Wide Recommendations

- **Pedestrian Crossing Enhancements:** Support was generally high, indicating that adding safer signals and beacons is a favored solution. Comments often highlighted the importance of well-lit and clearly marked crossings, especially in busy areas.
    - **Bicycle Connectivity:** This also received strong support. Respondents recommended safer bike facilities, including dedicated lanes or paths separated from vehicle traffic. Suggestions included linking bike paths for continuous, safer routes across the area. There was strong support for the two-way cycling track, as it was seen as a safer and more accessible option for cyclists. Comments also highlighted the lack of north-to-south connections.
    - **Traffic Calming (Speed Reduction):** Traffic calming measures were widely supported, with comments suggesting the installation of geometric solutions to reduce vehicle speeds. These measures were seen as essential for creating a safer environment for pedestrians and cyclists.
- **Crash Reduction Solutions:** High support was shown for actions to improve safety by managing access and improving sightlines. Recommendations included clearer lane markings, adding signs in high-risk areas, and trimming vegetation that blocks visibility at intersections.

Survey Responses to Downtown Alternatives

- **Current Layout:** Support varied for maintaining the current layout. While some respondents favored keeping things as they are, open-ended feedback highlighted concerns around existing challenges, such as traffic flow and accessibility.
    - **Downtown-Only 2-Way Conversion:** This alternative received lower support. Comments suggested that while a 2-way conversion could ease navigation, respondents worried about possible congestion issues and impacts on downtown businesses.
- **1-Way with Shared Bike/Walk Path:** Support for this option was mixed to positive. Respondents appreciated the idea of a combined path for both pedestrians and cyclists, with some recommending adjustments to ensure enough space for safe shared use, especially in busier areas.
- **1-Way with Raised 2-Way Bikeway:** This alternative had high support among respondents who valued dedicated space for cyclists. Suggestions included ensuring the bikeway has clear barriers to separate it from traffic lanes, especially on streets with higher vehicle speeds.
- **1-Way with Raised 1-Way Bikeway:** Support here was more moderate, with respondents generally approving of a raised bikeway but expressing preferences for 2-way access where feasible. Comments often mentioned that 1-way bikeways may require additional signage to ensure safe use.

Figure 127: Virtual Support on Potential Solutions

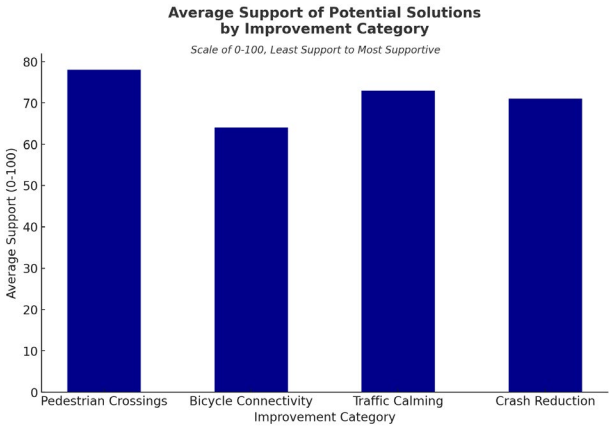
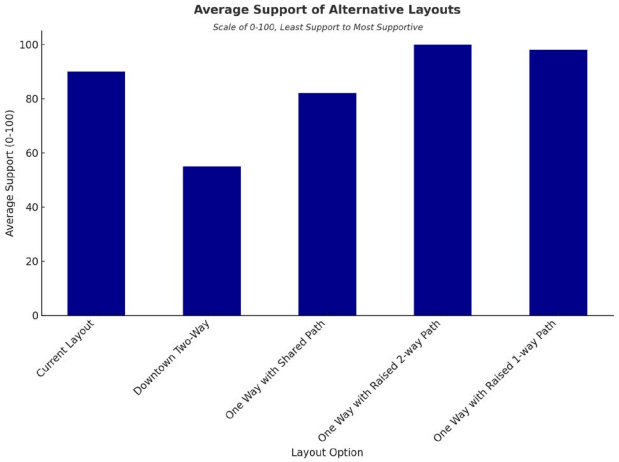


Figure 128: Virtual Support on Downtown Alternatives



Alternatives Engagement Key Takeaway

The engagement strategies across various events and surveys revealed several common themes and priorities among stakeholders. A consistent concern was the need to slow down traffic and enhance safety through a combination of engineering and enforcement measures. This was echoed in the Public Open House and Stakeholder Focus Group, where participants highlighted the importance of addressing speed and through traffic to improve safety, quality of life, and property values Similarly, the Business Focus Group emphasized the need to balance walkability and a downtown feel with maintaining accessibility for drivers to support local businesses.

Regular users of the corridor, including Red River Market participants and NDSU community members, share key concerns about speeding vehicles and overall safety. Both groups strongly support better facilities for walking and biking. NDSU users specifically highlighted the need for safer crossings and improved transit options near campus, while Market users also desired simpler street navigation. Survey responses further supported these opinions, showing high approval for pedestrian crossing enhancements and bicycle connectivity. Respondents favored dedicated bike lanes and paths separated from vehicle traffic, with a particular interest in a 2-way cycling track for safer and more accessible routes. Traffic calming measures and crash reduction solutions also garnered widespread support. Participants suggested adding features like roundabouts, and better signage to reduce vehicle speeds and improve safety for pedestrians and cyclists. Recommendations included clearer lane markings, additional signage in high-risk areas, and trimming vegetation to enhance visibility at intersections.

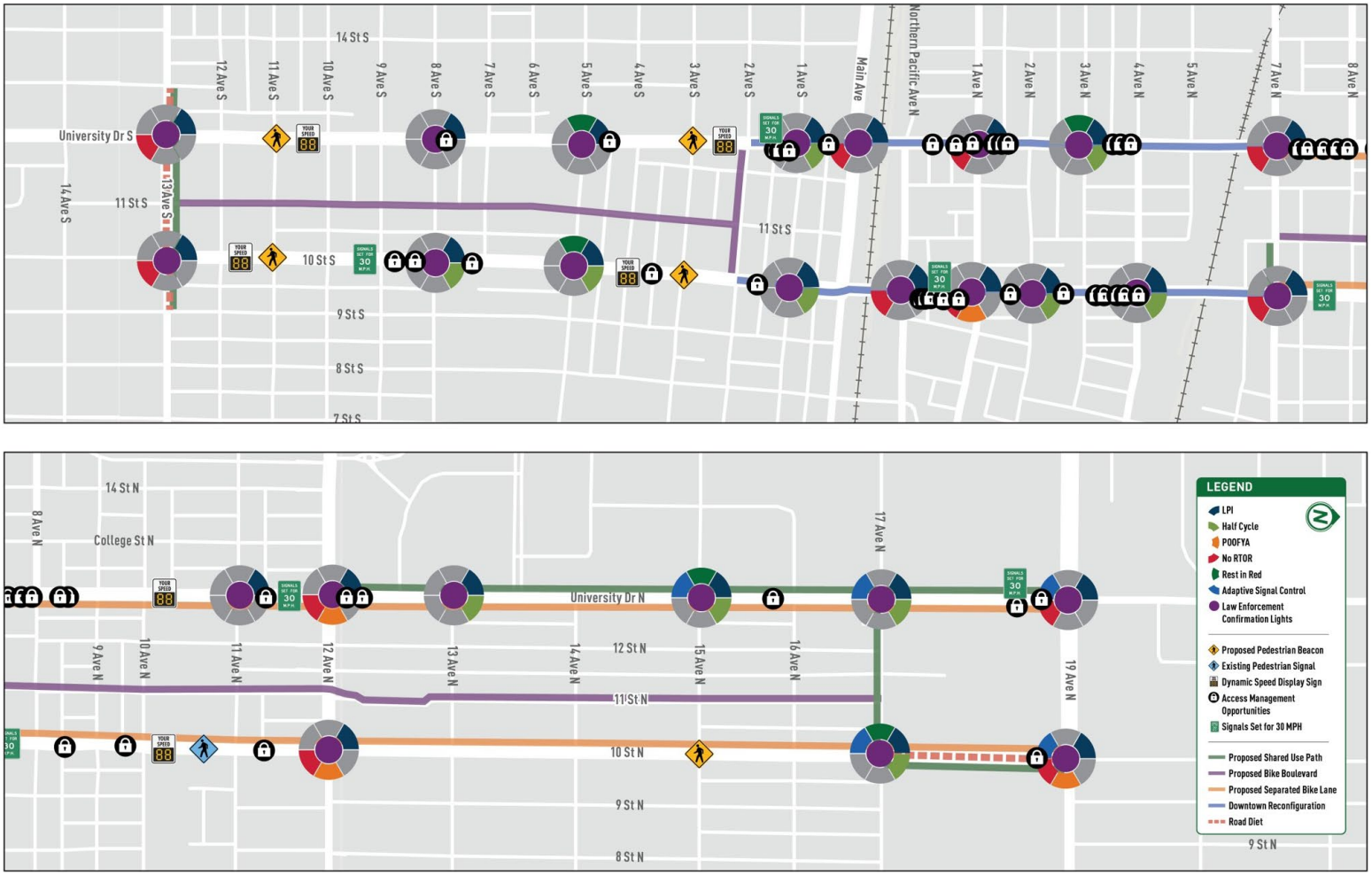
Figure 129: NDSU Pop-Up

Implementation Plan

Implementation is a critical component of turning the University Drive & 10th Street Corridor Study's vision into a reality. Implementation includes identifying network priorities and developing timeframes, refining concepts for the corridors, estimating the costs of project elements, and developing recommendations to address non-infrastructure safety issues. This process will take time and cross-agency coordination. There are no programmed projects currently funded, but the following corridor improvements have been broken down into several categories for ease of programming. **Figure 130** shows the complete package of improvements within the study area.

The Study Implementation Plan documents future improvements and recommendations for programming these improvements across the study area and recommendations for programming these improvements in order to meet transportation system goals in a timely and fiscally feasible manner. Projects are typically aggregated in short-, mid- and long term project timelines ranging from 1-20 years from the present date along with project prioritizations to ensure that the most impactful projects are developed first.

Figure 130: Overall Project Improvements



Project Sequencing

As part of the 2050 Metropolitan Transportation Plan (MTP), portions of the corridors are in the ND Reserve Projects for 2031-2040, including 10th Street N from NP Avenue to 4th Avenue N, University Drive N from 1st Avenue N to 12th Avenue N, and University Drive N from 12th Avenue N to 19th Avenue N. There are no programmed project by any agency within the study area. While the complete transformation of University Drive and 10th Street may not be feasible today, the study identified project packages that could be implemented in the near-term to mid-term along with potential funding sources.

The vision from the study includes short-term signal improvements and multimodal safety improvements, while working towards grant funding to implement improvements in the Downtown subarea.

Package #1 – Signal Safety Enhancements (Short-Term)

- Crossing and non-geometric speed suppression solutions offer high-impact low- cost short-term solutions. These include but are not limited to safer signals, new pedestrian beacons, and signal-based traffic calming (rest in red and timing).

Package #2 – Multimodal Improvements (Mid-Term)

- Bicycle route improvements and full connectivity cannot be achieved without changes in the Downtown subarea, though there are options to achieve better connectivity in the short-term.

Package #3 – Downtown Reconfiguration (Long-Term)

- The Downtown subarea presents opportunities for transformative but costly changes. While these solutions may be costly, there are several funding sources that the City of Fargo can apply to. See the next section, Funding' and 'Package #3" for more information.

Adaptive Signal Control

Adaptive signal control technology dynamically adjusts traffic signal timings to respond to changing traffic patterns and alleviate congestion. The greatest variability along the corridor is at the northern end at 19th Avenue N, 17th Avenue N, and 15th Avenue N due to NDSU and FARGODOME events. The adaptive signal control could be installed as a standalone improvement or included with larger event management systems.

Phased Improvements

Phased improvements require an implementation strategy that occurs over time, either as part of a larger project or as opportunities arise. Included in these improvements are access management, tree replacement and traffic calming policies.

- Access management improvements could include removing redundant driveways, consolidating driveway, restricting to right-in/right-out access, or removal of access if a parcel is redeveloped.
- Mature trees along the study corridors are typically replaced as boulevard trees die or to reduce exposure to diseases, and would follow the city's Tree Replacement Plan.
- Traffic calming policies can be implemented over time to bolster and support geometric improvements.

Funding Strategies

A variety of federal, state and local funds may be available to apply to future projects. The City of Fargo would lead the majority of future project efforts along the corridors and will need to coordinate early to identify and secure potential funding and get these programmed into the 4-Year, fiscally constrained, State Transportation Improvement Program (STIP).

At a state level, both the Urban Grant Program and Flex Funding could be pursued for various implementation packages.

Urban Grant Program

These state funds are reserved for larger communities in North Dakota. They can be utilized for a wide variety of improvements, including streetscape elements. The regional significance of the southern segment of the corridors will be an easier case at the state level than the federal level. While there is no maximum, the largest grants are typically around $1.5M.

Flex Funding

These state funds support improvements on major roadways in the state. The Flex Fund program could fund up to $10M in project costs. State sources could be pursued after a USDOT award to satisfy the local match.

It is incumbent on program partners to work together and proactively plan a funding strategy that can progress the corridor vision forward.

Package #1 - Safety Enhancements

Implementation Package #1 aims to improve signal operations with high-impact, low-cost measures. These include LPI, POOFYA, and no right turn on red signals. Dynamic speed signs near pedestrian crossings can reduce speeds and enhance safety. Timed signals can curb high speeds during regular traffic, while Rest-in- Red modifications calm traffic during off-peak times. Bundling these implementations for HSIP funding could be highly successful. That funding program funds projects approximately 5 years out, so applications should be submitted in the next round of funding requests.

Purpose:

- Signal Crossing Safety Improvements
  - Leading Pedestrian Internal
  - Pedestrian Omit on Flashing Yellow
  - No Right Turn on Red
- Dynamic Speed Display Signs
- Beacons at New Crossing Locations
- Signal Timing to Speed Limits
- Rest-in-Red
- Law-Enforcement Confirmation Lights

Timeline: Short-Term with Implementation in the next 1 to 5 years

Location: Corridor-Wide

Capital Cost: $1,125,000

Potential for Success: High

Funding Sources:

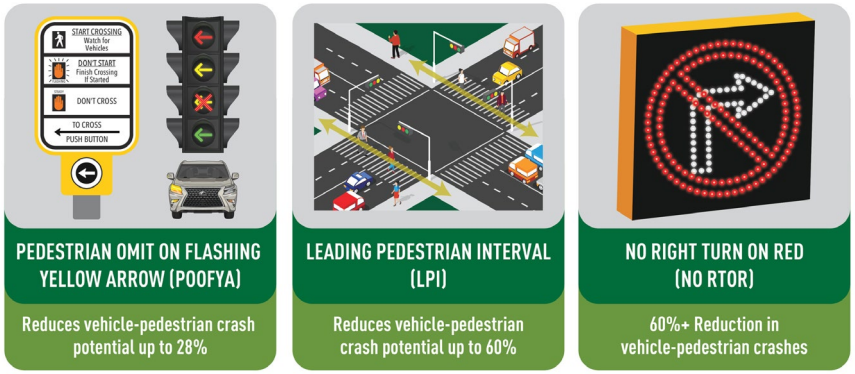
- Highway Safety Improvement Program (HSIP)
- Safe Streets and Roads for All (SS4A) Implementation Grant
- Transportation Alternatives (TA)

Key Differentiators:

- University Drive and multiple cross streets are on the region's High Injury Network

Figure 131: Package #1 Project Locations

Figure 132: Package #1 Projects



Signal Crossing Safety Improvements

Law Enforcement Confirmation Lights

Beacons at New Locations

Rest in Red

Dynamic Speed Display Signs

Signal Timing to Speed Limits

Package #2 - Multimodal Improvements

Implementation Package #2 aims to provide mid-term enhancements for pedestrian crossings and bicycle connectivity. Signal improvements from Package #1 in the North Segment may also be integrated with Package #2, depending on project phasing. Additional improvements include the introduction of bicycle boulevards in both the North and South Segments, road modifications on 10th Street N and 13th Avenue S, the conversion of bike lanes on University Drive N and 10th Street N into separated bike lanes, and the expansion of sidewalks to shared use paths in the North Segment. Considering the high crash rates throughout the corridors and significant bicycle/pedestrian volumes in the North Segment, combining all projects except for those related to 13th Avenue S would create a compelling grant application for an SS4A Implementation Grant. Alternative funding opportunities include seeking TA funds for shared use paths and separated bike lane projects in conjunction with the University Drive reconstruction programming.

Purpose:

- Signal Crossing Safety Improvements
  - Leading Pedestrian Interval
  - Pedestrian Omit on Flashing Yellow
  - No Right Turn on Red
- Bike Boulevards
- Road Diet
- Separated Bike Lanes
- Shared-Use Paths

Timeline: Mid-Term to Long-Term

Location: Corridor-Wide

Capital Cost:

- $500,000 for Signal Crossing Safety Improvements
- $130,000 for Bike Boulevards
- $500,000 for 10th Street N Road Diet
- $2,000,000 for Shared-Use Paths
- $5,800,000 for 13th Avenue S Road Diet
- $6,350,000 for Separated Bike Lanes

Including separated bike lanes as part of a corridor reconstruction would be roughly the same cost as paving the entire roadway with striped bike lanes.

Potential for Success: Medium

Funding Sources:

- Transportation Alternatives (TA)
- Safe Streets and Roads for All (SS4A) Implementation Grant

Key Differentiators:

- TA funds can be used as a local match for RAISE/BUILD if the project gets combined with Package #3 - Downtown Reconfiguration

Figure 133: Package #2 Project Locations

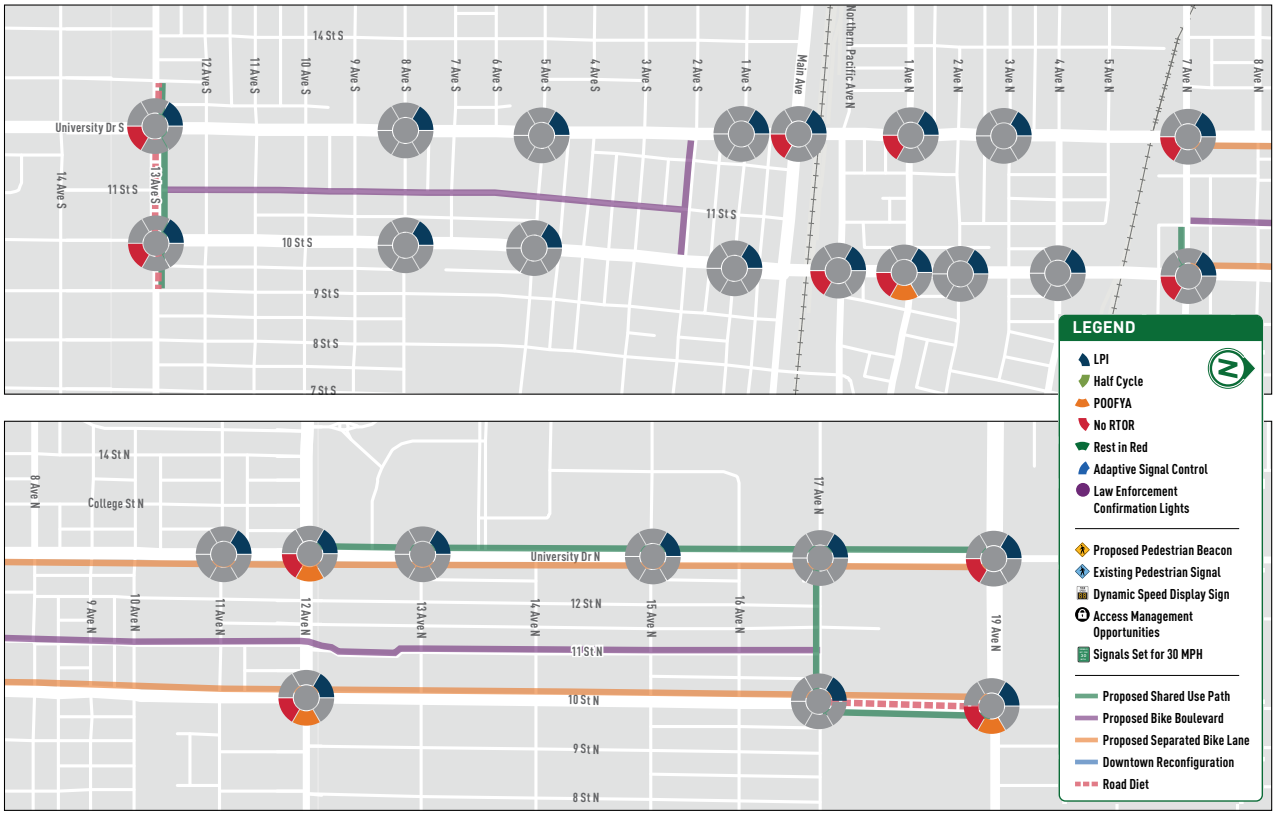


Figure 134: North Segment Improvements

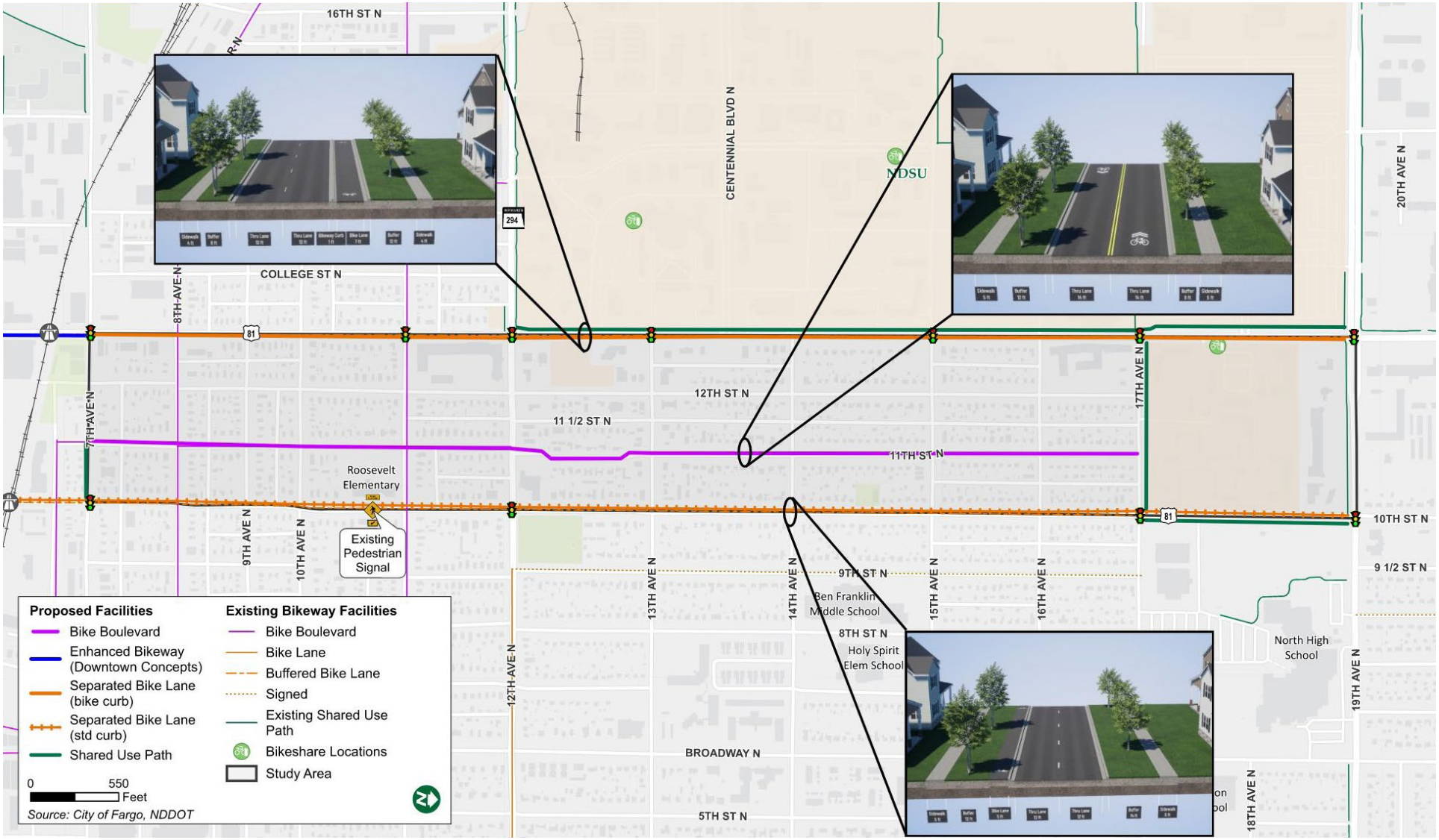
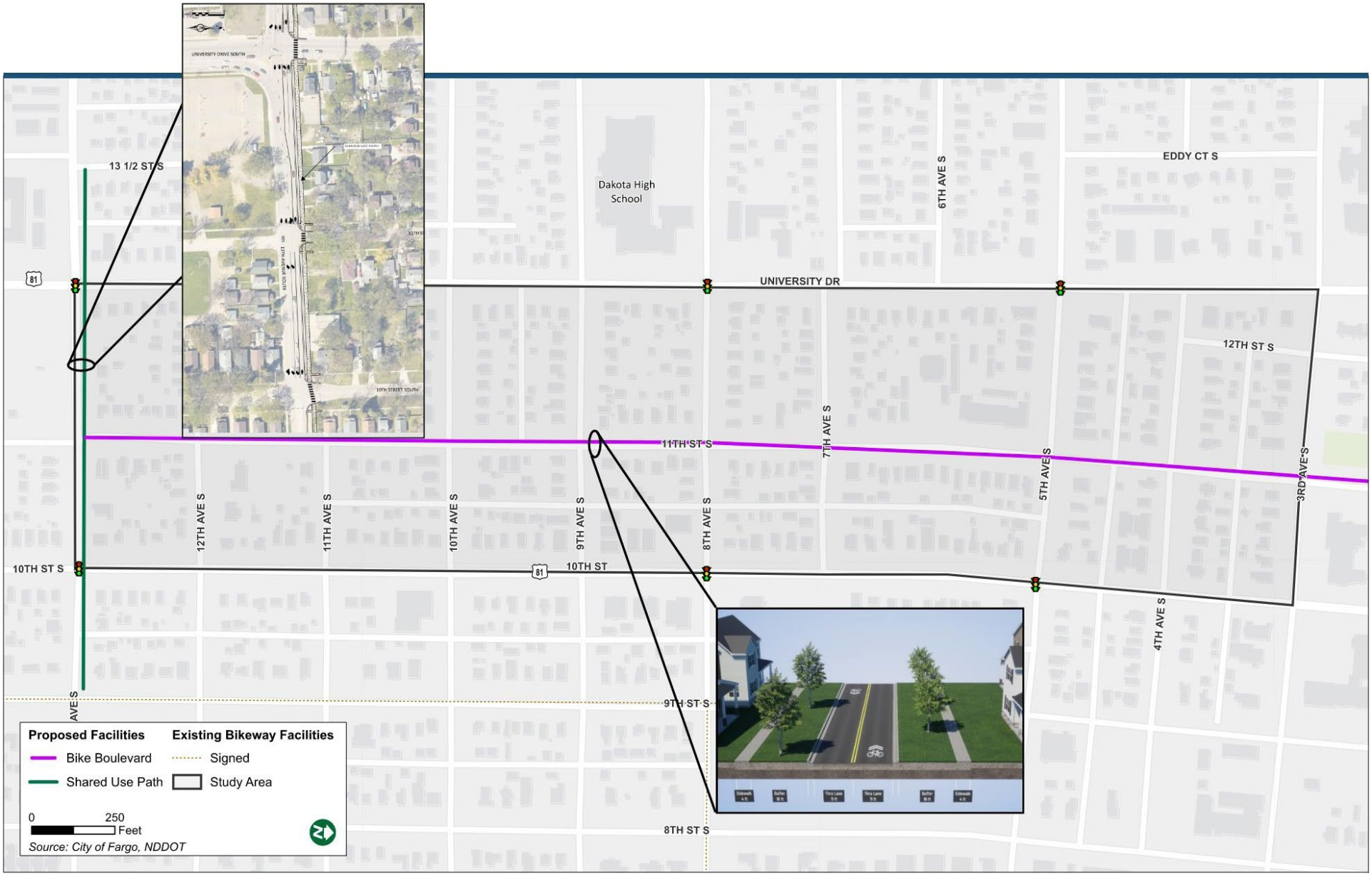


Figure 135: South Segment Improvements



Package #3 - Downtown Reconfiguration

Package #3 plans to reconfigure the corridors in the Downtown Segment. This package will change the area significantly, but it has the highest cost. According to the reconfiguration analysis, the top two alternatives are a shared use path with bus turnouts and raised bike lanes, also known as a cycle track. The project aims to connect underserved populations, prioritize safety, and increase mobility, which align with federal grant opportunities' criteria. Portions of the corridors are scheduled for reconstruction in the mid-term to long-term horizon, allowing a federal grant to utilize local funds to transform the area.

Purpose:

- Reconstruction of University Drive and portions of 10th Street
  - Road Diet; Bump-outs & Shared-Use Path (**Figure 139**), or
  - Road Diet; 1-Way Bicycle Facility (**Figure 140**).

Timeline:

- Short-Term: Planning and Environmental Documentation
- Long-Term: Physical Improvements

Location: Downtown Subarea

Capital Cost:

- $250,000 for Signal Improvements
- $10,200,000 for Full Reconstruction of University Drive
- $1,300,000 for retrofit of 10th Street

Potential for Success: Low

Federal Funding Sources:

- Better Utilizing Investments to Leverage Development (BUILD)
- Safe Streets and Roads for All (SS4A) Implementation Grant
- Flex Funds

Key Differentiators:

- Location in federally recognized disadvantaged census tracts.
  - BUILD and SS4A have set asides for projects located in disadvantaged areas (typically a soft goal of 50% of funds going to disadvantaged and rural areas).
- The project prioritizes improving mobility and safety for all users including transit.
  - Priority of each program, especially where roadways are being reduced to provide more pedestrian/bicycle space and protective boulevards.
- Traffic safety and mobility data strongly demonstrates there is an issue today which is essential to score well in all applications.
- The project will score very well in economic and community connectivity sections.
  - Improving connectivity between NDSU, Downtown Fargo, adjacent areas of affordable housing options, and significant number of "head of household" job opportunities.
- Segments of the project are recognized as high priority investments in the completed SS4A Comprehensive Safety Action Plans.

Figure 136: University Drive - Existing Conditions

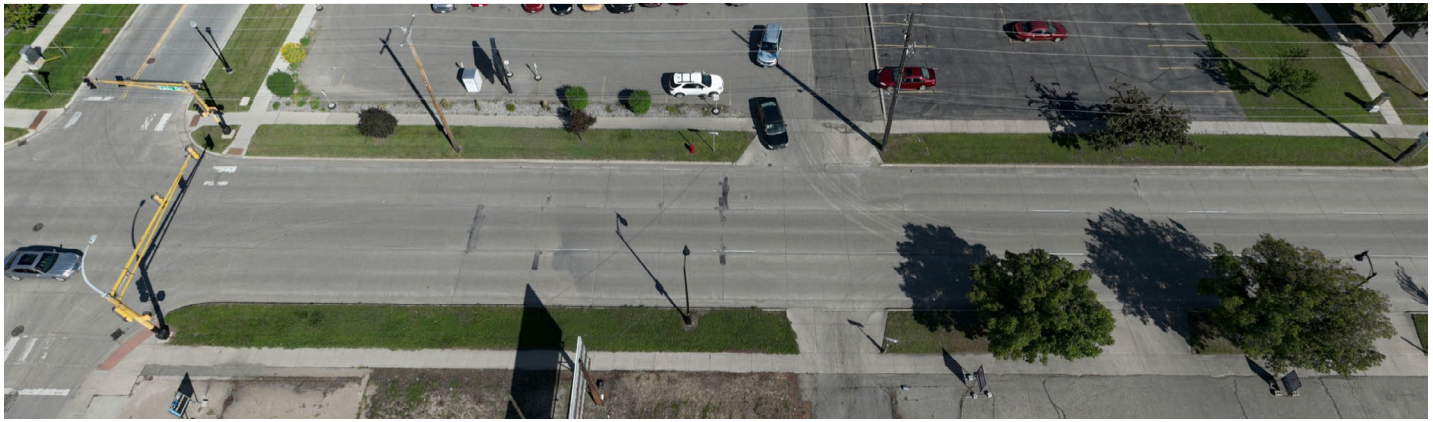


Figure 137: University Drive - Shared-Use Path

Figure 138: University Drive - Raised 2-Way Cycle Track

Adaptive Signal Control

Purpose:

Adaptive signal control technology adjusts the timing of traffic signals to accommodate changing traffic patterns and ease congestion. It continuously distributes green light time equitably, improves travel time reliability, and reduces congestion by creating smoother traffic flow. The adaptive signal controls could be included in Package #1 as signals are being updated in the North Segment, or could be a part of a larger solution for the FARGODOME as presented in the Alternative sections.

Timeline: Mid-Term

Locations:

- University Drive and 15th Avenue N
- University Drive and 17th Avenue N
- University Drive and 19th Avenue N
- 10th Street and 17th Avenue N
- 10th Street and 19th Avenue N

Capital Cost: $50,000

Potential for Success: High

Federal Funding Sources:

- Congestion Mitigation and Air Quality (CMAQ) Grant

Key Differentiators:

- University Drive and 10th Street between 15th Avenue N and 19th Avenue N are the highest variability corridors in the region due to their proximity to the FARGODOME and NDSU campus.
- The project would have reduced costs through the city's recently upgraded Centracs Advanced Transportation Management System (ATMS).

Phased Improvements

Access Management

Improving access management along the corridor can take place as businesses and parcels along the corridor develop/redevelop. Access changes may also be implemented if/when the corridors are reconstructed. Immediate attention should be given to areas that are the most unsafe, but to be effective and cost efficient, this effort should realized as the corridor changes.

Tree Replacement Plan

The City of Fargo has implemented a tree replacement program that states, "When boulevard trees die, the Forestry Department replaces them as often as possible with a suitable species. Listed below are a few guidelines the department looks for when replanting trees across the City:

- Is there enough space between the existing trees to start another?
- Is the site spaced 40-feet or more away from an intersection? We actively try to maintain a 40-foot open space at intersections. On busier intersections across town, the clear zone may be extended up to 50 or 60 feet.
- Would a new tree be a good distance away from streetlights? Ideally, the city maintains a 20-foot buffer on each side of the light.
- Is the planting location at least 8-feet away from water lines or fire hydrants?
- Is the planting location at least 10-feet away from the driveway?

If these guidelines are met, the Fargo Forestry Department will replant on the property in the spring of fall of the year. Typically, they will select the variety of trees to be replanted.

Traffic Calming Policy

Geometric traffic calming measures were widely supported to reduce speeds along the corridor. The following are other traffic calming measures, outside of physical infrastructure, that could be implemented.

Automated Traffic Enforcement (ATE) Regulations: Although ATEs are not currently outlined in North Dakota Century Code, the City of Fargo is advocating for their implementation to enhance safety. These traffic cameras have been used nationwide, reducing crashes and speeding, as seen in Cedar Rapids, Iowa, where enforcement is based on MPH over the speed limit. Despite their positive impact on speeding, these cameras can be perceived as revenue generators and may create a division between law enforcement and the community.

Ticket Rates: While state-level ticket rates apply to speeding and traffic violations, Municipal Fines can be locally set by Commission vote. This allows for targeted enforcement in specific areas or citywide, including additional fines for running red lights or speeding. Similar to ATE, this approach can generate revenue and has shown positive results in MN.

Community Policing: Community policing positively impacts traffic safety and community improvement by encouraging safer behavior through data-driven enforcement and strategic policing. It identifies where and when issues occur and strategically places officers for on-the-ground enforcement. 'Informational tickets' serve as first infractions, providing local data to discourage unsafe driving. Partnerships between law enforcement and healthcare agencies can fund these initiatives. While beneficial, community policing may increase upfront costs for materials and analysis.

Next Steps

The purpose of the University Drive and 10th Street Corridor Study is to identify roadway improvements that could mitigate safety, multimodal, and traffic flow issues. The concepts developed as part of this study are high-level and will need additional refinement through preliminary and final design. Environmental review and permitting will also be required with exact requirements based on the scope of the project and the funding source. As future projects may turn from plan to reality, they will move forward as part of the City's Capital Improvement Plan (CIP) process, which involves additional public engagement specific to the project area and timing. The following issues will need further vetting during preliminary designs:

- Traffic control and traffic calming measures for bike boulevards,
- Multimodal facility type in the Downtown Segment,
- Transition of bikeway facilities at project termini,
- Potential to pull adaptive signal control into safety improvements package,
- Routing of shared use paths to avoid mature trees, and
- Prioritizing multimodal improvements, if required by budget.

The improvement options identified and the alternatives recommended in this study will enable the City of Fargo to sustain better functioning arterial roadways, enhance mobility, and ensure safer travel conditions.

Study partners must continue to work together to further plan, obtain funding, design, and implement the recommended improvement projects. All partners have an active role in implementing these improvements. All competitive funding sources should be considered. Agencies should also update their comprehensive and transportation plans to include these findings to better leverage funding sources.

METROCOG

FARGO-MOORHEAD METROPOLITAN COUNCIL OF GOVERNMENTS

Appendix A -
Public Engagement Materials

Appendix B -
Downtown Reconfiguration Concepts