MAPO
MANKATO/NORTH MANKATO
AREA PLANNING ORGANIZATION

Lee Blvd Corridor Study

Final Report

Date: November 6, 2025
To: Project Management Team
From: Bolton & Menk, Inc.

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I. Introduction

The City of North Mankato is partnering with the Mankato/North Mankato Area Planning Organization (MAPO) to determine a vision for a quarter-mile segment of Lee Boulevard between Lookout Drive and Belgrade Avenue. The goal of corridor vision is to improve vehicle and pedestrian safety, effectively manage access, and provide resiliency and protection to a flood prone area along the Minnesota River.

A. Study Area

The project area is shown in **Figure 1** below.

Figure 1. Study Area

Lee Boulevard serves as one of two local routes between upper and lower North Mankato as it traverses down the bluffs sectioning the city into two halves. The roadway serves a mixture of land uses along its full alignment, with industrial, residential, and institutional land uses present along the route. Notable destinations on Lee Boulevard include North Mankato City Hall, Fire Station #1, and South Central College. Lee Boulevard is a minor arterial roadway carrying approximately 9,200 vehicles per day within the study area and has a posted speed limit of 35 mph. Lookout Drive and Belgrade Avenue are also classified as minor arterial roadways. Lee Boulevard features an urban cross section with one through lane in each direction, with turn lanes at select intersections and sidewalk along the east side of the roadway.

The intersections of Lee Boulevard at Belgrade Avenue and South Avenue are stop controlled with Lee Boulevard traffic having the right of way. The intersection of Lee Boulevard at Lookout Drive is signalized.

B. Previous Studies

1. Belgrade Avenue Corridor Study (2017)

The Belgrade Avenue Corridor Study completed in 2017 identified operational and safety concerns at the intersection of Lee Boulevard at Belgrade Avenue. Although the crash analysis showed the number of crashes within the normal range compared to similar intersections statewide, four of the seven crashes were right angle crashes. The study also showed that operational issues would become worse as traffic volumes continue to grow. The study ultimately recommended that a single lane roundabout be installed after monitoring the intersection for increased crashes and/or worsening delay but noted concerns with intersection approach grades and impacts to adjacent properties if a roundabout were to be constructed.

2. Lookout Drive Corridor Study (2022)

The Lookout Drive Corridor Study completed in 2022 showed no operational concerns at the intersection of Lee Boulevard at Lookout Drive with existing or forecasted volumes. All movements were found to operate with LOS C or better during peak hours. The crash history indicated that the intersection operates within the normal range compared to similar intersections statewide. The study considered a roundabout at the intersection of Lookout Drive at Lee Boulevard; however, no change in intersection traffic control was recommended as the existing traffic signal was found to be operating acceptably. The need for a 10-foot shared use path along Lookout Drive west of Lee Boulevard was an identified improvement as there is a notable gap in the pedestrian and bike network along Lookout Drive. No recommendations were identified for Lookout Drive east of Lee Boulevard as a part of this study because Lee Boulevard was the eastern project limit.

II. Existing Conditions

A. Data Collection

In April 2025, 48-hour turning movement counts were collected at the following intersections when the weather was good and school was in session.

- Lookout Drive at Lee Boulevard
- South Avenue (east and west accesses) at Lee Boulevard
- Belgrade Avenue at Lee Boulevard

Figure 2 shows the daily volumes over the two days from the April 2025 count compared to historic data from the MnDOT Traffic Mapping Application.

Figure 2. Study Area

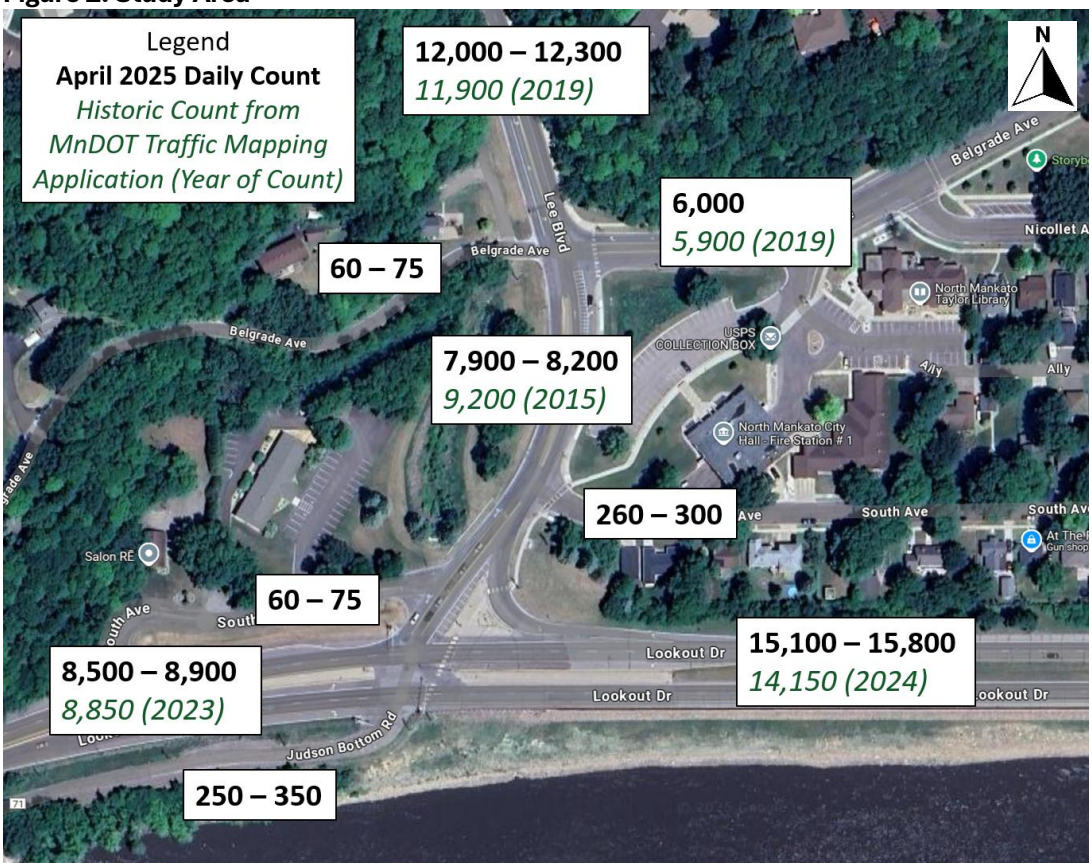


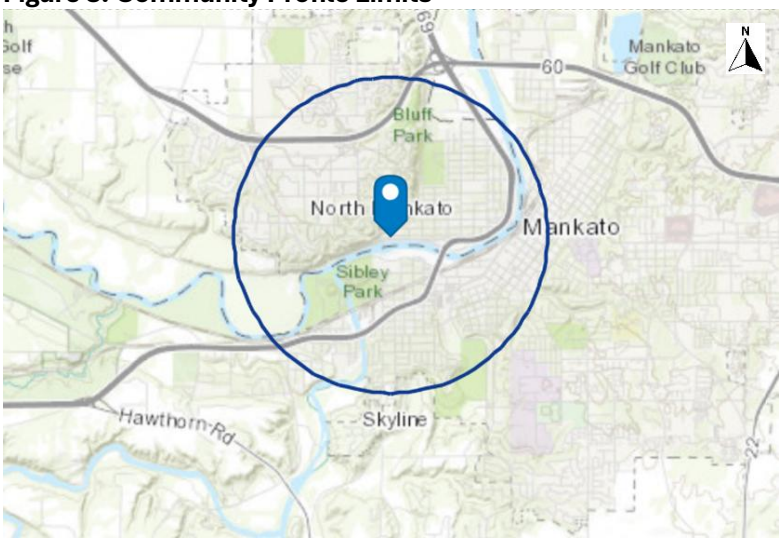
Figure 2 shows how traffic counts were found to be consistent between the two days collected and the data collected shows that volumes are in line with the recent MnDOT counts. The AM and PM peak hour traffic volumes were compared between the two days data was collected, and the higher peak hour counts were used in an operational analysis. The peak hour traffic count data is shown in **Appendix A**.

B. People and Places Review

1. Demographics

A community profile was completed for the area within 1.5 miles of the project corridor as shown in **Figure 3** to analyze key demographics.

Figure 3. Community Profile Limits

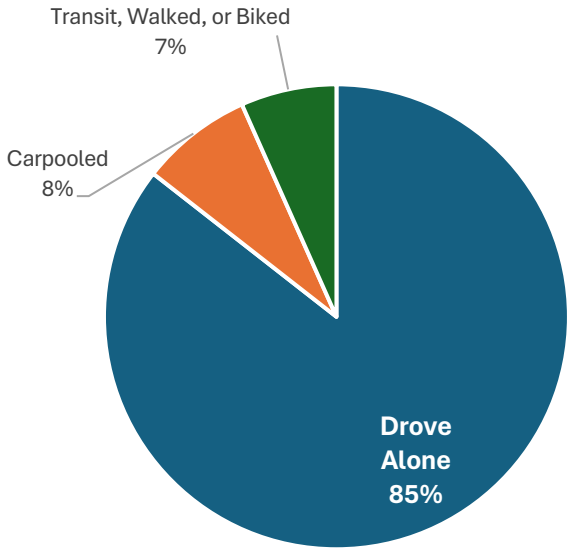


Some key facts are listed below:

- An estimated 16,887 people live in the 7,369 households that occupy this area
- This population is primarily white (90.2 percent), with 2.8 percent being Black or African American, and 1.7 percent Asian.
- The median household income in this area is $65,470.
- 18 percent of households fall below the poverty line.
- 24 percent of the population is under 20 years of age and 60 percent of the population is between 20 and 64 years of age.
- Three percent of the population has no internet access at home.

The 2018-2022 transportation to work for households within the 1.5-mile radius of the project area was analyzed. **Figure 4** shows of those aged 16+ going into work 85% drive alone, 8% are carpooling, and 7% use transit, walk or bike.

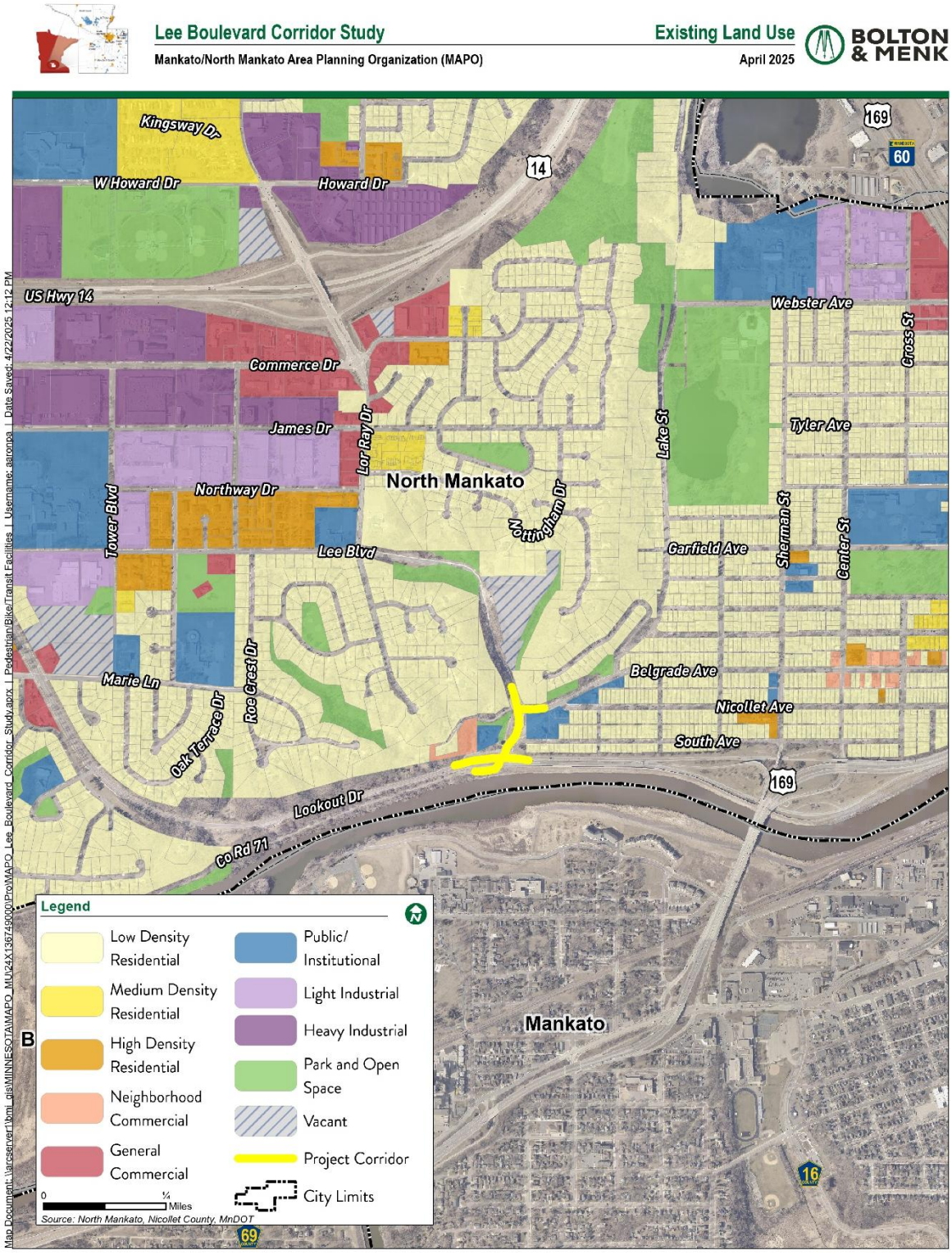
Figure 4. Transportation to Work



2. Land Use

Lee Boulevard is surrounded by different land uses, as shown in **Figure 5**. The corridor is directly bordered by public/institutional, residential, and park/open space. Notable destinations on Lee Boulevard include North Mankato City Hall, Fire Station #1, and South Central College located about one mile northwest of the Lee Boulevard at Belgrade Avenue intersection.

Figure 5. Existing Land Use



3. Access

Access management is the process of balancing the competing needs of traffic movement and property access. Access points introduce conflict and friction into the traffic stream. Allowing dense, uncontrolled access spacing results in safety and operational deficiencies for vehicles and reduces bicycle and pedestrian comfort and safety. Private and public access along Lee Boulevard and within 500 ft of the project corridor were documented as shown in **Figure 6**.

Figure 6. Existing Access Inventory

According to Table 6-E of the 2023 City of North Mankato Comprehensive Plan private access is not permitted on minor arterial or major collector roadways and the minimum corner clearance from a collector street is 660 feet. The Comprehensive Plan states that these guidelines should be used for new roadways and recognizes that some existing city streets do not meet these criteria; however, these distances were referenced to see how the existing roadways do or do not meet spacing recommendations. Table 6-E is included below for reference.

Table 6-E: Access Spacing Guidelines for Collector Roadways in North Mankato (1) (2)

Type of Access by Land Use Type	Minor Arterial/Major Collector	Minor Collector
Low & Medium Density Residential		
Private Access	Not Permitted (3)	As Needed (4)
Minimum Corner Clearance from a Collector Street	660'	300'
Commercial, Industrial or High Density Residential		
Private Access	Not Permitted (3)	As Needed (4)
Minimum Corner Clearance from a Collector Street	660'	660'

(1) Some existing City streets that are currently functionally classified as Minor Arterial, Major Collector, or Minor Collector do not meet these criteria. These guidelines should be used for new streets and roadways that will functionally classify as Minor Arterial, Major Collector, or Minor Collector

(2) These guidelines apply to City streets only. Nicollet County and MnDOT have access authority for roadways under their jurisdiction.

(3) Access to Minor Arterials and Major Collectors should be limited to public street access. Steps should be taken to redirect private accesses on Major Collectors to other local streets. New private access to Major Collectors is not permitted unless deemed necessary.

(4) Private access to Minor Collectors is to be evaluated by other factors. Whenever possible, residential access should be directed to non-continuous streets rather than Minor Collector roadways. Commercial/Industrial properties are encouraged to provide common accesses with adjacent properties when access is located on the Minor Collector system. Cross-traffic between adjacent compatible properties is to be accommodated when feasible. A minimum spacing between accesses of 660' in commercial, industrial, or high-density residential areas is encouraged for the development of turn lanes and driver decision reaction areas.

Along Lee Boulevard the east South Avenue access is located about 250 feet from Belgrade Avenue, the west South Avenue is located 425 ft from Belgrade Avenue, and Lookout Drive is located about 550 ft from Belgrade Avenue. Therefore, even excluding South Avenue, the intersections of Lookout Drive and Belgrade Avenue along Lee Boulevard are less than the recommended distance of 660 ft.

Along Lookout Drive the intersection of South Avenue is located about 300 ft from Lee Boulevard/Judson Bottom Road.

Figure 6 also shows several private driveways along South Avenue and the private driveway along Belgrade Avenue that provides access to North Mankato City Hall, Police, Fire Station #1, and the Taylor Library.

Table 6-D the 2023 City of North Mankato Comprehensive Plan shows roadway access recommendations for new development and redevelopment. Table 6-D is included below for reference.

Table 6-D: Roadway Access Standards

	Maximum Curb Cut (Measured at Property Line)	Maximum Number of Curb Cuts	Minimum Distance Between Curb Cuts	Minimum Side Yard Driveway Setback
Single Family Interior Lot	24 feet	1	20 feet	10 feet
Single Family Corner Lot	24 feet	1	20 feet	10 feet
Single Family Corner Lot utilizing circular drive	14 feet	2	20 feet	10 feet
Single Family Cul-de-Sac Lot	24 feet	1	20 feet	10 feet
Multi-Family (2-8 Units)	24 feet	1	20 feet	10 feet
Multi-Family (Over 8 Units)	24 feet	2	20 feet	10 feet
Commercial/Business	36 feet	2	20 feet	10 feet
Industrial	50 feet	4	20 feet	10 feet

There is one home along South Avenue that has two accesses, which is higher than the recommended maximum one access. There are also driveways for single family lots, City Hall/Fire Station #1, and the Police Annex that do not meet the recommended minimum distance between accesses along South Avenue.

C. Multimodal Review

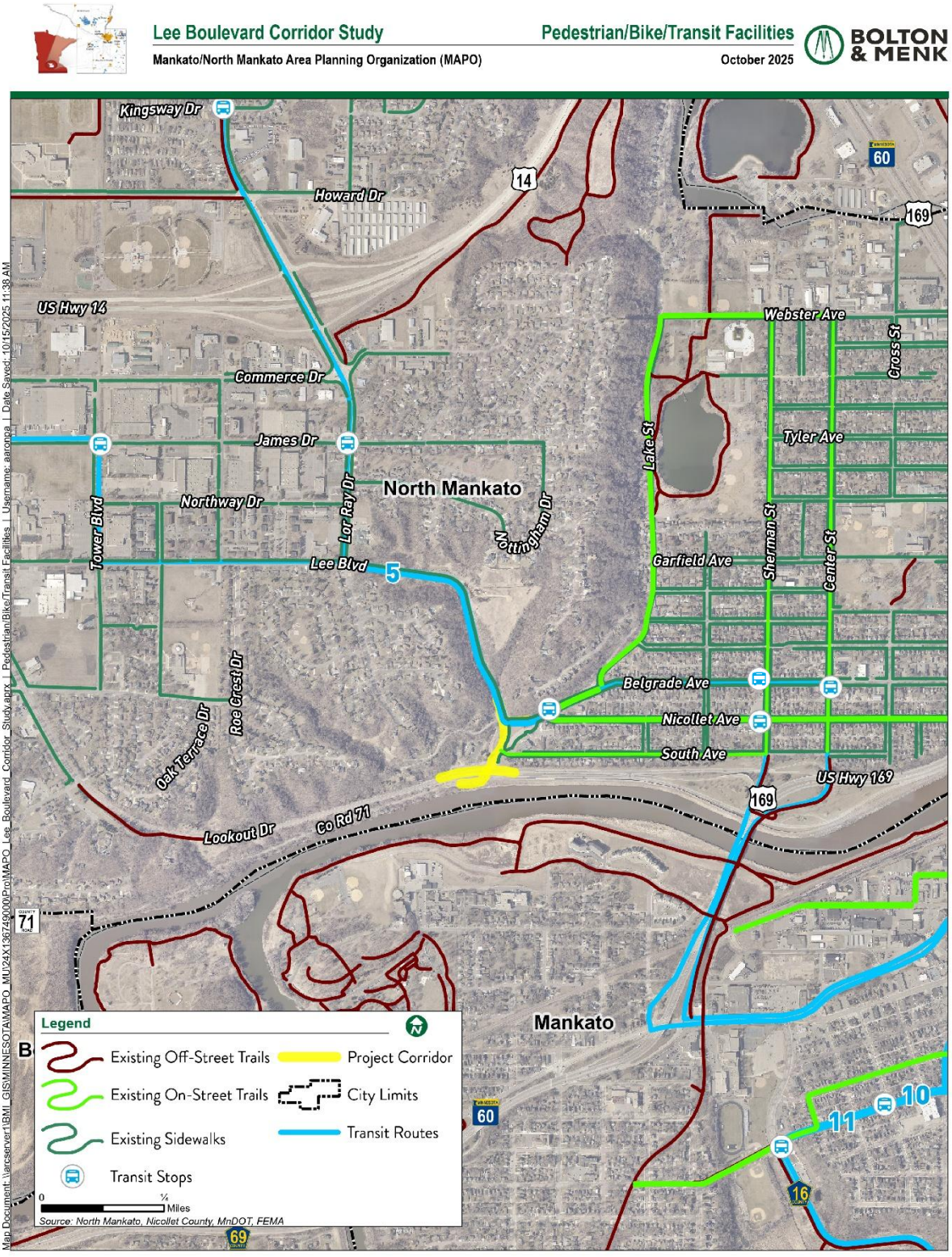
Enhancing the ability of people to walk and bike involves providing adequate infrastructure and linking urban design, streetscapes, and land use to encourage walking and biking. Designing roadways to accommodate all types of users is commonly termed “complete streets”, which come with many benefits. Streets designed with sidewalks, raised medians, traffic-calming measures and treatments for travelers with disabilities improve pedestrian safety. Existing multimodal facilities are shown in **Figure 7** and discussed in more detail below.

Along Lee Boulevard there is existing sidewalk on the east side of the roadway that connects to the sidewalk along South Avenue, Nicollet Avenue, and Belgrade Avenue; however, no pedestrian facilities exist along Lookout Drive. Additionally, there are no facilities on the west side of the roadway so there are no marked crossings of Lee Boulevard along the corridor.

The majority of the trails shown near the project area are on-street bicycle facilities.

Existing Mankato Transit Route 5 serves the City of North Mankato. This route runs along Belgrade Avenue east of the project corridor and along Lee Boulevard north of Belgrade Avenue. The closest transit stops are located at the intersections of Belgrade Avenue and Center Street and Nicollet Avenue and Sherman Street (Koppen Gardens).

Figure 7. Existing Pedestrian, Bicycle, and Transit Facilities



D. Flood Mitigation

The study area is in close proximity to the Minnesota River. Given this proximity, flooding concerns are a consideration that need to be understood and accounted for as alternatives are developed.

The floodwall that protects lower North Mankato from extreme river stages is present along Lookout Drive and Highway 169. The western termination point of the floodwall is approximately 200' east of the Lookout Drive/Lee Boulevard/Judson Bottom Road intersection. This "gap" in floodwall protection requires the implementation of various flood fighting initiatives based on projected river levels.

- Judson Bottom Road: Judson Bottom Road is significantly lower than both the floodwall and the Lookout/Lee Boulevard intersection. The Lookout/Lee intersection is at an elevation of approximately 788', the floodwall is at an elevation of approximately 786', and Judson Bottom Road is at an elevation of approximately 782' just south of the Lookout/Lee intersection and even lower along other portions of the roadway to the west. Frequent closures of the Judson Bottom Road leg of the intersection have been witnessed over the years, forcing roadway residents to utilize CSAH 41 as an alternate route during these closures. This adds travel time for the residents and significantly increases emergency services response times with vehicles forced to travel about five extra miles when Judson Bottom Road is closed. Judson Bottom Road is closed when the river stage reaches approximately 24' (775.2' elevation).
- Lookout Drive/Lee Boulevard Intersection: Key river level thresholds trigger the need for a temporary levee to be placed across Lookout Drive and Lee Boulevard. This temporary levee effectively connects the existing floodwall on the south side of Lookout Drive to an earthen/concrete dike on the west side of Lee Boulevard. It provides enhanced flood protection in the event of extreme river stages but also closes the intersection to traffic, effectively closing Lookout Drive from the Carol Court intersection in upper North Mankato to Lookout Drive's termination point on the Highway 169 bridge over Riverfront Drive.
    - The temporary levee is constructed when the river level is projected to reach 32.1' (783.3' elevation). This river elevation is approximately 0.5' lower than the lowest elevation in the study area. On an elevation basis, the intersection is higher than the projected river level that requires temporary levee construction. However, minimal "freeboard" or additional height above the base flood elevation exists between the levee construction and the roadway elevations, and the variability in river level projections will likely warrant temporary levee construction below river level 32.1' given the extreme flooding that would occur if the river would overtop the existing elevation of the intersection.
    - It should be noted that during the record flood of 30.1' in June of 2024, the temporary levee was constructed despite the river level being approximately 2' below the targeted temporary levee construction level. This was completed given the uncertainties surrounding river level impacts associated with a possible collapse of the Rapidan Dam upstream of the project area. While the dam did not collapse, an abundance of caution was exercised given the unknowns associated with impacts to river levels associated with the dam collapse.
    - Flood stage river levels also require certain flood mitigation techniques to ensure that runoff on the community side of the levee is managed appropriately. Certain storm sewer outfalls need to be plugged to ensure that river water does not back up in the system and flood the community. As a result of these closures, the stormwater lift

station system needs to be activated to help convey rainfall and runoff out of the city system. Regardless of any alternative that raises the study area or expands the floodwall, these operational considerations will be present. These protocols are detailed in the City's emergency management plan for flooding.

The temporary levee system impacts traffic operations in the project area when it is constructed as it requires the closure of the Lookout Drive and Lee Boulevard intersection. This forces 14,150 vehicles per day along Lookout Drive and 9,200 vehicles per day along Lee Boulevard to other roadways such as Belgrade Avenue causing significant congestion. From a risk management perspective, any temporary levee does not have the resiliency of a permanent levee. While the probability of the temporary levee being activated is relatively low, the risk of a temporary levee failure is higher than a permanent levee. A temporary levee failure would be catastrophic for the lower North Mankato area. Flood mitigation alternatives will be considered as part of the alternatives analysis.

E. Safety

A crash review was completed for the project area analyzing crash data from the last five years (2020-2024) using the Minnesota Department of Transportation's (MnDOT) Crash Mapping Analysis Tool (MnCMAT2).

A comparison of the crash rate and the critical rate were completed to determine if there is a safety issue at any of the intersections in the project area. The total crash rate is the number of crashes per million entering vehicles (MEV). The critical rate is a statistical comparison based on similar intersections statewide. An observed crash rate greater than the critical rate indicates that the intersection operates outside of the expected normal range. The critical index reports the magnitude of this difference and a critical index of less than one indicates that the intersection is operating within the normal range. **Table 1** summarizes the crash rate information by intersection.

Table 1. Intersection Crash Rate Analysis

Intersection	Traffic Control	Total Crashes	Observed Crash Rate	Statewide Average Crash Rate	Critical Crash Rate	Critical Index
Lookout Dr at Lee Blvd	Traffic Signal	15	0.495	0.644	1.04	0.48
South Ave at Lee Blvd	Two-Way Stop	1	0.065	0.145	0.43	0.15
Belgrade Ave at Lee Blvd	Two-Way Stop	8	0.330	0.145	0.36	0.92

Table 1 shows how the critical index was found to be less than one for all intersections indicating that the intersections are all found to operate within the normal range compared to similar intersections statewide. However, one additional crash at the intersection of Belgrade Avenue and Lee Boulevard would put this intersection outside the normal range. The crash worksheets for all intersections are included in **Appendix B**. **Table 2** summarizes the crash data by severity.

Table 2. Crash Severity

Intersection	Total Crashes	Crash Severity				
		Fatal	Serious Injury	Minor Injury	Possible Injury	Property Damage Only
Lookout Dr at Lee Blvd	15	0	1	2	2	10
South Ave at Lee Blvd	1	0	0	0	0	1
Belgrade Ave at Lee Blvd	8	0	0	1	2	5

Table 2 indicates there has been one serious injury crash in the last five years, which occurred at the intersection of Lookout Drive and Lee Boulevard. The crash was a left turn crash involving an eastbound left turning vehicle that failed to yield to a westbound through vehicle. **Table 3** summarizes the crash data by type.

Table 3. Crash Type

Intersection	Total Crashes	Crash Type			
		Left Turn	Right Angle	Rear End	Single Vehicle Ran off Road
Lookout Dr at Lee Blvd	15	8	2	4	1
South Ave at Lee Blvd	1	-	-	1	-
Belgrade Ave at Lee Blvd	8	3	4	-	1

Table 3 indicates that the majority of crashes have been angle (right angle or left turn) crashes. At the intersection of Lookout Drive and Lee Boulevard eight of the crashes were left turn crashes and two were right angle crashes. At the intersection of Belgrade Avenue and Lee Boulevard four of the crashes were right angle crashes and three of the crashes were left turn crashes.

A ten-year (2015-2024) crash analysis was completed to analyze fatal, serious injury, and pedestrian or bicycle related crashes. There was one additional serious injury crash at the intersection of Lookout Drive and Lee Boulevard, which was a left turn crash. There have been no fatal, or pedestrian/bicycle related crashes in the last ten years in the project area.

F. Traffic Operations

The traffic operation analysis included an evaluation of existing intersection delay and Level of Service (LOS). LOS results are described using letters ranging from A to F. These letters serve to describe a range of operating conditions for different types of facilities. Levels of Service are calculated based on the Highway Capacity Manual 7th Edition, which bases the level of service on traffic control delay. For example, a LOS A means the intersection is performing well with minimal traffic delays. As intersection traffic delays increase, the LOS for the intersection decreases to a B, C, D, E or F, with F representing the greatest delay. LOS D is commonly taken as an acceptable design year LOS.

Control delay is the delay experienced by vehicles slowing down as they are approaching the intersection, the wait time at the intersection, and the time for the vehicle to speed up through the intersection and enter into the traffic stream. The average intersection control delay is a volume weighted average delay experienced by all motorists entering the intersection.

The delay threshold for unsignalized intersections is lower for each LOS compared to signalized intersections, which accounts for the fact that road users expect higher delay when at a stop-controlled intersection. **Table 4** details the control delay level of service thresholds for signalized and unsignalized intersections.

Table 4. Level of Service Criteria

LOS	Signalized	Unsignalized
	Control Delay per Vehicle (sec.)	Control Delay per Vehicle (sec.)
A	≤ 10	≤ 10
B	> 10 and ≤ 20	> 10 and ≤ 15
C	> 20 and ≤ 35	> 15 and ≤ 25
D	> 35 and ≤ 55	> 25 and ≤ 35
E	> 55 and ≤ 80	> 35 and ≤ 50
F	> 80	> 50

The existing AM and PM peak hours were analyzed using Synchro/SimTraffic. Traffic operations are shown in **Table 5.**

Table 5. Existing Traffic Operational Analysis

Intersection	Approach	AM Peak Hour Traffic Delay (sec/veh)					PM Peak Hour Traffic Delay (sec/veh)				
		Movement (Delay - LOS)			Approach (Delay - LOS)	Intersection (Delay - LOS)	Movement (Delay - LOS)			Approach (Delay - LOS)	Intersection (Delay - LOS)
		L	T	R			L	T	R		
Lee Blvd & Belgrade Ave *Stop Control*	EB	10 - B	31 - D	2 - A	12 - B	3 - A	-	8 - A	-	8 - A	4 - A
	WB	25 - D	12 - B	3 - A	6 - A		22 - C	13 - B	3 - A	7 - A	
	NB	-	1 - A	1 - A	1 - A		3 - A	1 - A	1 - A	2 - A	
	SB	6 - A	1 - A	-	3 - A		6 - A	2 - A	-	4 - A	
South Ave & Lee Blvd *Stop Control*	EB	-	-	5 - A	5 - A	4 - A	27 - D	-	6 - A	13 - B	4 - A
	WB	22 - C	-	4 - A	10 - B		40 - E	-	4 - A	21 - C	
	NB	-	5 - A	3 - A	5 - A		-	6 - A	4 - A	6 - A	
	SB	11 - B	2 - A	0 - A	3 - A		6 - A	2 - A	-	3 - A	
Judson Bottom Rd/Lee Blvd & Lookout Dr *Traffic Signal*	EB	12 - B	11 - B	-	12 - B	11 - B	12 - B	11 - B	-	12 - B	12 - B
	WB	11 - B	12 - B	7 - A	10 - B		13 - B	12 - B	6 - A	10 - B	
	NB	-	-	4 - A	4 - A		-	15 - B	3 - A	7 - A	
	SB	16 - B	2 - A	3 - A	15 - B		16 - B	10 - B	2 - A	15 - B	

Table 5 shows how the eastbound through and westbound left movements at the intersection of Belgrade Avenue and Lee Boulevard operate with LOS D during the AM peak hour and the eastbound and westbound left movements at the intersection of South Avenue and Lee Boulevard operate with LOS D or E during the PM peak hour. All other movements operate with LOS C or better. The intersections overall operate with LOS A or B during the peak hours. Detailed operational tables which show traffic queuing results are included in **Appendix C**. Most queues were found to be contained with the storage space available; however, the maximum northbound queue in the AM peak hour at South Avenue and Lee Boulevard indicates that at times when vehicles slow or stop to make a turn onto South Avenue vehicles can queue into the intersection at Lookout Drive.

G. Environmental Impacts

An environmental screening was completed to identify sensitive areas by considering all NEPA social, economic, and environmental categories. This will be used to inform and evaluate corridor alternatives. The environmental screening table in **Appendix D** provides a thorough review of the following topics:

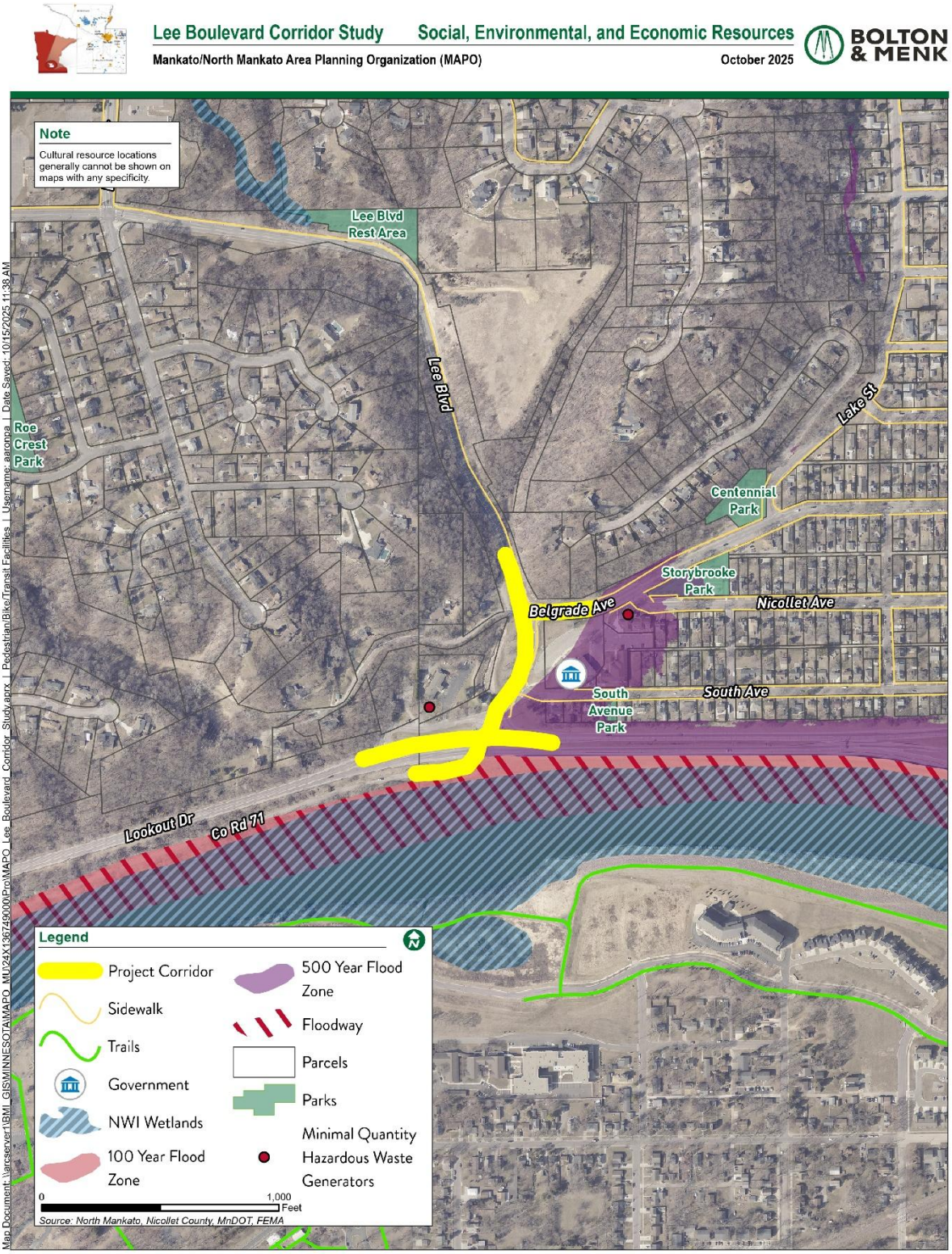
- Social and Community
- Section 4f/6f Resources
- Traffic Noise
- Farmland
- Historic/Archeological
- Soils/Erosion
- Utilities
- Water Resources
- Drainage
- Contaminated Properties
- Fisheries
- Vegetation
- Protected Species

The key takeaways are as follows:

- There are several government services buildings in project area.
- Lee Boulevard and Lookout Drive are main connector roads for the community.
- There are no section 4(f) or 6(f) properties and no archeological sites in the study area.
- There are overhead power lines on the west side of Lee Boulevard.
- The study area falls within the Mankato Watershed of the Minnesota River Basin. Wetlands and floodplains are within the study area
- There are two sites which were identified as minimal quantity hazardous waste generators.
- The study area is within an area noted to potentially possess significance as a traditional cultural property for Dakota nations for its association with the Minnesota Trail of Tears and March of Remembrance.
- There are known occurrences of endangered or threatened species within one-mile of the project corridor, most associated with the Minnesota River.

Figure 8 summarizes the social, environmental, and economic resources in the project area.

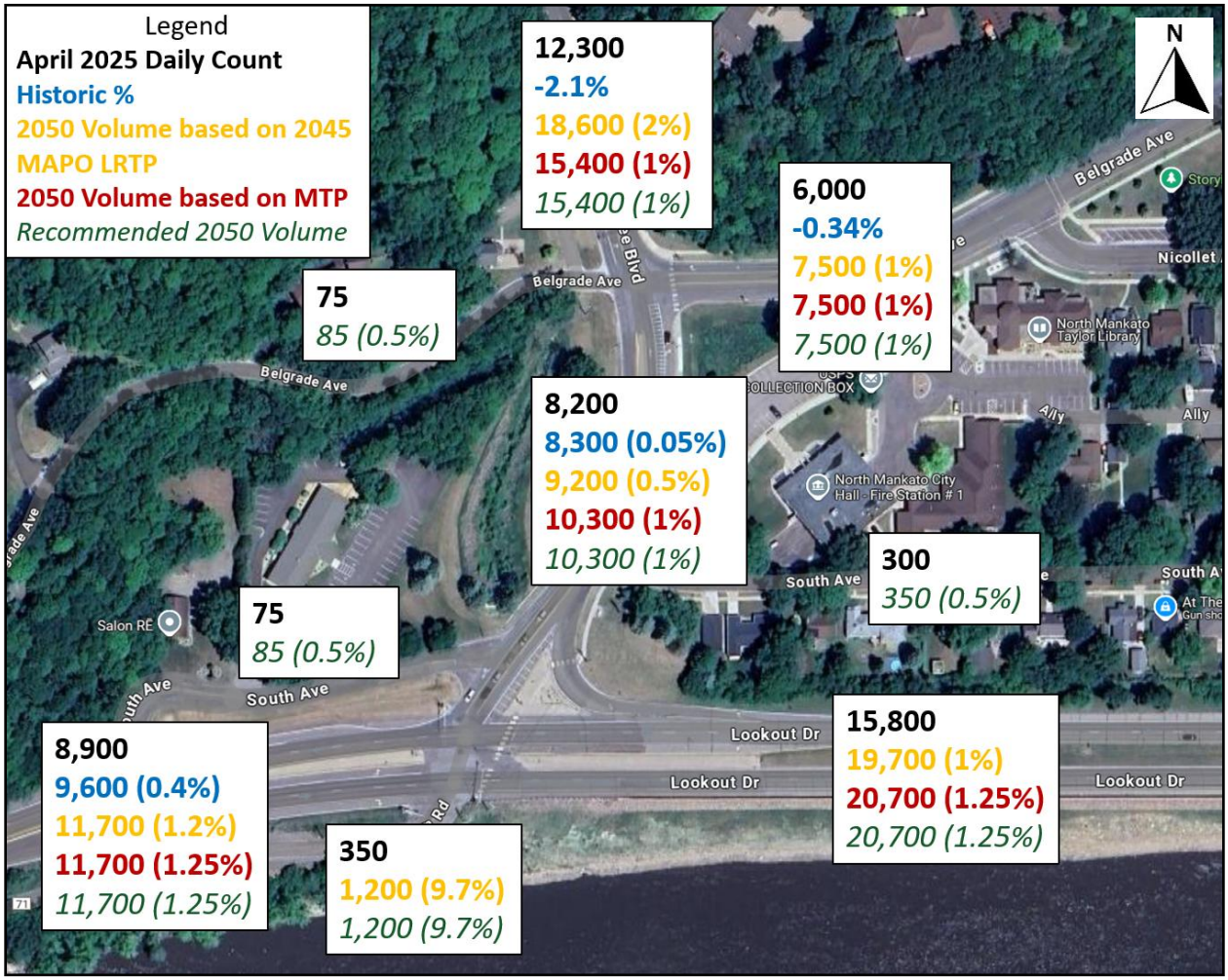
Figure 8. Social, Environmental, and Economic Resources



III. Traffic Forecasting

2050 forecasts were developed for the project area based on an analysis of historic annual average daily traffic (AADT), the 2045 MAPO Long Range Transportation Plan (LRTP), and 2050 volume projections from the Metropolitan Transportation Plan (MTP) 2050 Update. **Figure 9** shows the existing daily count from the April 2025 data collected compared to the 2050 forecasted volumes based on each source analyzed and the recommended 2050 volume by location.

Figure 9. Traffic Forecasting



The historic volumes and growth rates are shown where data was available on the MnDOT Traffic Mapping Application. Historic growth was found to be minimal or negative along the roadways in the project area with the highest growth rate seen along Lookout Drive west of Lee Boulevard at 0.4%. The 2045 MAPO LRTP growth rates were found to range from 0.5% up to 9.7%. The 9.7% growth rate is along Judson Bottom Road. Since the existing volume is low along Judson Bottom Road, this higher growth rate increases volumes by less than 1,000 out to 2050. The MTP 2050 Update shows traffic growth ranging from 1-1.25% per year.

Since the MTP 2050 Update has the latest forecasting information available and shows higher or similar growth projections at the majority of locations throughout the project area the MTP 2050 forecasts were assumed where project volumes were available. The 9.7% growth rate based on the 2045 MAPO LRTP was assumed for Judson Bottom Road. A growth rate of 0.5% was assumed for South Avenue and

Belgrade Avenue west of Lee Boulevard to show some growth; however, these roadways are not anticipated to see growth as they are fully built out.

The forecasted 2050 peak hour volumes are included in **Appendix A**.

IV. 2050 No Build Operational Analysis

2050 peak hour volumes were analyzed in Synchro/SimTraffic. Traffic operations are shown in **Table 6.**

Table 6. 2050 No Build Traffic Operational Analysis

		2050 AM Peak Hour					2050 PM Peak Hour				
		Traffic Delay (sec/veh)					Traffic Delay (sec/veh)				
Intersection	Approach	Movement (Delay - LOS)			Approach (Delay - LOS)	Intersection (Delay - LOS)	Movement (Delay - LOS)			Approach (Delay - LOS)	Intersection (Delay - LOS)
		L	T	R			L	T	R		
Lee Blvd & Belgrade Ave *Stop Control*	EB	46 - E	39 - E	5 - A	37 - E	5 - A	-	27 - D	6 - A	17 - C	6 - A
	WB	72 - F	54 - F	4 - A	12 - B		54 - F	-	4 - A	12 - B	
	NB	5 - A	2 - A	1 - A	2 - A		4 - A	1 - A	1 - A	2 - A	
	SB	11 - B	2 - A	2 - A	5 - A		8 - A	3 - A	1 - A	6 - A	
South Ave & Lee Blvd *Stop Control*	EB	65 - F	30 - D	25 - D	37 - E	6 - A	25 - D	13 - B	31 - D	26 - D	7 - A
	WB	67 - F	-	15 - C	32 - D		62 - F	20 - C	12 - B	38 - E	
	NB	7 - A	6 - A	4 - A	6 - A		3 - A	6 - A	4 - A	6 - A	
	SB	11 - B	4 - A	1 - A	4 - A		12 - B	6 - A	6 - A	7 - A	
Judson Bottom Rd/Lee Blvd & Lookout Dr *Traffic Signal*	EB	15 - B	14 - B	2 - A	15 - B	14 - B	16 - B	16 - B	4 - A	16 - B	14 - B
	WB	17 - B	16 - B	8 - A	12 - B		17 - B	17 - B	6 - A	13 - B	
	NB	11 - B	4 - A	4 - A	5 - A		13 - B	10 - B	3 - A	6 - A	
	SB	18 - B	6 - A	4 - A	17 - B		18 - B	8 - A	4 - A	17 - B	

Table 6 shows how the eastbound and westbound left and through movements at the intersection of Belgrade Avenue and Lee Boulevard operate with LOS E or F and the eastbound and westbound left movements at the intersection of South Avenue and Lee Boulevard operate with LOS F during the AM peak hour. During the PM peak hour, the westbound left movements at both Belgrade Avenue and South Avenue at Lee Boulevard operate with LOS F. All other movements operate with LOS D or better. All movements at the signalized intersection of Lookout Drive at Lee Boulevard continue to operate acceptably with LOS A or B. All intersections overall operate with LOS A or B during the peak hours. Detailed operational tables which show traffic queuing results are included in **Appendix C**. Most queues were found to be contained with the storage space available; however, similar to the existing condition the maximum northbound queue in the AM peak hour at South Avenue and Lee Boulevard indicates that at times when vehicles slow or stop to make a turn onto South Avenue vehicles can queue into the intersection at Lookout Drive.

V. Alternatives Analysis

A. Evaluation Criteria

To best ensure a balanced transportation system for all roadway users, alternatives under consideration were evaluated using several different criteria. These criteria are:

- Vehicle safety
- Vehicle mobility

- Flood mitigation
- Multimodal facility comfort and safety
- Environmental/property impacts
- Cost and maintenance

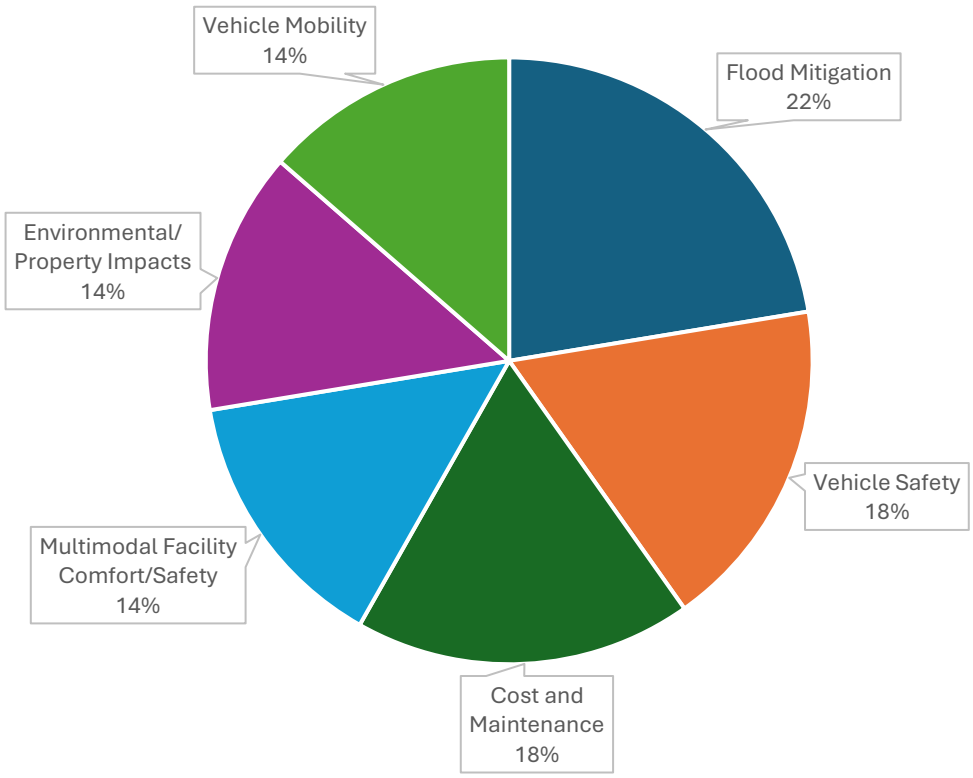
1. Criteria Weighting

The Project Management Team (PMT) was asked to participate in an exercise to weight each of the technical criteria described above. Results from the weighting exercise were used to establish overall rankings for alternatives, taking into consideration each of the five technical criteria.

PMT members were asked to allocate 100 points across the five technical criteria, with higher values given to criteria that are deemed higher priorities. For example, if a TAC member allocated 40 points to Vehicle Safety and 15 points to each of the other four criteria, that member believes Vehicle Safety improvements should be weighted higher than other criteria.

Five PMT members participated in this exercise, with the average weights for each criteria summarized in **Figure 10.**

Figure 10. PMT Weighting Exercise Results



B. Alternatives Development

A range of alternatives were developed for the study area. Alternatives were considered that mitigate flooding, and improve safety, operations, and access spacing along the corridor. The following alternatives were considered to mitigate flooding:

- Alternative 1 – Raise Lee Blvd/Lookout Drive Intersection
- Alternative 2 – Extend Flood Wall with Flood Control Gate
- Alternative 3 – Extend Flood Wall

The following modifications were considered to improve safety, operations, and access spacing.

- Traffic signal or roundabout at the intersection of Lee Blvd and Belgrade Ave
- Traffic signal or roundabout at the intersection of Lee Blvd and Lookout Dr with a lane reduction along Lookout Dr
- Roundabout at South Ave and Lookout Dr (with Judson Bottom Rd)
- Realignment of Lee Blvd
- Realignment of South Avenue
- Realignment of Judson Bottom Road

C. Traffic Control Justification Review

A warrant analysis was completed for the intersections of Lee Boulevard at Lookout Drive and Belgrade Avenue analyzing the existing 2025 traffic volumes. Chapter 4C of the Minnesota Manual on Uniform Traffic Control Devices (MnMUTCD) states that the investigation of the need for a traffic control signal shall include an analysis of the applicable factors contained in the following traffic signal warrants:

- Warrant 1: Eight-Hour Vehicular Volume
- Warrant 2: Four-Hour Vehicular Volume
- Warrant 3: Peak Hour
- Warrant 4: Pedestrian Volume
- Warrant 5: School Crossing
- Warrant 6: Coordinated Signal System
- Warrant 7: Crash Experience
- Warrant 8: Roadway Network
- Warrant 9: Intersection Near a Grade Crossing

It is common practice to exclude minor street right turning vehicles for warrants 1-3 where designated right turn lanes exist. At the intersection of Lee Boulevard and Belgrade Avenue the westbound right turning volume was excluded since there is a designated right turn lane for this approach. At the intersection of Lee Boulevard and Lookout Dr the northbound and southbound right turning volume was included since there is not a designated right turn lane for either approach.

The warrant analysis showed that warrant 1A, 1B, 2, and 3 are met justifying the existing signal at the intersection of Lee Boulevard at Lookout Drive; however, no warrants are met at the intersection of Lee Boulevard at Belgrade Avenue. All way stop warrants were also analyzed at the intersection of Lee Boulevard and Belgrade Avenue. Meeting signal or all-way stop warrants are one element among other considerations to justify a roundabout. If the intersection meets warrants for either a traffic signal or an all-way stop, a roundabout should be considered.

The MnMUTCD states that the need for an all-way stop control shall be considered if one of the following conditions is met:

- Criteria A: Where traffic control signals are justified, an all-way stop can be installed as an interim measure.
- Criteria B: Five or more crashes are reported in a 12-month period that are susceptible to correction by an all-way stop installation.
- Criteria C: Where:
    - The vehicular volume entering the intersection from the major street approaches (total of both approaches) averages at least 300 vehicles per hour for any 8 hours of an average day; and
    - Where the combined vehicular, pedestrian, and bicycle volume entering the intersection from the minor street approaches (total of both approaches) averages at least 200 units per hour for the same 8 hours, with an average delay to minor-street vehicular traffic of at least 30 seconds per vehicle during the highest hour. but,
    - If the 85th-percentile approach speed of the major street traffic exceeds 40 mph, the minimum vehicular volume warrants are 70 percent of the values provided in Items 1 and 2.
- Criteria D: Where no single criterion is satisfied, but where Criteria B, C.1, and C.2 are all satisfied to 80 percent of the minimum values. Criterion C.3 is excluded from this condition.

Criteria C is met, justifying an all-way stop or roundabout at the intersection of Lee Boulevard and Belgrade Avenue. Documentation supporting the warrant analysis is included in **Appendix E**.

D. Alternatives Analysis & Evaluation

Based on the traffic control warrant analysis a traffic signal was dismissed as an option at the intersection of Lee Blvd and Belgrade Ave. An initial screening of concepts also dismissed realigning Lee Blvd based on the significant impacts, access challenges, and anticipated cost. Several alternatives remained on the table for consideration so the PMT narrowed the list by grouping a roundabout at the intersection of Lookout Dr and Lee Blvd with a grade raise for flood mitigation since no pavement could be salvaged with the conversion to a roundabout or raising the intersection. The floodwall was paired with keeping a traffic signal at the intersection of Lookout Dr and Lee Blvd since pavement could be salvaged with both the floodwall and traffic signal and both would also minimize property impacts. Pairing these elements together results in three overall alternatives being carried forward for a more detailed analysis and evaluation.

The three alternatives are shown below along with the detailed evaluation results. Each alternative was evaluated based on the evaluation criteria outlined previously, with “Access Management” added as a category upon further review. Details on what was evaluated for each criterion considered are listed below.

- Vehicle Safety – Crash modification factors from the Clearinghouse online database were compared for each alternative in addition to conflict point reductions.
- Vehicle Mobility – 2050 AM and PM peak hour operations were analyzed in SimTraffic for stop-controlled and signalized intersections. The roundabout alternatives were analyzed in Arcady.
- Flood Mitigation – Details on how the alternative improves flood mitigation for the project area are noted.
- Multimodal Facility Comfort and Safety – Factors that increase pedestrian and bicycle safety and comfort were identified.

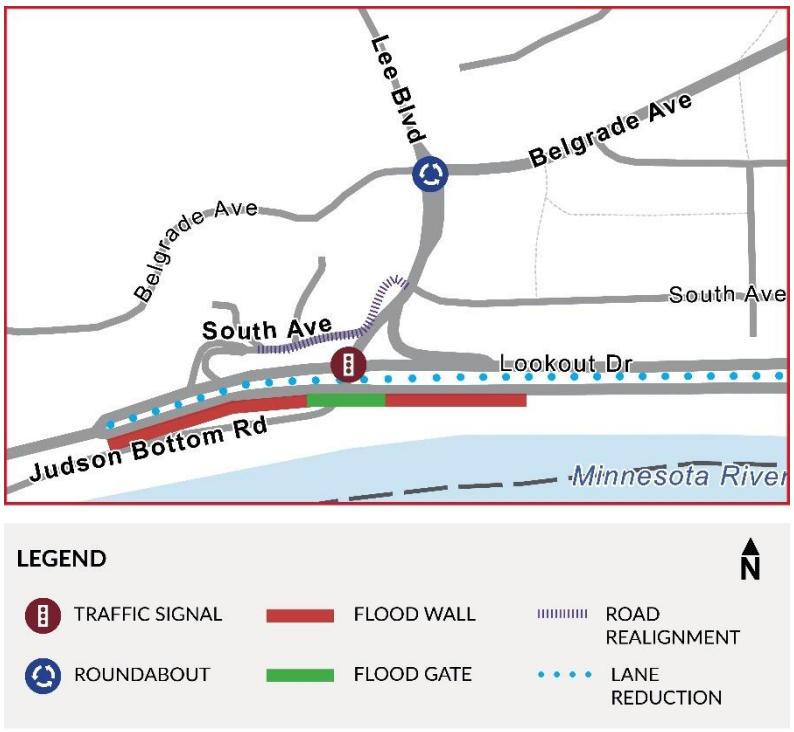
- Environmental/Property Impacts – Where impacts are likely with each alternative were noted.
- Cost and Maintenance – A high level cost analysis was completed to provide an estimated construction cost for each alternative. The cost includes any improvements to the Lee Blvd corridor, intersection upgrades, and flood mitigation. The full cost of reducing lanes along Lookout Dr outside of the intersection with South Ave and Lee Blvd is not included as it was considered outside of the project area limits.
- Access Management – Details on how each alternative improves access spacing along Lee Blvd is noted.

To determine the overall score performance measures were given the following points:

- Great: 4 points
- Good: 3 points
- Fair: 2 points
- Poor: 1 point

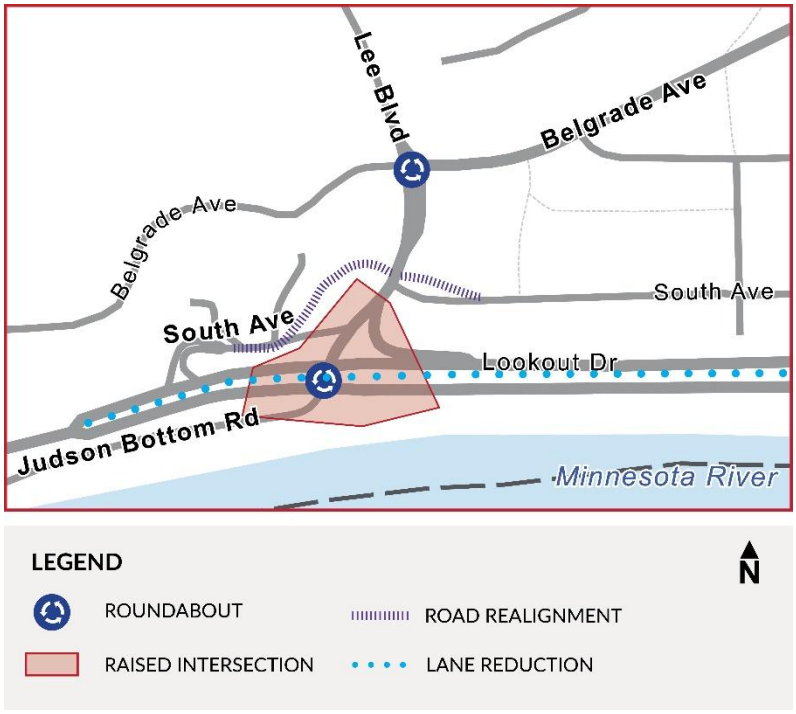
An average alternative score was calculated without any weighting applied. The criteria weighting was ultimately decided not to be used since there is not a significant difference in category weighting that would alter the scoring and since the “Access Management” category was added after the weighting exercise was completed.

- Alternative 1
  - Single lane roundabout at the intersection of Lee Blvd and Belgrade Ave
  - Retains traffic signal at the intersection of Lookout Dr and Lee Blvd but reduced Lookout Dr from four lanes to two lanes (only one through lane in each direction)
  - Realigns the west access of South Ave
  - Extends the existing floodwall with a gate at Judson Bottom Rd



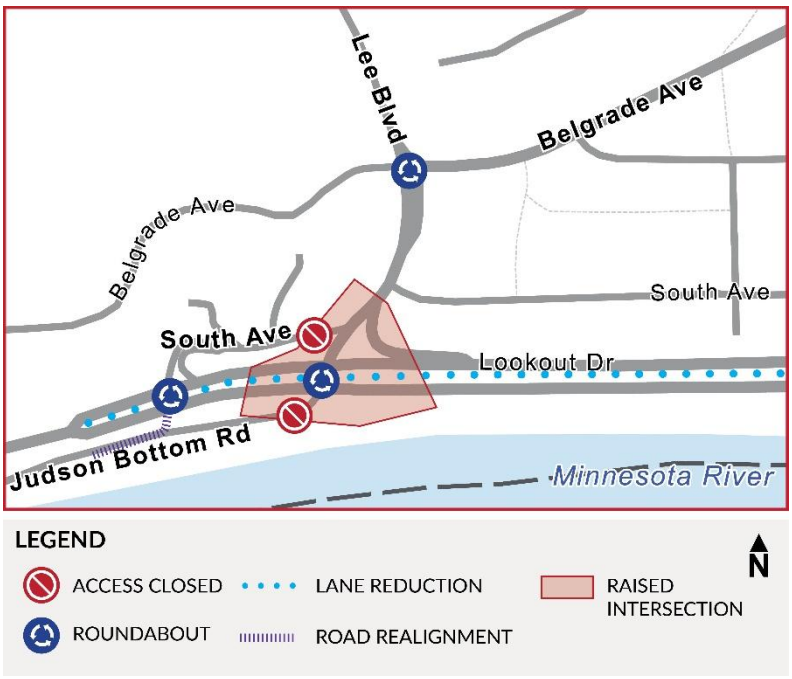
Alternative 1 - Flood Wall with Gate, Signal at Lookout, Roundabout at Belgrade, Improved Access Spacing at South Ave		
Category	**Performance**	**Key Factors**
Vehicle Safety	Good	• 72% reduction in all crashes and 88% reduction in injury crashes with a single lane roundabout at Belgrade/Lee • Eliminate a through lane in each direction along Lookout Dr at Lee Blvd. This simplifies decision making and reduces conflict points.
Vehicle Mobility	Good	• Signal at Lookout/Lee with reduced lanes along Lookout Dr operates well through 2050 with all movements anticipated to operate with LOS D or better. • Single lane roundabout at Belgrade/Lee operates well through 2050 with all movements anticipated to operate with LOS A. • Operational concerns with full access at South/Lee intersections
Flood Mitigation	Great	• Extends existing flood wall with gate to accommodate Judson Bottom Rd • Extending the flood wall allows pavement to be preserved limiting impacts
Multimodal Facility Comfort/Safety	Good	• Roundabout provides improved crossings at Belgrade Ave with pedestrians only crossing one lane and one direction of traffic at a time • Roundabout reduces vehicle speed to 15-20 MPH improving safety • Traffic signal at Lookout/Lee can operate well with reduce lanes along Lookout Dr which creates space for trail connection along Lookout Dr • Pedestrian crossing distance is reduced at Lookout Dr with lane reduction
Environmental/ Property Impacts	Good	• Some property impacts roundabout at Belgrade Ave/Lee Blvd • Minimal impact to overhead powerlines along Lee Blvd • Some property impact with South Ave realignment • No impact to properties identified as minimal quantity hazardous waste generators
Cost and Maintenance	Fair	• High Cost Alternative: $13-15 M • No/minimal retaining wall needs
Access Management	Fair	• Realignment of South Ave improves access spacing between Lookout Dr and South Ave
Overall	**Good (Score of 2.9 out of 4)**	

- Alternative 2
  - Single lane roundabout at the intersection of Lee Blvd and Belgrade Ave
  - Single lane roundabout at the intersection of Lookout Dr and Lee Blvd
  - Lane reduction along Lookout Dr from four lanes to two lanes (only one through lane in each direction)
  - Realigns the South Ave and converts the access to right-in/right-out
  - Raises the intersection of Lee Blvd and Lookout Dr



Alternative 2 - Raise Lee-Lookout, Realign South Ave, Roundabouts at Lookout and Belgrade, Access Restrictions at South Ave		
Category	**Performance**	**Key Factors**
Vehicle Safety	Great	• 72% reduction in all crashes and 88% reduction in injury crashes with a single lane roundabout at Belgrade/Lee • 42% reduction in all crashes and 66% reduction in injury crashes with a single lane roundabout at Lookout/Lee • 45% reduction in all crashes with right-in/right-out at South Ave (west)/Lee Blvd
Vehicle Mobility	Great	• Single lane roundabout (with WBL-T and WBR lanes) at Lookout/Lee operates well through 2050 with all movements anticipated to operate with LOS A except the eastbound approach during the AM peak hour which operates with LOS C. • Single lane roundabout at Belgrade/Lee operates well through 2050 with all movements anticipated to operate with LOS A. • Right-In/Right-Out improves operations at South/Lee
Flood Mitigation	Great	• Raises Lookout Dr/Lee Blvd intersection (to the height of existing flood wall) to reduce flood potential
Multimodal Facility Comfort/Safety	Great	• Roundabouts provide improved crossings at Belgrade and Lookout with pedestrians only crossing one lane and one direction of traffic at a time • Roundabouts reduce vehicle speed to 15-20 MPH improving safety • Roundabout would reduce lanes along Lookout Dr which creates space for trail connection along Lookout Dr.
Environmental/ Property Impacts	Poor	• Significant property impacts with South Ave realignment, intersection grade raise, and roundabouts • Moderate impact to overhead powerlines along Lee Blvd • No impact to properties identified as minimal quantity hazardous waste generators • Fill Below Elevation 781 will require no-rise analysis (impacts to floodway)
Cost and Maintenance	Fair	• High Cost Alternative: $10-13 M • Retaining walls will require more maintenance, higher replacement costs
Access Management	Great	• Realignment of South Ave improves access spacing between Lookout Dr and South Ave • Roundabouts allow South Ave to be restricted to right-in/right-out (Emergency vehicles would be able to make left turn)
Overall	**Good (Score of 3.3 out of 4)**	

- Alternative 3
  - Single lane roundabout at the intersection of Lee Blvd and Belgrade Ave
  - Single lane roundabout at the intersection of Lookout Dr and Lee Blvd
  - Single lane roundabout at the intersection of South Ave and Lookout Dr with Judson Bottom Rd realigned
  - Lane reduction along Lookout Dr from four lanes to two lanes (only one through lane in each direction)
  - Closes the west access of South Ave at Lee Blvd
  - Converts the east access of South Ave at Lee Blvd to right-in/right-out
  - Raises the intersection of Lee Blvd and Lookout Dr



Alternative 3 - Raise Lee-Lookout, Realign Judson Botton Rd, Roundabouts at Belgradel/Lee, Lookout/Lee, South/Lookout, Access Restrictions or closure at South Ave		
Category	**Performance**	**Key Factors**
Vehicle Safety	Great	• 72% reduction in all crashes and 88% reduction in injury crashes with a single lane roundabout at Belgrade Ave/Lee Blvd and South Ave/Lookout Dr • 42% reduction in all crashes and 66% reduction in injury crashes with a single lane roundabout at Lookout Dr/Lee Blvd • 45% reduction in all crashes with right-in/right-out at South Ave (west)/Lee Blvd
Vehicle Mobility	Fair	• Single lane roundabout (with WBL-T and WBR lanes) at Lookout/Lee operates well through 2050 with all movements anticipated to operate with LOS A except the eastbound approach during the AM peak hour which operates with LOS C. However, the eastbound queue is anticipated to extend through the roundabout at Judson Bottom/Lookout throughout the majority of the AM peak hour. • Single lane roundabout at Belgrade/Lee operates well through 2050 with all movements anticipated to operate with LOS A. • Single lane roundabout at South/Lookout is often blocked by the eastbound queue at Lookout/Lee
Flood Mitigation	Great	• Raises Lookout Dr/Lee Blvd intersection (to the height of existing flood wall) to reduce flood potential
Multimodal Facility Comfort/Safety	Great	• Roundabouts provide improved crossings with pedestrians only crossing one lane and one direction of traffic at a time • Roundabouts reduce vehicle speed to 15-20 MPH improving safety • Roundabout would reduce lanes along Lookout Dr which creates space for trail connection along Lookout Dr.
Environmental/ Property Impacts	Poor	• Significant property impacts with intersection grade raise and roundabouts • Moderate impact to overhead powerlines along Lee Blvd • Impact to property identified as minimal quantity hazardous waste generator •Fill Below Elevation 781 will require no-rise analysis (impacts to floodway)
Cost and Maintenance	Fair	• High Cost Alternative: $13-15 M • Retaining walls will require more maintenance, higher replacement costs
Access Management	Good	• Roundabout at South Ave/Lookout Dr allows for full closure of South Ave (west)/Lee Blvd access • Roundabouts allow South Ave (east) to be restricted to right-in/right-out (Emergency vehicles would be able to make left turn) • Convert South/Lookout intersection to full access intersection in close proximity to Lee/Lookout intersection
Overall	**Good (Score of 2.9 out of 4)**	

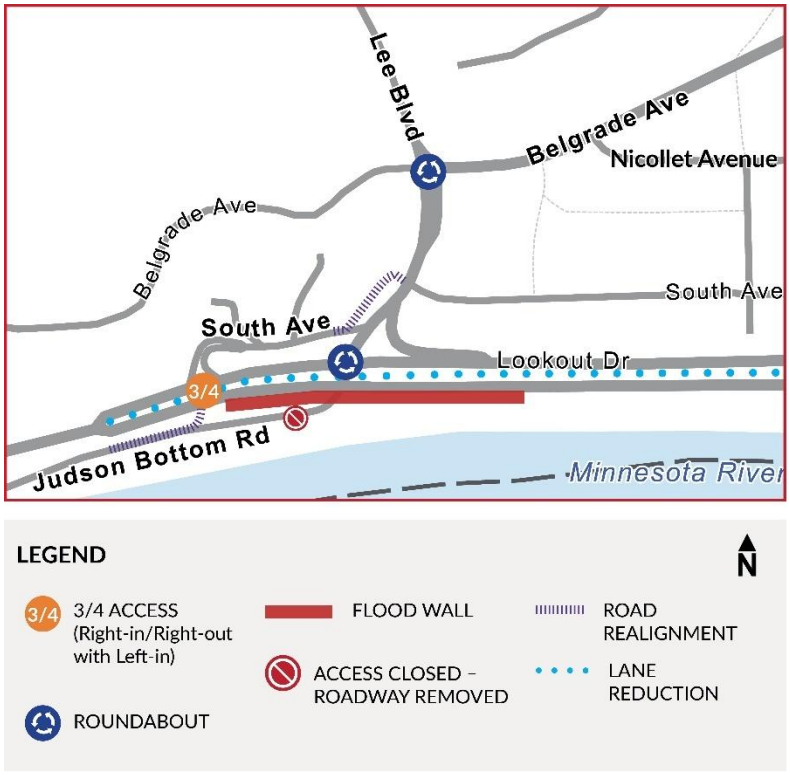
- No Build Condition
  - Side street stop control at the intersection of Lee Blvd and Belgrade Ave
  - Traffic signal at the intersection of Lookout Dr and Lee Blvd
  - Full access and side street stop control at the intersection of Lee Blvd and South Ave
  - Four-lane divided roadway along Lookout Dr

No Build Alternative		
Category	**Performance**	**Key Factors**
Vehicle Safety	Fair	• All intersections operate within the normal range compared to similar intersections statewide • One additional crash in a five-year period at the intersection of Belgrade Ave at Lee Blvd would put this intersection outside the normal range • Two serious injury crashes at Lee Blvd/Lookout Dr in last ten years. Both were left turn crashes.
Vehicle Mobility	Poor	• Operational concerns with 2050 volumes for side street left and throughs at Belgrade/Lee and South/Lee • Existing signal at Lookout/Lee is anticipated to continue to operate well with all movements anticipated to operate with LOS A or B
Flood Mitigation	Poor	• Existing flood wall ends ~175 ft east of Lee Blvd • Floods in recent years show gap in flood protection • Intersection of Lookout/Lee must be closed to construct a temporary levee with traffic diverted to Belgrade/Lee which results in poor traffic operations
Multimodal Facility Comfort/Safety	Fair	• Existing sidewalk along east side of Lee Blvd • No sidewalk along west side of Lee Blvd • No crossing of Lee Blvd
Environmental/ Property Impacts	Great	• No build condition has no impacts
Cost and Maintenance	Good	• Signal is old and in need of replacement even under the no build condition. • $850k total signal replacement cost based on recent cost estimates.
Access Management	Poor	• Existing intersections are closely spaced. Four full access intersections in less than 1/4 mile.
Overall	**Fair (Score of 2 out of 4)**	

The three alternatives were shared with the public for feedback in comparison to the no build condition. The public feedback from the Phase 2 engagement described in more detail in the "Engagement Summary" section of the report indicated that the flood wall was favored over raising the intersection for improved flood mitigation. Public engagement participants were overall supportive of the

roundabouts at Lee Boulevard and Belgrade Avenue and Lee Boulevard and Lookout Drive. Based on public feedback and further consideration by the PMT, a fourth alternative was added as shown below.

- Alternative 4
  - Single lane roundabout at the intersection of Lee Blvd and Belgrade Ave
  - Single lane roundabout at the intersection of Lookout Dr and Lee Blvd
  - Partial 3/4 access at the intersection of South Ave and Lookout Dr with Judson Bottom Rd realigned
  - Lane reduction along Lookout Dr from four lanes to two lanes (only one through lane in each direction)
  - Realign the west access of South Ave at Lee Blvd
  - Converts South Ave at Lee Blvd to right-in/right-out
  - Extends the existing floodwall



Alternative 4 - Flood Wall with Gate, 3/4 Access at Judson Bottom, Roundabout at Lookout, Roundabout at Belgrade, Improved Access Spacing at South		
Category	**Performance**	**Key Factors**
Vehicle Safety	Great	• 72% reduction in all crashes and 88% reduction in injury crashes with a single lane roundabout at Belgrade/Lee • 42% reduction in all crashes and 66% reduction in injury crashes with a single lane roundabout at Lookout/Lee • 45% reduction in all crashes with right-in/right-out at South Ave (west)/Lee Blvd
Vehicle Mobility	Great	• Single lane roundabout (with WBL-T and WBR lanes) at Lookout/Lee operates well through 2050 with all movements anticipated to operate with LOS A except the eastbound approach during the AM peak hour which operates with LOS C. • Single lane roundabout at Belgrade/Lee operates well through 2050 with all movements anticipated to operate with • Right-In/Right-Out improves operations at South/Lee • 3/4 Access operates well at Judson Bottom Rd. Maximum westbound left queue with 2050 Build Peak Hour volumes is
Flood Mitigation	Great	• Extends existing flood wall with realignment to accommodate Judson Bottom Rd traffic • Extending the flood wall reduces retaining wall needs limiting impacts
Multimodal Facility Comfort/Safety	Great	• Roundabouts provide improved crossings at Belgrade and Lookout with pedestrians only crossing one lane and one direction of traffic at a time • Roundabouts reduce vehicle speed to 15-20 MPH improving safety • Roundabout would reduce lanes along Lookout Dr which creates space for trail connection along Lookout Dr.
Environmental/ Property Impacts	Good	• Some property impacts with roundabouts • Minimal impact to overhead powerlines along Lee Blvd • Some property impact with South Ave realignment • No impact to properties identified as minimal quantity hazardous waste generators
Cost and Maintenance	Fair	• High Cost Alternative: $14-16 M • No/minimal retaining wall needs
Access Management	Good	• Realignment of South Ave improves access spacing between Lookout Dr and South Ave • Roundabouts allow South Ave to be restricted to right-in/right-out (Emergency vehicles would be able to make left • Increased access with 3/4 at Lookout Dr and Judson Bottom Rd/South Ave
Overall	**Good (Score of 3.4 out of 4)**	

Table 7 shows how each of the four alternatives compare to each other and the no build condition.

Table 7. Alternatives Evaluation Comparison

Category	Performance				
	Alternative 1	**Alternative 2**	**Alternative 3**	**Alternative 4**	**No Build**
Vehicle Safety	Good	Great	Great	Great	Fair
Vehicle Mobility	Good	Great	Fair	Great	Poor
Flood Mitigation	Great	Great	Great	Great	Poor
Multimodal Facility Comfort/Safety	Good	Great	Great	Great	Fair
Environmental/Property Impacts	Good	Poor	Poor	Good	Great
Cost and Maintenance	Fair	Fair	Fair	Fair	Good
Access Management	Fair	Great	Good	Good	Poor
Overall	**Good (Score of 2.9 out of 4)**	**Good (Score of 3.3 out of 4)**	**Good (Score of 2.9 out of 4)**	**Good (Score of 3.4 out of 4)**	**Fair (Score of 2 out of 4)**

The key takeaways for each alternative are listed below:

- Alternative 1: This option minimizes impacts, but other alternatives offer better safety, mobility, pedestrian and bicycle accommodations, and access management.
- Alternative 2: This option has significant impacts, but ranks the best for safety, mobility, pedestrian and bicycle accommodations, and access management.
- Alternative 3: This option has significant impacts and some mobility concerns but ranks the best for safety and pedestrian and bicycle accommodations.
- Alternative 4: This option has the highest cost but ranks the best for safety, mobility, and pedestrian and bicycle accommodations while also minimizing impacts.

E. Preferred Alternative

The detailed evaluation indicates that Alternative 4 is the highest scoring option and public feedback indicated that the floodwall and roundabouts at both Belgrade Ave/Lee Blvd and Lookout Dr/Lee Blvd were the most liked features. Based on detailed evaluation analysis and feedback from the public, Alternative 4 is the preferred alternative of the Project Management Team (PMT). The PMT also discussed how the preferred alternative could be constructed in phases with the roundabout at Lee Blvd and Belgrade Avenue and changes to South Ave constructed separate from the floodwall and improvements along Lookout Dr.

VI. Engagement Summary

This project had two phases of engagement to ensure that project information was made available to all stakeholders and the public and to gather meaningful feedback on corridor issues, opportunities, and alternatives considered. Detailed engagement summaries for each phase are included in **Appendix F**.

In Phase 1 information was shared and feedback was collected through the following:

- An online comment map
- A survey
- One pop up event
- Project email subscription

The key takeaways of the Phase 1 engagement are summarized below:

- Safety and traffic flow were nearly equally prioritized for improvements the community would like to see along the corridor
- Most survey respondents feel that traffic flow is currently adequate
- There are existing concerns with the safety of turning left at stop-controlled intersections along the corridor, red light running, unsafe crossings, and lack of crosswalks and bike lanes

In Phase 2 information was shared and feedback was collected through the following:

- A survey
- One pop up event
- One open house event
- Project email subscription

The key takeaways of the Phase 2 engagement are summarized below:

- Both flood mitigation strategies (raising the intersection and extending the flood wall) received support but the flood wall was favored over raising the intersection.
- Engagement participants were overall supportive of the roundabouts at Lee Boulevard and Belgrade Avenue and Lee Boulevard and Lookout Drive.
- The lane reduction on Lookout Drive was a top concern for many, as was traffic flow/congestion.
- Alternative 3 tended to draw the most concern.

VII. Funding Plan

If approached reactively, pursuing competitive funding can be time-consuming and costly, particularly for smaller communities with limited resources. However, with a proactive funding plan that includes a priority list of needs, strategized approach, and updated planning documentation and data tracking, opportunities can be approached efficiently and allow agencies to leverage funding to deliver a vision that exceeds a community's goals. Program administrators want to allocate funds where there is financial need to make regionally beneficial projects real. Pursuing all eligible competitive sources is one way to demonstrate such a need. With the development of a funding plan, North Mankato will be well positioned to secure funding to implement the recommendation of the Lee Boulevard Corridor Study.

The following is a summary of state and federal grants for which Mankato/North Mankato Area Planning Organization (MAPO) and the City of North Mankato could be eligible. This is paired with a summary table that details program award amounts, application timelines, and funding types (**Table 8**). All listed programs can be applied for, and funds can be combined to deliver priority projects. Understanding what each grant source seeks to fund will help the project partners strategize how to use the funds to achieve short-term and long-term goals. This section presents a compilation that can serve as a starting point for future efforts.

- The **PROTECT Grant Program** aims to fund projects that increase resilience to natural hazards, including climate change, sea level rise, flooding, extreme weather events, and other natural disasters. Eligible projects include upgrades to surface transportation facilities, flood mitigation measures, and protection of infrastructure against flooding and other natural disasters. The maximum award is $410,000. The federally authorized (under IIJA) PROTECT program for locals

is a competitive program managed by the Area Transportation Partnerships (ATP). The South Central ATP will be soliciting for fiscal year 2029 and 2030 projects this fall, with applications due by January 9, 2026. MnDOT typically recommends that if federalizing a project, the minimum funds that should be sought is $100,000. A 20% local match is required for implementation grants. Projects are evaluated by a committee of the ATP based on readiness, cost and benefits, the degree of potential climate hazard risk, asset vulnerability, history of asset/roadway damage or failure, as well as co-benefits that include economic opportunities, safety, and access. Proposed projects must align with the Minnesota Resilience Improvement Plan and must address one of the seven identified climate hazards found within the plan. https://www.dot.state.mn.us/protect/index.html

- The **Surface Transportation Program** funds projects out of the Surface Transportation Block Grant Program. The annual solicitation is handled within each MnDOT district for funding through the MnDOT District State Aid Engineer's office. These grants fund local road improvements in "Small Urban" areas, which are defined as those with a population of 5,000 or more (State Aid Cities). The City of North Mankato qualifies for this program. The solicitation kicks off in the fall along with ATP managed solicitations. The estimated fiscal year 2030 target is $3.225 million. There is currently no guidance online about this program, however, when the solicitation is open information can be found on the ATP website: https://www.dot.state.mn.us/area-transportation-partnerships/south-central.html
- The **Flood Mitigation Assistance (FMA)** program is a competitive federal grant administered by FEMA that provides funding to states, local governments, tribal nations, and territories for projects that reduce or eliminate the risk of repetitive flood damage to buildings insured under the National Flood Insurance Program (NFIP). Eligible activities include property acquisition, elevation, and floodproofing. The program requires applicants to have an approved hazard mitigation plan. The total funding varies annually and solicitation usually due in mid-spring. The level of effort required is high due to technical and cost-effectiveness requirements. https://www.fema.gov/grants/mitigation/learn/flood-mitigation-assistance
- The **Carbon Reduction Program (CRP)** supports projects that reduce transportation-related carbon dioxide (CO_2) emissions from on-road highway sources. Funded annually with $1.3 billion through the Bipartisan Infrastructure Law (BIL), CRP grants can be applied to a wide range of initiatives aimed at lowering emissions and enhancing multimodal access. Eligible projects include electric vehicles and charging infrastructure, diesel engine replacements and retrofits, transit enhancements, bicycle and pedestrian facilities, shared micromobility, and traffic management technologies. Grant awards vary per district; for local context, MAPO will be allotted $140,000 per year through 2030 for projects, so applicants may want to consider that local awards can be significantly lower than the maximum award. A 20% local match is required. Project selection is based on alignment with carbon reduction goals, regional equity and access, safety improvements, technological innovation, and cost-effectiveness and scalability. Program solicitation opens in the fall. The current solicitation deadline is January 9, 2026. Selections will be in early spring with awards expected in April/May. https://www.dot.state.mn.us/carbon-reduction-program/
- The **Highway Safety Improvement Program (HSIP)** funding is a federal-aid funding program designed to reduce traffic fatalities and serious injuries on all public roads. The objective of this program is to identify, implement and evaluate cost effective construction safety projects. Only projects identified in a County Road Safety Plan or with a benefit-cost ratio above 1.0 are eligible for funding. MPO approval is required for funding. Typically, high-impact, small projects are most competitive. A 10% local match is required. Solicitation is available every two years. The upcoming solicitation for HSIP has a November 26, 2025 application due date, and projects will be selected in early spring. MnDOT Central Office manages and selects projects to be awarded

for HSIP funds. It is coordinated with the District State Aid Engineers, and each district has a target for HSIP funding, but the MnDOT districts do not select their own HSIP projects. http://www.dot.state.mn.us/stateaid/trafficsafety.html

- **Congressionally Directed Spending** is a federally funded program intended to pay for projects at the discretion of elected officials. High-impact projects are prioritized through this program. Funding matching with congressionally directed spending is dependent on the classification and purpose of the project. Maximum awards are generally unspecified, but grants can range from $5–7 million. Applications for this program are typically due in March/mid-spring and grant awards announced by early spring of the following year. https://www.klobuchar.senate.gov/public/index.cfm/appropriations-requests
- **State Bonding Requests** involve a formal application to have a project included in an upcoming state bonding bill. These requests are intended to pay for public facility construction or reconstruction projects with local, regional, or statewide significance. Funds can be requested for roadway and/or standalone nonmotorized transportation projects in addition to community development projects. Applications for this request are typically due in June, prior to a bonding year, and inclusion in the proposed bonding bill is announced between late summer and the following early spring. https://www.lccmr.mn.gov/
- The **Local Road Improvement Program (LRIP)** is a state funded (MnDOT) program intended to pay for local road construction or reconstruction projects with local, regional, or statewide significance that cannot reasonably be funded through other revenue sources. LRIP funding can also be used to fund streetscape elements and enhanced pedestrian crossings that meet MnDOT cost participation policy. The LRIP funds must be used outside Trunk Highway right-of-way and do not require a set local match. Program funding is dependent on state bonding bill allocations. https://www.dot.state.mn.us/stateaid/lrip.html
- The **Local Partnership Program (LPP)** funds locally identified improvements to state highways, particularly locations where the local transportation network intersects with the state system. The LPP is a MnDOT-funded program that was created to provide statewide transportation partnership opportunities with local agencies. Within each MnDOT district, cities and counties apply for funding through the District State Aid Engineer based on specific district standards and application requirements. To be eligible, projects must benefit a trunk highway. Desired projects are locally led projects that are not large-scale enough to be led by MnDOT or projects that address a local priority on a state highway sooner than the next MnDOT project will occur. Deadline is typically due in Late Winter. https://www.dot.state.mn.us/stateaid/lpp.html
- The **Minnesota Pollution Control Agency (MPCA) Community Resilience Implementation Grants** provide funding for projects that help communities adapt to climate change outside of stormwater and wastewater systems. Eligible activities include transportation upgrades to increase resilience and alternatives to car travel. The total award amount for this program is $5 million in 2024 with application deadline usually around December. The level of effort required is medium. https://www.pca.state.mn.us/grants-and-loans/implementation-grants-for-community-resilience
- The **Flood Hazard Mitigation Grant Assistance** program, administered by the Minnesota Department of Natural Resources (DNR), offers cost-share grants to local governments for capital improvement projects that address long-term flood concerns. Eligible projects include levees, floodwalls, pumping stations, diversion channels, and acquisition of flood-prone structures. The program does not fund feasibility studies. For 2025, the total funding available was $9 million, with applications due by end of summer. The state may fund up to 50% of project costs. The level of effort is medium. https://www.dnr.state.mn.us/waters/watermgmt_section/flood_damage/index.html

Table 8: Summary of Funding Opportunities

Funding Program	Maximum Award	Solicitation Timing	Funding Type
PROTECT Grant Program	Varies, 20% match required	Fall	Federal
Surface Transportation Program	No Maximum, 20% match required	Fall	Federal
FEMA Flood Mitigation Assistance	Varies based on funding available	Mid-Spring	Federal
Carbon Reduction Program	Varies by district	Fall	Federal
Highway Safety Improvement Program (HSIP)	$750,000 per project, $3 million per agency	Fall	Federal
Congressionally Directed Spending	$5-7 million	Mid-Spring	Federal
State Bonding Request	$3-4 million	Early Summer	State
Local Road Improvement Program (LRIP)	$1.5 million	Mid-Winter	State
Local Partnership Program (LPP)	Determined by district, based on funding available	Fall	State
MPCA Community Resilience Implementation Grant	Varies based on funding available	Early Winter	State
MnDNR Flood Hazard Mitigation Grant Assistance	Varies, max 50% of total project cost	Late Summer	State

VIII. Conclusion

The analysis completed throughout this corridor study shows a need for improved flood mitigation, safety, mobility, and pedestrian and bicycle accommodations along the Lee Boulevard corridor. While traffic operations are generally acceptable under the existing condition, future volumes shown operational concerns. This study provides a vision for the Lee Boulevard corridor for future corridor transportation planning and programming that is supported by all project stakeholders.

Appendix A: Turning Movement Counts

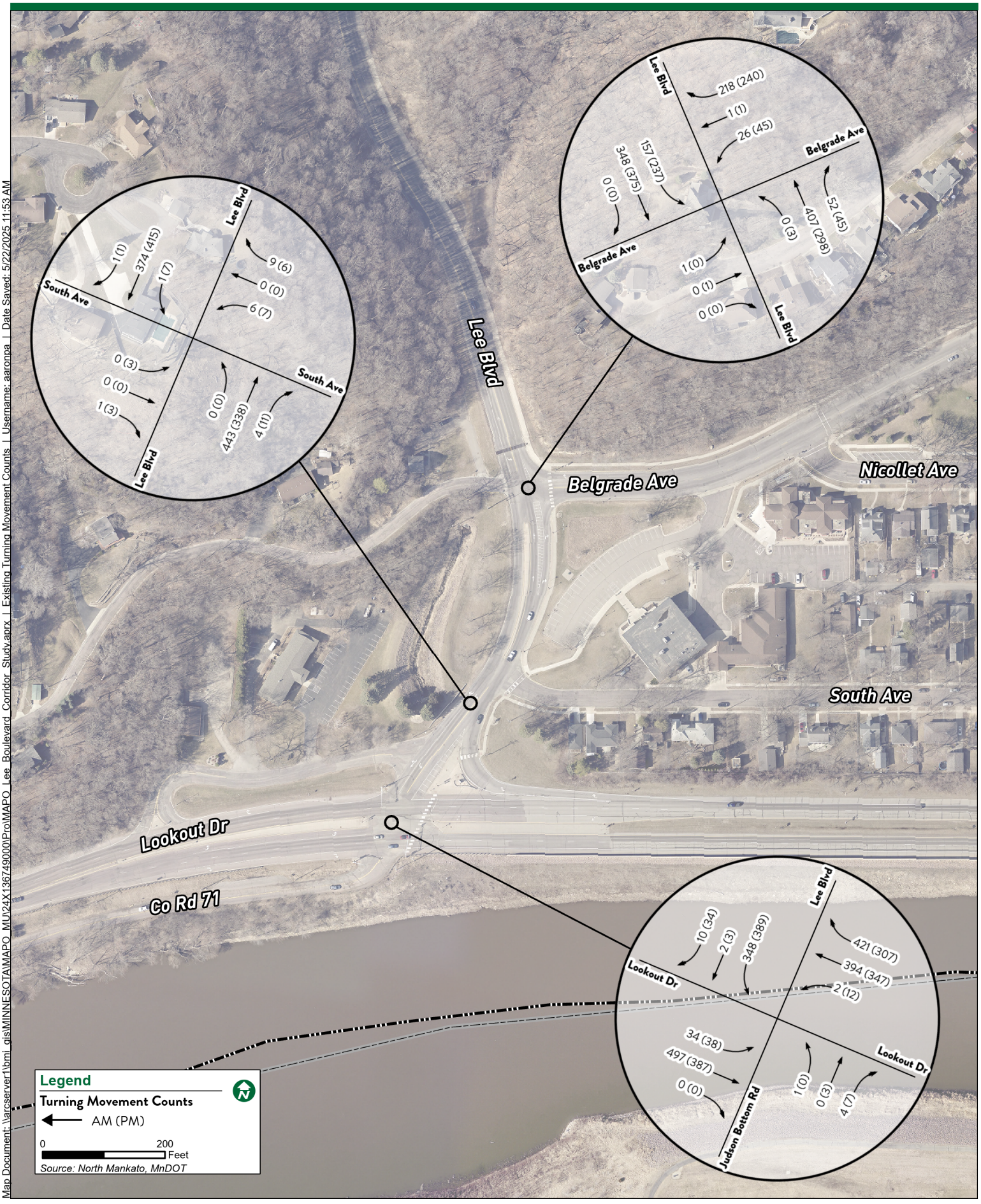
Lee Boulevard Corridor Study

Existing Turning Movement Counts

Mankato/North Mankato Area Planning Organization (MAPO)

May 2025

BOLTON & MENK



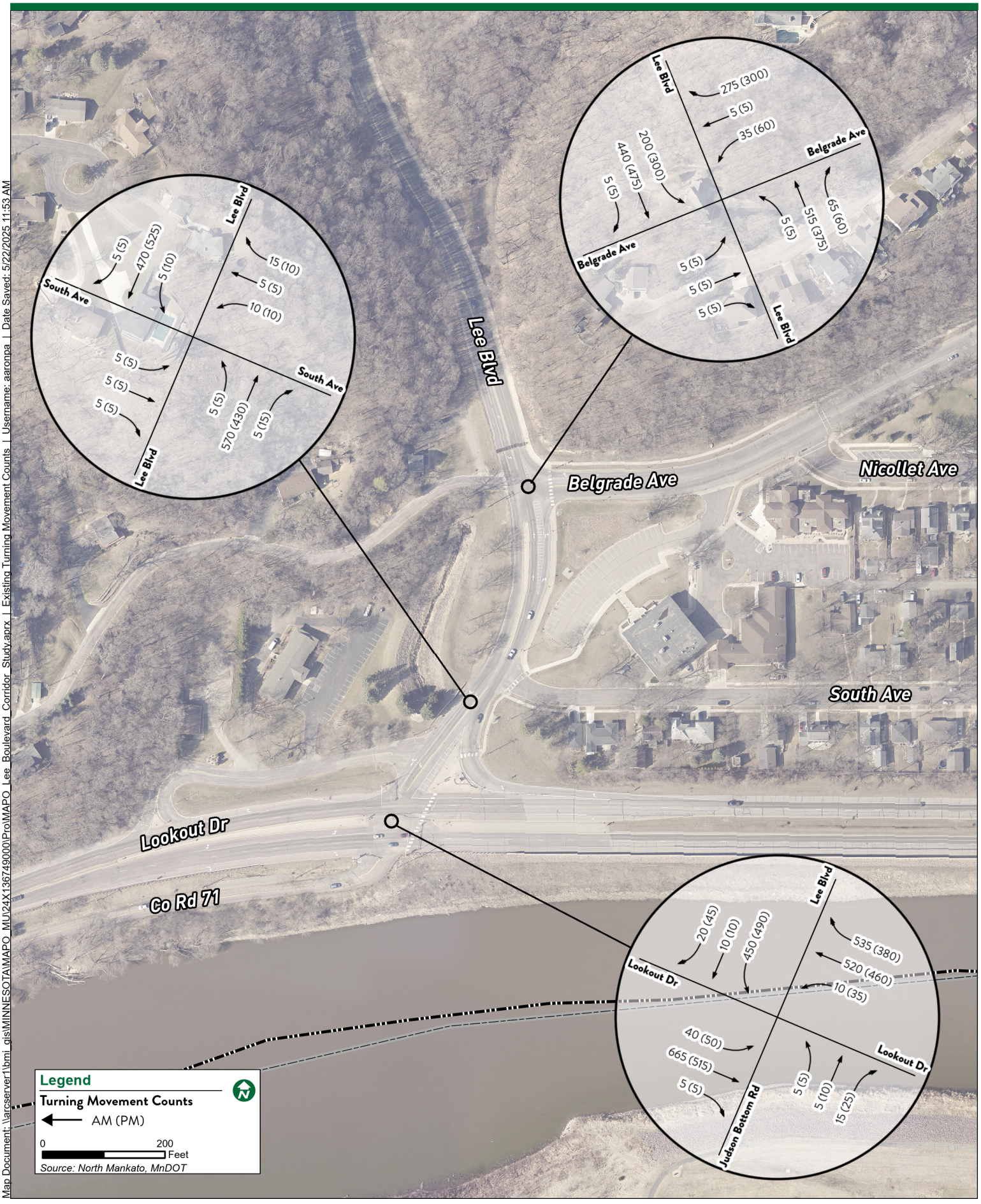
Lee Boulevard Corridor Study

Mankato/North Mankato Area Planning Organization (MAPO)

2050 Turning Movement Counts

May 2025

BOLTON & MENK



Map Document: \\arcserver1\bmi_gis\MINNESOTA\MAPO_MU\24X136749000\Pro\MAPO_Lee_Boulevard_Corridor_Study.aprx | Existing Turning Movement Counts | Username: aaronpa | Date Saved: 5/22/2025 11:53 AM

Appendix B: Crash Worksheets

Intersection Safety Screening

Intersection: Lee Blvd and Belgrade Ave

Statewide Averages based on 2019-2023 crashes

Crashes by Crash Severity	
Fatal (K)	0
Incapacitating Injury (A)	0
Minor Injury (B)	1
Possible Injury (C)	2
Property Damage (PDO)	5
Total Crashes	8

Intersection Characteristics	
Entering Volume	13,295
Environment	Urban
Lighting	Lit
Traffic Control	Thru-Stop

Annual crash cost = $166,000

Statewide comparison = Thru/STOP, Urban

Total Crash Rate	
Observed	0.330
Statewide Average	0.145
Critical Rate	0.360
Critical Index	**0.92**

Fatal & Serious Injury Crash Rate	
Observed	0.000
Statewide Average	0.414
Critical Rate	4.150
Critical Index	**0.00**

The observed crash rate is the number of crashes per million entering vehicles (MEV). The critical rate is a statistical comparison based on similar intersections statewide. An observed crash rate greater than the critical rate indicates that the intersection operates outside the expected, normal range. The critical index reports the magnitude of this difference (i.e. observed crash rate ÷ critical crash rate).

The observed total crash rate for this period is 0.33 per MEV; this is 8% below the critical rate. Based on similar statewide intersections, an additional 1 crashes over the five years would indicate this intersection operates outside the normal range.

The observed fatal and serious injury crash rate for this period is 0.00 per 100 MEV; this is 100% below the critical rate. The intersection operates within the normal range.

Intersection Safety Screening

Intersection: Lee Blvd and South Ave

Statewide Averages based on 2019-2023 crashes

Crashes by Crash Severity	
Fatal (K)	0
Incapacitating Injury (A)	0
Minor Injury (B)	0
Possible Injury (C)	0
Property Damage (PDO)	1
Total Crashes	1

Intersection Characteristics	
Entering Volume	8,399
Environment	Urban
Lighting	Lit
Traffic Control	Thru-Stop

Annual crash cost = $3,600

Statewide comparison = Thru/STOP, Urban

Total Crash Rate	
Observed	0.065
Statewide Average	0.145
Critical Rate	0.430
Critical Index	**0.15**

Fatal & Serious Injury Crash Rate	
Observed	0.000
Statewide Average	0.414
Critical Rate	5.780
Critical Index	**0.00**

The observed crash rate is the number of crashes per million entering vehicles (MEV). The critical rate is a statistical comparison based on similar intersections statewide. An observed crash rate greater than the critical rate indicates that the intersection operates outside the expected, normal range. The critical index reports the magnitude of this difference (i.e. observed crash rate ÷ critical crash rate).

The observed total crash rate for this period is 0.07 per MEV; this is 85% below the critical rate. Based on similar statewide intersections, an additional 6 crashes over the five years would indicate this intersection operates outside the normal range.

The observed fatal and serious injury crash rate for this period is 0.00 per 100 MEV; this is 100% below the critical rate. The intersection operates within the normal range.

Intersection Safety Screening

Intersection: Lookout Dr and Lee Blvd

Statewide Averages based on 2019-2023 crashes

Crashes by Crash Severity	
Fatal (K)	0
Incapacitating Injury (A)	1
Minor Injury (B)	2
Possible Injury (C)	2
Property Damage (PDO)	10
Total Crashes	15

Intersection Characteristics	
Entering Volume	16,608
Environment	Urban
Lighting	Lit
Traffic Control	Signal

Annual crash cost = *$600,000*

Statewide comparison = *Signal, Low Volume (<=20K)*

Total Crash Rate	
Observed	0.495
Statewide Average	0.644
Critical Rate	1.040
Critical Index	**0.48**

Fatal & Serious Injury Crash Rate	
Observed	3.297
Statewide Average	1.209
Critical Rate	5.420
Critical Index	**0.61**

The observed crash rate is the number of crashes per million entering vehicles (MEV). The critical rate is a statistical comparison based on similar intersections statewide. An observed crash rate greater than the critical rate indicates that the intersection operates outside the expected, normal range. The critical index reports the magnitude of this difference (i.e. observed crash rate ÷ critical crash rate).

The observed total crash rate for this period is 0.50 per MEV; this is 52% below the critical rate. Based on similar statewide intersections, an additional 17 crashes over the five years would indicate this intersection operates outside the normal range.

The observed fatal and serious injury crash rate for this period is 3.30 per 100 MEV; this is 39% below the critical rate. The intersection operates within the normal range.

Appendix C: Traffic Operations

Project: Lee Boulevard Corridor Study
Scenario: Existing Condition

AM Peak Hour

Intersection	Approach	Traffic Delay (sec/veh)					Traffic Queuing (feet)							
		Movement (Delay - LOS)			Approach (Delay - LOS)	Intersection (Delay - LOS)	Left Turn			Through		Right Turn		
		L	T	R			Storage	Avg	Max	Avg	Max	Storage	Avg	Max
Lee Blvd & Belgrade Ave *Stop Control*	EB	10 - B	31 - D	2 - A	12 - B	3 - A	-	25	50	25	50	-	25	50
	WB	25 - D	12 - B	3 - A	6 - A		-	25	75	25	75	150	50	75
	NB	-	1 - A	1 - A	1 - A		-	0	25	0	25	150	25	25
	SB	6 - A	1 - A	-	3 - A		200	50	100	-	-	-	-	-
South Ave & Lee Blvd *Stop Control*	EB	-	-	5 - A	5 - A	4 - A	-	25	25	25	25	-	25	25
	WB	22 - C	-	4 - A	10 - B		-	25	50	25	50	-	25	50
	NB	-	5 - A	3 - A	5 - A		-	-	-	25	150	-	25	150
	SB	11 - B	2 - A	0 - A	3 - A		-	25	125	25	125	-	-	-
Judson Bottom Rd/Lee Blvd & Lookout Dr *Traffic Signal*	EB	12 - B	11 - B	-	12 - B	11 - B	300	25	50	75	150	300	-	-
	WB	11 - B	12 - B	7 - A	10 - B		280	25	25	75	125	250	0	25
	NB	-	-	4 - A	4 - A		-	25	25	25	25	-	25	25
	SB	16 - B	2 - A	3 - A	15 - B		200	125	150	25	50	-	25	50

PM Peak Hour

Intersection	Approach	Traffic Delay (sec/veh)					Traffic Queuing (feet)							
		Movement (Delay - LOS)			Approach (Delay - LOS)	Intersection (Delay - LOS)	Left Turn			Through		Right Turn		
		L	T	R			Storage	Avg	Max	Avg	Max	Storage	Avg	Max
Lee Blvd & Belgrade Ave *Stop Control*	EB	-	8 - A	-	8 - A	4 - A	-	25	25	25	25	-	25	25
	WB	22 - C	13 - B	3 - A	7 - A		-	50	75	50	75	150	50	75
	NB	3 - A	1 - A	1 - A	2 - A		-	0	25	0	25	150	25	50
	SB	6 - A	2 - A	-	4 - A		200	50	125	-	-	-	-	-
South Ave & Lee Blvd *Stop Control*	EB	27 - D	-	6 - A	13 - B	4 - A	-	25	25	25	25	-	25	25
	WB	40 - E	-	4 - A	21 - C		-	25	50	25	50	-	25	50
	NB	-	6 - A	4 - A	6 - A		-	-	-	-	-	-	-	-
	SB	6 - A	2 - A	-	3 - A		-	25	125	25	125	-	-	-
Judson Bottom Rd/Lee Blvd & Lookout Dr *Traffic Signal*	EB	12 - B	11 - B	-	12 - B	12 - B	280	25	50	50	125	300	-	-
	WB	13 - B	12 - B	6 - A	10 - B		280	25	25	75	125	250	-	-
	NB	-	15 - B	3 - A	7 - A		-	25	25	25	25	-	25	25
	SB	16 - B	10 - B	2 - A	15 - B		200	125	150	25	50	-	25	50

Project: Lee Boulevard Corridor Study
Scenario: 2050 No Build

2050 No Build AM Peak Hour

Traffic Delay (sec/veh)

Intersection	Approach	Movement (Delay - LOS)			Approach (Delay - LOS)	Intersection (Delay - LOS)
		L	T	R		
Lee Blvd & Belgrade Ave *Stop Control*	EB	46 - E	39 - E	5 - A	37 - E	5 - A
	WB	72 - F	54 - F	4 - A	12 - B	
	NB	5 - A	2 - A	1 - A	2 - A	
	SB	11 - B	2 - A	2 - A	5 - A	
South Ave & Lee Blvd *Stop Control*	EB	65 - F	30 - D	25 - D	37 - E	6 - A
	WB	67 - F	-	15 - C	32 - D	
	NB	7 - A	6 - A	4 - A	6 - A	
	SB	11 - B	4 - A	1 - A	4 - A	
Judson Bottom Rd/Lee Blvd & Lookout Dr *Traffic Signal*	EB	15 - B	14 - B	2 - A	15 - B	14 - B
	WB	17 - B	16 - B	8 - A	12 - B	
	NB	11 - B	4 - A	4 - A	5 - A	
	SB	18 - B	6 - A	4 - A	17 - B	

Traffic Queuing (feet)

Intersection	Approach	Left Turn			Through		Right Turn		
		Storage	Avg	Max	Avg	Max	Storage	Avg	Max
Lee Blvd & Belgrade Ave *Stop Control*	EB	-	25	50	25	50	-	25	50
	WB	-	50	150	50	150	150	50	100
	NB	-	25	50	25	50	150	25	50
	SB	200	75	175	-	-	-	-	-
South Ave & Lee Blvd *Stop Control*	EB	-	25	25	25	25	-	25	25
	WB	-	25	75	25	75	-	25	75
	NB	-	25	125	25	125	-	25	125
	SB	-	50	175	50	175	-	50	175
Judson Bottom Rd/Lee Blvd & Lookout Dr *Traffic Signal*	EB	300	25	50	100	200	300	0	25
	WB	280	25	50	100	175	250	25	100
	NB	-	25	50	25	50	-	25	50
	SB	200	150	150	25	100	-	25	100

2050 No Build PM Peak Hour

Traffic Delay (sec/veh)

Intersection	Approach	Movement (Delay - LOS)			Approach (Delay - LOS)	Intersection (Delay - LOS)
		L	T	R		
Lee Blvd & Belgrade Ave *Stop Control*	EB	-	27 - D	6 - A	17 - C	6 - A
	WB	54 - F	-	4 - A	12 - B	
	NB	4 - A	1 - A	1 - A	2 - A	
	SB	8 - A	3 - A	1 - A	6 - A	
South Ave & Lee Blvd *Stop Control*	EB	25 - D	13 - B	31 - D	26 - D	7 - A
	WB	62 - F	20 - C	12 - B	38 - E	
	NB	3 - A	6 - A	4 - A	6 - A	
	SB	12 - B	6 - A	6 - A	7 - A	
Judson Bottom Rd/Lee Blvd & Lookout Dr *Traffic Signal*	EB	16 - B	16 - B	4 - A	16 - B	14 - B
	WB	17 - B	17 - B	6 - A	13 - B	
	NB	13 - B	10 - B	3 - A	6 - A	
	SB	18 - B	8 - A	4 - A	17 - B	

Traffic Queuing (feet)

Intersection	Approach	Left Turn			Through		Right Turn		
		Storage	Avg	Max	Avg	Max	Storage	Avg	Max
Lee Blvd & Belgrade Ave *Stop Control*	EB	-	25	25	25	25	-	25	25
	WB	-	50	125	50	125	150	50	75
	NB	-	25	50	25	50	150	25	50
	SB	200	75	150	25	25	-	25	25
South Ave & Lee Blvd *Stop Control*	EB	-	25	50	25	50	-	25	50
	WB	-	25	50	25	50	-	25	50
	NB	-	-	-	-	-	-	-	-
	SB	-	75	275	75	275	-	75	275
Judson Bottom Rd/Lee Blvd & Lookout Dr *Traffic Signal*	EB	300	25	75	100	175	300	25	25
	WB	280	25	75	100	150	250	-	-
	NB	-	25	50	25	50	-	25	50
	SB	200	150	150	25	75	-	25	75

Appendix D: Environmental Screening

Lee Boulevard Corridor Study
Environmental Screening Table

Attachment for this Environmental Screening includes a Social, Environmental, and Economic (SEE) Resources Figure

Social, Economic, or Environmental Topic	Considerations	Existing/Planned Conditions
Social and Community	• Access and compatibility considerations • Hospitals, schools, libraries, churches, government buildings	Social and institutional resources are depicted in the attached Social, Environmental, and Economic (SEE) Resources figure. Belgrade Avenue, which crosses the study area, provides access to a number of government services: North Mankato City Hall, North Mankato Fire Department #1, North Mankato Police Department and the North Mankato Taylor Library are all located east of Lee Boulevard. The city water department is also located further down Belgrade Avenue (approximately 800' east of Lee Boulevard). Lee Boulevard and Lookout Drive provide the two main connections between lower and upper North Mankato. Both upper and lower North Mankato contain schools, parks, churches, and medical facilities. The nearest school, Hoover Elementary, is located approximately one-half mile to the west in upper North Mankato.
Section 4f/6f Resources	• Require special evaluation, coordination, and documentation: o Parks and trails o Wildlife & waterfowl refuges o School playgrounds o Public golf courses	**Section 4(f)** There are no public recreational facilities, wildlife or waterfowl refuges, school playgrounds within or next to the project area. The nearest park is South Avenue Park which is located approximately 400' east of the project on South Avenue. Storybook Park is approximately 700' east on Belgrade Avenue. Centennial Park is approximately 1,000' east on Belgrade Avenue. **Section 6(f)** Section 6(f) resources have this designation because of the receipt of federal Land and Water Conservation Fund (LAWCON) monies. Section 6(f) has a set of review and mitigation requirements, beyond Section 4(f) requirements, which need to be approved by the US National Parks Service (NPS). Mitigation has to be in the form of resource replacement. Section 6(f) review, coordination, and mitigation requirements can be significant, as can the

Social, Economic, or Environmental Topic	Considerations	Existing/Planned Conditions
		associated project schedule requirements. There are no Section 6(f) properties within the study area, the nearest is Spring Lake Park which is approximately 2,700' northeast of the Lee Boulevard and Belgrade Avenue intersection.
Traffic Noise	• Identify noise receptors • Comply with federal and state regulatory requirements • Potential mitigation (walls or other measures)	There are various potential noise receptors adjacent to the study corridors as defined in MnDOT requirements and guidelines (http://www.dot.state.mn.us/environment/noise/pdf/2017-noise-requirements.pdf). Residential neighborhoods found adjacent to the study area, occurring primary east of Lee Boulevard. Noise is also a consideration for historic structures or properties, parks, and outdoor spaces of churches along the corridor.
Farmland	• Farmland conservation policies	The study area occurs within the U.S. Census Bureau Urban Area, therefore, the Federal Farmland Protection Policy Act does not apply.
Historic/archaeological	• Require special evaluation, coordination, and documentation • Avoid impacts per state, federal, and local regulations and guidelines	**Historic** The Minnesota State Historic Preservation Office (MnSHPO) maintains a file of historic, or potentially historic, sites throughout the state. These are categorized as follows: • SHPO-inventoried structure: a structure has been brought to SHPO's attention through some means that it may have significance under applicable law and guidelines; however, further review would be required. • Property Considered Eligible: consultation between SHPO and a lead agency (e.g. MnDOT's Cultural Resources Unit) has determined that for the purpose of identifying appropriate treatment, the structure would likely be included in the National Register of Historic Places if the applicable administrative procedures were initiated. • Listed on the National/State Register of Historic Places (NRHP): the structure has the protections identified under the National Historic Preservation Act and the Minnesota Historic Sites Act. A review of SHPO's database identified two features with boundaries that overlap the study area. The on and off ramps to TH 169 (formerly TH 7; XX-ROD-00016), located east from the Lee Boulevard/Lookout Drive intersection, is an inventoried property found to be not eligible for listing on the National Register. The study area also occurs within the mapped boundaries of XX-CLS-00001, which may possess significance as a traditional cultural property

Social, Economic, or Environmental Topic	Considerations	Existing/Planned Conditions
		and/or cultural landscape for Dakota nations for its association with the Minnesota Trail of Tears and the March of Remembrance. Additional coordination with MnSHPO and Dakota and Ho-Chunk Tribal Historic Preservation Officers (THPOs) may be considered. **Archaeology** There are no known archaeological sites within the study area.
Soils/Erosion	• Compatibility with construction/drainage design	A preliminary review of soils information using the Natural Resources Conservation Service (NRCS) Web Soil Survey indicates that soil characteristics vary between three soil types sloping down to the Minnesota River and one soil type that creates the hillslope/outcrop to the north. The lower elevation soils are generally considered prime farmland or farmland of statewide importance and vary from moderately well drained to somewhat poorly drained. The soil type that creates the hillslope/outcrop is considered not farmland soils, is well drained, and contains 2-60% slopes. Prior to the construction of any improvements in the project corridor, geotechnical analysis would be performed which would evaluate the suitability of the local soils for construction and identify any corrective measures needed.
Utilities	• Conflicts with utilities may increase schedule/cost requirements	There are overhead power lines crossing Lookout Drive within the study area, and overhead power lines on the west side of Lee Boulevard, from Belgrade Avenue traveling north. These and any underground utilities in the study area would need to be accounted for in planning and preliminary design activities. A review of US DOT's National Pipeline Mapping System indicates there are no regional gas pipelines under or crossing the study area.
Water Resources	• Impacts need to be avoided/limited per regulatory requirements	**Watershed** The study area falls within the Mankato Watershed of the Minnesota River Basin. **Wetlands** National Wetland Inventory (NWI) wetland areas as defined by the US Fish and Wildlife are depicted in the attached SEE Resources figure. While any

Social, Economic, or Environmental Topic	Considerations	Existing/Planned Conditions
		improvement project or projects in the study area would need to have field wetland delineations performed, NWI mapping is a desktop exercise that indicates the scale of wetland impacts which could be encountered. The NWI information shows no wetland resources in the study area. **Floodplain** FEMA 100- and 500-year floodplain information is provided in the attached SEE Resources figure. The Minnesota River 100-year floodplain is located south of Lookout Drive.
Drainage	• Existing drainage systems • Sensitive waters	• The entire corridor is served by curb and gutter design in the study area. • A constructed drainage swale is located west of Lee Boulevard, used as overflow in high Minnesota River occurrences. • The Minnesota River is an impaired waterway south of the study area.
Contaminated Properties	• Potential construction delays/costs • Potential cleanup liability	The Minnesota Pollution Control Agency's (MPCA's) "What's In My Neighborhood" (WIMN) database is a useful tool for preliminary screening and planning purposes. WIMN data was reviewed as part of this screening. Active sites are identified along the corridor including: • One site consisting of a minimal quantity hazardous waste generator and underground active tanks is located at 1001 Belgrade Avenue. • One minimal quantity hazardous waste generator is located at 1140 South Avenue. While more detailed review will likely be required as part of preliminary and final design for future improvement projects, it is not anticipated that contaminated properties will be a substantial consideration relative to preliminary planning/conceptual design activities.
Fisheries	• Trout streams • Fish migrations • Spawning runs • Unique habitat conditions	There are no trout streams within a mile of the study area or known unique fisheries considerations.
Vegetation	• Native plant communities • Landscape vegetation • Functional vegetation • High value vegetation	MnDNR Native Plant Community GIS data shows no instances in the vicinity of the study area. Further review for functional/high value vegetation and hazard trees will need to be considered in future environmental review.

Social, Economic, or Environmental Topic	Considerations	Existing/Planned Conditions
	• Hazard trees	
Protected Species	• Federal and state designations • Coordination and review requirements	Based on online US Fish and Wildlife Service (USFWS) information, there are only two federally protected species known to be in Nicollet County: • Northern long-eared bat • Rusty-patched bumble bee Additional species may be added to the list for Nicollet County in the future, including the Little brown bat, which is currently under review, the Tricolored bat which is proposed endangered, and the Monarch butterfly and Western regal fritillary which are both proposed threatened. Future improvement projects would involve review and potential mitigation using USFWS guidance. The MnDNR's Natural Heritage Information System (NHIS) database was reviewed as part of this environmental screening. There are known occurrences of endangered or threatened species within one-mile of the project corridor, most associated with the Minnesota River.

Appendix E: Warrant Analysis

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Real People. Real Solutions.

SIGNAL WARRANTS ANALYSIS

Lookout Dr at Lee Blvd

LOCATION: Lookout Dr at Lee Blvd
COUNTY: Nicollet
REF. POINT:
DATE: 4/9/2025

OPERATOR: KL

Speed	Approach Description		Lanes Entering Intersection
35	Major App1:	EB Lookout Dr	2
35	Major App3:	WB Lookout Dr	2
35	Minor App2:	SB Lee Blvd	2
35	Minor App4:	NB Judson Bottom Rd	1

0.70 FACTOR USED? Yes
POPULATION < 10,000? Yes
THRESHOLDS 1A/1B: No

				420/630			140/70	105/52	
HOUR	MAJOR APP. 1	MAJOR APP. 3	TOTAL 1+3	MAJOR 1A/1B	MINOR APP. 2	MINOR 2 1A/1B	MINOR APP. 4	MINOR 4 1A/1B	**MET SAME 1A/1B**
0:00 - 1:00	10	24	34	/	13	/	0	/	**/**
1:00 - 2:00	26	22	48	/	14	/	1	/	**/**
2:00 - 3:00	13	19	32	/	16	/	1	/	**/**
3:00 - 4:00	9	15	24	/	4	/	0	/	**/**
4:00 - 5:00	21	75	96	/	11	/	1	/	**/**
5:00 - 6:00	61	220	281	/	74	/X	0	/	**/**
6:00 - 7:00	140	341	481	X/	109	/X	8	/	**/**
7:00 - 8:00	394	692	1086	X/X	292	X/X	10	/	**X/X**
8:00 - 9:00	403	604	1007	X/X	328	X/X	13	/	**X/X**
9:00 - 10:00	253	294	547	X/	171	X/X	14	/	**X/**
10:00 - 11:00	199	327	526	X/	176	X/X	6	/	**X/**
11:00 - 12:00	244	403	647	X/X	225	X/X	10	/	**X/X**
12:00 - 13:00	244	491	735	X/X	247	X/X	7	/	**X/X**
13:00 - 14:00	298	591	889	X/X	298	X/X	14	/	**X/X**
14:00 - 15:00	290	464	754	X/X	323	X/X	11	/	**X/X**
15:00 - 16:00	390	562	952	X/X	356	X/X	5	/	**X/X**
16:00 - 17:00	357	653	1010	X/X	350	X/X	17	/	**X/X**
17:00 - 18:00	380	741	1121	X/X	362	X/X	17	/	**X/X**
18:00 - 19:00	274	421	695	X/X	230	X/X	11	/	**X/X**
19:00 - 20:00	187	331	518	X/	182	X/X	9	/	**X/**
20:00 - 21:00	181	261	442	X/	131	/X	11	/	**/**
21:00 - 22:00	59	152	211	/	62	/	5	/	**/**
22:00 - 23:00	48	99	147	/	52	/	0	/	**/**
23:00 - 24:00	36	64	100	/	27	/	1	/	**/**

	Met (Hr)	Required (Hr)	
Warrant 1A	**13**	8	**Satisfied**
Warrant 1B	**10**	8	**Satisfied**
Warrant 2	**10**	4	**Satisfied**
Warrant 3	**8**	1	**Satisfied**

LOCATION: Lookout Dr at Lee Blvd
COUNTY: Nicollet
REF. POINT:
DATE: 4/9/2025

OPERATOR: KL

Speed	Approach Description		Lanes
35	Major App1:	EB Lookout Dr	2
35	Major App3:	WB Lookout Dr	2
35	Minor App2:	SB Lee Blvd	2
35	Minor App4:	NB Judson Bottom Rd	1

0.70 FACTOR USED? Yes
POPULATION < 10,000? Yes
EXISTING SIGNAL ? No

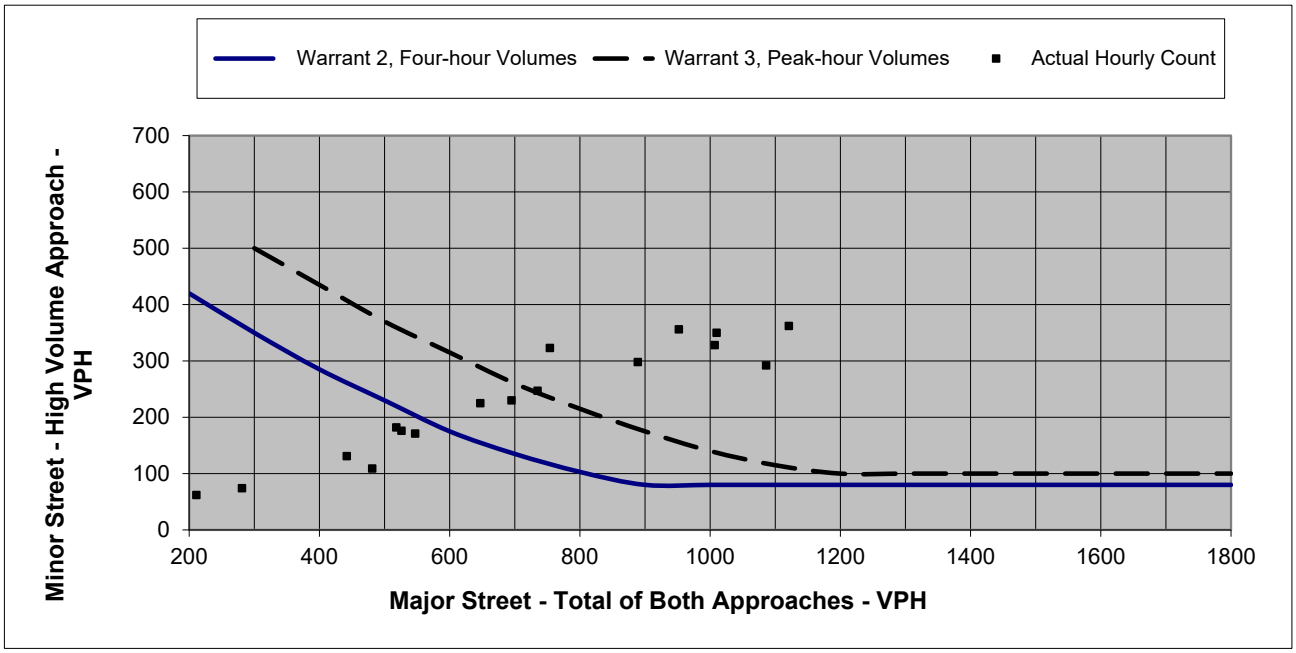

Figure 1. Four Hour and Peak Hour Warrant Analysis

Note: For data points outside the graph range, check the minor street volume against the lower thresholds

Warrant Criteria			Actual Hourly Count	
Major	Warrant 2, F	Warrant 3, Peak-hou	Major	Actual Hourly Count
200	420		34	13
300	350	500	48	14
400	285	435	32	16
500	230	370	24	4
600	175	315	96	11
700	135	260	281	74
800	103	215	481	109
900	80	175	1086	292
1000	80	140	1007	328
1100	80	115	547	171
1200	80	100	526	176
1300	80	100	647	225
1400	80	100	735	247
1500	80	100	889	298
1600	80	100	754	323
1700	80	100	952	356
1800	80	100	1010	350
			1121	362
			695	230
			518	182
			442	131
			211	62
			147	52
			100	27

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SIGNAL WARRANTS ANALYSIS
Belgrade Ave at Lee Blvd

LOCATION: Belgrade Ave at Lee Blvd
COUNTY: Nicollet
REF. POINT:
DATE: 4/9/2025

OPERATOR: KL

Speed	Approach Description		Lanes Entering Intersection
35	Major App1:	SB Lee Blvd	1
35	Major App3:	NB Lee Blvd	1
30	Minor App2:	WB Belgrade Ave	1
30	Minor App4:	EB Belgrade Ave	1

0.70 FACTOR USED? No
POPULATION < 10,000? No
THRESHOLDS 1A/1B: No

HOUR	MAJOR APP. 1	MAJOR APP. 3	TOTAL 1+3	500/750 MAJOR 1A/1B	MINOR APP. 2	MINOR 2 1A/1B	150/75 MINOR APP. 4	150/75 MINOR 4 1A/1B	**MET SAME 1A/1B**
0:00 - 1:00	20	10	30	/	1	/	0	/	**/**
1:00 - 2:00	20	17	37	/	2	/	0	/	**/**
2:00 - 3:00	26	11	37	/	3	/	0	/	**/**
3:00 - 4:00	8	10	18	/	0	/	0	/	**/**
4:00 - 5:00	10	35	45	/	1	/	0	/	**/**
5:00 - 6:00	70	116	186	/	1	/	2	/	**/**
6:00 - 7:00	142	167	309	/	10	/	2	/	**/**
7:00 - 8:00	392	349	741	X/	24	/	5	/	**/**
8:00 - 9:00	457	322	779	X/X	17	/	0	/	**/**
9:00 - 10:00	271	169	440	/	21	/	5	/	**/**
10:00 - 11:00	283	182	465	/	19	/	1	/	**/**
11:00 - 12:00	348	235	583	X/	28	/	3	/	**/**
12:00 - 13:00	411	281	692	X/	32	/	2	/	**/**
13:00 - 14:00	453	333	786	X/X	27	/	3	/	**/**
14:00 - 15:00	478	258	736	X/	34	/	3	/	**/**
15:00 - 16:00	549	309	858	X/X	32	/	2	/	**/**
16:00 - 17:00	538	347	885	X/X	40	/	2	/	**/**
17:00 - 18:00	496	364	860	X/X	38	/	2	/	**/**
18:00 - 19:00	336	227	563	X/	21	/	5	/	**/**
19:00 - 20:00	253	171	424	/	29	/	1	/	**/**
20:00 - 21:00	205	148	353	/	14	/	1	/	**/**
21:00 - 22:00	93	75	168	/	7	/	1	/	**/**
22:00 - 23:00	82	49	131	/	3	/	0	/	**/**
23:00 - 24:00	39	30	69	/	5	/	1	/	**/**

	Met (Hr)	Required (Hr)	
Warrant 1A	0	8	Not satisfied
Warrant 1B	0	8	Not satisfied
Warrant 2	0	4	Not satisfied
Warrant 3	0	1	Not satisfied

LOCATION: Belgrade Ave at Lee Blvd
COUNTY: Nicollet
REF. POINT:
DATE: 4/9/2025

OPERATOR: KL

Speed	Approach Description		Lanes
35	Major App1:	SB Lee Blvd	1
35	Major App3:	NB Lee Blvd	1
30	Minor App2:	WB Belgrade Ave	1
30	Minor App4:	EB Belgrade Ave	1

0.70 FACTOR USED? No
POPULATION < 10,000? No
EXISTING SIGNAL ? No

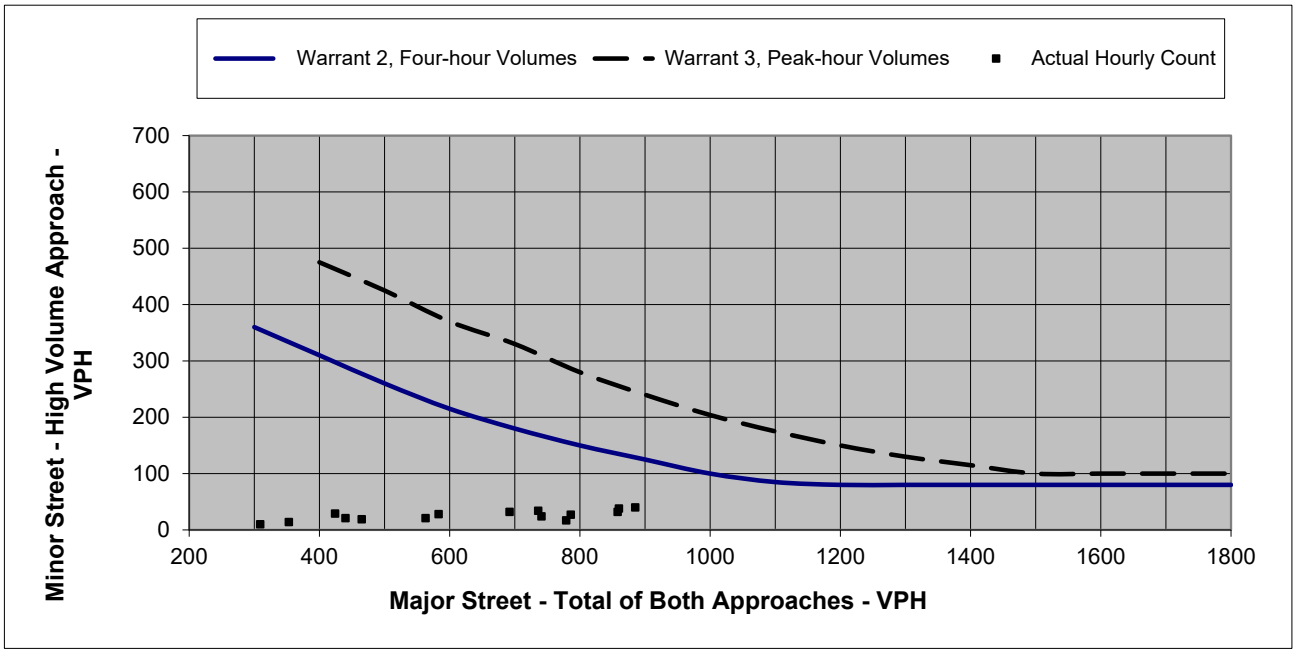

Figure 1. Four Hour and Peak Hour Warrant Analysis

Note: For data points outside the graph range, check the minor street volume against the lower thresholds

Warrant Criteria			Actual Hourly Count	
Major	Warrant 2, F	Warrant 3, Peak-hou	Major	Actual Hourly Count
200			30	1
300	360		37	2
400	310	475	37	3
500	260	425	18	0
600	215	370	45	1
700	180	330	186	2
800	150	280	309	10
900	125	240	741	24
1000	100	204	779	17
1100	85	175	440	21
1200	80	150	465	19
1300	80	130	583	28
1400	80	115	692	32
1500	80	100	786	27
1600	80	100	736	34
1700	80	100	858	32
1800	80	100	885	40
			860	38
			563	21
			424	29
			353	14
			168	7
			131	3
			69	5

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ALL WAY STOP WARRANT

LOCATION: Belgrade Ave at Lee Blvd
COUNTY: Nicollet
REF. POINT:
DATE: 4/9/2025
OPERATOR: KL

Speed	Approach Description	Lanes Entering Intersection
35	Major App1: SB Lee Blvd	1
35	Major App3: NB Lee Blvd	1
30	Minor App2: WB Belgrade Ave	1
30	Minor App4: EB Belgrade Ave	1

0.70 FACTOR USED?

					300	200	
HOUR	MAJOR APP. 1	MAJOR APP. 3	MINOR APP. 2	MINOR APP. 4	MAJOR TOTAL Σ (APP. 1 & APP. 3)	MINOR TOTAL APP. 2 + APP. 4	WARRANT MET
0:00 - 1:00	20	10	10	0	30	10	/
1:00 - 2:00	20	17	6	0	37	6	/
2:00 - 3:00	26	11	6	0	37	6	/
3:00 - 4:00	8	10	8	0	18	8	/
4:00 - 5:00	10	35	25	0	45	25	/
5:00 - 6:00	70	116	55	2	186	57	/
6:00 - 7:00	142	167	96	2	309	98	X/
7:00 - 8:00	392	349	196	5	741	201	X/X
8:00 - 9:00	457	322	204	0	779	204	X/X
9:00 - 10:00	271	169	121	5	440	126	X/
10:00 - 11:00	283	182	139	1	465	140	X/
11:00 - 12:00	348	235	200	3	583	203	X/X
12:00 - 13:00	411	281	245	2	692	247	X/X
13:00 - 14:00	453	333	224	3	786	227	X/X
14:00 - 15:00	478	258	217	3	736	220	X/X
15:00 - 16:00	549	309	243	2	858	245	X/X
16:00 - 17:00	538	347	298	2	885	300	X/X
17:00 - 18:00	496	364	273	2	860	275	X/X
18:00 - 19:00	336	227	156	5	563	161	X/
19:00 - 20:00	253	171	149	1	424	150	X/
20:00 - 21:00	205	148	78	1	353	79	X/
21:00 - 22:00	93	75	52	1	168	53	/
22:00 - 23:00	82	49	41	0	131	41	/
23:00 - 24:00	39	30	17	1	69	18	/

Allway Stop Warrant: **9** 8 **Satisfied**

REMARKS:

Appendix F: Engagement Summaries

Phase 1 Engagement Summary

Lee Boulevard Corridor Study

MAPO

Real People. Real Solutions.

Table of Contents

Overview

Project description

The Mankato/North Mankato Area Planning Organization (MAPO) is working with the City of North Mankato to study Lee Boulevard between Lookout Drive and Belgrade Avenue. The purpose of this study is to evaluate the corridor and create a plan for improvements. Improvements will address flood mitigation, traffic flow, intersection safety, and bicycle and pedestrian connections.

Engagement purpose/goals

The purpose of this phase of engagement was to:

1. Ensure that project information is made available to stakeholders in a clear, effective manner.
2. Gather meaningful feedback from stakeholders on corridor issues and opportunities to develop a community-supported project design.
3. Ensure that stakeholder questions and concerns are heard and addressed.
4. Maintain and strengthen the relationship between MAPO, the project team, and project stakeholders.

Engagement snapshot

From May 5 to May 30 the project team collected feedback using the following methods:

- Survey: 186 responses
- Online comment map: 16 comments
- 1 pop up: 25 attendees
- Project email: 126 subscribers, 1 email comment submitted

Key takeaways

Priorities

- Safety and traffic flow were nearly equally prioritized.
- Pedestrian and bicycle features ranked slightly lower but still important.

Traffic flow

- 60% of respondents feel traffic flow is currently adequate.
- Left turns at Belgrade Avenue and Lookout Drive are difficult and unsafe.
- Turning onto Lee Boulevard from side streets can be difficult and dangerous
- Suggestions:

        - Add turn lanes, clearer signage, and better road markings.
        - Improve traffic sensors and light timing.
        - Keep Judson Bottom Road open.
        - Reduce noise and reroute truck traffic.

Traffic safety

- Concerns include:
    - Dangerous turns and crossings.
    - Red light running (especially at Lookout Drive).
    - Speeding near schools and residential areas.
    - Poor visibility and lack of yielding at intersections.
    - Lane confusion and unsafe merging.
    - Insufficient lighting.

Pedestrian and bicycle safety

- Unsafe crossings, especially for children and families.
- Lack of crosswalks, signage, and pedestrian signals.
- Need for sidewalks and bike lanes, especially near schools.

Intersection/road design

- Mixed opinions:
    - Some favor roundabouts at key intersections.
    - Others prefer signalized intersections for winter safety.
- Interest in design changes like raised medians, two-lane roads, and parks.

Aesthetics and environment

- Strong support for preserving green space and natural beauty.
- Suggestions for parks, overlooks, and public space.

General feedback

- Some feel the area functions well and needs minimal changes, expressing skepticism about the project's purpose and cost.
    - Others emphasize non-driver safety.
- Mixed views on closing Judson Bottom Road.

Promotion

The event, survey, and comment map were promoted via the city's website, e-newsletter, and social media. These engagement opportunities were also promoted via the project email. A flyer with the link to the website and survey was included in the Bookin' on Belgrade 5K goodie bags and mailed out to residents with their utility bills.

Survey Summary

The online survey, live between May 5 and May 30, received 186 responses. Most respondents were drivers who live near or commute through the project area at least several times a week. Respondents were largely white, aged 30 to 49, with a household income of $100,000 or more.

Key takeaways

Priorities

- When asked to prioritize improvements for Lee Boulevard, safety and traffic flow received nearly the same average ranking; pedestrian and bicycle features fell slightly behind.
    - Traffic flow and safety received the most number 1 rankings, 58 and 56, respectively.
    - Pedestrian and bicycle features received the most number 3 rankings with 80.

Traffic flow

- About 60% of respondents said that traffic flow is currently working well on Lee Boulevard and the intersections along it.
- Left turns from Belgrade Avenue onto Lee Boulevard and from Lee Boulevard to Lookout Drive are difficult and often unsafe.
    - Similar comments were made for other side roads in this area.
- Requests for turn lanes, better signage, and clearer road markings to improve flow and safety.
- Traffic sensors and light timing need improvement to reduce backups and improve flow.
- Some respondents noted that Judson Bottom Road access is important and should remain open.
- Noise mitigation and truck rerouting are suggested to improve livability.

Traffic safety

- Red light running, especially at Lookout Drive, is a major concern.
- Speeding is an issue, particularly near schools, the library, and residential areas.
- Poor visibility and lack of yielding at intersections endangers pedestrians and bicyclists.
- Lane confusion and poor merging behavior are common, especially near Belgrade Avenue and Lee.
- Lighting in the area needs improvement.

Bicyclist and pedestrian safety

- Crossing Lee Boulevard and Lookout Drive is unsafe, especially for children and families.
- Lack of crosswalks, signage, and pedestrian signals make walking and biking feel unsafe.

- Sidewalks and bike lanes are needed, especially near schools and residential areas.

Intersection design

- Some respondents suggested roundabouts at key intersections like Belgrade Avenue/Lee Boulevard and Lee Boulevard/Lookout Drive/Judson Bottom Road.
- Some residents prefer signalized intersections, especially to avoid winter driving issues.

Aesthetics and environment

- Strong support for preserving green space, mature trees, and natural beauty.
- Suggestions for park space, overlook areas, and public amenities like restrooms and drinking fountains.

General comments

- Some residents feel the area is functioning well and doesn't need major changes.
- Others express strong concerns about safety, especially for non-drivers.
- A few comments reflect skepticism about the project's purpose or cost.

See **Appendix A** for all survey response data.

Comment Map Summary

The online comment map, also live between May 5 and May 30, received 16 total comments. These comments received 32 likes and 13 dislikes. About half of commenters were residents.

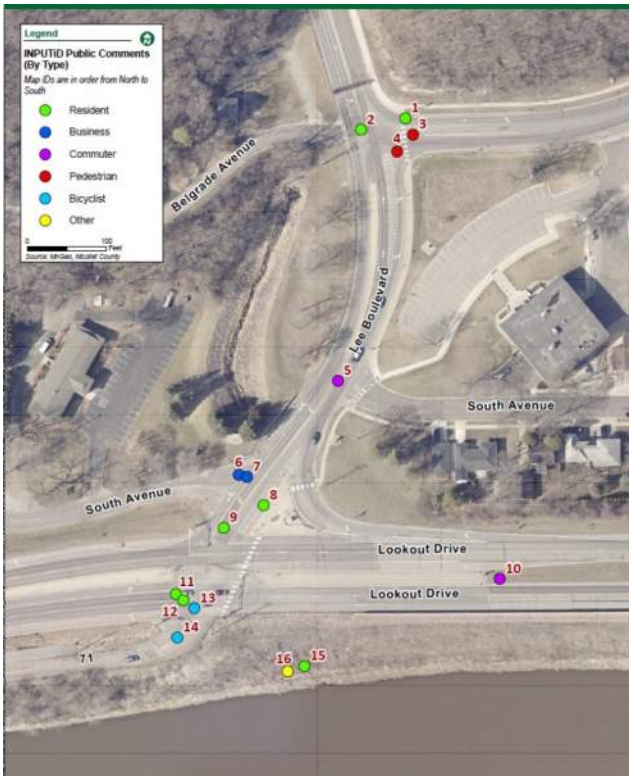


Figure 1: Map of online comments.

Key takeaways

- Turning onto Lee Boulevard from Belgrade Avenue and South Avenue can be challenging and dangerous due to blind hills, speeding, and poor visibility.
- Crossing Lee Boulevard at Belgrade Avenue is dangerous for pedestrians.
- Crossing Lookout Drive from Judson Bottom Road to Lee Boulevard as a bicyclist is unsafe.
- A few respondents did not like that this area is often used as a shortcut for truck traffic.
- Intersection/roadway design ideas included roundabouts, reducing the roadway to two lanes, raised medians, a riverfront park, and designated turn lanes.

See **Appendix B** for all comment map responses.

Pop-up Summary

Project staff tabled outside of the North Mankato Library on Saturday, May 17 from 8 to 10:30 a.m. to talk to community members participating in the Bookin' on Belgrade 5K and Pollinator Plant Swap. The 5K began and ended at the library and the plant swap began as many runners were finishing. Being that it was a cold, windy morning, neither event saw as high of participation as was expected.

Overall, project staff engaged with about 25 people at the event. Most were drivers who live near the project area and use the road daily.

Figure 2: Project staff table on a busy Saturday morning at the North Mankato Library.

Key takeaways

- Traffic flow tends to work well in this area, though intersections could be improved for safety.
- Bicycle and pedestrian features are lacking, and there is support for improvements.
- Turning onto Lee Boulevard from the side streets in the area can be challenging and dangerous.
- Several people asked if decisions were made yet on closing Judson Bottom Road, and a couple expressed opposition to closing it.

See **Appendix C** for all pop-up notes and data.

Project Email Summary

The project team received one email from a resident, requesting a right turn lane from Belgrade Avenue to Lee Boulevard. The full email is included in **Appendix D**.

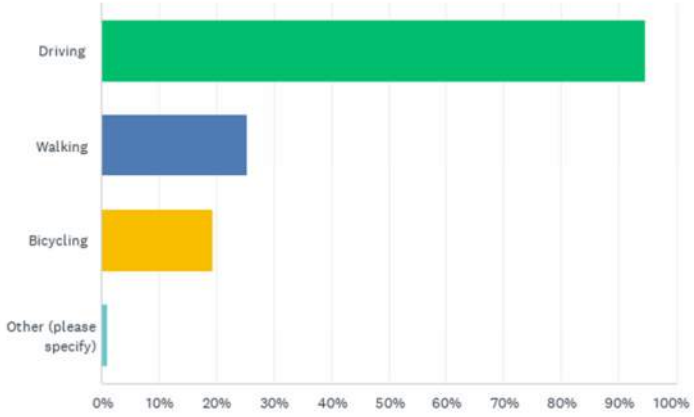
Conclusion

Overall, community feedback on Lee Boulevard highlights a strong desire to improve both traffic flow and safety, with particular concern for difficult intersections, unsafe turning movements, and red light running. While many feel traffic generally moves well, there is clear support for enhancements like better signage, turn lanes, and improved lighting. Pedestrian and bicyclist safety is a recurring concern, especially near schools and residential areas, with calls for more crosswalks, sidewalks, and bike lanes. Opinions on intersection design vary, and preserving green space and livability remains important. While some residents are content with the current setup, others emphasize the need for thoughtful, safety-focused improvements.

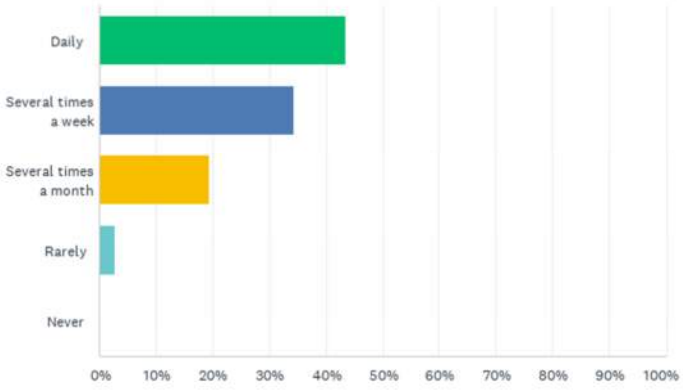
Appendix

Appendix A: Survey

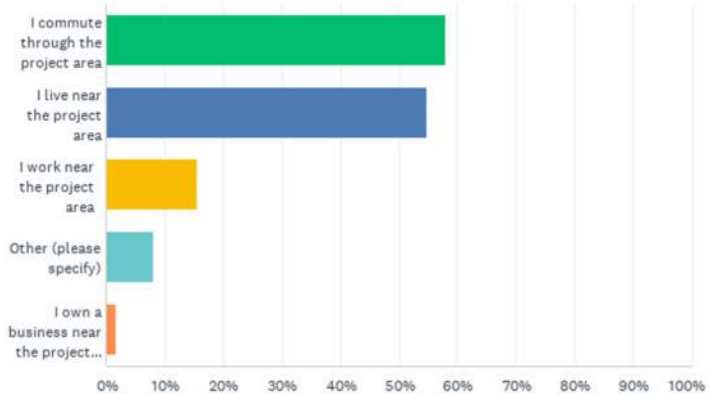
Q1 How do you typically use Lee Boulevard? (Select all that apply)



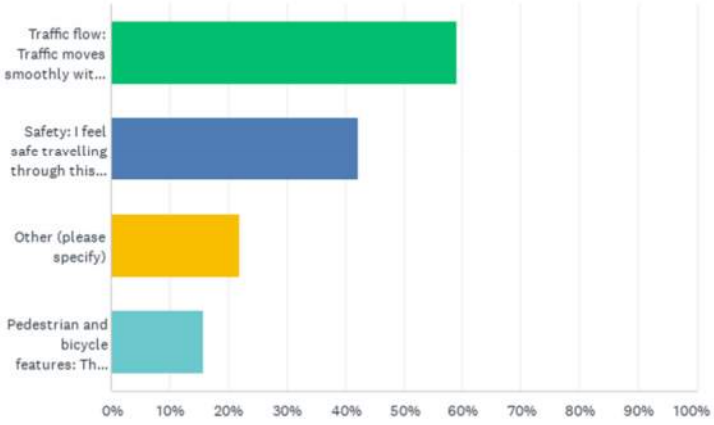
Q2 How often do you use this section of Lee Boulevard?



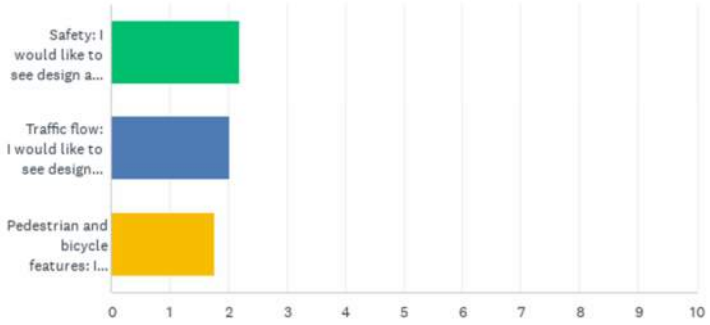
Q3 What is your relation to this section of Lee Boulevard? (Select all that apply)



Q4 What is currently working well on Lee Boulevard and the intersections along it? (Select all that apply)

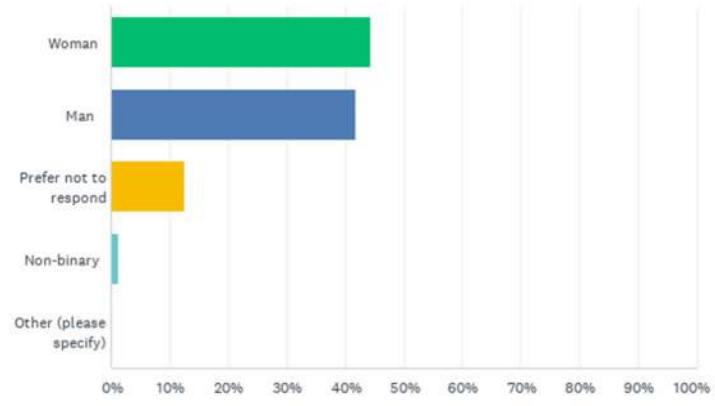


Q5 What would you like to see improved on Lee Boulevard and the intersections along it? (Rank from most to least important)

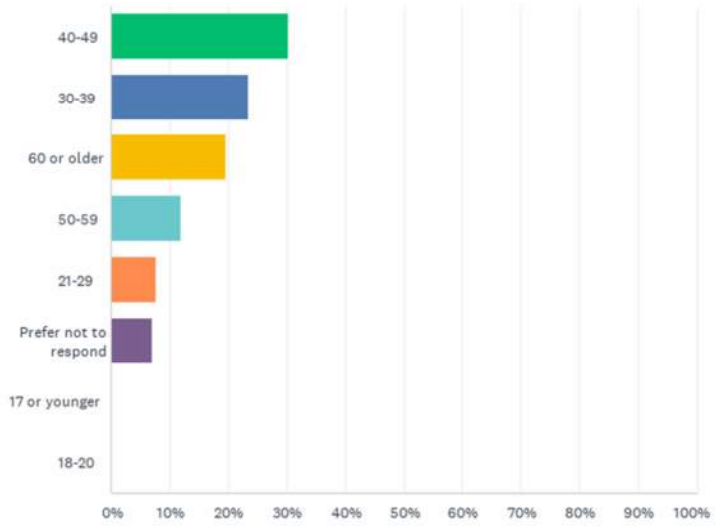


	1	2	3	TOTAL	SCORE
Safety: I would like to see design and traffic control changes along the corridor to increase safety.	35.22% 56	49.06% 78	15.72% 25	159	2.19
Traffic flow: I would like to see design changes to improve traffic flow within the project area.	36.48% 58	29.56% 47	33.96% 54	159	2.03
Pedestrian and bicycle features: I would like to see additional sidewalk and trail connections added so I can more easily walk and bike through the area.	28.30% 45	21.38% 34	50.31% 80	159	1.78

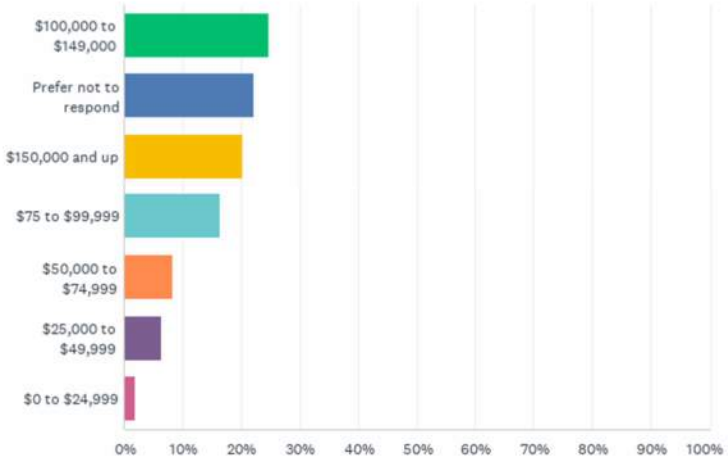
Q7 What is your gender identity?



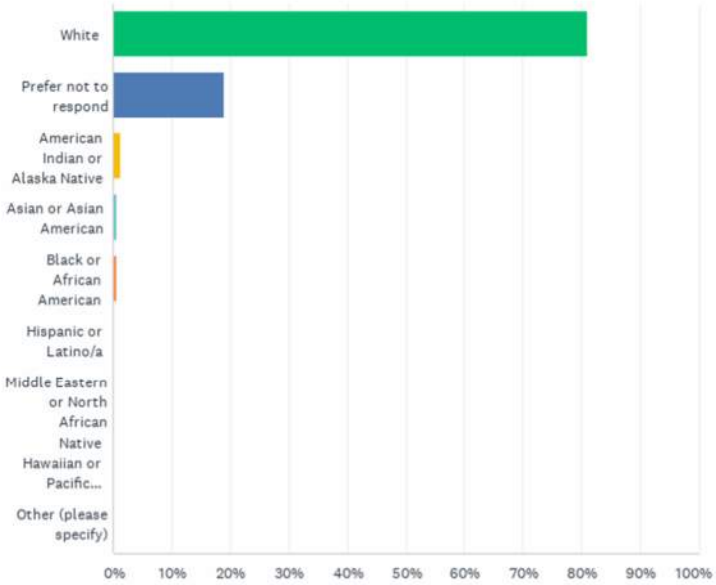
Q8 What is your age?



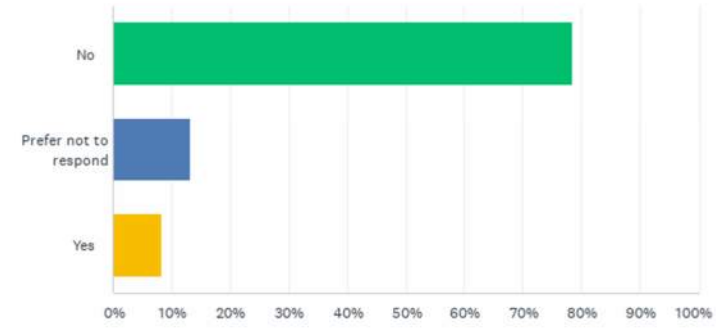
Q9 What was your household income last year?



Q10 Which race or ethnicity best describes you? (Select all that apply)



Q11 Do you have a disability?



Raw answers to question 6: Do you have any other concerns or ideas you would like to share with the project team?

- None beyond the prior concern noted whereby drivers on Lookout drive are running through the red light at Lee blvd.
- This would be a good intersection for a bus stop. Cyclists need protected lanes in this area, they are less visible with the multiple changes in slope plus multiple traffic directions.
- Do not add any roundabouts in this area. Would not work well, especially in winter
- Would love a more walk/run/bike friendly path or sidewalk
- Change it to a roundabout at the stop light and Belgrade intersection
- I hope you will be considering the Belgrade intersection.
- I work near the bottom of the hill, and it is almost impossible to get out during the day with the traffic. People coming from down from the top of the hill drive extremely fast and it feels unsafe.
- I work at Brown & Brown on South Ave and travel on Lee Blvd multiple times a day. Every day when I turn left off South Ave and onto Lee Blvd, I do not feel safe. The entrance/exit is very dangerous because it is extremely difficult to see traffic coming down the hill. Vehicles are also flying down the hill especially at peak times during the day. You have to watch traffic coming from three different directions – traffic coming down Lee Blvd, traffic turning left onto Lee Blvd from Lookout Dr, and traffic turning right onto Lee Blvd from Lookout Dr. The traffic turning right onto Lee Blvd from Lookout Dr. very rarely yields to incoming traffic as well even with the obvious yield sign in place. With the timing of the light, I am often sitting at the stop sign waiting to turn for several minutes. I often cannot turn unless a vehicle creates space in between another vehicle and waves me through or the light finally turns green, and all traffic has made its way through. We have many elderly clients at Brown & Brown because we offer Medicare coverage. We are afraid for their safety when they enter and exit our business. I don't know the best way to fix the issue, but maybe a "traffic entering when flashing" sign may help slightly. Otherwise, it would be nice if we had the option to turn left off South Ave and onto Lookout Dr. Right now, we can only turn right.
- Pedestrians and bikers – it is very dangerous to try to cross this intersection as a pedestrian or biker. Vehicles do not slow down as they approach the bottom of the hill.
- Car's running red light on lookout is a daily occurrence. Cars crossing Lookout from Judson Bottom road is very tricky.
- Crossing that intersection as a Pedestrian is difficult because it is 4 lanes across. I avoid it even though I am close enough to walk or ride my bike to city offices or the library. In do not notice any issues as a driver. I like the warning lights to alert drivers the light will be dead as they approach the intersection
- The area lacks pedestrian lanes
- There is no problem with this section of road at all.

- as a business on South Ave frontage road, accessing our business is complicated coming from the west down Lookout and leaving can be nearing impossible with light timing if you want to go left onto lookout from South Ave or even to turn left onto Lee Blvd - crossing the turn lane and trying to see if anyone is heading up from Judson Bottom Rd or turning from Lookout. Elderly clients really struggle to navigate this route.
- Such a beautiful area so keeping the landscape and mature trees should be of great importance. The less concrete the better.
- Leave it as is. There is nothing wrong with Lee Blvd. Your "survey" is invalid as none of the items need work.
- closure of this area effects upper north traffic flood day was good view of this hwy 14 was a back up and no ways out
- Safer crosswalk crossing Lookout Drive onto Judson Bottom Road
- Please make intersection safer for walking/running/biking! It is very difficult to safely cross because when there is a green light traffic turning left from Lee to Lookout does not watch for pedestrians or bikes.
- I like it the way it is. It's safe, a pretty drive in the middle of the city. Season changes are pretty, adds beauty to North Mankato, don't modernize it.
- How about a roundabout?
- Semi traffic having to stop at the bottom of the hill
- The Belgrade/Lee intersection going uphill is confusing for drivers unfamiliar with the are. Those coming from Lookout will many times choose the far right uphill lane interfering with traffic that is turning right from Belgrade to Lee.
- Very difficult to turn left from Belgrade to Lee Blvd during high traffic times. Lee to lookout is a good intersection.
- Leave it alone. why does someone always think the have to try and improve something to only make it worse. It's not broke no need to try and fix it
- I would like it to safe way to walk or bike that area
- I think this section of Lee blvd works pretty well as is. I especially like the additional lane going up the hill between Belgrade and Lor Ray Dr, this makes it so easy to join traffic traveling this direction. I don’t believe bicycle or pedestrian traffic uses the section of this study, because the paths taking traffic over the river are located at Center St and Sherman St.
- Round abouts??
- It needs a big cycle lane and sidewalk for the entire boulevard.
- Don’t recall ever seeing pedestrians on Lee Blvd between Belgrade and Lookout.
- Time for a roundabout.
- Mural art was a nice addition to the flood wall. It would be nice to continue to expand on the overall aesthetics of the highly utilized intersection.
- Flood mitigation

- The light where Lee Blvd intersects with look out drive is a hazard. Vehicles traveling on Look out at high rates of speed often run through the red light. It is only because I look before pulling out when my light is green that I have avoided being broadsided by vehicles traveling on Look out trying to beat the light. It is very dangerous.
- Speed patrol.
- It's difficult for traffic coming down Lee to make a left onto Belgrade due to traffic.
- I think the traffic flow and safety work. Maintaining that while incorporating connected sidewalks and paths would be desirable.
- Roundabouts at both intersections should be strongly considered. Lookout Dr. is no longer a state highway so semi traffic should be less of a focus for this corridor. More focus should be on local vehicle and pedestrian traffic and if it means an inconvenience for semis, then they can stay on Hwy 169 and Hwy 14 instead.
- Crossing from the Judson Bottom road back across Lookout onto Lee is challenging. The button on the stop light is nearly impossible to reach as a cyclist and the cars coming at you and turning don't expect anyone coming across as there is such little car traffic coming via this direction. Please try and make is safer for bike riders and walkers to cross back into lower north mankato from the bottom road in this project. Thanks
- I don’t see anything wrong with the current intersections. If people use their turn signals there shouldn’t be a problem
- Ultimately I would love to see a pedestrian / Bicycle bridge across the river into Sibley Park!!
- Please stop spending money on these things. Lee Blvd is just fine as-is. Lower the taxes and spend money wisely.
- I have no other concerns.
- No. I don’t think anything needs to be changed to this area at all.
- I have had a car accident here years ago, so safety is a concern. I bike this area frequently also. I’m not sure how to improve it.
- Yes let’s talk about the 25 million dollar building Luke is talking about for a city shop!! The Blue Earth County shop was that price! They have a lot more roads to cover than North Mankato! And he went and leased 16 New Trucks instead of buying! Time to look at that first!
- I am somewhat wary of using the multiple intersections as it seems that many vehicles are coming from various directions and I have experienced several close calls and feel overwhelmed trying to scan in all directions. Some cars speed down Lee Boulevard way too fast, making left turns from Belgrade to Lee very problematic. And making left turns from Lookout Drive to Lee is scary due to speeding vehicles coming down Lookout Drive. Yikes!!!
- Bike and pedestrian bridge over to Mankato side
- See #4 above
- Make it better flood protected and easier safer to bike/walk

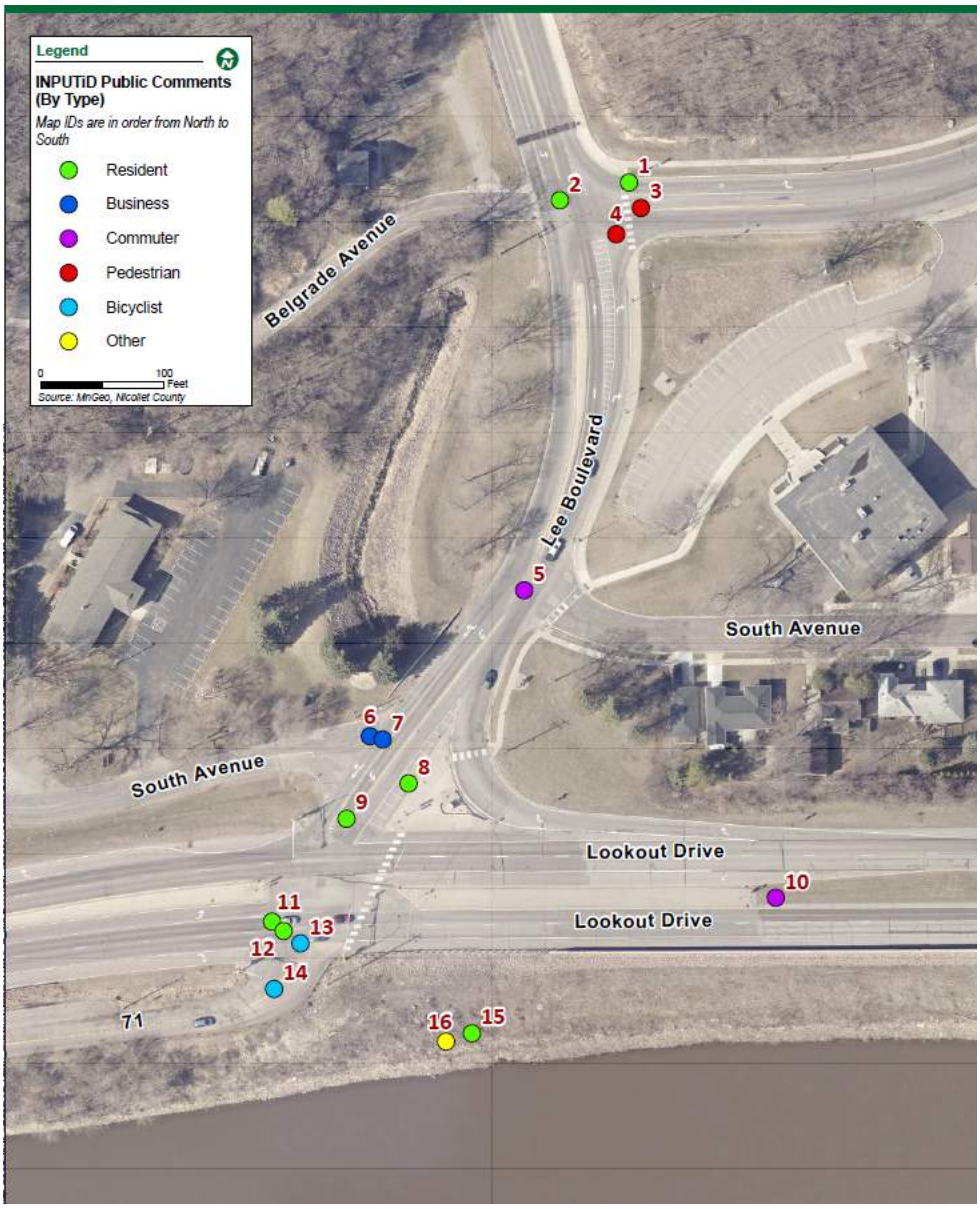
- Bicycles traveling very fast in the lanes going down Lee Blvd is dangerous . A rock or other small obstruction could cause the bicycle to crash and cars following behind could hit them and the bike. Bicyclists need to observe any and all laws.
- The bike trail along Hwy 14 is hardly used. It should be made into a two lane service road to add another ingress/egress to upper north.
- I have concerns about how detours for this route would impact traffic flow for Hoover Elementary
- It is a very weird turn to turn left onto lookout from lee. It is also odd how the left lane going down Lee turns into a turn lane with little indication, this leaves drivers moving right at the last second, disrupting traffic flow
- Give pedestrians and cyclists a go signal before turning green for cars. Cars do not look and having a few seconds head start would make a significant difference.
- A better way to cross the street at the bottom of Lee hill (to go up the neighborhood to the side)
- Turning left from Belgrade Avenue onto Lee Blvd can be tricky.
- "Lee Boulevard currently lacks safe, accessible infrastructure for people biking or walking. There are no dedicated bike lanes, and pedestrian facilities meet only the bare minimum standards. The slip lane near the hill is especially hazardous, creating a serious risk for pedestrians and cyclists. Traffic regularly exceeds the speed limit while descending Lee Boulevard, increasing the chance and severity of collisions. There are far too many vehicle conflict points along the corridor.
- To improve safety and function, I strongly recommend adding at least two modern roundabouts: one at Lee Boulevard and Belgrade Avenue, and one at Lee Boulevard and Lookout Drive. The Lookout roundabout should follow the successful design of the one at Highway 22 and Augusta Drive. Crucially, neither roundabout should include slip lanes—these are dangerous for vulnerable users and undermine traffic calming.
- Between the roundabouts, a center median should be added to reduce collision points and prevent left turns from South Avenue. This would help channel traffic more safely and predictably.
- Lee Boulevard should include dedicated bicycle lanes to serve as a safe corridor for active transportation—it's a key artery through North Mankato. Belgrade Avenue should also include bike lanes. These changes are consistent with NACTO and Dutch Sustainable Safety principles, which call for separation of travel modes and designs that anticipate human error. Bicycle commuting has increased exponentially in recent years, both nationally and locally, and our infrastructure needs to keep pace with this shift. Safe bike lanes are no longer a luxury—they're a necessity for growing, resilient communities.
- These improvements would make Lee Boulevard safer, more efficient, and more inclusive for all users—not just drivers."

- A roundabout could work here if something needs to be done. Certain times of the day(just before school/ and around 5 p.m.) it is busy. Most of the time, traffic is pretty light.
- My highest concern is mitigating future flood risks. I would like to see the flood wall extended to cover this intersection as well like it covers the rest of the river running through town.
- Try to do it without building yet another roundabout.
- Lee bvld is fine for traffic and pedestrians (thin out some of the urban deer). Close the Judson bottom road and extend the permanent flood wall.
- Would love to see a roundabout or better design for flow. Use this daily and it is not user friendly
- Obvious: left turn from west bound Belgrade to South bound Lee
- make sure its bike and pedestrian friendly
- It would be great if the speed limits around the area were lowered and there was some park space.
- When trying to cross Lookout drive coming from Judson bottom road to Lee Blvd the people making a left off Lee Blvd onto lookout rarely ever yield to peds and cyclist even though the light give the ok to walk signal. I have almost been hit 2 times already this year
- The light timing seems off during certain parts of the day. It should always be traffic controlled. I think the intersection could frankly do with a roundabout
- The stoplight at the bottom of the hill I believe should have a better sensor.
- Please make this area more pedestrian friendly. I walk my dog across Lee Blvd at the intersection of Belgrade daily and it's nearly impossible to cross during busy periods. Most drivers seem to be going above the posted speed limit and there are so many lanes to cross.
- This is a frivolous way to spend tax payer dollars. Leave it alone, it's fine.
- There is a lot of light running at the intersection which is damgerous. Also want to see the bottom road kept open as an alternate route to town for those that live on that road
- Do not construct anything at the bottom especially of Lee Bld hill that will cause all traffic to stop or even significantly slow down (ie a roundabout)
- The metal storm drain grate just uphill from Belgrade is dangerous for motorcyclists. Too slippery.
- Would love to see an elongated traffic circle that encompasses both the Lookout/ Lee / Judson intersection AND the Lee/ Belgrade intersection.
- At bare minimum, please install pedestrian crossing at Lee / Belgrade. There are times of day where it's nearly impossible to cross Lee on foot.
- Traffic calming

- There is too much red light running here. Mostly from drivers on the Lookout portion. Speed needs to be reduced or rumble strips or other speed reducing mitigation.
- Keep the green space and beauty of the drive
- I think the road works well as it is now, the only improvement would be to better accommodate for Bicycles
- Don’t close Judson Bottom Road!
- Stop spending money on things that are not needed. The only thing needed is daily drug tests for the City Council.
- Turning left off Belgrade onto Lee Blvd. Turning right to go up Lee Blvd from Belgrade and people not paying attention that the up hill traffic should stay in left lane for those Turing right
- Please prioritize pedestrian safety over cars. Roundabouts would the area well.
- Integrating a turn lane to South Ave
- I would like a safer way to walk across lookout Dr. I know it's going to hard because that hill is easy to speed down.
- I would like to see clearer signage or road markings telling those turning from Belgrade onto Lee to stay in the right lane and telling those heading up Lee Boulevard to stay in the left lane until changing lanes is allowed. I feel the same is needed where drivers crossing the Veteran's Bridge interact with those turning onto the bridge from 169 northbound. Those coming from Belgrade regularly cross the solid line immediately after coming on the bridge, causing those who who should be able to safely enter the bridge from 169 to stop and pile up traffic behind them.
- Pedestrian and bicycle use seems like it would be difficult and unsafe in this area. I actively avoid walking or biking in this area.
- If there was a good place for a roundabout, it would probably be here. During high traffic times, it's very difficult to turn left from Belgrade onto Lee and I've seen many close calls. It would also be nice to have a dedicated bike lane or trail for bikes that come flying down the hill. It can be dangerous for walkers.
- I normally come from Judson Bottom road and go straight across the intersection to Lee Blvd. It is a regular occurrence for vehicles coming from Lee and turning left onto Lookout to cut me off. Including times when we were both stopped at the red light and it turned green. I think the left turn lane on Lee should be have a separate turn light controlling it.
- Don't allow traffic to back up while waiting to turn left from Lee to Lookout. The rare traffic from Judson can slow down the flow.
- Safety is always my number one! With money responsibly spent on projects that bring safety to all users. I think there are other areas of North Mankato. I am more concerned about for safety than this area.
- I like having round a bouts over signalized intersections

- Along with a safety barrier along the hill sidewalk, a small restroom and new drinking fountain at the top of the hill (Lor Ray and Lee)
- Turning south/left off of Belgrade onto Lee is can be difficult
- I live in upper north and work in Mankato. I commute through this area every working day. It's important the lights move traffic through efficiently during peak times to avoid backups.
- Whatever the solutions are I think that visual appeal, safety and ease of use and noise mitigation should be prioritized, not necessarily speed or convenience of vehicular traffic. This area especially the hill to the east side has potential to be a park with a beautiful overlook of the city can get access to the land. It would be a shame to make this into a big jumble of roads for traffic. People can slow down and trucks should be forced to stay on HWY 14 and 169.
- We live on Belgrade as it extends across Lee and goes up the hill turning into the gravel trail. Turning onto and off of our road is a challenge because no one expects a car to stop and turn there. And in order for us to walk or bike (esp since our kids do not receive bussing services) we need to cross Lee blvd but no one is expecting or watching for pedestrians and there are no lights/signs/crossing guards/stops to make it safer.
- Driving-no issues. Biking-not safe
- The speed people drive along these roads is so dangerous. Especially since the library, city works, river and housing is right along it. It’s dangerous for kids to ride or walk around there. The turn on to south ave and out of south ave is also dangerous. Most drivers don’t watch or look out for anyone coming or going to south ave making it more dangerous. Something absolutely needs to be done with the lanes and stop light there especially in this area.
- It is not clear to me what problem(s) we are trying to solve in this area. It is not clear to me whether this initiative is a component of work that "is happening anyway" in this area as a component of an existing project and money that is already planned to be spent, or if this is an initiative that would implicate work that is not already contemplated and included in a budget forecast.
- It is often hard to make a left when entering Lee from Belgrade. A round-a-bout would fit this location well.
- More lighting. All the main streets in upper north are rather dark.

Appendix B: Comment map



Map ID 1 — Resident

Gary Wintheiser - gpwin@hickorytech.net

0 0

Mailing

Intersection Lights turn Yellow/Red before you travel thru intersection if you're NOT speeding

5/27/2025

Map ID 2 — Resident

Josh Ramaker -

4 1

Dangerous right turn area for pedestrians and drivers. The Hill is blind to those turn left on Belgrade from Lee. Its just an overall unsafe area to walk, especially for young children going to school.

5/7/2025

2 0

As a resident of Clare Ct, I just found this awesome unmarked trail that ends at Belgrade and Lee. I'd love to walk to the library on this wooded path, but I agree that ped xing there would feel very unsafe.

5/7/2025

Map ID 3 — Pedestrian

Andrew - Katowilson3@gmail.com

4 2

Social Media (Facebook,

A reminder that roundabouts are even worse for pedestrians since drivers are only paying attention to cars and makes it extremely dangerous for pedestrians

5/7/2025

Map ID 4 — Pedestrian

Pedestrian Lights - djhewitt02@gmail.com

1 0

Website

A roundabout likely wouldn't be viable here for reasons others have listed, and while a 4-way stop sign could make it safer for pedestrians, traffic would likely be greatly affected, and safety for drivers going downhill in the winter could definitely raise concerns. I think, adding actual raised medians to the current white-striped areas on Lee blvd would work to slow traffic down, but not impede it. I see people disregard those white-striped areas all the time and cut right over them, making traffic somewhat unpredictable for pedestrians. Also adding a short center median on Belgrade at this intersection would also narrow lanes and force drivers take slower turns making it safer for pedestrians. Adding button-controlled flashing pedestrian signs similar to the ones that are on Stadium/Warren by MSU and were recently added to riverfront in old town, would also be nice to integrate into this intersection as they seem to increase driver awareness of pedestrian crossings.

5/8/2025

Map ID 5 — Commuter

Resident -

0 0

A designated turn lane southbound Lee Blvd to South Ave so the vehicles speeding down Lee don't assume you're turning on Lookout.

5/28/2025

Map ID 6 Business

Megan - Megan.lange@bbrown.com

Mailing

4 0

More recently the timing of the light at this intersection has made it nearly impossible for employees and clients to turn onto Lee Blvd from South Ave as traffic backs up beyond where you can see from the stop sign, you cannot get to the turn lane to go left on Lookout Dr. If you want to turn up Lee Blvd from South Ave cars are coming so fast down the hill you fear an accident because they don't slow down. Leaving our business unless you want to go up Lookout Drive is complicated at most times of day because of the timing on the light, speeding cars and the wonky intersection. I don't know how to fix it, but it definitely needs to be addressed. 5/28/2025

Map ID 7 Business

Tammi - tammi.kennedy@bbrown.com

Mailing

2 0

It is very hard to turn left off the frontage road of South Avenue onto Lee Blvd. Traffic is too fast down the hill and it gets backed up. A crosswalk or pathway for walkers/bikes would be useful. 5/29/2025

Map ID 8 Resident

Josh Ramaker -

4 2

The whole area is a cluster with too much speed and drivers not looking for pedestrians. The intersection is huge and drivers have to evaluate a large area. Speed should be 30 or even less if you followed safe speeds 5/7/2025

5 1

I agree that people speed too much through this area, but just changing a number on a sign isn't going to fix the problem. The city should focus on narrowing the lanes or adding trees near the road to make a people that are mindlessly driving actually slow down. (Flashing signs don't work, they just turn into high score screens) 5/7/2025

Map ID 9 Resident

Mark Anderson -

2 1

The intersection of Lookout Drive and Lee Boulevard would seem to lend itself to a roundabout. 5/14/2025

Map ID 10 Commuter

Andrew - Katowilson3@gmail.com

Social Media (Facebook,

5 3

I saw a comment on an old comment map that made a good arguement for downgrading this highway section to a normal 2 way 1 lane each way street. It would help slow down traffic entering the residential parts of town if drivers aren't already going highway speeds

The extra space could be used for a nice riverfront park which seems to be lacking on this side of the river 5/7/2025

2 0

I agree. This road does not need to be 50mph and it does not need to be 4 lanes. I have driven on this section of road almost every day for years, and there is never congestion. 5/9/2025

1 0

Love the idea of making this section 2 lanes and adding park space!!! Unfortunately I think this study is for Lee Blvd only. Great idea though 5/13/2025

Map ID 11 — Resident

Brenda M -

2 | 0

While I don't know that we really need to mitigate this area, if federal money is available, a roundabout could be installed; complete the dike by closing off the bottom road but maintain access to it by creating a "bridge of some sort that could run a road up over the wall to access Lookout as an approach to the roundabout. If no Fed money available, leave it all alone and come up with an efficient way to block flood waters temporarily. Maybe research temporary floodgates.

5/8/2025

Map ID 12 — Resident

Georgia Holmes -

0 | 0

I live in upper North Mankato and drive down and up Lookout a couple times a day. This intersection works well now, but people do drive fast. Sometimes I go straight at the light, and sometimes I turn left to either go to the library or City Office or to drive up the Lee Blvd Hill.

5/23/2025

Map ID 13 — Bicyclist

No Thanks - no@thanks.com

3 | 1

Website

Make it easier for cyclists to cross here. The light doesn't detect cyclists and the button for pedestrians is behind a guard rail.

5/8/2025

Map ID 14 — Bicyclist

Justin -

0 | 0

Crossing from the bottom road across lookout back onto Lee is very challenging and not very safe. Sine oncoming cars don't often see other cars coming at them they forget to look for cyclists and pedestrians crossing here. Please consider giving bottom road traffic additional green light time to cross while holding southbound lee traffic for a bit giving more time to cross. thanks

5/13/2025

Map ID 15 — Resident

Tim - timkris@hickorytech.net

0 | 3

Other

Why to you ask for public feedback when you don't listen to the public anyway? Seems like a waste of resources and time. Guess now the city thinks they are MnDot and can do whatever they want with having to much money and a hurry to spend it.

5/8/2025

Map ID 16 — Other

Gary Wintheiser - gpwin@hickorytech.net

1 | 0

Mailing

Eliminate Truckers from taking a short cut to Hwy 14 Headed towards New Ulm

5/27/2025

1 | 0 — YES, Truckers should NOT be allowed on Lookout Dr using the road as a shortcut to New Ulm — 5/27/2025

0 | 0 — The Jake Brake needs to stop! — 5/28/2025

Appendix C: Pop up

Sticky note comments/notes from conversations

Judson Bottom Road

- The light at Lookout Drive/Lee Boulevard/Judson Bottom Road is very sensitive; most traffic coming from Judson Bottom Road is turning right onto Lookout Drive, so a green light isn't always necessary
    - Add a merge lane from Judson Bottom Road to Lookout Drive
- The lane alignment on Lee Boulevard can be confusing, especially coming from Judson Bottom Road
- Closing Judson Bottom Road would be a burden to the people who live on it, especially if there are emergencies
- No shoulder for bikes/peds on Judson Bottom Road

Pedestrian & bicycle features

- Biking in this area feels safe because there is a stoplight
- Doesn't use bike infrastructure in Mankato or North Mankato because it doesn't feel safe due to erratic driving, feels safer to take the sidewalk, bikes daily
- Would like a sidewalk on Lookout Drive
- Feels unsafe to walk in this area due to speeding
- The sidewalk on Lee Boulevard is narrow, widen or add a bike path
    - Currently bikes on sidewalk because road feels unsafe
- Kids who walk to the library from nearby: There's no sidewalk on their route, but it feels okay/safe

Belgrade Avenue/Lee Boulevard intersection

- Turning left from Belgrade Avene to Lee Boulevard is dangerous and takes a long time; it is hard to get a break in traffic (x2)

South Avenue/Lee Boulevard intersection

- Where South Avenue merges into Lee Boulevard is "nerve wracking" (x2)

Other comments

- Need traffic circle at intersection of Lookout and Commerce, lots of time at lights with no traffic, also at bottom of hill
- Speeding is an issue in this area and throughout the city

Sticker survey results

What would you like to see improved on Lee Boulevard and the intersections around it?

Priority	Votes
Pedestrian & bicycle features	5
Safety	2
Traffic flow	2
Other	0

What is currently working well on Lee Boulevard and the intersections around it?

Feature	Votes
Traffic flow	5
Pedestrian & bicycle features	2
Safety	0
Other	0

How do you typically use Lee Boulevard?

Mode	Votes
Driving	8
Walking	2
Bicycling	2
Other	0

How often do you use this section of Lee Boulevard?

Frequency	Votes
Daily	4
Several times a month	2
Several times a week	1
Rarely	0
Never	0

What is your relation to this section of Lee Boulevard?

Relation	Votes
Live near	4
Commute through	2
Work near	1
Other	0

Appendix D: Emails

Hi Kelsey

I am just curious, is there anyway way to put a right turning lane in Belgrade to Lee? Specifically like the one on Madison to Victory Drive North. People like to wait for uphill traffic when they don't have to. It's a solid line until the home in the hill.

Much appreciated,

Phase 2 Engagement Summary

Lee Boulevard Corridor Study

MAPO

BOLTON & MENK

Real People. Real Solutions.

Table of Contents

Overview

Project description

The Mankato/North Mankato Area Planning Organization (MAPO) is working with the City of North Mankato to study Lee Boulevard between Lookout Drive and Belgrade Avenue. The purpose of this study is to evaluate the corridor and create a plan for improvements. Improvements will address flood mitigation, traffic flow, intersection safety, and bicycle and pedestrian connections.

Engagement purpose/goals

The purpose of this phase of engagement was to:

1. Ensure that project information is made available to stakeholders in a clear, effective manner.
2. Gather meaningful feedback from stakeholders on corridor issues and opportunities to develop a community-supported project design.
3. Ensure that stakeholder questions and concerns are heard and addressed.
4. Maintain and strengthen the relationship between MAPO, the project team, and project stakeholders.

Engagement snapshot

From July 31 to August 28, 2025 the project team collected feedback using the following methods:

- Survey: 91 responses
- Pop up event: 36 attendees
- Open house: 20 attendees
- Project email: 71 subscribers, 1 phone call

Key takeaways

- Both flood mitigation strategies (raising the intersection and extending the flood wall) received support but the flood wall was favored over raising the intersection.
- Engagement participants were overall supportive of the roundabouts at Lee Boulevard and Belgrade Avenue and Lee Boulevard and Lookout Drive.
- The lane reduction on Lookout Drive was a top concern for many, as was traffic flow/congestion.
- Alternative 3 tended to draw the most concern.

Promotion

The pop up, open house, and survey were promoted via the city's website, e-newsletter, and social media. These engagement opportunities were also promoted via the project email. A flyer with event information was distributed at North Mankato Fun Days and mailed out to residents with their utility bills.

Survey Summary

The online survey, live between July 31 and August 28, received 91 responses. Most respondents were drivers who live near or commute through the project area at least several times a week. Respondents were largely white, aged 30 to 49, with a household income of $100,000 or more.

Key takeaways

Alternative 1

- Respondents liked the flood wall with gate (74% selected this feature) and the roundabout at Lee Boulevard and Belgrade Avenue (68%).
- People's top concern was reducing lanes on Lookout Drive (76%).
- The primary concern for this alternative was traffic flow/congestion (80%).

Alternative 2

- Respondents liked the roundabout at Lee Boulevard and Belgrade Avenue (68%) and the roundabout at Lee Boulevard and Lookout Drive (57%). Raising the intersection to mitigate flooding also received support (48%).
- Reducing lanes on Lookout Drive remained the top concern (75%), followed by the Lee/Lookout roundabout (46%).
- Traffic flow/congestion remained the top concern (76%).

Alternative 3

- Similar to Alternative 2, respondents favored the Lee/Belgrade roundabout (63%), Lee/Lookout roundabout (51%), and raising the intersection (42%).
- For this configuration, the top concern was the roundabout at Lookout Drive and South Avenue (75%) followed by reducing lanes on Lookout Drive (69%).
- People were most concerned about traffic flow/congestion with this alternative (85%). Respondents were also slightly more concerned about property impacts with this alternative (25%) than Alternative 2 (20%).

Those who wrote in responses under the "other" category shared concerns about the project's cost and necessity, the safety of roundabouts, and long-term maintenance. There was a desire to preserve the natural aesthetics of the area and opposition to lane reductions and access changes.

See **Appendix A** for all survey response data.

Open House Summary

On Thursday, August 8 from 5 to 7 p.m., the Lee Boulevard Study team hosted an open house at the Police Annex right off of the project area. About 20 people attended to learn more about the project and provide feedback on three potential alternatives. Overall, people were supportive of proposed changes, especially the Lee Boulevard/Belgrade Avenue roundabout and the flood mitigation strategies.

Figure 1: Attendees learn more about the project at the open house.

Most attendees were drivers who live near the area and use this section of Lee Boulevard daily. All participants who shared demographic information were white, and the largest age groups represented were over 60 and 40 to 49.

Materials included:

- Project overview board
- Engagement summary board
- Existing conditions and issues boards
- Boards explaining benefits and tradeoffs of all three alternatives
- Roundabout education board
- Interactive demographic board
- Interactive voting activity

The voting activity featured a table plot with features of each alternative as they were laid out in the survey. Participants were encouraged to place a green pompom in the jar if they liked the feature and a red pompom if they did not like the feature.

Key takeaways

- Support for roundabout at Lee Boulevard/Belgrade Avenue and Lookout Drive/Lee Boulevard
- Support for both flood mitigation strategies; slightly more support for raising the intersection based on the pompom activity
- Mixed feedback on the lane reduction on Lookout Drive
- Support for crosswalk improvements
- Concerns about truck traffic and jake braking

Pop-up Summary

On Thursday, July 31 from 5:30 to 7:30 p.m., project staff tabled at Music in the Park in North Mankato to share information about the Lee Boulevard Study and gather input on design alternatives. Visitors waiting in line for food trucks participated in a voting activity to weigh design features of each alternative, talk to staff, and ask questions. The project team engaged with about 35 people and heard positive feedback from many community members and connected participants with information on the upcoming open house and online survey.

Key takeaways

- Almost all visitors to the table supported taking action to mitigate flooding at the Lee Boulevard intersection.
- Community members were split evenly between the three design concept alternatives.
- Supporters of extending the flood wall mention the simplicity of the idea and visual appearance as benefits of the design concept.
- Supporters of raising the intersection approve of additional roundabouts and prefer the low-maintenance nature of the design concept.
- Most visitors who stopped by the table were seeking more information on the project and design concepts and didn't share in-depth feedback. Many community members took home open house information and mentioned interest in attending the event.

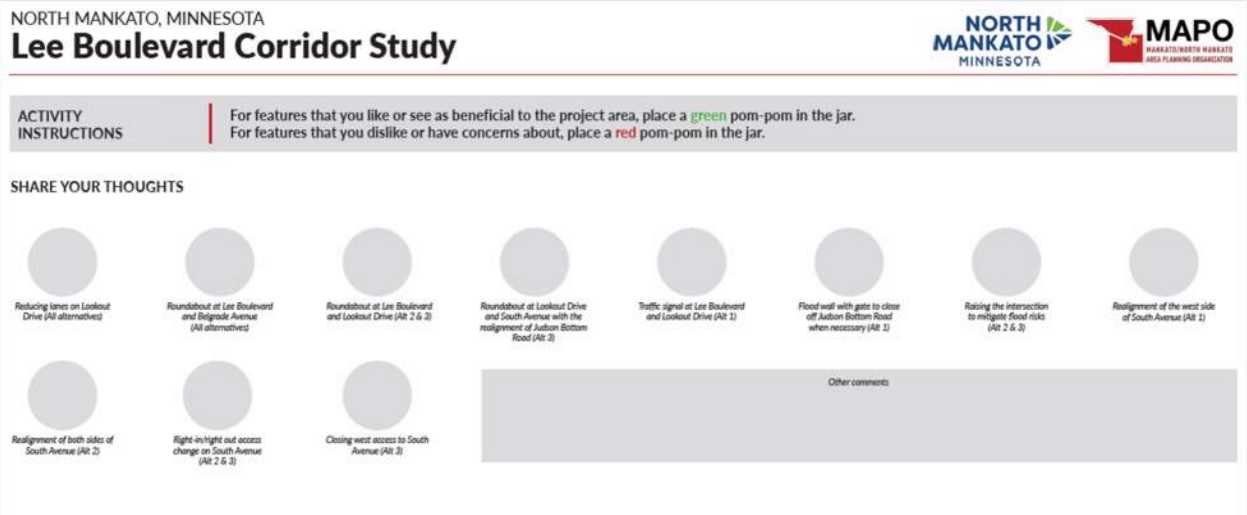


Figure 2: Table plot voting activity used at the open house and pop up.

See **Appendix C** for all pop-up notes and data.

Project Phone Call Summary

The project team received one phone call from a resident. Below are notes from that conversation:

- Not a fan of the flood wall extension because she doesn't want to lose the view of the river coming down the hill
- Any street lights installed with future projects should be decorative and not "industrial" looking like those at the Highway 41/14 interchange
- The City should incorporate brick similar to that produced historically in North Mankato as a design theme/element for any future project

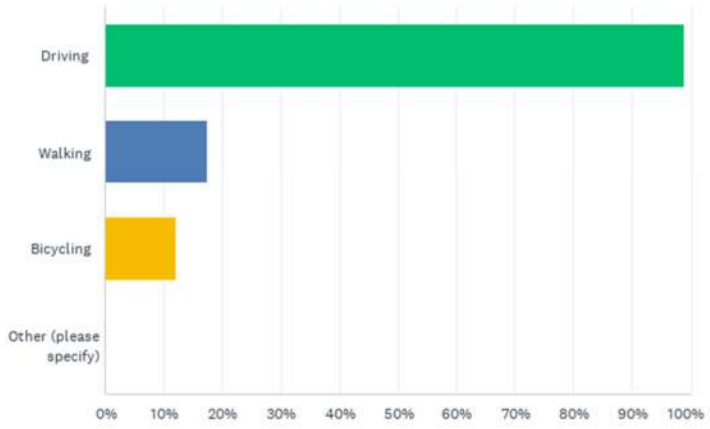
Conclusion

Overall, engagement participants were supportive of the proposed changes. There was no clear "winner" between the three alternatives, but Alternative 3 drew the most criticism. People were especially concerned about the lane reduction on Lookout Drive and impacts to traffic flow/congestion. Future engagement and communication should highlight the safety benefits and mobility impacts of the lane reduction. Though roundabouts were largely supported, additional education around their safety benefits to address people's concerns about pedestrian safety and winter driving would also be beneficial.

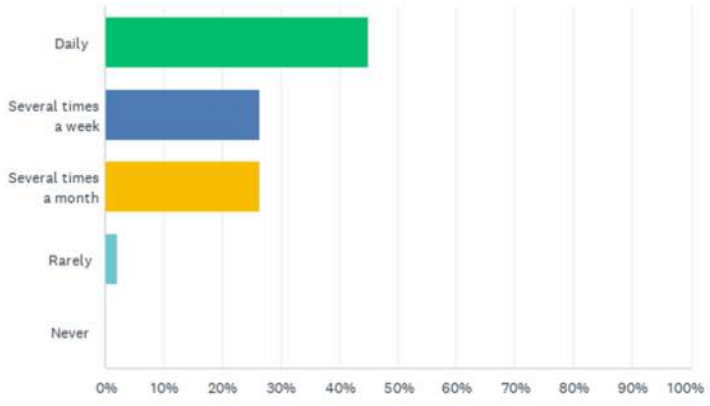
Appendix

Appendix A: Survey

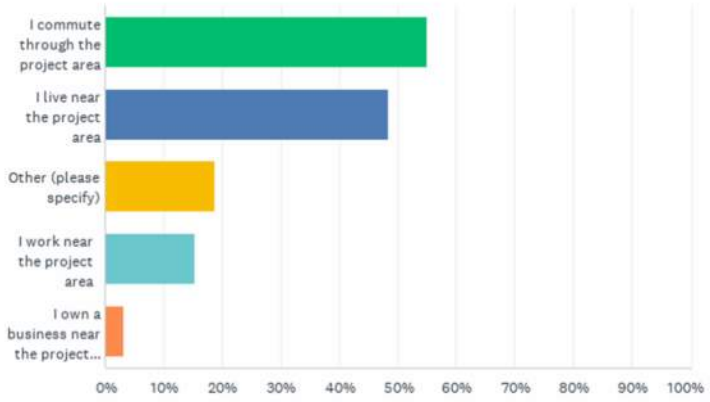
Q1 How do you typically use Lee Boulevard? (Select all that apply)



Q2 How often do you use this section of Lee Boulevard?

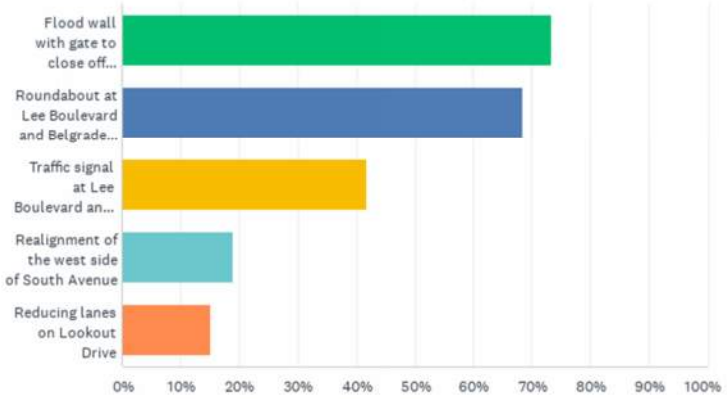


Q3 What is your relation to this section of Lee Boulevard? (Select all that apply)

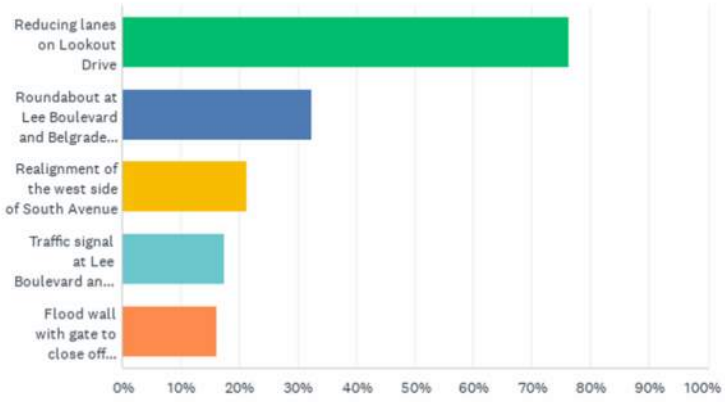


Alternative 1

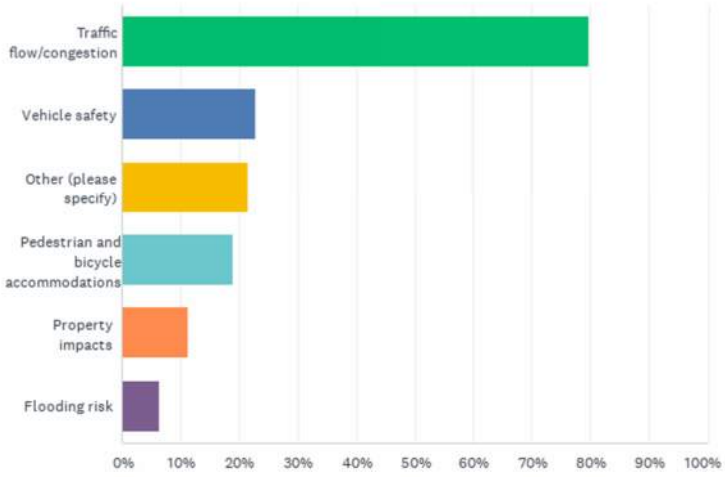
Q4 Which features of this alternative do you like or see as beneficial to the project area? (Select all that apply)



Q5 Which features do you dislike or have concerns about? (Select all that apply)



Q6 What is your primary concern with this alternative? (Select all that apply)



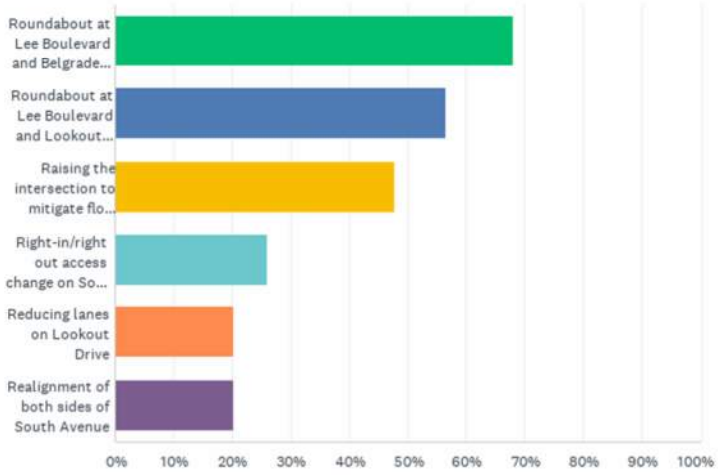
"Other" responses

- It seems like we are looking for things to change that are not needed.
- Icy conditions may make a roundabout hard to navigate at the bottom of a steep hill
- Where are the stats showing accidents at Belgrade and Lee then the accidents at Lee and South then the accidents at Lee and Lookout. Without this information going back 5-10 years suggestions of change are completely invaid.
- I like the roundabout but they have proven difficult for pedestrians on Hwy. 22. I would be curious if a tunnel or other option would be available to be added to not add to an already dangerous pedestrian (walker and bicycle traffic area).

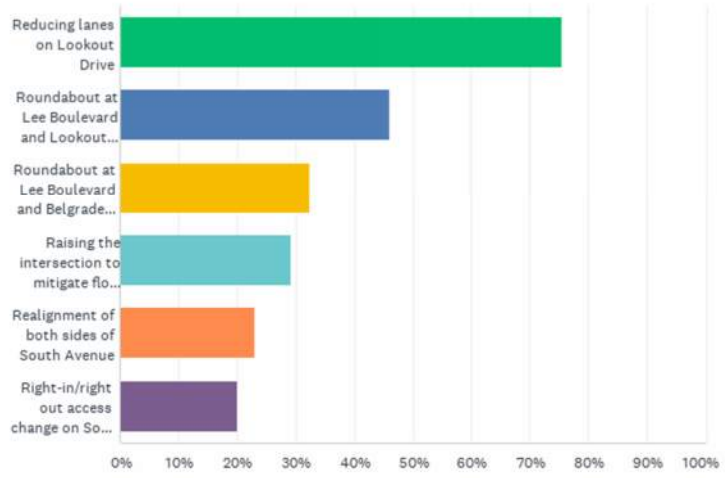
- Flood wall is more concrete jungle that we don’t need.
- Slows traffic on downhill Lee. That’s a good thing.
- Leave the four lanes as is. If it needs to be necked down to one lane to make the traffic circle work so be it but four lanes going up and coming down the hill is desired by the majority of people.
- Cul da sac So Ave at Lee. Keep it simple. Can’t please everyone.
- Cost
- none
- IF ITS NOT BROKE, DONT FIX IT. LEAVE OUR TAXPAYER MONEY ALONE!!!
- Speed Limit should be reduced on the entire Lookout Drive
- Removing current city beautification
- Coming down Lee Blvd is too steep to have a roundabout where you have it here!
- Jake-braking on downhill Lookout Drive
- Another dangerous roundabout for pedestrians and drivers.
- project isnt needed, intersection doesn't flood. reducing lanes doesnt make sense. west south ave doesnt need to be changed for parking lot access only

Alternative 2

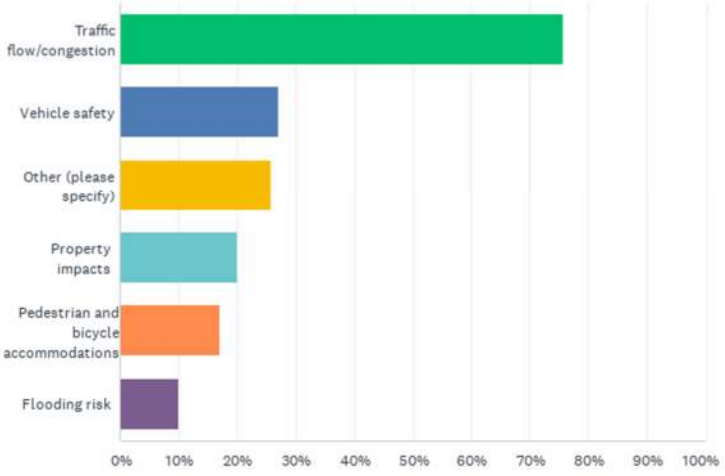
Q7 Which features of this alternative do you like or see as beneficial to the project area? (Select all that apply)



Q8 Which features do you dislike or have concerns about? (Select all that apply)



Q9 What is your primary concern with this alternative? (Select all that apply)

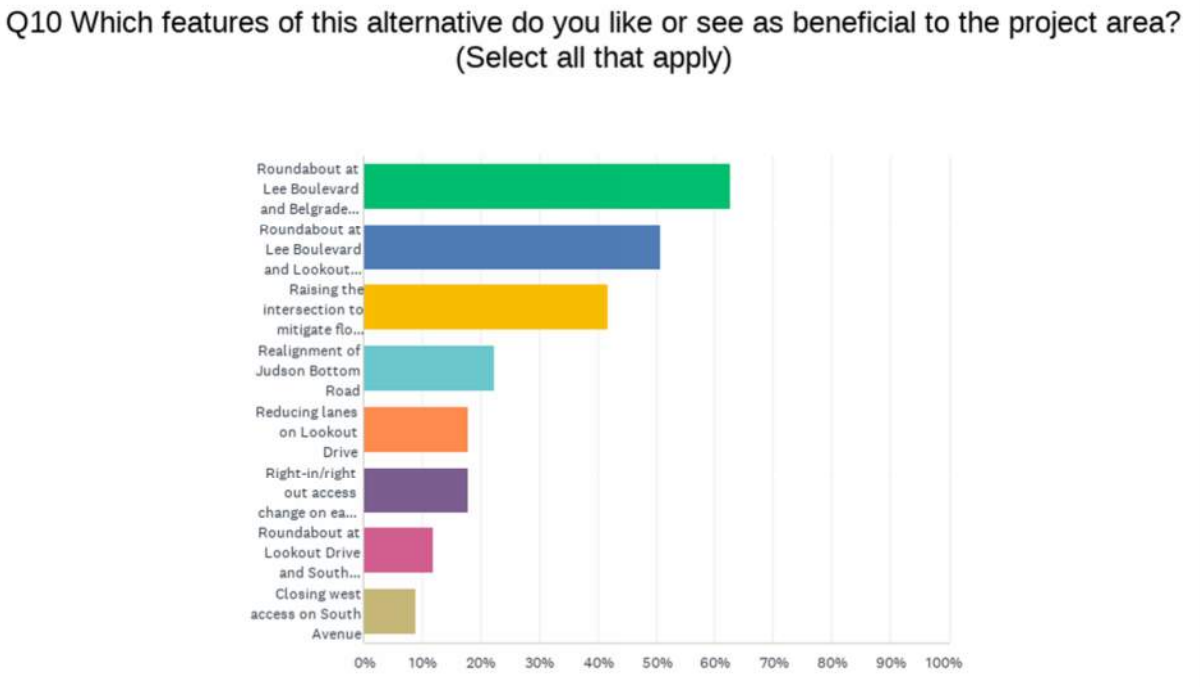


"Other" responses:

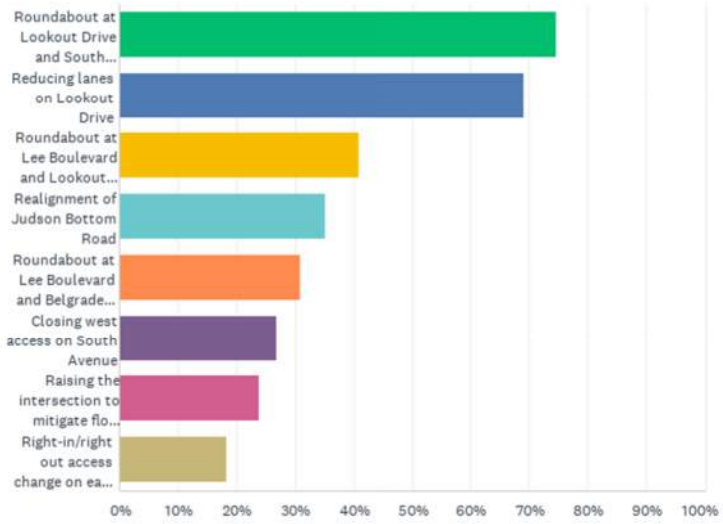
- Looking for a problem to solve when there is currently nothing wrong.
- Huge impact on traffic flow and safety. What about all the semi's that use this? Not a good option.
- Raising the intersection seems an awfully heavy handed approach to mitigate flooding
- Keep the area as natural as possible to enjoy the view of the river and city, keep poles and signed to a minimum add trees etc. make it bike and walk friendly support adding a trail down lookout drive

- Maintenance and replacement costs
- Roundabout on Lee and Lookout does not improve safety for bikes crossing Lookout.
- Again, leave four lanes traveling in both directions on Lee Boulevard Hill. Mankato necked down lanes on NOrth Riverfront and there are numerous issues. It was a much better roadway prior to the "upgrade"
- Keeps Judson Bottom Road open.
- Cost
- It's needless expensive, #1 is easy and the smarter option
- Maintenance costs
- Not the best place for a roundabout at the bottom of lee hill in winter.
- Too much speed coming into a roundabout at the belgrade ave.
- People racing through or not paying attention.
- Two dangerous roundabouts
- project isnt needed. intersection doesnt flood. west south ave doesnt need a new road for a parking lot.
- Why does South Ave need right in/right out? There are multiple other roads out of their area of homes.
- Access to Judson bottom road if intersection is raised could be difficult/expensive to maintain. Not in favor of closing this road.

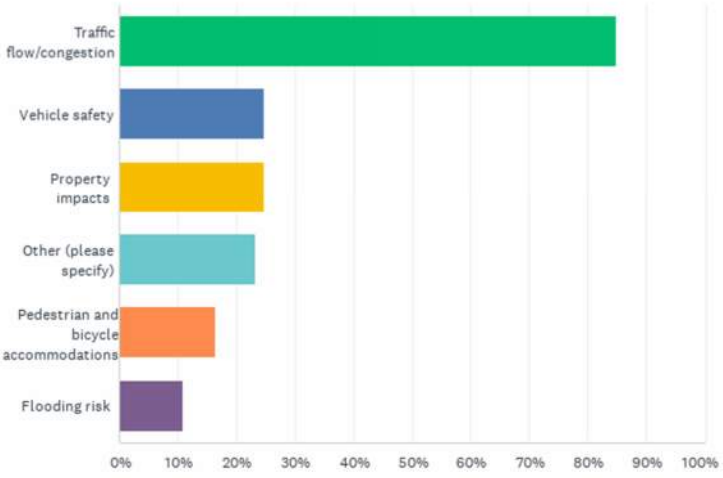
Alternative 3



Q11 Which features do you dislike or have concerns about? (Select all that apply)



Q12 What is your primary concern with this alternative? (Select all that apply)

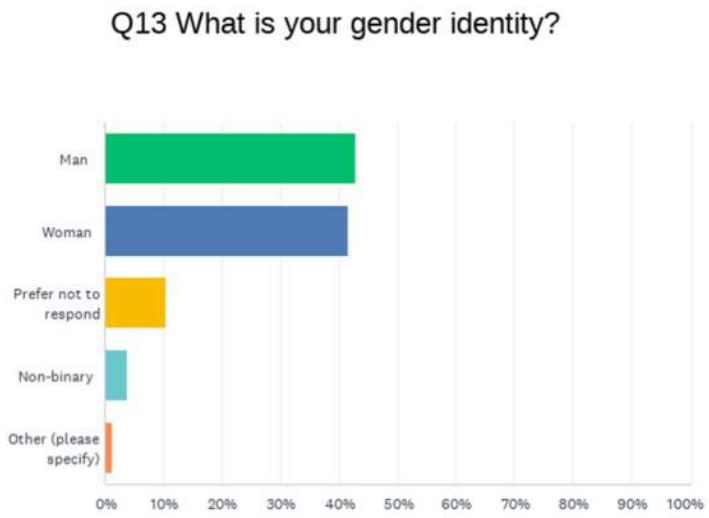


"Other" responses:

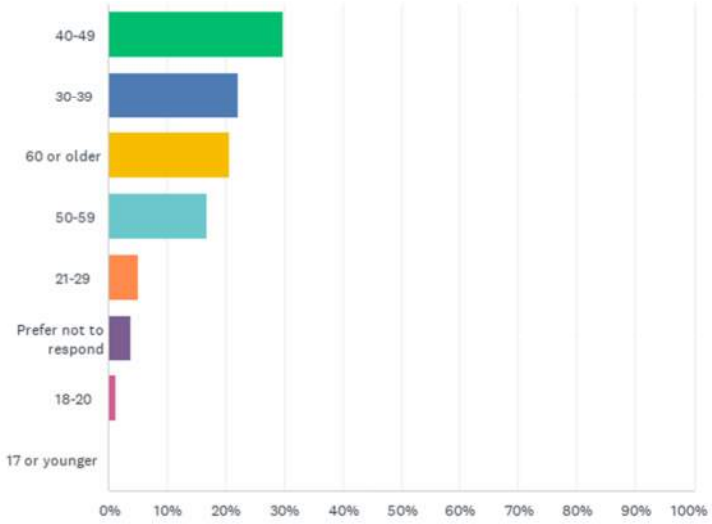
- Holy roundabouts and a huge waste of money.
- Belgrade, Lee, South and Lookout flow just fine as they are right now. Where are the stats from the city to prove otherwise?owjust l
- STOP SPENDING MONEY you don't have. STOP OVER TAXING citizens.
- Keep area natural plant trees reduce concrete jungle feel
- maintenance and replacement costs

- Overkill. I need more info to understand the plan to realign JBR.
- Leave four lanes traveling in both directions on Lee Blvd.
- Keeps Judson Bottom Road open
- Cost
- Again, far to expensive and just dumb. Option #1 is the best choice by far
- Maintenance costs
- Cost
- Too much speed at the bottom of those hills for a roundabout
- Three dangerous roundabouts including an absurdly unneccesary one at South and Lookout. Unneccessary access changes. Whoever designed this one is incompetent.
- This is the worst option. loosing access and adding roundabout. terrible
- Traffic congestion at peak/busy times when people are trying to get to work on time, and we home owners are somehow are paying to have this done :(
- Concerned about cost/practicality of Judson Bottom Road realignment and potential maintenance of a retaining wall or bank against the river. Interested to learn more about how this would be accomplished. If it was practical it would be a good option.

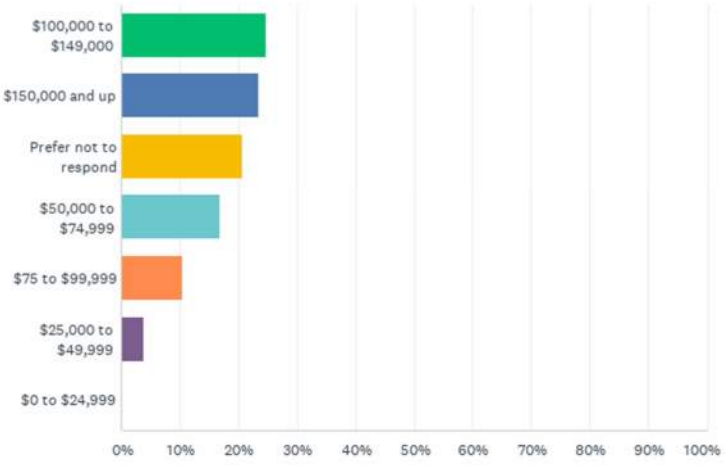
Demographic questions



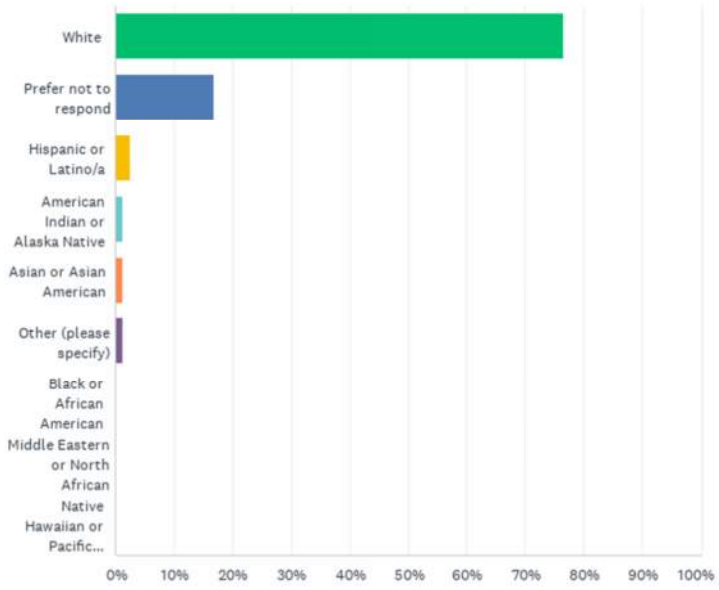
Q14 What is your age?



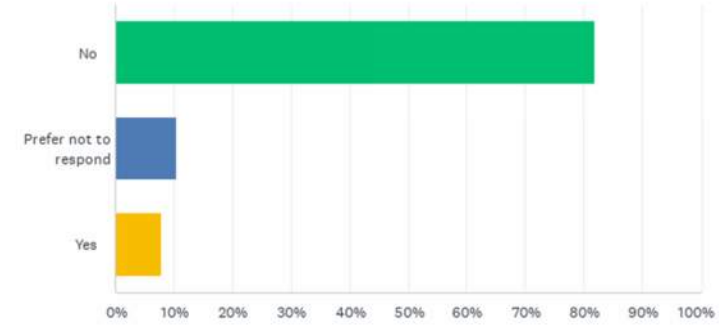
Q15 What was your household income last year?



Q16 Which race or ethnicity best describes you? (Select all that apply)



Q17 Do you have a disability?



Appendix B: Open house

Overview

On Thursday, August 8 from 5 to 7 p.m., the Lee Boulevard Study team hosted an open house at the Police Annex right off of the project area. About 20 people attended to learn more about the project and provide feedback on three potential alternatives. Overall, people were supportive of proposed changes, especially the Lee Boulevard/Belgrade Avenue roundabout and the flood mitigation strategies.

Meeting Item	Item Description
Date	Thursday, August 8
Time	5 to 7 p.m.
Location	Police Annex 1001 Belgrade Ave, North Mankato
Format	In-person open house
# of attendees	~20
Comment method and comment period	• Conversations with staff • Pompom voting activity • Paper or online survey (open until Aug. 28)

Staffing

- Luke Arnold, North Mankato
- Matthew Lassonde, North Mankato
- Kelsey Larsen, BMI
- Heather Mullenbach, BMI
- Mark Konz, Mankato

Event advertisement

The event was promoted via the city of North Mankato's channels and through the project website and email list. Project partners also distributed a flyer with open house details at North Mankato Fun Days.

Key takeaways

- Support for roundabout at Lee Boulevard/Belgrade Avenue and Lookout Drive/Lee Boulevard
- Support for both flood mitigation strategies; slightly more support for raising the intersection based on the pompom activity
- Mixed feedback on the lane reduction on Lookout Drive
- Support for crosswalk improvements
- Concerns about truck traffic and jake braking

Staff notes

People liked:

- Roundabout at Lee Boulevard/Belgrade Avenue
- Most liked the roundabout at Lookout Drive/Lee Boulevard
- How all options address flood concerns
- Speed reduction with the roundabout
- Improved crossings for pedestrians with the roundabouts

Concerns:

- Large semi-trucks flying down Lookout Drive that could be unable to stop (resident said it needs to be designed so the truck can go through the roundabout without stopping)
- Existing lack of crossing of Lee Boulevard (concern with existing condition – liked the roundabout at Lee Boulevard/Belgrade Avenue since it would provide a better crossing)
- Existing delay at Lee Boulevard/Belgrade Avenue (resident takes other route to be able to turn from Lee Boulevard onto Belgrade Avenue rather than proceeding straight across the intersection since that is too challenging of a movement)
- Jake braking along Lookout Drive
- Property/environmental impacts of Alternatives 2 and 3
- Gate with Alternative 1 would require action from the city to install/remove as needed, whereas Alternatives 2 and 3 would require no action for flood mitigation
- Speed limit should be reduced on Lookout Drive

Comment cards

- Please! Anything to reduce Jake-baking where Lookout Drive curves to cross the River & join 1694.

Pompom voting activity

Participants were asked to give feedback on design features by placing pompoms in a jar for each respective feature. Green pompoms were for features people liked or saw as beneficial to the project area. Red pompoms were for features people disliked or had concerns about.

Feature	Likes	Dislikes	Verdict
Roundabout at Lee Boulevard and Belgrade Avenue (all alternatives)	7	0	Support
Roundabout at Lee Boulevard and Lookout Drive (Alt 2 & 3)	8	1	Support
Raising the intersection to mitigate flood risks (Alt 2 & 3)	6	0	Support
Flood wall with gate to close off Judson Bottom Road when necessary (Alt 1)	4	0	Support
Reducing lanes on Lookout Drive (all alternatives)	3	2	Split
Roundabout at Lookout Drive and South Avenue with the realignment of Judson Bottom Road (Alt 3)	2	2	Split

Realignment of both sides of South Avenue (Alt 2)	2	0	Support
Right-in/right-out access change on South Avenue (Alt 2 & 3)	2	0	Support
Traffic signal at Lee Boulevard and Lookout Drive (Alt 1)	1	0	Support
Realignment of the west side of South Avenue (Alt 1)	0	0	N/A
Closing west access to South Avenue (Alt 3)	0	0	N/A

Demographic questions

How do you typically use Lee Boulevard?	
Driving	13
Walking	4
Bicycling	3
Other	2

How often do you use this section of Lee Boulevard?	
Daily	12
Several times a week	3
Several times a month	0
Rarely	0
Never	0

What is your relation to this section of Lee Boulevard? (Select all that apply)	
I live near the project area	9
I commute through the project area	4
I work near the project area	1
I own a business near the project area	0
Other	0

What is your gender identity?	
Woman	6
Man	4
Non-binary	0
Other	0

What is your age?	
60 or older	6
40-49	4
21-29	1
17 or younger	0
18-20	0

30-39	0
50-59	0

What race or ethnicity best describes you? (Select all that apply)	
White	11
American Indian or Alaska Native	0
Asian or Asian American	0
Black or African American	0
Hispanic or Latino/a	0
Middle Eastern or North African	0
Native Hawaiian or Pacific Islander	0
Other	0
Prefer not to respond	0

Appendix C: Pop up

Overview

On Thursday, July 31 from 5:30 to 7:30 p.m., project staff tabled at Music in the Park in North Mankato to share information about the Lee Boulevard Study and gather input on design alternatives. Visitors waiting in line for food trucks participated in a voting activity to weigh design features of each alternative, talk to staff, and ask questions. The project team heard positive feedback from many community members and connected participants with information on the upcoming open house and online survey.

Meeting Item	Item Description
Date	Thursday, July 31
Time	5:30 to 7:30 p.m.
Location	Wheeler Park Page Avenue, North Mankato
Format	In-person pop-up at existing event
Purpose	• Reach community members where they are already gathering • Raise project awareness • Gather input on potential design alternatives • Promote upcoming open house • Share online survey
# of attendees	36
Comment method	Voting activity: Participants placed green pom-poms in jars corresponding to design features they supported, and red in ones they opposed
# of comments	Eight votes from four participants

Staffing

- Justin Vorndran, BMI
- Shawn Schloesser, MAPO
- Matthew Lassonde, City of North Mankato

Event advertisement

Music in the Park was advertised through the city and library's channels. The event was also added to the project website and promoted via the city's e-newsletter and social media. Staff distributed flyers with Music in the Park and open house information at North Mankato Fun Days the second week of July.

Key takeaways

- Almost all visitors to the table supported taking action to mitigate flooding at the Lee Boulevard intersection.
- Community members were split evenly between the three design concept alternatives.
- Supporters of extending the flood wall mention the simplicity of the idea and visual appearance as benefits of the design concept.
- Supporters of raising the intersection approve of additional roundabouts and prefer the low-maintenance nature of the design concept.
- Most visitors who stopped by the table were seeking more information on the project and design concepts and didn't share in-depth feedback. Many community members took home open house information and mentioned interest in attending the event.

Voting activity results

Feature	For	Against
Reducing lanes on Lookout Drive	1	0
Roundabout at Lee Boulevard and South Avenue	2	0
Roundabout at Lee Boulevard and Lookout Drive	2	0
Realignment of both sides of South Avenue	1	0
Right in/right out access change on South Avenue	0	0
Closing west access to South Avenue	0	0
Roundabout at Lookout Drive and South Avenue with the realignment of Judson Bottom Road	1	0
Traffic signal at Lee Boulevard and Lookout Drive	0	1
Flood wall with gate to close off Judson Bottom Road when necessary	0	0
Raising the intersection to mitigate flood risks	1	0
Realignment of the west side of South Avenue	0	0